PatBase - Search results 19 April 2017
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Results: 100

Search history

Search 1: PN=(wo2015087156) (Results 1)

Search 2: [SP]: 1. a method for treating large water bodies for recreational uses, including large artificial excavated or floating structures with bottoms comprising flexible membranes, wherein the method comprises: (a) applying an effective amount of a flocculant to water in the water body to maintain turbidity of the water below 2 ntu, wherein the flocculant flocculates suspended solids in the water into particles that settle to the bottom of the water body(b) monitoring to determine the color of the bottom of the water body, receiving information regarding the color of the bottom and activating a mobile suctioning device to adjust the color within a set limit by suctioning settled particles from the bottom of the water body(c) operating the mobile suctioning device to maintain an increase in a black component of the color of the bottom below 30 percent based on the cmyk scale, wherein the mobile suction device moves on the bottom of the water body and suctions a portion of water from the bottom of the water body containing settled particles, wherein the device is capable of moving and cleaning at a rate of 10,000 m2 per 24 hours, and wherein operating the mobile suctioning device does not re-suspend more than 30 percent of the settled particles in the area on the bottom of the water body cleaned by the mobile suction device(d) filtering the water suctioned by the mobile suction device and returning the filtered water to the water body, wherein the water suctioned by the mobile suction device does not exceed 10 percent of the total water volume of the water body in a 24 hour interval and(e) operating a degreasing system to maintain a surface water layer having less than about 20 mg/l of floating greases within a top-most 1 cm of the surface water layer, wherein greases from the surface water layer flow into the degreasing system and are removed by a separation unit comprising a degreaser, and the water that has passed through the degreaser is returned to the water body. 2. the method of claim 1, further comprising adding a chlorine-based additive to maintain at least a minimum free residual chlorine level in the water, where the minimum free residual chlorine level is at least the value resulting from the following equation: minimum free residual chlorine level=(0.3-0.002(wqi-100))ppm. 3. the method of claim 1, wherein the water body has a surface area of at least 7,000 m3. 4. the method of claim 1, wherein the flexible membrane has a thickness between about 0.1 mm and about 5 mm. 5. the method of claim 1, wherein the flexible membrane comprises rubber, plastic, teflon, low density polyethylene, high density polyethylene, polypropylene, nylon, polystyrene, polycarbonate, polyethylene terephthalate, polyamides, pvc, acrylics, or a combination thereof. 6. the method of claim 1, wherein the suctioning device is supported over brushes to avoid damaging the bottom of the artificially constructed structures. 7. the method of claim 1, wherein the suctioning device is a self-propelled device. 8. the method of claim 1, wherein the suctioning device allows concentration of suctioning power at suction points distributed along the bottom of the device, therefore providing higher suctioning efficiency and avoiding re-suspending the settled materials and debris found on the bottom. 9. the method of claim 1, further comprising receiving information regarding the turbidity of the water and applying flocculants to adjust the turbidity below a set limit. 10. the method of claim 1, wherein the turbidity is determined by empirical methods, analytical methods, or algorithms based on experience. 11. the method of claim 1, wherein a control system activates the application of additives, the operation of the suctioning device, and the operation of the degreaser system. 12. the method of claim 11, wherein the control system is an automated system that processes information. 13. the method of claim 11, wherein the control system may be operated on site. 14. the method of claim 11, wherein the control system may be operated remotely through an interne connection or other information-exchange system. 15. the method of claim 11, wherein the control system receives information regarding the turbidity of the water and activates the flocculant application to adjust the turbidity within a set limit. 16. the method of claim 1, wherein the flocculant comprises synthetic polymers comprising quaternary ammonium-containing polymers or polycationic multivalent cations aluminum salts calcium oxide calcium hydroxide ferrous sulphate ferric chloride polyacrylamide sodium aluminate sodium silicate natural agents comprising chitosan, gelatin, guar gum, alginates, or moringa seeds starch derivatives or combinations thereof. 17. the method of claim 1, wherein flocculant comprises algaecide properties. 18. the method of claim 1, wherein the flocculant is dispensed into the water by a chemical application system comprising at least one selected from the group consisting of injectors, sprinklers, dispensers, manual application, and piping. 19. the method of claim 2, further comprising receiving information regarding the free residual chlorine level in the water. 20. the method of claim 2, wherein the minimum free residual chlorine level is determined by empirical methods, analytical methods, or algorithms based on experience. 21. the method of claim 2, wherein a control system activates the chlorine-based additive application. 22. the method of claim 2, wherein the chlorine-based additive is dispensed into the water by a chemical application system comprising at least one selected from the group consisting of injectors, sprinklers, dispensers, manual application, and piping. 23. the method of claim 18, wherein the chemical application system is disposed to provide homogeneity to the water body, wherein water quality between two different locations differs less than 20 percent for periods of time longer than 4 hours. 24. the method of claim 1, further comprising receiving information regarding the color of the bottom of the water body and activating the mobile suctioning device to adjust the color within a set limit by suctioning settled particles from the bottom of the water body. 25. the method of claim 1, wherein the color is determined by an empirical methods, sensory methods, analytical methods, or algorithms based on experience. 26. the method of claim 1, wherein the color of the bottom of the structure is determined using a colorimeter. 27. the method of claim 1, wherein operation of the mobile suctioning device is activated based on an amount of impurities that have settled onto the bottom of the water body and affect the color of the bottom, the amount of settled impurities corresponding to an amount of turbidity removed from the water. 28. the method of claim 11, wherein the control system receives information regarding the color of the bottom of the water body and activates the operation of a suctioning device to adjust the color within a set limit. 29. the method of claim 11, wherein the control system receives information regarding amount of floating greases and activates the operation of the degreasing system to adjust the amount of floating greases within a set limit. 30. the method of claim 1, wherein the degreasing system comprises skimmers to provide the surface water flow into the separation unit. 31. the method of claim 1, wherein the degreaser comprises an overflow apparatus for separating oils and greases from the water. 32. the method of claim 1, wherein the degreasing system comprises one or more screens for retaining large debris and a degreaser for separating water from oils and greases through overflow. 33. the method of claim 1, wherein the degreasing system comprises a filter. 34. the method of claim 1, wherein the method is applied to a bathing zone within the water body. 35. the method of claim 2, wherein the minimum residual chlorine level is maintained continuously within the water body. 36. the method of claim 2, wherein the minimum residual chlorine level is maintained for a period of time within the water body. 37. the method of claim 2, wherein the minimum residual chlorine level is maintained when the water body is in use. 38. the method of claim 1, wherein the impurities comprise suspended solids, organic matter, inorganic matter, bacteria, or algae. 39. the method of claim 1, wherein the water body comprises an excavated structure having a bottom and walls to contain the water and a non-permeable flexible membrane covering the bottom of the water body, the bottom having a slope that is about 20 percent or less and the walls having a slope that is greater than about 45 percent. 40. the method of claim 39, wherein soil forming the bottom of the excavated structure is compacted soil, the soil being compacted to at least 80 percent of its relative density (rd) if a passage rate of the soil forming the bottom of the excavated structure through n degrees 200 mesh is less than 12 percent. (Results 0)

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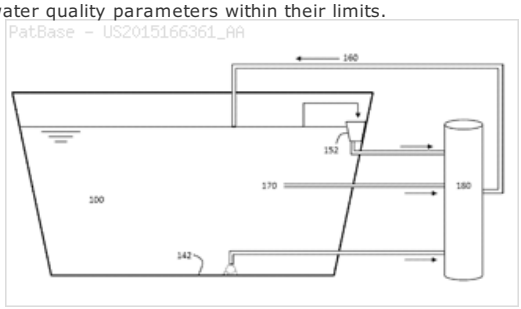
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1) Family number: 59511367 (US2015166361A)

Title: SYSTEM AND METHOD FOR MAINTAINING WATER QUALITY IN LARGE WATER BODIES

Abstract: Source: US2015166361A The present application relates to an innovative and optimized method and system for maintaining water quality in water bodies such as excavated inland structures and floating structures with bottoms comprising flexible membranes, using a simplified economic filtration system and degreasing system that requires much smaller filtration equipment than conventional centralized filtration systems and provides for consumption of significantly lower amounts of energy. The method of the invention allows activating a chemical application system, mobile suctioning device, and/or degreasing system based on information regarding turbidity, the color of the bottom of the water body, and amount of greases on the surface water layer of the water body, to adjust the water quality parameters within their limits.



Classifications:
International (IPC 8-9): B01D21/01 C02F C02F1/00 C02F1/40 C02F1/50 C02F1/52 C02F1/56 C02F1/76 C02F103/00 C02F103/42 C02F3/00 C02F9/00 C02F9/04 E04H4/12 E04H4/16 (Advanced/Invention); C02F1/00 C02F1/40 C02F1/52 C02F1/76 C02F103/00 C02F103/42 (Advanced/Non-invention); C02F (Subclass/Invention)
CPC: C02F1/56 C02F1/5281 C02F1/40 C02F2001/007 C02F2103/007 C02F2201/008 C02F2209/11 C02F2303/04 E04H4/1281 C02F1/52 E04H4/16 C02F1/008 C02F2103/42 C02F1/001 C02F1/5245 C02F1/5263 C02F1/5272 C02F1/76 C02F9/00 C02F2209/008 C02F2209/06 C02F2209/08 C02F2209/15 C02F2209/18 C02F2209/22 C02F2209/29 C02F2209/36 C02F2209/44 C02F2303/24 E04H4/1209 E04H4/1654
US: 1/1 210/170.01 210/702 210/709 210/732 210/96.1

Family:

Publication number	Publication date	Application number	Application date
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US2015345164 AA	20151203	US20150823052	20150811
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UY35884 A1	20150630	UY20140035884	20141212
WO15087156 A1	20150618	WO2014IB02891	20141229

Priority:

US20130915331P 20131212 US20140564957 20141209 US20150823052 20150811
WO2014IB02891 20141229 US20140564967 20141209

Probable Assignee: CRYSTAL LAGOONS CURACAO BV

Assignee(s): (std): CRYSTAL LAGOONS CURACAO BV ; FISCHMANN TORRES FERNANDO BENJAMIN

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Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; ROBIC; ESTUDIO CLARKE MODET AND CO CHILE LIMITADA; CARVAJAL Y URQUIJO ISABEL; DREW AND NAPIER LLC; MERCHANT AND GOULD PC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT JP KE KG KM KN KP KR KZ LA LC LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2014363144 AA	20150618	LSPB	+	published / reissued	
CA2930520 AA	20160512	LSPB	+	published / reissued	
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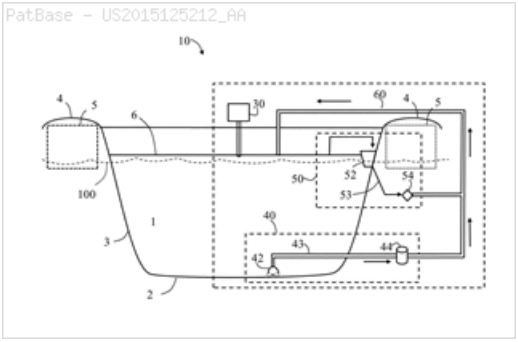
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2) Family number: 58640880 (US2015125212A)

Title: FLOATING LAKE SYSTEM AND METHODS OF TREATING WATER WITHIN A FLOATING LAKE

Abstract: Source: US2015125212A The present invention relates to floating lakes and to the treatment of the water in such lakes. The present invention further relates to large floating lakes that can be installed within a natural or artificial water body to improve water conditions that are unsuitable for recreational uses. The floating lake can be provided with a chemical application system; a filtration system including a mobile suctioning device and filters; a skimmer system, and optionally a coordination system.



Classifications:
International (IPC 8-9): B01D21/01 B63B35/00 C02F C02F1/00 C02F1/44 C02F1/52 C02F1/54 C02F1/56 C02F1/72 C02F1/76 C02F1/78 C02F103/00 C02F103/02 C02F103/42 C02F11/12 C02F9/00 C02F9/02 C02F9/04 E02B15/04 E02B15/06 E02B15/08 E04H4/00 E04H4/04 E04H4/12 (Advanced/Invention); C02F1/00 C02F1/52 C02F1/72 C02F103/00 C02F103/02 C02F103/42 (Advanced/Non-invention); C02F (Subclass/Invention)
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Family:

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Priority:

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Probable Assignee: CRYSTAL LAGOONS CURACAO BV

Assignee(s): (std): CRYSTAL LAGOONS CURACAO BV ; FISCHMANN FERNANADO BENJAMIN

Assignee(s): FISCHMANN FERNANDO BENJAMIN

Inventor(s): (std): BENJAMIN FISCHMANN FERNANDO ; FISCHMANN FERNANDO BENJAMIN

Inventor(s): FERNANDO BENJAMIN FISCHMANN ; FISCHMANN FERNANADO BENJAMIN

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; ROBIC; ESTUDIO CLARKE MODET AND CO CHILE LIMITADA; CAROLINA MERCEDES DAZA MONTALVO; CARVAJAL Y URQUIJO ISABEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT JP KE KG KM KN KP KR KZ LA LC LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2014347797 AA	20150514	LSPB	+	published / reissued	
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CA2919950 AA	20160223	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20160129
CL2016000725 A1	20161007	LSPB	+	published / reissued	

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CO7600658 A2	20160510	LSPB	+	published / reissued	
CR20160071 A	20160712	LSPB	+	published / reissued	
CU20160025 A7	20160930	LSPB	+	published / reissued	
DOP2016000046 A	20160315	LSPB	+	published / reissued	
EA201690417 A1	20160729	LSPB	+	published / reissued	
EP3066056 A2	20160914	LSPB	+	published / reissued	
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IN201637007714 A	20160701	LSPB	+	published / reissued	
JP2017500203 T2	20170105	LSPB	+	published / reissued	
KR20160033759 A	20160328	LSPB	+	published / reissued	
MA38906 A1	20160930	LSPB	+	published / reissued	
MX2016002298 A1	20160615	LSPB	+	published / reissued	
PH2016500297 A	20160516	LSPB	+	published / reissued	
US2015125212 AA	20150507	LSPB	+	published / reissued	
US2015125212 AA	20150311	LSAS	AS	ASSIGNMENT	OWNER NAME : CRYSTAL LAGOONS (CURACAO) B.V., NETHERLANDS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FISCHMANN T., FERNANDO BENJAMIN; REEL/FRAME:035136/0073 EFFECTIVE DATE : 20141211
UY35822 A1	20141231	LSPB	+	published / reissued	
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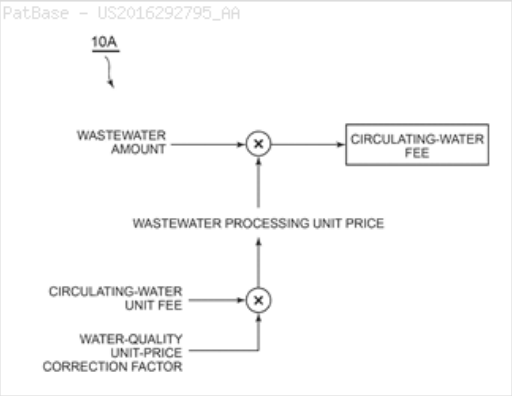
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3) Family number: 56715092 (US2016292795A)

Title: CHARGING DEVICE OF CIRCULATING WATER UTILIZATION SYSTEM AND CIRCULATING-WATER UTILIZATION SYSTEM

Abstract: Source: US2016292795A A charging device 10 of a circulating-water utilization system 1 to be constructed in a specific area includes: a wastewater amount measuring unit 18a configured to individually measure an amount of wastewater discharged from each of water consuming members; a water-quality measuring unit 18b configured to individually measure a water-quality index related to a water quality of the wastewater discharged from each of the water consuming members; and a circulating-water fee calculating part 10A configured to calculate a circulating-water fee of each of the water consuming members on the basis of the amount and the water quality of the wastewater discharged from each of the water consuming members.

Classifications:
International (IPC 8-9): C02F1/00 C02F1/28 C02F1/32 C02F1/38 C02F1/40 C02F1/42 C02F1/44 C02F1/68 C02F1/76 C02F1/78 C02F11/12 C02F3/30 C02F9/00 E03B1/00 E03B1/02 E03F7/00 G01D4/02 G06Q40/00 G06Q50/06 (Advanced/Invention); C02F1/00 (Advanced/Non-invention)
CPC: G01D4/02 C02F1/008 C02F11/127 C02F2001/007 C02F2209/008 C02F2209/02 C02F2209/05 C02F2209/06 C02F2209/08 C02F2209/10 C02F2209/11 C02F2209/16 C02F2209/18 C02F2209/20 C02F2209/29 C02F2209/36 C02F2209/40 C02F2303/24 C02F1/40 C02F11/12 G06Q40/12 C02F2303/04 G06Q50/06 C02F1/004 C02F1/283 C02F1/32 C02F1/38 C02F1/42 C02F1/441 C02F1/444 C02F1/68 C02F1/76 C02F1/78 C02F3/30 C02F9/00 E03B1/02 E03F7/00
US: 705/34



Family:

Publication number	Publication date	Application number	Application date
JP2015108253 A2	20150611	JP20130251620	20131205
JP5512032 B1	20140604	JP20130251620	20131205
MX2016006860 A1	20160819	MX20160006860	20141204
US2016292795 AA	20161006	US20140100865	20141204
WO15083786 A1	20150611	WO2014JP82098	20141204

Priority:

JP20130251620 20131205 WO2014JP82098 20141204

Probable Assignee: MITSUBISHI HITACHI POWER SYSTEMS LTD

Assignee(s): (std): MITSUBISHI HEAVY IND LTD ; MITSUBISHI HITACHI POWER SYS

Assignee(s): MITSUBISHI HITACHI POWER SYSTEMS LTD

Inventor(s): (std): HAYATO SHIN ; HIROYUKI YAGITA ; HYODO JUN ; JUN HYODO ; JUNICHI MINAMIURA ; KITAGAWA RIKI ; KITAGAWA TSUTOMU ; MINAMIURA JUNICHI ; RIKI KITAGAWA ; SHIN HAYATO ; YAGITA HIROYUKI ; YOKOTA YUKINOBU ; YUKINOBU YOKOTA

Agent(s): SEISHIN IP PATENT FIRM PC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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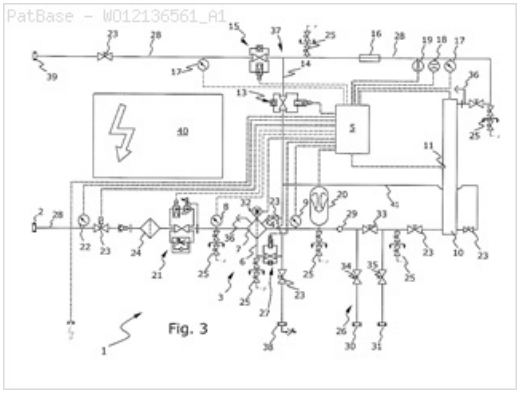
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JP5512032 B1	20150515	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R313111
JP5512032 B1	20150525	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R350
MX2016006860 A1	20160819	LSPB	+	published / reissued	
US2016292795 AA	20161006	LSPB	+	published / reissued	
US2016292795 AA	20160601	LSAS	AS	ASSIGNMENT	OWNER NAME : MITSUBISHI HITACHI POWER SYSTEMS, LTD., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:YAGITA, HIROYUKI; MINAMIURA, JUNICHI; HYODO, JUN; AND OTHERS;

					REEL/FRAME:038768/0091 EFFECTIVE DATE : 20160527
WO15083786 A1	20150611	LSPB	+	published / reissued	
WO15083786 A1	20160601	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15100865 COUNTRY OF REF DOCUMENT : US
WO15083786 A1	20160606	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15083786 A1	20161228	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14867385 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

4) Family number: 52121704 (WO12136561A1)

Title: WATER TREATMENT PLANT

Abstract: The invention relates to a device (1) for treating a liquid having at least one feed line (2), at least one filter unit (3), at least one outlet line (4) and a central control unit (5), wherein the filter unit (3) comprises a backwash filter (7) that is controllable by the control unit (5) and is connectable to a backwash line (6), and also to the control unit (5) for such a device, and to a method for controlling a device for treating a liquid.



Classifications:
International (IPC 8-9): B01D29/60 B01D37/04 C02F1/00 (Advanced/Invention)
CPC: C02F1/008 C02F1/001 C02F1/24 C02F1/283 C02F1/32 C02F1/40 C02F1/441 C02F1/442 C02F1/444 C02F1/4693 C02F1/505 C02F1/52 C02F1/72 C02F1/76 C02F1/78 C02F5/00 C02F2201/007 C02F2201/008 C02F2201/009 C02F2209/001 C02F2209/003 C02F2209/006 C02F2209/008 C02F2209/02 C02F2209/03 C02F2209/04 C02F2209/055 C02F2209/06 C02F2209/11 C02F2209/14 C02F2209/15 C02F2209/18 C02F2209/22 C02F2209/23 C02F2209/29 C02F2209/40 C02F2301/043 C02F2303/04 C02F2303/10 C02F2303/16 Y02W10/30 Y02W10/37
European: C02F1/00D C02F1/00T M02F1/00D M02F1/24 M02F1/28D M02F1/32 M02F1/40 M02F1/44B M02F1/44C M02F1/44D M02F1/469D M02F1/50B M02F1/52 M02F1/72 M02F1/76 M02F1/78 M02F201/00D10 M02F201/00M M02F201/00P M02F209/00B M02F209/00D M02F209/00T2 M02F209/00T4 M02F209/02 M02F209/03 M02F209/04 M02F209/055 M02F209/06 M02F209/11 M02F209/14 M02F209/15 M02F209/18 M02F209/22 M02F209/23 M02F209/29 M02F209/40 M02F301/04B M02F303/04 M02F303/10 M02F303/16 M02F5/00

Family:

Publication number	Publication date	Application number	Application date
AT511426 A1	20121115	AT20110000480	20110405
AT511426 B1	20170215	AT20110000480	20110405
WO12136561 A1	20121011	WO2012EP55633	20120329

Priority:

AT20110000480 20110405

Probable Assignee: E HAWLE ARMATURENWERKE GMBH

Assignee(s): (std): E HAWLE ARMATURENWERKE GMBH ; MAYR MARTIN

Inventor(s): (std): MAYR MARTIN

Agent(s): GRABHERR CLAUDIA 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 RW 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

Legal status (INPADOC)

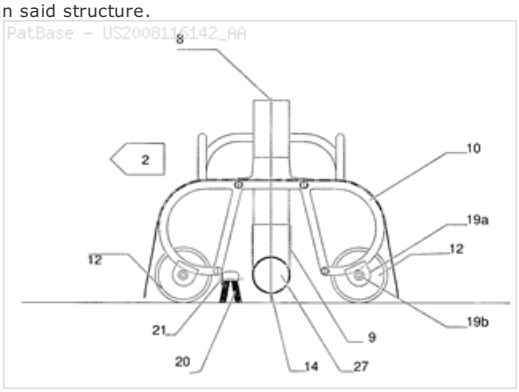
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Patent	Date recorded	Event group	Code	Event	Details
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AT511426 B1	20170215	LSGT	+	granted / extensions (spc, cpc, pte)	
WO12136561 A1	20121011	LSPB	+	published / reissued	
WO12136561 A1	20131007	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12136561 A1	20140430	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12712259 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

5) Family number: 41015574 (US2008116142A)

Title: PROCESS TO OBTAIN WATER BODIES LARGER THAN 15,000 M3 FOR RECREATIONAL USE WITH COLOR, TRANSPARENCY AND CLEANNESS CHARACTERISTICS SIMILAR TO SWIMMING POOLS OR TROPICAL SEAS AT LOW COST

Abstract: Source: US2008116142A The invention discloses a process to implement and maintain water bodies larger than 15,000 m3 for recreational use, such as lakes or artificial lagoons, with excellent color, transparency and cleanness properties at low cost, which comprises the following steps: a.-providing a structure able to contain a large water body larger than 15,000 m3; b.-feeding the structure of step (a) with inlet water having iron and manganese levels lower than 1.5 ppm and turbidity lower than 5 NTU; c.-measuring water pH, ideally it should be within a range lower than 7.8; d.-adding an oxidizing agent to the water contained in the structure of step (a), with which a 600 mV minimal ORP is controlled in water for a minimal period of 4 hours and in maximal cycles of 48 hours; e.-adding a flocculating agent in concentrations within 0.02 and 1 ppm with maximal frequencies of 6 days and cleaning the bottom of the structure of step (a) with a suction device to remove precipitated impurities from the bottom of said structure, together with the additional flocculants and; f.-generating a displacement of surface water containing impurities and surface oils by means of the injection of inlet water according to step (b), which generates said displacement in such a way to remove said surface water by means of a system for impurities and surface oils removal arranged in the structure of step (a), which together with step (e) replaces traditional filtering. The present invention also discloses a structure to contain large water bodies comprising a system for the removal of impurities and surface oils by means of skimmers and the suction device to clean said structure.



Classifications:
International (IPC 8-9): A63C19/00 B01D21/00 B01D21/01 B01D21/24 B01D21/30 B01D35/02 B08B3/02 B08B9/08 C02F1/00 C02F1/40 C02F1/46 C02F1/50 C02F1/52 C02F1/56 C02F1/64 C02F1/66 C02F1/68 C02F1/72 C02F1/76 C02F1/78 C02F103/42 C02F9/00 C02F9/04 E01H1/08 E02B1/00 E02B15/00 E02B15/04 E02D29/00 E04H4/00 E04H4/02 E04H4/04 E04H4/12 E04H4/14 E04H4/16 (Advanced/Invention);
C02F1/40 C02F1/52 C02F1/66 C02F1/72 C02F103/42 (Advanced/Non-invention);
A63C19/00 B01D21/00 B01D21/01 B01D21/24 B01D21/30 C02F1/00 C02F1/40 C02F1/46 C02F1/50 C02F1/52 C02F1/54 C02F1/62 C02F1/66 C02F1/68 C02F1/72 C02F1/76 C02F1/78 C02F9/00 E02B1/00 E02B15/00 E02B15/04 E02D29/00 E04H4/00 (Core/Invention);
A63C19/00 (Core/Non-invention);
C02F (Subclass/Invention)
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Family:

Publication number	Publication date	Application number	Application date
AP200704242 A0	20071231	AP20070004242	20071119
AP2346 A	20120102	AP20070004242	20071119
AR060106 AA	20080528	AR2007P100830	20070228
AR079637 AB	20120208	AR2010P104700	20101216
AR079638 AB	20120208	AR2010P104701	20101216
AU2007203016 AA	20080605	AU20070203016	20070628
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HK1120253 A1	20140124	HK20080109301	20080820
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Priority:

CA20072610542 20071114	CA20072737013 20071114	JP20070299975 20071120
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US20070819017 20070625	US20100884872 20100917	US20100884842 20100917
US20110076151 20110330	PH20110000422 20111215	PH20110000421 20111215
UY20070030184 20070301	US20140444781 20140728	UY20120034424 20121030
UY20120034425 20121030		

Probable Assignee: CRYSTAL LAGOONS

Assignee(s): (std): CRYSTAL LAGOONS CORP LLC ; CRYSTAL LAGOONS CURACAO BV ; NATHALIE GRIMAU ZAVATTARO ; CRYSTAL WATERS S A ; FISCHMANN TORRES FERNANDO BENJ ; FERNANDO BENJAMIN FISCHMANN TO ; TORRES FERNANDO BENJAMIN FISCHMANN ; FISCHMANN TORRES FERNANDO BENJAMIN ; CRYSTAL LAGOONSCORPORATION LLC

Assignee(s): CRYSTAL WATERS SA ; INTELLECTUAL PROPERTY CENTER 28 UPPER MCKINLEY RD MCKINLEY HILL TOWN CENTER FORT BONIFACIO TAGUIG CITY 1634 PHILIPPINES TEL NO 238 6300 WEBSITE HTTP WWWIPOPHILGOVPH E MAIL MAIL IPOPHILGOVPH VOLUME 15 NUMBER 49 DATE RELEASED OCTOBER 29 2012 ; FERNANDO BENJAMIN FISCHMANN TORRES ; CRYSTAL LAGOONS LLC CORP ; CRYSTAL LAGOONS ; CRYSTAL LAGOONS CORP

Inventor(s): (std): FERNANDO BENGAMIN ; FERNANDO BENJAMIN ; FERNANDO BENJAMIN FIHSCMANN TORRES ; FERNANDO BENJAMIN FISCHMANN TO ; FERNANDO BENJAMIN FISCHMANN TORRES ; FERNANDO BENJAMIN FISCHMANN TORRES FBF ; FISCHMANN FERNANDO BENJAMIN TO ; FISCHMANN FERNANDO BENJAMIN TORRES ; FISCHMANN TORRES ; FISCHMANN TORRES FERNANDO BENJ ; FISCHMANN TORRES FERNANDO BENJAMIN ; BENJ FISCHMANN TORRES FERNANDO ; BENJAMIN FISCHMANN TORRES FERNANDO ; FISHMANN TORRES FERNANDO BENJAMIN ; TORRES FERNANDO BENJAMIN FISCH ; TORRES FERNANDO BENJAMIN FISCHMANN ; TORRES FERNANDO BENJAMIN FISHMAN

Inventor(s): TORRES FERNANDO BENJAMIN FISHMANN ; HONGXING ZHO ; RANDAL R KETCHEM ; CHRISTOPHER MEHLIN ; AI CHING LIM

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; ROBIC; CLARKE MODET AND CO CHILE LIMITADA; DILIA MARIA RODRIGUEZ; CARVAJAL Y URQUIJO ISABEL ET AL; SULEIMAN I AL AMMAR LAW OFFICE; SIMON LAVIE; BUCOY POBLADOR AND ASSOCIATES; ANDREWS KURTH LLP; MERCHANT AND GOULD PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL PL PT RO RS SE SI SK TR

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AP2346 A	20120102	LSGT	+	granted / extensions (spc, cpc, pte)	
AR060106 AA	20080528	LSPB	+	published / reissued	

AR060106 AA	20081103	LSWD	-FA	ABANDONMENT OR WITHDRAWAL	
AR060106 AA	20120326	LSGT	+FG	GRANT, REGISTRATION	
AR079637 AB	20120208	LSGT	+	granted / extensions (spc, cpc, pte)	
AR079637 AB	20130827	LSGT	+FG	GRANT, REGISTRATION	
AR079638 AB	20120208	LSGT	+	granted / extensions (spc, cpc, pte)	
AR079638 AB	20130823	LSGT	+FG	GRANT, REGISTRATION	
AU2007203016 AA	20080605	LSPB	+	published / reissued	
AU2007203016 AA	20090625	LSRE	DA2	APPLICATIONS FOR AMENDMENT SECTION 104	DESCRIPTION : THE NATURE OF THE AMENDMENT IS: AMEND THE NAME OF THE INVENTOR TO READ FROM TORRES, FERNANDO BENJAMIN FISCHMANN TO FISCHMANN TORRES, FERNANDO BENJAMIN .
AU2007203016 AA	20091015	LSRE	DA3	AMENDMENTS MADE SECTION 104	DESCRIPTION : THE NATURE OF THE AMENDMENT IS: AMEND THE NAME OF THE INVENTOR FROM TORRES, FERNANDO BENJAMIN FISCHMANN TO FISCHMANN TORRES, FERNANDO BENJAMIN
AU2007203016 AA	20091022	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2007203016 AA	20130131	LSAS	PC	ASSIGNMENT REGISTERED	OWNER NAME : CRYSTAL LAGOONS (CURACAO) B.V. DESCRIPTION : FORMER OWNER WAS: CRYSTAL LAGOONS CORPORATION LLC
AU2007203016 BB	20090423	LSGT	+	granted / extensions (spc, cpc, pte)	
BRPI0705498 A	20080715	LSPB	+	published / reissued	
BRPI0705498 A	20080715	LSPB	B03A	PUBLICATION OF AN APPLICATION: PUBLICATION OF A PATENT APPLICATION OR OF A CERTIFICATE OF ADDITION OF INVENTION	
BRPI0705498 A	20161213	LSAS	B25A	REQUESTED TRANSFER OF RIGHTS APPROVED	PARTYTYPE : OWNER OWNER : CRYSTAL LAGOONS (CURACAO) B.V. (NL)
CA2610542 AA	20080521	LSPB	+	published / reissued	
CA2610542 AA	20080222	LSES	+EEER	EXAMINATION REQUEST	
CA2610542 C	20110628	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2737013 AA	20080521	LSPB	+	published / reissued	
CA2737013 AA	20110412	LSES	+EEER	EXAMINATION REQUEST	
CA2737013 AA	20110510	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20110412
CA2737013 C	20140128	LSGT	+	granted / extensions (spc, cpc, pte)	
CL2006003225 A1	20070409	LSPB	+	published / reissued	
CL43534 B	20080710	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101186403 A	20080528	LSPB	+	published / reissued	
CN101186403 A	20080528	LSPB	+C06	PUBLICATION	
CN101186403 A	20130807	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101186403 A	20131225	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN101186403 A	20140124	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1120253

					COUNTRY OF REF DOCUMENT : HK
CN101186403 B	20130807	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103435177 A	20131211	LSPB	+	published / reissued	
CN103435177 A	20131211	LSPB	+C06	PUBLICATION	
CN103435177 A	20151118	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103435177 A	20161118	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1191928 COUNTRY OF REF DOCUMENT : HK
CN103435177 B	20151118	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103437573 A	20131211	LSPB	+	published / reissued	
CN103437573 A	20131211	LSPB	+C06	PUBLICATION	
CN103437573 A	20160824	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103437573 B	20160824	LSGT	+	granted / extensions (spc, cpc, pte)	
CO5930073 A1	20080627	LSPB	+	published / reissued	
CO5930073 A1	20121029	LSGT	+FG	APPLICATION GRANTED	
CR9535 A	20081028	LSPB	+	published / reissued	
EA013383 B1	20100430	LSGT	+	granted / extensions (spc, cpc, pte)	
EA013383 B1	20131230	LSRE	PC4A	REGISTRATION OF TRANSFER OF A EURASIAN PATENT BY ASSIGNMENT	
EA200702291 A2	20080630	LSPB	+	published / reissued	
ECSP077916 A	20080630	LSPB	+	published / reissued	
EG26151 A	20130328	LSGT	+	granted / extensions (spc, cpc, pte)	
EG26227 A	20130429	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1925593 A2	20080528	LSPB	+	published / reissued	
EP1925593 A2	20091230	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : E02B 15/04 20060101ALI20091123BHEP
EP1925593 A2	20091230	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/72 20060101ALI20091123BHEP
EP1925593 A2	20091230	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/56 20060101AFI20091123BHEP
EP1925593 A2	20091230	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : E04H 4/16 20060101ALI20091123BHEP
EP1925593 A2	20091230	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : E04H 4/00 20060101ALI20091123BHEP
EP1925593 A2	20100908	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100727
EP1925593 A2	20100922	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20100824
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EP1925593 A2	20140226	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : CRYSTAL LAGOONS (CURACAO) B.V.
GC3752 A	20150812	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1120253 A1	20140124	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1120253 A3	20090327	LSPB	+	published / reissued	
HK1191928 A1	20161118	LSGT	+	granted / extensions (spc, cpc, pte)	
HR20070521 A2	20090531	LSPB	+	published / reissued	

IL187370 A0	20120329	LSGT	+FF	PATENT GRANTED	
IL187370 A0	20131031	LSFE	+KB	PATENT RENEWED	
IL187370 A1	20111130	LSPB	+	published / reissued	
IN01549KO2007 A	20080711	LSPB	+	published / reissued	
JO2621 B	20111101	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2008194676 A2	20080828	LSPB	+	published / reissued	
JP2012066247 A2	20120405	LSPB	+	published / reissued	
JP4927687 B2	20120509	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4927687 B2	20110601	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110531
JP4927687 B2	20111201	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111130
JP4927687 B2	20111219	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4927687 B2	20120111	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20120110
JP4927687 B2	20120112	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP4927687 B2	20120216	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20120209
JP4927687 B2	20120217	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4927687 B2	20120217	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4927687 B2	20120622	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4927687 B2	20140226	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313113
JP4927687 B2	20140306	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	TEXT : JAPANESE INTERMEDIATE CODE: R350
JP4927687 B2	20150210	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4927687 B2	20151020	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4927687 B2	20170207	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5129386 B2	20130130	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5129386 B2	20111228	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111227
JP5129386 B2	20111228	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20111227
JP5129386 B2	20120606	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120605
JP5129386 B2	20120906	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120905

JP5129386 B2	20120927	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP5129386 B2	20121003	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20121002
JP5129386 B2	20121004	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP5129386 B2	20121108	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20121101
JP5129386 B2	20121109	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP5129386 B2	20121112	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
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JP5129386 B2	20140306	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	TEXT : JAPANESE INTERMEDIATE CODE: R350
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JP5129386 B2	20161213	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
KR101015449 B1	20110218	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101015449 B1	20080130	LSES	A201	REQUEST FOR EXAMINATION	
KR101015449 B1	20091111	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101015449 B1	20100607	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101015449 B1	20110125	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101015449 B1	20110210	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101015449 B1	20131122	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20131125 YEAR OF FEE PAYMENT : 4
KR101015449 B1	20141204	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20141205 YEAR OF FEE PAYMENT : 5
KR101015449 B1	20160105	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160106 YEAR OF FEE PAYMENT : 6
KR101015449 B1	20170119	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170119 YEAR OF FEE PAYMENT : 7
KR20080046131 A	20080526	LSPB	+	published / reissued	
MA29589 B1	20080701	LSGT	+	granted / extensions (spc, cpc, pte)	
MX2007014361 A1	20090217	LSPB	+	published / reissued	
MX2007014361 A1	20110106	LSGT	+FG	GRANT OR REGISTRATION	
MX2007014361 A1	20140408	LSAS	GB	TRANSFER OR ASSIGNMENT	
NO20075880 A	20080522	LSPB	+	published / reissued	
NO20111057 A	20080522	LSPB	+	published / reissued	
NO20111057 A	20140602	LSAS	CHAD	CHANGE OF THE OWNER'S NAME OR ADDRESS (PAR. 44 PATENT LAW, PAR. PATENTFORSKRIFTEN)	OWNER NAME : CRYSTAL LAGOONS (CURACAO) BV, CW

NO331589 B1	20120130	LSGT	+	granted / extensions (spc, cpc, pte)	
NO331589 B1	20140602	LSAS	CHAD	CHANGE OF THE OWNER'S NAME OR ADDRESS (PAR. 44 PATENT LAW, PAR. PATENTFORSKRIFTEN)	OWNER NAME : CRYSTAL LAGOONS (CURACAO) BV, CW
NO335000 B1	20140818	LSGT	+	granted / extensions (spc, cpc, pte)	
NZ563512 A	20090626	LSPB	+	published / reissued	
NZ563512 A	20091030	LSGT	+PSEA	PATENT SEALED	
NZ563512 A	20110826	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ563512 A	20140328	LSAS	ASS	CHANGE OF OWNERSHIP	OWNER NAME : CRYSTAL LAGOONS (CURACAO) B.V., CW EFFECTIVE DATE : 20140327
NZ563512 A	20140627	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	DESCRIPTION : PATENT RENEWED FOR 3 YEARS UNTIL 19 NOV 2017 BY HENRY HUGHES EFFECTIVE DATE : 20140612
PE08232010 A1	20110113	LSPB	+	published / reissued	
PE08232010 A1	20120427	LSGT	+FG	GRANT, REGISTRATION	
PE08432010 A1	20110120	LSPB	+	published / reissued	
PE08432010 A1	20120606	LSGT	+FG	GRANT, REGISTRATION	
PE16402008 A1	20081203	LSPB	+	published / reissued	
PE16402008 A1	20101130	LSGT	+FG	GRANT, REGISTRATION	
PH2011000421 A	20121029	LSPB	+	published / reissued	
PH2011000422 A	20121029	LSPB	+	published / reissued	
SG143192 A1	20080627	LSPB	+	published / reissued	
SG172611 A1	20110728	LSPB	+	published / reissued	
SG172657 A1	20110728	LSPB	+	published / reissued	
TW200831168 A	20080801	LSPB	+	published / reissued	
TWI335833 B	20110111	LSGT	+	granted / extensions (spc, cpc, pte)	
US2008116142 AA	20080522	LSPB	+	published / reissued	
US2008116142 AA	20071012	LSAS	AS	ASSIGNMENT	OWNER NAME : CRYSTAL LAGOONS CORPORATION LLC, DELAWARE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FISCHMANN TORRES, FERNANDO B.; REEL/FRAME:019985/0883 EFFECTIVE DATE : 20070530
US2011061194 AA	20110317	LSPB	+	published / reissued	
US2011062067 AA	20110317	LSPB	+	published / reissued	
US2011210076 AA	20110901	LSPB	+	published / reissued	
US2011210076 AA	20130308	LSAS	AS	ASSIGNMENT	OWNER NAME : CRYSTAL LAGOONS (CURACAO) B.V., NETHERLANDS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CRYSTAL LAGOONS CORPORATION LLC; REEL/FRAME:029957/0159 EFFECTIVE DATE : 20120703
US2011210076 AA	20130403	LSAS	AS	ASSIGNMENT	OWNER NAME : CRYSTAL LAGOONS CORPORATION LLC, DELAWARE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FISCHMANN TORRES, FERNANDO BENJAMIN; REEL/FRAME:030146/0834 EFFECTIVE DATE : 20070530
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US7820055 BB	20101026	LSGT	+	granted / extensions	

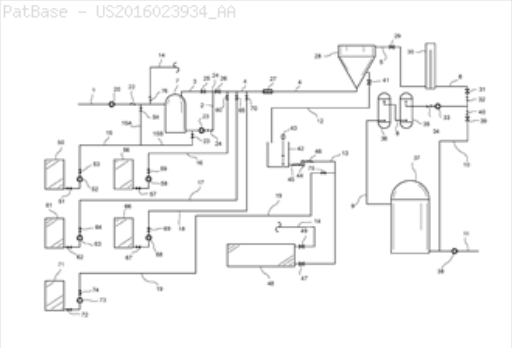
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US7820055 BB	20110419	LSRE	CC	CERTIFICATE OF CORRECTION	
US7820055 BB	20130308	LSAS	AS	ASSIGNMENT	OWNER NAME : CRYSTAL LAGOONS (CURACAO) B.V., NETHERLANDS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CRYSTAL LAGOONS CORPORATION LLC; REEL/FRAME:029957/0159 EFFECTIVE DATE : 20120703
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US8062514 BB	20111122	LSGT	+	granted / extensions (spc, cpc, pte)	
US8062514 BB	20130308	LSAS	AS	ASSIGNMENT	OWNER NAME : CRYSTAL LAGOONS (CURACAO) B.V., NETHERLANDS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CRYSTAL LAGOONS CORPORATION LLC; REEL/FRAME:029957/0159 EFFECTIVE DATE : 20120703
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US8062514 BB	20150515	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US8070942 BB	20150422	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8790518 BB	20140729	LSGT	+	granted / extensions (spc, cpc, pte)	
UY30184 A1	20070531	LSPB	+	published / reissued	
UY34424 A1	20130103	LSPB	+	published / reissued	
UY34425 A1	20130103	LSPB	+	published / reissued	
VN14538 A1	20151026	LSPB	+	published / reissued	
VN15340 A1	20160525	LSPB	+	published / reissued	
VN15341 A1	20160525	LSPB	+	published / reissued	
ZA200710014 A	20080925	LSGT	+	granted / extensions (spc, cpc, pte)	

6) Family number: 57413357 (US2016023934A)

Title: PORTABLE, NON-BIOLOGICAL, CYCLIC SEWAGE TREATMENT PLANT

Abstract: Source: US20160023934A A mobile sewage treatment and water reclamation system for rapid deployment to augment existing wastewater systems and provide interim service in lieu of permanent facilities, includes: (a) denaturing stage wherein raw sewage is first ground into suspendable grit, its pH first lowered to kill acid-sensitive bio-organisms, then raised to kill base-sensitive bio-organisms, and then neutralized; (b) clarifying stage employing an inverted-cone tank to circulate the solution after injection with chemicals to flocculate small particles for collection in a layer for siphoning off; and (c) disposal stage wherein clarified water passes through media filters to remove remaining solids and odors, the effluent water being clean enough for irrigation, aquatic life and discharge into waterways; and wherein sterile sludge is pressed into semi-dry solids, then dried, crushed, powdered and bagged for use as high-nitrate biomass fertilizer or for fossil-fuel power co-generation applications.

Classifications:
International (IPC 8-9)**:** B01D21/00 B01D21/01 B01D39/06 C02F C02F1/00 C02F1/28 C02F1/50 C02F1/52 C02F1/56 C02F1/66 C02F11/12 C02F9/00 (Advanced/Invention);
C02F1/28 C02F1/32 C02F1/76 C02F1/78 (Advanced/Non-invention);
C02F (Subclass/Invention)
CPC: C02F1/283 C02F2301/08 C02F2305/04 C02F2201/008 C02F2303/22 C02F2303/26 C02F9/00 C02F1/001 C02F2001/007 C02F2303/04 C02F1/004 C02F1/32 C02F1/76 C02F1/78 C02F11/122 C02F2201/007 C02F2209/003 C02F2209/26 C02F2301/026 C02F2301/046 C02F2303/02 C02F2303/18 C02F2303/24 C02F1/50 C02F1/5245 C02F1/5281 C02F1/56 C02F1/66 C10L5/46 C05F7/00
US: 210/173 210/192 210/199 210/710



Family:

Publication number	Publication date	Application number	Application date
AP201508810 A0	20151031	AP20150008810	20140315
AU2014233225 AA	20140918	AU20140233225	20140315
CA2905608 AA	20150910	CA20142905608	20140315
CL2015002729 A1	20160805	CL20150002729	20150915
CN105209394 A	20151230	CN201480016040	20140315
EA201591536 A1	20160331	EA20150091536	20140315
EP2969973 A1	20160120	EP20140764337	20140315
EP2969973 A4	20161019	EP20140764337	20140315
HK1213868 A1	20160715	HK20160101685	20160217
IL241488 A0	20151130	IL20140241488	20140315
IN09656DN2015 A	20160226	IN2015DN09656	20151014
JP2016516570 A2	20160609	JP20160503309	20140315
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KR20150129332 A	20151119	KR20157029375	20140315
MD20160094 A2	20161231	MD20160000094	20140315
MX2015012903 A1	20161028	MX20150012903	20140315
PH2015502085 A	20160118	PH20150502085	20150911
TN2015000419 A1	20170103	TN20150000419	20150914
US2016023934 AA	20160128	US20140775695	20140315
WO14145282 A1	20140918	WO2014US30016	20140315

Priority:

US20130799432P 20130315 US20140775695 20140315 WO2014US30016 20140315

Probable Assignee: E3 WATER LLC

Assignee(s): (std)**:** DANIEL R SMITH ; E3 WATER LLC ; E3WATER LLC ; KENNETH A ROBERSON

Assignee(s): SMITH DANIEL R ; ROBERSON KENNETH A

Inventor(s): (std)**:** SMITH DANIEL R ; ROBERSON KENNETH A ; ROBERSON JR KENNETH A ; KENNETH A ROBERSON ; DANIEL R SMITH

Agent(s): DENNEMEYER AND ASSOCIATES; KIRBY EADES GALE BAKER; ALESSANDRI Y COMPANIA; DENNEMEYER AND ASSOCIATES SA; MANNING GUY V

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT JP KE KG KM KN KP KR KZ LA LC LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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CA2905608 AA	20150910	LSPB	+	published / reissued	
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CN105209394 A	20151230	LSPB	+	published / reissued	

CN105209394 A	20151230	LSPB	+C06	PUBLICATION	
EA201591536 A1	20160331	LSPB	+	published / reissued	
EP2969973 A1	20160120	LSPB	+	published / reissued	
EP2969973 A1	20160120	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150917
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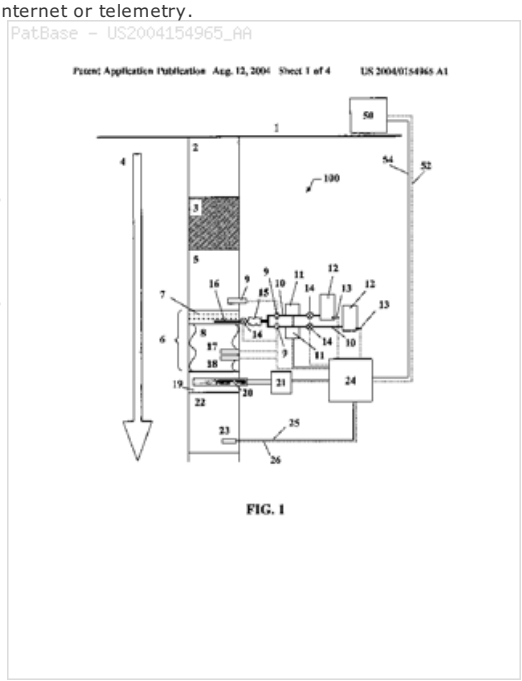
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WO14145282 A1	20150910	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 241488 COUNTRY OF REF DOCUMENT : IL
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7) Family number: 30649775 (US2004154965A)

Title: WET AND DRY WEATHER WATER FLOWS DISINFECTION SYSTEM

Abstract: Source: US2004154965A An automated system for upstream, chemical disinfection of wet and dry weather water flows. The system combines chemical disinfection with a sophisticated feed-back control model for efficient disinfection rates and optimized consumables usage without the generation of environmentally-damaging residues. The model is steered by inputs from an array of sensors measuring key physiochemical and biological parameters. The system is designed to optionally permit remote access via computer networks such as the Internet or telemetry.

Classifications:
International (IPC 8-9): B01D17/12 C02F1/00 C02F1/72 C02F1/76 (Advanced/Invention); C02F1/32 C02F1/40 C02F1/68 (Advanced/Non-invention)
International (IPC 1-7): B01D17/12 C02F1/72 G06F
CPC: Y02W10/37 C02F1/008 C02F1/001 C02F1/32 C02F1/40 C02F1/686 C02F1/722 C02F1/76 C02F2103/001 C02F2201/009 C02F2209/006 C02F2209/008 C02F2209/02 C02F2209/06 C02F2209/08 C02F2209/11 C02F2209/22 C02F2209/29 C02F2209/36 C02F2209/40 C02F2209/42 C02F2301/024 C02F2301/026 C02F2301/043 C02F2303/04 C02F2307/08
European: C02F1/00T C02F1/72C C02F1/76 M02F1/00D M02F1/32 M02F1/40 M02F1/68P2 M02F1/72C M02F103/00B M02F201/00I M02F201/00P M02F209/00T2 M02F209/00T4 M02F209/02 M02F209/06 M02F209/08 M02F209/11 M02F209/22 M02F209/29 M02F209/36 M02F209/40 M02F209/42 M02F301/02D M02F301/02F M02F301/04B M02F303/04 M02F307/08
US: 210/109 210/109S 210/143 210/143S 210/198.1 210/198.100S 210/85 210/85P 210/87 210/87S 210/96.1 210/96.100S 422/105 422/105S



Family:

Publication number	Publication date	Application number	Application date
AU2003295718 AA	20040618	AU20030295718	20031121
AU2003295718 AH	20040618	AU20030295718	20031121
US2004154965 AA	20040812	US20030719924	20031121
WO04049116 A2	20040610	WO2003US37146	20031121
WO04049116 A3	20040729	WO2003US37146	20031121

Priority:
US20020428653P 20021125 US20030719924 20031121 WO2003US37146 20031121

Probable Assignee: PURSTREAM IP ESCROW LLC
Assignee(s): (std): BAUM MARC M ; CHING WENG KI ; HOFFMANN MICHAEL R ; PURSTREAM TECHNOLOGIES INC
Assignee(s): PURSTREAM IP ESCROW LLC
Inventor(s): (std): BAUM MARC M ; CHING WENG KI ; HOFFMANN MICHAEL R
Inventor(s): MARC M BAUM ; MICHAEL R HOFFMANN ; WENG KI CHING
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SC SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

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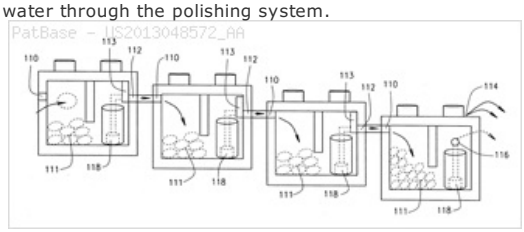
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US2004154965 AA	20040812	LSPB	+	published / reissued	
US2004154965 AA	20040426	LSAS	AS	ASSIGNMENT	OWNER NAME : PURSTREAM TECHNOLOGIES, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BAUM, MARC M.; CHING, WENG KI; HOFFMANN, MICHAEL R.; REEL/FRAME:015265/0918

					EFFECTIVE DATE : 20040420
US2004154965 AA	20070919	LSAS	AS	ASSIGNMENT	OWNER NAME : PURSTREAM IP ESCROW, LLC, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PURSTREAM TECHNOLOGIES, INC.; REEL/FRAME:019851/0404 EFFECTIVE DATE : 20070918
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WO04049116 A3	20061024	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO04049116 A3	20061024	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : JP

8) Family number: 53122838 (US2013048572A)

Title: SELF-CONTAINED IRRIGATION POLISHING SYSTEM

Abstract: Source: US2013048572A A self-contained water polishing system includes at least a first containment basin that has an inlet for inflow of water from a collection source and contains calcium carbonate for treatment of water flowing through the system; at least a first polishing basin in communication with the containment basin and that contains at least a first pollutant collection substrate for treatment of water flowing through the system; and a vacuum pumping system in fluid communication with the containment and polishing basins that draws water through the polishing system.



Classifications:
International (IPC 8-9): A01G25/00 B01D15/00 B01D29/00 B1D15/00 C02F1/00 C02F1/02 C02F1/32 C02F1/52 C02F1/66 C02F3/00 C02F9/00 C02F9/02 C02F9/04 C2F9/02 E03F1/00 E03F5/10 (Advanced/Invention);
C02F1/24 C02F1/28 C02F1/32 C02F1/42 C02F1/52 C02F1/66 C02F101/32 C02F103/00 (Advanced/Non-invention)
CPC: C02F2201/008 C02F1/24 C02F1/28 C02F1/42 C02F1/5236 C02F1/5263 C02F2201/009 C02F2209/42 C02F9/00 C02F2101/32 C02F2103/007 C02F2201/005 C02F2201/007 C02F2209/06 C02F2209/22 C02F2209/40 C02F2301/043 C02F2301/046 C02F2303/24 E03F1/00 E03F5/10 C02F2301/063 C02F2103/001 C02F2303/04 C02F1/02 C02F1/32 C02F1/66 E03F5/107 C02F1/5245 C02F1/5281 C02F9/005 C02F2201/002 Y02W10/37
US: 210/137 210/170.03 210/199 210/201 210/202 210/205 210/206 210/241 210/252 210/258 210/264 210/667 210/694 210/702 210/709 210/724 210/737 210/747.1 210/747.2 210/96.1

Family:

Publication number	Publication date	Application number	Application date
CA2846597 AA	20140225	CA20122846597	20120824
CA2886085 AA	20150326	CA20132886085	20130926
CA2915950 AA	20160623	CA20152915950	20151223
EP2747858 A1	20140702	EP20120828213	20120824
EP2747858 A4	20150311	EP20120828213	20120824
EP2900604 A1	20150805	EP20130842448	20130926
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US2013048572 AA	20130228	US20110219080	20110826
US2013075343 AA	20130328	US20120627765	20120926
US2015210566 AA	20150730	US20150677683	20150402
US2016107900 AA	20160421	US20150978576	20151222
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US9011681 BB	20150421	US20120627765	20120926
WO13032882 A1	20130307	WO2012US52198	20120824
WO14052520 A1	20140403	WO2013US61805	20130926

Priority:

US20110219080 20110826 US20120627765 20120926 WO2012US52198 20120824
US20150677683 20150402 US20150978576 20151222 US20140096461P 20141223
WO2013US61805 20130926

Probable Assignee: WASSERWERK INC

Assignee(s): (std): HAWKS WAYNE R ; WASSERWEK INC ; WASSERWERK INC

Inventor(s): (std): HAWKS WAYNE R

Agent(s): GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; RUTHERFORD CLAIRE; HUSCH BLACKWELL LLP; OLEEN NATHAN E ET AL; KIRCHER WILLIAM B ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA2846597 AA	20140225	LSPB	+	published / reissued	
CA2886085 AA	20150326	LSPB	+	published / reissued	
CA2915950 AA	20160623	LSPB	+	published / reissued	
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EP2747858 A1	20160928	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20160419
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US2015210566 AA	20150402	LSAS	AS	ASSIGNMENT	OWNER NAME : WASSERWERK, INC., MISSOURI DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HAWKS, WAYNE R.; REEL/FRAME:035324/0556 EFFECTIVE DATE : 20110823

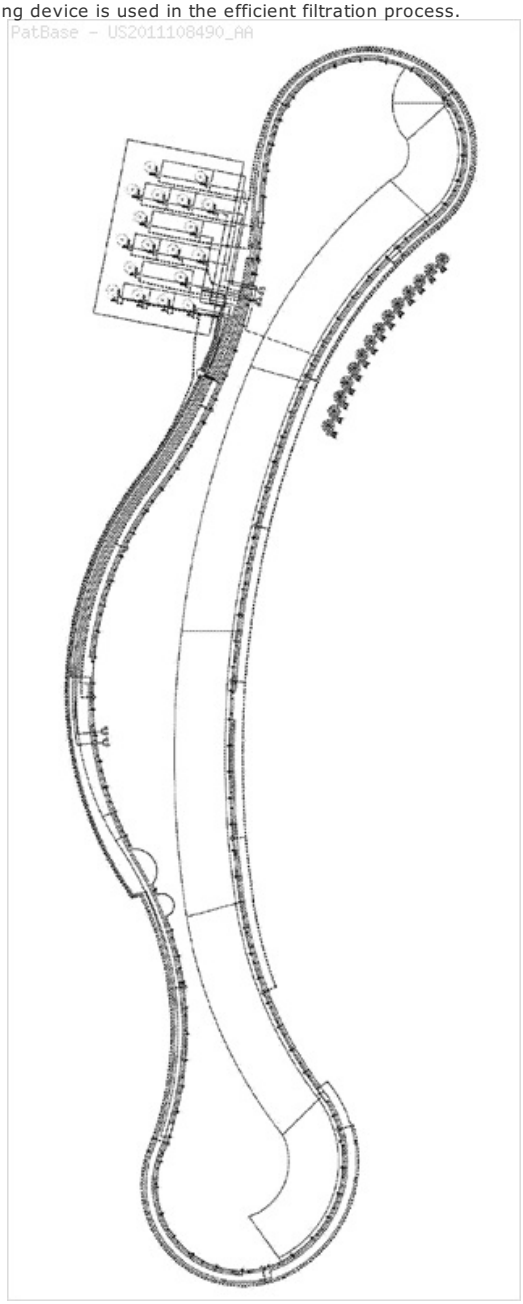
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9) Family number: 45919591 (US2011108490A)

Title: EFFICIENT FILTRATION PROCESS OF WATER IN A TANK FOR RECREATIONAL AND ORNAMENTAL USES, WHERE THE FILTRATION IS PERFORMED OVER A SMALL VOLUME OF WATER AND NOT OVER THE TOTALITY OF THE WATER FROM THE TANK

Abstract: Source: US2011108490A An efficient filtration process of water from a tank is performed over a small volume of water and not on the totality of the water from the tank. The process includes emitting ultrasonic waves in the tank; and adding a flocculant agent to the water. The tank bottom is covered with a suctioning device which suctions a water flow with flocculated particles, discharging to a collecting effluent line and the effluent flow of the suctioning device is filtered from the collecting effluent line. Filtered flow is returned to the tank. A suctioning device is used in the efficient filtration process.

Classifications:
International (IPC 8-9): A01K63/04 A47L5/00 A47L7/00 A63C19/00 B01D B01D21/00 B01D21/01 B01D21/08 B01D21/24 B01D21/28 B01D24/00 B01D35/00 B01D35/02 B01D35/027 B01D36/04 B03C5/00 C02F1/00 C02F1/34 C02F1/36 C02F1/40 C02F1/52 C02F1/56 C02F9/00 C02F9/08 E04H4/00 E04H4/12 E04H4/14 E04H4/16 (Advanced/Invention);
A47L9/28 A61M1/36 B08B3/02 C02F1/36 C02F1/56 C02F103/00 C02F103/42 (Advanced/Non-invention);
B01D21/01 B65D25/04 C02F1/54 (Core/Invention);
B01D35/00 C02F1/36 C02F1/52 (Core/Non-invention);
B01D (Subclass/Invention)
International (IPC 1-7): B01D21/01 B65D 25/04
CPC: E04H4/12 A47L9/2842 A61M1/3633 B08B3/02 C02F1/52 E04H4/1645 C02F1/001 C02F1/36 C02F1/56 C02F9/00 C02F2103/007 C02F2103/42 E04H4/1209 E04H4/1654 Y02W10/37
European: C02F1/36 C02F1/56 M02F103/00H M02F103/42
US: 1/1 210/241 210/241S 210/712



Family:

Publication number	Publication date	Application number	Application date
AP201005425 A0	20101031	AP20100005425	20090311
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US9470007 BB	20161018	US20090937505	20090311
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Priority:

AU20090330680 20090311	AU20140215969 20140820	CL20080003900 20081224
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WO2009US36809 20090311	US20110937505 20110103	US20130886615 20130503

Probable Assignee: CRYSTAL LAGOONS

Assignee(s): (std): CRYSTAL LAGOONS CORP LLC ; CRYSTAL LAGOONS CORPOTATION LLC ; CRYSTAL LAGOONS CURACAO BV ; FISCHMANN TORRES FERNANDO BENJAMIN ; FERNANDO BENJAMIN FISCHMANN TORRES

Assignee(s): CRYSTAL LAGOONS ; CRYSTAL LAGOONS LLC CORP ; CRYSTAL LAGOONS LLCUS CORP

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Inventor(s): FISCHMANN TORRES FERNANDO ; FERNANDO FISCHMANN TORRES ; FISCHMANN ORRES FERNANDO BENJAMIN

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; ROBIC; CLARKE MODET AND CO CHILE LIMITADA; SILVANA MARIA LOPEZ DIAZ; CARVAJAL Y URQUIJO ISABEL; SIMON LAVIE; DREW AND NAPIER LLC; MERCHANT AND GOULD PC; KOWALCHYK KATHERINE M

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 LI 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AR073429 AA	20101103	LSPB	+	published / reissued	
AR073429 AA	20160330	LSGT	+FG	GRANT, REGISTRATION	

AU2009330680 AA	20100701	LSPB	+	published / reissued	
AU2009330680 AA	20150205	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
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AU2014215969 AA	20161208	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
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CL47352 B	20110511	LSGT	+	granted / extensions (spc, cpc, pte)	
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IL208639 A1	20161130	LSPB	+	published / reissued	
IN03853KN2010 A	20101210	LSPB	+	published / reissued	
JP2011524802 T2	20110908	LSPB	+	published / reissued	
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US9470007 BB	20110103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CRYSTAL LAGOONS

					CORPORATION LLC, DELAWARE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FISCHMANN TORRES, FERNANDO BENJAMIN; REEL/FRAME:025576/0035 EFFECTIVE DATE : 20101001
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VN16406 A1	20170225	LSPB	+	published / reissued	
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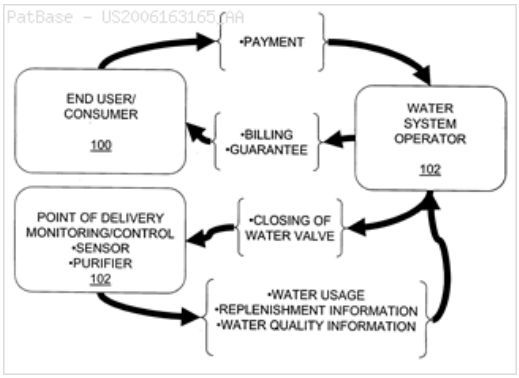
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10) Family number: 33150515 (US2006163165A)

Title: METHOD FOR END-TO-END CONTROL OF WATER QUALITY

Abstract: Source: US2006163165A A method of providing end-to-end water quality control from a water system operator to a point of delivery proximate a consumer. The method includes treating the water and delivering the water to the consumer at the point of delivery, filtering/purifying the water at the point of delivery, monitoring water quality at the point of delivery, reporting water quality at the point of delivery to the water system operator over a network, monitoring total water volume at the point of delivery, and reporting total water volume at the point of delivery to the water system operator over a network.

Classifications:
International (IPC 8-9): B01J39/00 C02F1/00 C02F1/04 C02F1/32 C02F1/44 C02F1/76 C02F1/78 G05B21/00 G06Q30/00 (Advanced/Invention);
B01J39/00 C02F1/00 C02F1/32 C02F1/44 C02F1/76 C02F1/78 G05B21/00 (Core/Invention)
CPC: Y10S210/92 C02F1/008 C02F1/001 C02F1/52 C02F1/56 C02F1/76 C02F9/00 C02F2201/006 C02F2209/003 C02F2209/008 C02F2209/05 C02F2209/06 C02F2209/08 C02F2209/11 C02F2209/22 C02F2209/40 C02F2303/04 G06Q30/0641
European: C02F1/00T G06Q30/0641 M02F1/00D M02F1/52 M02F1/56 M02F1/76 M02F201/00D8 M02F209/00D M02F209/00T4 M02F209/05 M02F209/06 M02F209/08 M02F209/11 M02F209/22 M02F209/40 M02F303/04 M02F9/00
US: 203/10 203/10S 210/184 210/650 210/650S 210/668 210/739 210/748 210/748.01 210/748.1 210/748.100S 210/749 210/753 210/753S 210/760 210/760S 210/767 210/767S 210/85 210/920 700/271 700/271P 702/184 705/1.1 705/27.1 705/27.100P



Family:

Publication number	Publication date	Application number	Application date
US2006163165 AA	20060727	US20050183395	20050718
US2007012628 AA	20070118	US20060533821	20060921
US2009132089 AA	20090521	US20090356114	20090120
US2010100242 AA	20100422	US20090645692	20091223
US2011029410 AA	20110203	US20100906706	20101018
US7497957 BB	20090303	US20060533821	20060921
US7670494 BB	20100302	US20090356114	20090120
US7767093 BB	20100803	US20050183395	20050718
US7820059 BB	20101026	US20090645692	20091223
US8377314 BB	20130219	US20100906706	20101018

Priority:

US20050183395 20050718 US20050645625P 20050121 US20060533821 20060921
US20050718953P 20050921 US20060787713P 20060331 US20060809286P 20060531
US20090356114 20090120 US20090645692 20091223 US20100906706 20101018

Probable Assignee: FRANK BERNARD
Assignee(s): (std): FRANK BERNARD
Inventor(s): (std): FRANK BERNARD
Agent(s): MCKEE VOORHEES AND SEASE PLC; MCKEES VOORHEES AND SEASE PLC

Legal status (INPADOC)

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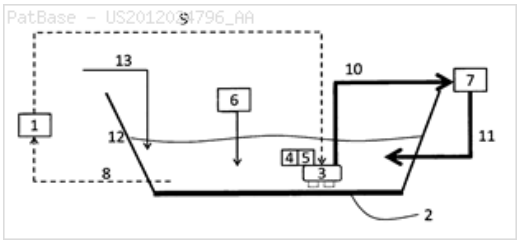
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US2009132089 AA	20090521	LSPB	+	published / reissued	
US2010100242 AA	20100422	LSPB	+	published / reissued	
US2011029410 AA	20110203	LSPB	+	published / reissued	
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US7820059 BB	20140411	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8377314 BB	20130219	LSGT	+	granted / extensions (spc, cpc, pte)	
US8377314 BB	20160719	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

11) Family number: 50538305 (US2012024796A)

Title: SUSTAINABLE METHOD AND SYSTEM FOR TREATING WATER BODIES AFFECTED BY BACTERIA AND MICROALGAE AT LOW COST

Abstract: Source: US2012024796A A sustainable method and system for treating and maintaining bodies of water at low cost for low density recreational use is disclosed. A system of the invention generally includes at least one containing means, at least one coordination means, at least one chemical application means, at least one non-intrusive mobile suction means, and at least one filtration means. The coordinating means can receive information regarding water quality parameters that are controlled, and can timely activate the processes necessary to adjust the water quality parameters within their respective limits. The disclosed methods and system filter only a small fraction of the total water volume, up to 200 times less per day than the flow filtered by conventional swimming pool filtration systems. The disclosed methods and system also use less chemicals, up to 100 times less than conventional swimming pool water treatment systems. The methods and system of the present invention can be used to treat recreational water bodies affected by bacteria and microalgae and provide sustainable methods for producing water that complies with bacteriological and physicochemical requirements for recreational water, as set forth by governmental regulatory agencies such as the Environmental Protection Agency (EPA), for bathing with full body contact.



Classifications:
International (IPC 8-9): B01D21/02 B01D21/30 B01D35/00 B01D36/00 B01D37/04 C02F C02F1/00 C02F1/46 C02F1/50 C02F1/52 C02F1/56 C02F1/66 C02F1/68 C02F1/76 C02F1/78 C02F103/42 C02F5/00 C02F5/08 C02F5/10 C02F5/12 C02F5/14 C02F9/00 C02F9/04 C02F9/08 E04H4/12
E04H4/16 (Advanced/Invention);
C02F1/00 C02F1/44 C02F1/50 C02F1/66 C02F1/78 C02F103/00 C02F103/02 C02F103/42 C02F5/14 E04H4/12 (Advanced/Non-invention);
C02F1/68 (Core/Invention);
C02F E04H (Subclass/Invention)
CPC: E04H4/1281 C02F1/008 C02F1/442 C02F1/444 C02F1/004 C02F1/50 C02F1/66 C02F1/76 C02F1/766 C02F1/78 C02F5/14 C02F2103/007 C02F2103/42 C02F2209/04 E04H4/1209
European: C02F1/00D6 C02F1/76 E04H4/12A E04H4/12B M02F1/50 M02F1/66 M02F1/76 M02F1/76G M02F1/78 M02F103/00H M02F103/42 M02F209/04 M02F5/14
US: 1/1 210/141 210/141S 210/143 210/167.11 210/203 210/203S 210/696 210/696S 210/697 210/709 210/721 210/739 210/739S 210/742 210/743 210/747.5 210/753 210/753S 210/754 210/754S 210/760 210/760S 210/764 210/764S

Family:

Publication number	Publication date	Application number	Application date
AP201307114 A0	20130930	AP20130007114	20110912
AP3745 A	20160731	AP20130007114	20110912
AR085679 AA	20131023	AR2012P101090	20120329
AU2011363517 AA	20121004	AU20110363517	20110912
AU2016202416 AA	20160512	AU20160202416	20160415
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CL52479 B	20160505	CL20130002603	20130910
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GE201606515 B	20160725	GE20110013229	20110912
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JP5859636 B2	20160210	JP20140502537T	20110912
KR101579068 B1	20151221	KR20137025803	20110912
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MX2013011152 A1	20131202	MX20130011152	20110912
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US2013213866 AA	20130822	US20130856387	20130403
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UY33990 A1	20120928	UY20120033990	20120329

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ZA201306553 A	20131127	ZA20130006553	20130830

Priority:

AU20110363517 20110912 AU20160202416 20160415 US20110469548P 20110330
US20110136458 20110801 CN201110328741 20111021 EP20110862244 20110912
WO2011US51244 20110912 US20130856387 20130403

Probable Assignee: CRYSTAL LAGOONS CURACAO BV

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Assignee(s): FISCHMANN T ; KENNEDY 9070 ; CRYSTAL LAGOONS LLC CORP

Inventor(s): (std): FERNANDO FISCHMANN T ; FISCHMANN FERNANDO T ; FISCHMANN FERNARDO BENJAMIN ; FISCHMANN T FERNANDO ; FISCHMANN T FERNANDO BANJAMIN ; FISCHMANN TORRES FERNANDO BENJAMIN ; FISCHMANNT FERNANDO BENJAMIN ; T FERNANDO FISCHMANN ; TORRES FERNANDO BENJAMIN FISCHMANN ; FISCHMANN FERNANDO BENJAMIN ; BANJAMIN FISCHMANN T FERNANDO

Inventor(s): FERNANDO BENJAMIN FISCHMANN ; KENNEDY 9070 ; FISCHMANN T ; FERNANDO FISCHMANN TORRES

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; ROBIC; ESTUDIO CLARKE MODET CO LIMITADA; SILVANA MARIA LOPEZ DIAZ; CARVAJAL Y URQUIJO ISABEL; FRICK ROBERT; SIMON LAVIE; DREW AND NAPIER LLC; MERCHANT AND GOULD P C; MERCHANT AND GOULD PC; KOWALCHYK KATHERINE M

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 LI 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 RW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AP3745 A	20160731	LSGT	+	granted / extensions (spc, cpc, pte)	
AR085679 AA	20131023	LSPB	+	published / reissued	
AU2011363517 AA	20121004	LSPB	+	published / reissued	
AU2011363517 AA	20160512	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
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CA2830178 AA	20130912	LSPB	+	published / reissued	
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CL52479 B	20160505	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN102730878 A	20121017	LSPB	+C06	PUBLICATION	
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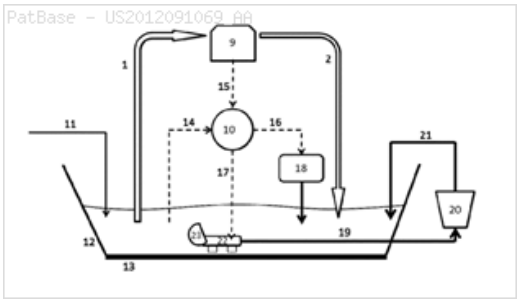
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US2012024796 AA	20120202	LSPB	+	published / reissued	
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12) Family number: 50933396 (US2012091069A)

Title: METHOD AND SYSTEM FOR THE SUSTAINABLE COOLING OF INDUSTRIAL PROCESSES

Abstract: Source: US2012091069A A method and system for treating water, and using the treated water for the cooling of industrial processes is disclosed. The water is treated and stored in a large container or artificial lagoon, has high clarity and high microbiological quality. A system of the invention generally includes a containing means, such as a large container or artificial lagoon, a coordination means, a chemical application means, a mobile suction means, and a filtration means. The coordination means monitors and controls the processes in order to adjust water quality parameters within specified limits. The large container or artificial lagoon can act as a heat sink, absorbing waste heat from the industrial cooling process, thus creating thermal energy reservoirs in a sustainable manner, which can be later used for other purposes. The method and system can be used in any industrial cooling system with any type of water available, including fresh water, brackish water, and seawater.



Classifications:
International (IPC 8-9): B01D17/12 B01D21/00 B01D21/01 B01D21/02 B01D21/24 B01D21/30 B01D24/00 B01D35/02 B01D35/14 B01D36/00 B01D36/04 C02F1/00 C02F1/44 C02F1/50 C02F1/52 C02F1/54 C02F1/56 C02F1/64 C02F1/66 C02F1/68 C02F1/72 C02F1/76 C02F1/78 C02F103/02 C02F103/42 C02F5/08 C02F5/10 C02F5/12 C02F5/14 C02F9/00 C02F9/02 C02F9/04 E01H E01H1/08 F28B9/04 (Advanced/Invention);
C02F1/00 C02F1/52 C02F1/56 C02F1/72 C02F1/78 C02F103/02 C02F103/42 C02F5/08 C02F5/14 (Advanced/Non-invention);
B01D36/00 C02F9/00 E01H1/08 F28D15/00 (Core/Invention);
C02F E01H (Subclass/Invention)
CPC: C02F1/5281 B01D35/14 B01D36/04 C02F1/008 C02F1/44 C02F1/56 C02F1/72 C02F1/78 C02F5/08 C02F9/00 C02F2103/023 C02F2103/42 C02F2209/02 C02F2209/04 C02F2209/11 Y02W10/37 B01D24/00 B01D35/02 C02F1/442 C02F1/444 C02F1/52
European: C02F9/00 M02F1/00T M02F1/44 M02F1/72 M02F1/78 M02F209/02 M02F209/04 M02F209/11 M02F5/08
US: 1/1 210/182 210/184 210/198.1 210/198.100S 210/742 210/746 210/758 210/764

Family:

Publication number	Publication date	Application number	Application date
AP201307115 A0	20130930	AP20130007115	20110912
AR085763 AA	20131023	AR2012P101091	20120329
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Priority:

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Probable Assignee: CRYSTAL LAGOONS CURACAO BV

Assignee(s): (std): CRSYTAL LAGOONS CURACAO BV ; CRYSTAL LAGOONS CORP LLC ; CRYSTAL LAGOONS CURACAO BV ; CRYSTAL LAGOONS CURACAO KAYA BV ; FISCHMANN T FERNANDO ; KENNEDY 907012 FLOORVITACURASANTIAGO CHILE ; FISCHMANN T FERNANDO BENJAMIN

Assignee(s): KENNEDY 9070 ; KRYSTAL LAGUNA CURACAO BV ; CRYSTAL LAGOONS LLC CORP ; FISCHMANN T

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Inventor(s): KENNEDY 9070 ; FISCHMANN TFERNANDO FT ; FISCHMANN T

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; ROBIC; ESTUDIO CLARKE MODET CO LIMITADA; SILVANA MARIA LOPEZ DIAZ; CARVAJAL Y URQUIJO ISABEL; FRICK ROBERT; DREW AND NAPIER LLC; MERCHANT AND GOULD P C; MERCHANT AND GOULD PC; KOWALCHYK KATHERINE M

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 LI 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 RW 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
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AU2011363515 AA	20121004	LSPB	+	published / reissued	
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EA201690699 A1	20160729	LSPB	+	published / reissued	
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HK1194445 A1	20160429	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1210133 A1	20160415	LSGT	+	granted / extensions (spc, cpc, pte)	
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JP5819385 B2	20151124	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101587934 B1	20160122	LSGT	+	granted / extensions (spc, cpc, pte)	
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KR20150103312 A	20151203	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
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KR20150103312 A	20161027	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20150103312 A	20170125	LSRE	AMND	AMENDMENT	
MA35054 B1	20140403	LSGT	+	granted / extensions (spc, cpc, pte)	
MX2013011197 A1	20131216	LSPB	+	published / reissued	
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MY153632 A	20150303	LSGT	+	granted / extensions (spc, cpc, pte)	
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NZ614048 A	20160331	LSGT	+PSEA	PATENT SEALED	
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PH2015500505 B	20150511	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2013145462 A	20150420	LSPB	+	published / reissued	
RU2013145462 A	20150420	LSPB	+	published / reissued	
RU2534788 C1	20141210	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2564362 C2	20150927	LSGT	+	granted / extensions (spc, cpc, pte)	

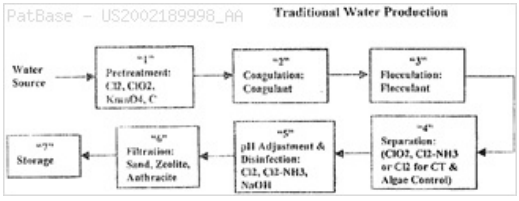
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US2012091069 AA	20120419	LSPB	+	published / reissued	
US2013264261 AA	20131010	LSPB	+	published / reissued	
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US9120689 BB	20150901	LSGT	+	granted / extensions (spc, cpc, pte)	
UY33989 A1	20120928	LSPB	+	published / reissued	
WO12134525 A1	20121004	LSPB	+	published / reissued	
WO12134525 A1	20130502	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2011363515 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20110912 KIND CODE OF REF DOCUMENT : A
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WO12134525 A1	20130927	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014502535 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
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WO12134525 A1	20130930	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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ZA201306540 A	20131127	LSGT	+	granted / extensions (spc, cpc, pte)	

13) Family number: 20662879 (US2002189998A)

Title: PROCESSES AND APPARATUS FOR POTABLE WATER PURIFICATION THAT INCLUDE BIO-FILTRATION, AND TREATED WATER FROM SUCH PROCESSES AND APPARATUS

Abstract: Source: US2002189998A An improved bio-filter system is presented for purifying potable water comprising locating at least one bio-filter structure upstream of a disinfecting unit in a potable water purifying plant and colonizing fermentation-raised bacteria on or within the at least one bio-filter structure and including the at least one bio-filter structure having the fermentation-raised bacteria. Improved potable water treatment processes are presented comprising the elimination of oxidation/disinfection prior to coagulation. Improved potable water treatment processes are presented utilizing oxidation/disinfection with ozone in the purifying process upstream of bio-filtration. Biofiltration is then followed by final filtration and final disinfection. By utilizing a new coagulation technology, separation of solids (including TOC and Dissolved organic carbon) from potable water is improved. This new coagulation technology is preferred to be used along with ozonation upstream of bio-filter(s) colonized with fermentation-raised non-ubiquitous bacteria. This new coagulation technology is most preferred to be used with the new bio-filter(s) colonized with fermentation-raised non-ubiquitous bacteria; this combination can replace ozonation.



Classifications:
International (IPC 8-9): B03D3/02 B03D3/06 C01B5/00 C02F1/34 C02F1/50 C02F1/52 C02F1/54 C02F1/56 C02F1/66 C02F1/78 C02F3/34 C02F5/12 C02F9/00 C02F9/02 C02F9/04 C02F9/14 (Advanced/Invention);
C02F1/00 C02F1/28 C02F1/52 C02F1/66 C02F1/72 C02F1/76 C02F1/78 C02F3/00 C02F3/06 (Advanced/Non-invention);
C01B5/00 C02F1/50 C02F1/52 C02F1/54 C02F1/66 C02F3/34 (Core/Invention);
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CPC: Y02W10/37 Y02W10/15 C02F1/50 C02F1/5245 C02F2209/02 C02F2209/07 C02F2209/11 C02F3/34 C02F1/001 C02F1/28 C02F1/283 C02F1/52 C02F1/5236 C02F1/56 C02F1/66 C02F1/72 C02F1/722 C02F1/76 C02F1/78 C02F3/06 C02F9/00 C02F2003/001 C02F2003/003 C02F2101/34 C02F2301/103 C02F2301/106 C02F2303/02 C02F2303/04 C02F2303/16 C02F2305/06
European: C02F1/50 C02F1/52 C02F1/52F2 C02F1/56 C02F3/34 C02F9/00 M02F1/00D M02F1/28 M02F1/28D M02F1/52F M02F1/56 M02F1/66 M02F1/72 M02F1/72C M02F1/76 M02F1/78 M02F101/34 M02F209/02 M02F209/07 M02F209/11 M02F3/00B M02F3/00B2 M02F3/06 M02F301/10B M02F301/10D M02F303/02 M02F303/04 M02F303/16 M02F305/06 M02F9/00
US: 210/611 210/724 210/724S 210/728 210/735 210/736 252/180 252/180S 252/181 252/181P 423/580.1 423/580.100P

Family:

Publication number	Publication date	Application number	Application date
AU199955579 A1	20000306	AU19990055579	19990812
AU199955579 A5	20000306	AU19990055579	19990812
AU2001253048 AA	20011015	AU20010253048	20010402
AU200153048 A5	20011015	AU20010053048	20010402
AU2002211804 AA	20020408	AU20020211804	20010827
EP2142480 A1	20100113	EP20010926515	20010402
EP2142480 A4	20100113	EP20010926515	20010402
US2002189998 AA	20021219	US20020117682	20020405
US2003209499 AA	20031113	US20030413849	20030415
US2010150818 AA	20100617	US20100658363	20100210
US2011062377 AA	20110317	US20100799504	20100603
US6120690 A	20000919	US19980140203	19980812
WO0009453 A1	20000224	WO1999US18338	19990812
WO0174725 A1	20011011	WO2001US10426	20010402
WO0226638 A1	20020404	WO2001US41884	20010827

Priority:

US19970931167 19970916
US20000194151P 20000403
WO1999US18338 19990812
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WO2001US10426 20010402

Probable Assignee: HAASE RICHARD ALAN

Assignee(s): (std): AUDREY L HAASE ; CLEAR VALUE INC ; CLEARVALUE TECHNOLOGIES INC ; HAASE RICHARD ALAN ; HAASE RICHARD A ; HAASE AUDREY L ; RICHARD A HAASE

Assignee(s): RICHARD ALAN HAASE

Inventor(s): (std): HAASE RICHARD A ; HAASE RICHARD ALAN ; HAASE AUDREY L

Inventor(s): AUDREY L HAASE ; RICHARD A HAASE ; RICHARD ALAN HAASE

Agent(s): W P THOMPSON AND CO; RICHARD A HAASE INVENTOR

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU199955579 A1	20000306	LSPB	+	published / reissued	
AU199955579 A1	20010510	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT	

				ENTERING NATIONAL PHASE	
AU199955579 A5	20000306	LSPB	+	published / reissued	
AU2001253048 AA	20011015	LSPB	+	published / reissued	
AU200153048 A5	20011015	LSPB	+	published / reissued	
AU2002211804 AA	20020408	LSPB	+	published / reissued	
EP2142480 A1	20100113	LSPB	+	published / reissued	
EP2142480 A1	20100113	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030106
EP2142480 A1	20100113	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20081014
EP2142480 A1	20100127	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20091228
EP2142480 A1	20130529	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20121101
US2002189998 AA	20021219	LSPB	+	published / reissued	
US2002189998 AA	20090925	LSAS	AS	ASSIGNMENT	OWNER NAME : CLEARVALUE TECHNOLOGIES, INC., TEXAS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HAASE, RICHARD ALAN; HAASE, AUDREY LOIS; REEL/FRAME:023303/0424 EFFECTIVE DATE : 20090924
US2003209499 AA	20031113	LSPB	+	published / reissued	
US2003209499 AA	20090925	LSAS	AS	ASSIGNMENT	OWNER NAME : CLEARVALUE TECHNOLOGIES, INC., TEXAS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HAASE, RICHARD ALAN; REEL/FRAME:023620/0668 EFFECTIVE DATE : 20090924
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US6120690 A	20121106	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20120919
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WO0226638 A1	20030807	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0226638 A1	20050607	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP

14) Family number: 42509550 (US2008289706A)

Title: CONTROL SYSTEM

Abstract: Source: US2008289706A An apparatus and method for controlling a water characteristic of a body of water by controlling the cyclic release of a water characteristic material into the body of water with or without the system being responsive to a level of the water characteristic in the body of water.

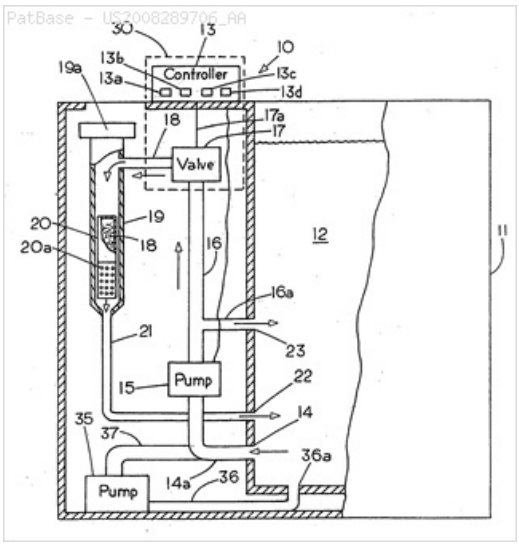
Classifications:

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CPC: C02F1/685 C02F1/688 C02F2209/008 C02F2209/06 C02F2209/40 C02F2303/04 E04H4/1281 C02F2209/006 Y10T137/0324 Y10T137/86389 E04H4/1209 B01F1/0033 B01F5/106 B01F15/00207 C02F1/008 C02F1/505 C02F1/66 C02F1/686 C02F1/76 C02F2103/42 C02F2209/005 C02F2209/44

European: B01F1/00F2B B01F15/00K3 B01F5/10F C02F1/00T E04H4/12A E04H4/12B M02F1/50B M02F1/66 M02F1/68P M02F1/68P2 M02F1/68P6 M02F1/76 M02F103/42 M02F209/00T M02F209/00T2 M02F209/00T4 M02F209/06 M02F209/40 M02F209/44 M02F303/04

US: 137/2 137/2S 137/624.11 137/624.110P 210/138 210/139 210/139S 210/141 210/141S 210/143 210/167.11 210/167.110S 210/167.3 210/206 210/662 210/662S 210/739 210/744 210/749 210/752 210/752S 210/753 210/753S 210/754 210/764 210/765 210/85 210/85S 210/89 210/89S 4/507 422/263



Family:

Publication number	Publication date	Application number	Application date
CA2633613 AA	20081113	CA20082633613	20080507
EP1992766 A2	20081119	EP20080156080	20080513
EP1992766 A3	20150128	EP20080156080	20080513
US2008289706 AA	20081127	US20080069237	20080209
US2008290039 AA	20081127	US20080079543	20080327
US2008290046 AA	20081127	US20070805527	20070513
US2008290046 AA	20081127	US20070805527	20070523
US2008290046 AA	20081127	US20070805527	20070513
US2009218296 AA	20090903	US20090387840	20090507
US2009321368 AA	20091231	US20090584172	20090901
US2010018930 AA	20100128	US20090583872	20090827
US7632402 BB	20091215	US20080079543	20080327
US7641791 BB	20100105	US20070805527	20070513
US7641791 BB	20100105	US20070805527	20070523
US7811448 BB	20101012	US20080069237	20080209
US8070941 BB	20111206	US20090584172	20090901
US8123956 BB	20120228	US20090387840	20090507
US8133398 BB	20120313	US20090583872	20090827

Priority:

CA20082633613 20080507 US20070805527 20070513 US20080069237 20080209
US20080079543 20080327 US20070805527 20070523 US20090387840 20090507
US20090584172 20090901 US20090583872 20090827

Probable Assignee: KING TECHNOLOGY

Assignee(s): (std): JOHNSON JEFFREY D ; KING JOSEPH A ; KING TECHNOLOGY ; KING TECHNOLOGY INC ; SNETTING MARK

Assignee(s): JOHNSON JEFFREY

Inventor(s): (std): JOHNSON JEFFREY ; JOHNSON JEFFREY D ; KING JOSEPH A ; SNETTING MARK

Agent(s): BATTISON WILLIAMS DUPUIS; MODIANO MICAELA NADIA ET AL; MODIANO MICAELA NADIA; CARL L JOHNSON JACOBSON AND JOHNSON; JACOBSON AND JOHNSON; JACOBSON AND JOHNSON LLC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA2633613 AA	20081113	LSPB	+	published / reissued	
CA2633613 AA	20130424	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130415
CA2633613 AA	20160620	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20160509
EP1992766 A2	20081119	LSPB	+	published / reissued	

EP1992766 A2	20150128	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : E04H 4/12 20060101AFI20141222BHEP
EP1992766 A2	20150826	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150716
EP1992766 A2	20150930	LSFE	+AKX	PAYMENT OF DESIGNATION FEES	DESIGNATED STATE(S) : AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
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EP1992766 A2	20150930	LSFE	+AXX	PAYMENT OF EXTENSION FEES	EXTENSION STATE : MK
EP1992766 A2	20150930	LSFE	+AXX	PAYMENT OF EXTENSION FEES	EXTENSION STATE : RS
EP1992766 A2	20150930	LSFE	+AXX	PAYMENT OF EXTENSION FEES	EXTENSION STATE : AL
EP1992766 A2	20160210	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20160112
EP1992766 A2	20160907	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20160322
US2008289706 AA	20081127	LSPB	+	published / reissued	
US2008289706 AA	20080209	LSAS	AS	ASSIGNMENT	OWNER NAME : KING TECHNOLOGY, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JOHNSON, JEFFREY D.; KING, JOSEPH A.; REEL/FRAME:020542/0414 EFFECTIVE DATE : 20080205
US2008290039 AA	20081127	LSPB	+	published / reissued	
US2008290046 AA	20081127	LSPB	+	published / reissued	
US2008290046 AA	20081127	LSPB	+	published / reissued	
US2009218296 AA	20090903	LSPB	+	published / reissued	
US2009321368 AA	20091231	LSPB	+	published / reissued	
US2010018930 AA	20100128	LSPB	+	published / reissued	
US7632402 BB	20091215	LSGT	+	granted / extensions (spc, cpc, pte)	
US7632402 BB	20130220	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7641791 BB	20100105	LSGT	+	granted / extensions (spc, cpc, pte)	
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US7641791 BB	20070523	LSAS	AS	ASSIGNMENT	OWNER NAME : KING TECHNOLOGY, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JOHNSON, JEFFREY D.; KING, JOSEPH A.; REEL/FRAME:019398/0771 EFFECTIVE DATE : 20070521
US7641791 BB	20070523	LSAS	AS	ASSIGNMENT	OWNER NAME : KING TECHNOLOGY, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JOHNSON, JEFFREY D.; KING, JOSEPH A.; REEL/FRAME:019398/0771 EFFECTIVE DATE : 20070521
US7641791 BB	20130220	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7641791 BB	20130220	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7811448 BB	20101012	LSGT	+	granted / extensions (spc, cpc, pte)	
US7811448 BB	20080209	LSAS	AS	ASSIGNMENT	OWNER NAME : KING TECHNOLOGY,

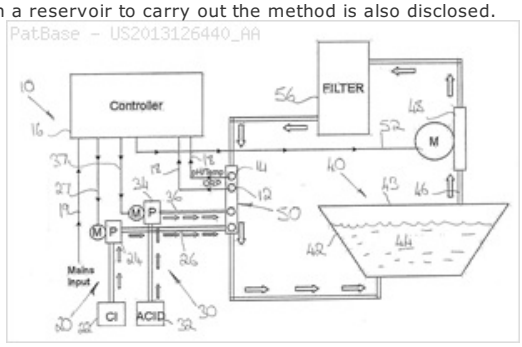
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US8070941 BB	20151206	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8070941 BB	20160126	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20151206
US8123956 BB	20120228	LSGT	+	granted / extensions (spc, cpc, pte)	
US8123956 BB	20120309	LSAS	AS	ASSIGNMENT	OWNER NAME : KING TECHNOLOGY?, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KING, JOSEPH A.; SNETTING, MARK; JOHNSON, JEFFREY D.; SIGNING DATES FROM 20090429 TO 20090504; REEL/FRAME:027950/0940
US8123956 BB	20120309	LSAS	AS	ASSIGNMENT	OWNER NAME : KING TECHNOLOGY, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KING, JOSEPH A.; SNETTING, MARK; JOHNSON, JEFFREY D.; SIGNING DATES FROM 20090429 TO 20090504; REEL/FRAME:027950/0940
US8123956 BB	20160228	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8123956 BB	20160419	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160228
US8133398 BB	20120313	LSGT	+	granted / extensions (spc, cpc, pte)	
US8133398 BB	20160313	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8133398 BB	20160503	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160313

15) Family number: 50551669 (US2013126440A)

Title: METHOD AND SYSTEM FOR MANAGING A RESERVOIR OF WATER REQUIRING RECIRCULATION AT TIME INTERVALS

Abstract: Source: US2013126440A A method of managing a reservoir of water having a recirculating arrangement for recirculating water at frequent time intervals is disclosed. The method includes starting a productive recirculation of water within the reservoir by means of the recirculating pump, and sensing control parameter/s relating to the quality of water that are selected from: a level of disinfectant, a pH level, a water turbidity level, or a biological count level. The productive recirculation of water by the recirculating pump is continued until each sensed control parameter has reached its target level in the water. In a power saving management mode the productive recirculation of water by the recirculating arrangement is stopped when each sensed control parameter has reached its target level. Instead in a minimum run time mode the productive recirculation is only stopped when this minimum run time has been completed and each sensed control parameter has reached its target level. A management system for installation on a reservoir to carry out the method is also disclosed.

Classifications:
International (IPC 8-9)**:** C02F1/00 C02F1/50 C02F1/66 C02F1/76 C02F103/42 E03B11/00 E04H4/12 (Advanced/Invention); C02F103/42 (Advanced/Non-invention)
CPC: E04H4/1209 C02F1/001 C02F1/008 C02F1/4674 C02F1/66 C02F1/686 C02F1/687 C02F1/722 C02F1/76 C02F2103/42 C02F2209/04 C02F2209/06 C02F2209/11 C02F2209/29 C02F2303/04
European: C02F1/00T M02F1/00D M02F1/467B2 M02F1/68P2 M02F1/68P4 M02F1/76 M02F103/42 M02F209/04 M02F209/06 M02F209/11 M02F209/29 M02F303/04
US: 210/143 210/739 210/743 210/745 210/96.1



Family:

Publication number	Publication date	Application number	Application date
AU2011284790 AA	20120202	AU20110284790	20110729
CA2812807 AA	20130417	CA20112812807	20110729
EP2598447 A1	20130605	EP20110811647	20110729
EP2598447 A4	20140115	EP20110811647	20110729
US2013126440 AA	20130523	US20110813025	20110729
WO12012834 A1	20120202	WO2011AU00949	20110729

Priority:
AU20100903372 20100729 AU20110284790 20110729 WO2011AU00949 20110729

Probable Assignee: BPV HOLDINGS PTY LTD

Assignee(s): (std)**:** BAILEY MARTIN ; BPV HOLDINGS PTY LTD ; PRAUSE CHRIS ; VENAMORE DAVID

Inventor(s): (std)**:** BAILEY MARTIN ; PRAUSE CHRIS ; VENAMORE DAVID

Agent(s): IP GATEWAY PATENT AND TRADEMARK ATTORNEYS; IP GATEWAY PATENT AND TRADEMARK ATTORNEYS PTY LTD; IP GATEWAY PATENT AND TRADE MARK ATTORNEYS PTY LTD; ADE AND CO INC; HARRISON SCOTT DAVID

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 LI 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2011284790 AA	20120202	LSPB	+	published / reissued	
AU2011284790 AA	20150730	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
CA2812807 AA	20130417	LSPB	+	published / reissued	
CA2812807 AA	20150923	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20150729
EP2598447 A1	20130605	LSPB	+	published / reissued	
EP2598447 A1	20130605	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130226
EP2598447 A1	20140115	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20131216
EP2598447 A1	20140115	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 103/42 20060101ALI20131210BHEP
EP2598447 A1	20140115	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/76 20060101ALI20131210BHEP

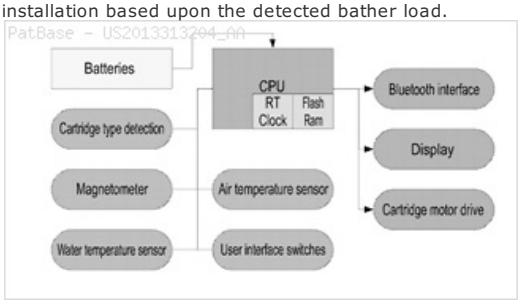
EP2598447 A1	20140115	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/50 20060101AFI20131210BHEP
EP2598447 A1	20150211	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20140722
US2013126440 AA	20130523	LSPB	+	published / reissued	
US2013126440 AA	20130129	LSAS	AS	ASSIGNMENT	OWNER NAME : BPV HOLDINGS PTY LTD, AUSTRALIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PRAUSE, CHRIS; VENAMORE, DAVID; BAILEY, MARTIN; REEL/FRAME:029714/0436 EFFECTIVE DATE : 20130125
WO12012834 A1	20120202	LSPB	+	published / reissued	
WO12012834 A1	20130129	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12012834 A1	20130129	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13813025 COUNTRY OF REF DOCUMENT : US
WO12012834 A1	20130314	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2011284790 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20110729 KIND CODE OF REF DOCUMENT : A
WO12012834 A1	20130417	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2812807 COUNTRY OF REF DOCUMENT : CA

16) Family number: 51722506 (US2013313204A)

Title: SYSTEM AND METHOD FOR CONTROLLING WATER QUALITY IN A RECREATIONAL WATER INSTALLATION

Abstract: Source: US2013313204A A system for monitoring water chemistry of a recreational water installation includes a sensor configured to detect bather load in the recreational water installation and a controller configured to determine a required adjustment to the water chemistry of the recreational water installation based upon the detected bather load.

Classifications:
International (IPC 8-9): B65D65/38 B65D75/42 B65D83/04 C02F1/00 C02F1/68 E04H4/12 E04H4/16 G01N1/02 G01N33/18 (Advanced/Invention);
C02F1/76 C02F101/38 C02F103/42 (Advanced/Non-invention)
CPC: C02F1/006 C02F1/008 C02F1/683 C02F1/686 C02F1/687 C02F1/76 C02F2101/38 C02F2103/42 C02F2201/009 C02F2209/008 C02F2209/02 C02F2209/06 C02F2209/29 C02F2209/42 C02F2303/04 G01N33/18 E04H4/16 B65D65/38 B65D83/0409 B65D75/42 B65D2565/387 C02F2303/02 E04H4/1281
US: 210/143 210/739 210/744 210/85 210/96.1 210/98 221/30 221/70



Family:

Publication number	Publication date	Application number	Application date
US2013313204 AA	20131128	US20120983971	20120209
US2015218835 AA	20150806	US20150688922	20150416
US9034193 BB	20150519	US20120983971	20120209
WO12107895 A2	20120816	WO2012IB50586	20120209
WO12107895 A3	20121101	WO2012IB50586	20120209

Priority:

US20110457243P 20110210 US20120983971 20120209 WO2012IB50586 20120209
US20150688922 20150416 US20130983971 20130806

Probable Assignee: WATERGURU INC

Assignee(s): (std): CERNY GREGORY ROBERT ; SHALON TADMOR ; SVIP 9 LLC ; WATERPODS INC

Assignee(s): WATERGURU INC

Inventor(s): (std): CERNY GREGORY ROBERT ; SHALON TADMOR

Agent(s): SHAY GLENN LLP

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 RW 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

Legal status (INPADOC)

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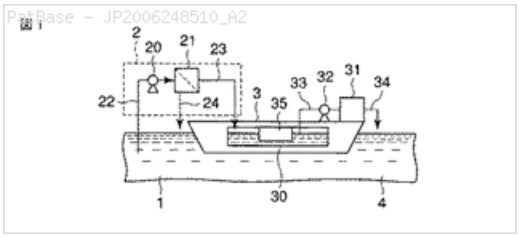
Patent	Date recorded	Event group	Code	Event	Details
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US2013313204 AA	20131217	LSAS	AS	ASSIGNMENT	OWNER NAME : WATERPODS, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SHALON, TADMOR; REEL/FRAME:031803/0737 EFFECTIVE DATE : 20130923
US2015218835 AA	20150806	LSPB	+	published / reissued	
US2015218835 AA	20150909	LSAS	AS	ASSIGNMENT	OWNER NAME : WATERPODS, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SHALON, TADMOR; REEL/FRAME:036521/0433 EFFECTIVE DATE : 20130923
US2015218835 AA	20160930	LSAS	AS	ASSIGNMENT	OWNER NAME : WATERGURU INC., CALIFORNIA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:WATERPODS, INC.; REEL/FRAME:039910/0024 EFFECTIVE DATE : 20160613
US9034193 BB	20150519	LSGT	+	granted / extensions (spc, cpc, pte)	
US9034193 BB	20160930	LSAS	AS	ASSIGNMENT	OWNER NAME : WATERGURU INC., CALIFORNIA DESCRIPTION : CHANGE OF NAME; ASSIGNOR:WATERPODS, INC.; REEL/FRAME:039910/0024 EFFECTIVE DATE : 20160613

WO12107895 A2	20120816	LSPB	+	published / reissued	
WO12107895 A3	20130806	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13983971 COUNTRY OF REF DOCUMENT : US
WO12107895 A3	20130812	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12107895 A3	20140730	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12744753 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2

17) Family number: 33332238 (JP2006248510A)

Title: BALLAST WATER PURIFYING DEVICE AND VESSEL WITH THE SAME

Abstract: Source: JP2006248510A PROBLEM TO BE SOLVED: To provide a ballast water purifying device capable of purifying ballast water to satisfy a reference value about microbe and bacteria contained in the ballast water when discharging the ballast water stored in the vessel. SOLUTION: This ballast water purifying device is provided with a storage tank 30 for storing the ballast water inside the vessel 3, a filter device 21 for filtering the ballast water to be filled in the storage tank 30, and a sterilizing device 31 for sterilizing the ballast water stored in the storage tank 30 when discharging the ballast water during sailing or after sailing.



Classifications:
International (IPC 8-9): B63B13/00 B63J4/00 C02F1/00 C02F1/32 C02F1/48 C02F1/50 C02F1/52 C02F1/72 C02F1/76 C02F1/78 C02F11/12 (Advanced/Invention);
C02F1/00 (Advanced/Non-invention);
B63B13/00 C02F1/00 C02F1/32 C02F1/50 C02F11/12 (Core/Invention)
CPC: C02F1/001 C02F1/32 C02F1/44 C02F1/4608 C02F1/52 C02F1/56 C02F1/725 C02F1/76 C02F1/78 C02F2103/008 C02F2209/005 C02F2209/29 C02F2209/36 C02F2303/04 C02F2303/24 C02F2305/023 B63J4/002 B63J4/006 B63B43/06 C02F1/24 C02F1/40 C02F2201/001
European: B63J4/00B

Family:

Publication number	Publication date	Application number	Application date
CN1817742 A	20060816	CN200610003731	20060207
CN1817742 B	20100512	CN200610003731	20060207
JP2006248510 A2	20060921	JP20060006841	20060116
JP2012148770 A2	20120809	JP20120054905	20120312
JP5214107 B2	20130619	JP20060006841	20060116
JP5537582 B2	20140702	JP20120054905	20120312
KR100743946 B1	20070730	KR20060009951	20060202
KR20060090581 A	20060814	KR20060009951	20060202

Priority:
JP20050033374 20050209 JP20060006841 20060116 JP20120054905 20120312

Probable Assignee: TOSHIBA CORP

Assignee(s): (std): TOKYO SHIBAURA ELECTRIC CO ; TOSHIBA CORP ; TOSHIBA KK

Assignee(s): KABUSHIKI KAISHA TOSHIBA

Inventor(s): (std): HATANO AKINORI ; ICHIRO YAMANASHI ; KANEKO MASAO ; KIYONORI HADANO ; MASAHIKO TSUTSUMI ; MASAO KANEKO ; MATSUSHIRO TAKESHI ; BUSHI MATSUYO ; RYOTARO SANTO ; YAMANASHI ICHIRO ; YAMATO RYOTA ; YUGAWA ATSUSHI ; TOSHI YUGAWA ; TSUTSUMI MASAHIKO ; YUKAWA ATSUSHI ; MATSUYO TSUTSUMI MASAHIKO SANT

Inventor(s): TSUTSUMI MASAHIKO SANTO RYOTARO KANEKO MASAO... ; TSUTSUMI MASAHIKO SANTO RYOTARO KANEKO MASAO YUGAW ; YUGAWA TOSHI ; SANTO RYOTARO ; HADANO KIYONORI ; MATSUYO BUSHI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN1817742 A	20060816	LSPB	+	published / reissued	
CN1817742 A	20060816	LSPB	+C06	PUBLICATION	
CN1817742 A	20100512	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1817742 A	20160323	LSRV	-EXPY	TERMINATION OF PATENT RIGHT OR UTILITY MODEL	
CN1817742 B	20100512	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2006248510 A2	20060921	LSPB	+	published / reissued	
JP2012148770 A2	20120809	LSPB	+	published / reissued	
JP2012148770 A2	20130417	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130416
JP2012148770 A2	20130618	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130617
JP2012148770 A2	20130911	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130910

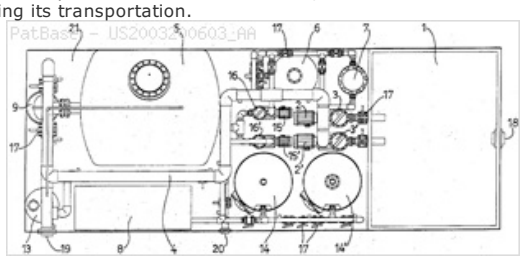
JP2012148770 A2	20131112	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20131111
JP2012148770 A2	20140324	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012148770 A2	20140402	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140401
JP2012148770 A2	20140501	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20140425
JP5214107 B2	20130619	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5214107 B2	20080904	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080903
JP5214107 B2	20110427	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110426
JP5214107 B2	20110628	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110627
JP5214107 B2	20120111	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120110
JP5214107 B2	20120313	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120312
JP5214107 B2	20120926	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20120925
JP5214107 B2	20121226	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20121225
JP5214107 B2	20130109	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20130108
JP5214107 B2	20130124	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP5214107 B2	20130206	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130205
JP5214107 B2	20130307	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130227
JP5214107 B2	20130311	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP5214107 B2	20160308	LSLE	-LAPS	CANCELLATION BECAUSE OF NO	

				PAYMENT OF ANNUAL FEES	
JP5537582 B2	20140702	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100743946 B1	20070730	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100743946 B1	20060202	LSES	A201	REQUEST FOR EXAMINATION	
KR100743946 B1	20061209	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR100743946 B1	20070605	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR100743946 B1	20070724	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR100743946 B1	20130701	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20130701 YEAR OF FEE PAYMENT : 7
KR100743946 B1	20140627	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20140630 YEAR OF FEE PAYMENT : 8
KR100743946 B1	20150725	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR20060090581 A	20060814	LSPB	+	published / reissued	

18) Family number: 34669110 (US2003200603A)

Title: SWIMMING POOL WATER TREATMENT PLANT

Abstract: Source: US2003200603A This plant is characterized in that the water filtering device with its motor pump, the device for chemically treating said water, the pipes with the corresponding valves and with the openings for receiving the water from the swimming pool and for returning the cleaned and treated water to said swimming pool, and the corresponding accessories are all of them connected and installed on a base framework allowing to transport the whole ready-to-operate plant to the site having been chosen for it. All of the components making up this plant can be distributed in independent modules being apt to be fitted to each other. The assembly being made up of all of the components and accessories of the plant, both if they are installed on a single base framework as well as if they are distributed in modules, is of such dimensions as to be apt to be put in a conventional container facilitating its transportation.



Classifications:
International (IPC 8-9): B01D24/00 B01D35/027 B01D36/02 B01D39/06 C02F1/00 C02F1/28 C02F1/44 C02F1/50 C02F1/76 C02F1/78 C02F103/42 C02F9/00 E04H4/12 E04H4/14 E04H4/16 (Advanced/Invention);
C02F1/28 C02F1/66 C02F1/78 C02F103/42 (Advanced/Non-invention);
B01D35/00 B01D36/00 B01D39/02 C02F1/00 C02F1/50 C02F1/76 C02F9/00 E04H4/00 (Core/Invention);
C02F1/28 C02F1/66 C02F1/78 (Core/Non-invention);
C02F (Subclass/Invention)
International (IPC 1-7): B01D24/00 B01D35/027 B01D36/02 B01D39/06 C02F1/00 C02F1/44 C02F1/50 C02F1/76 C02F1/78 C02F9/00 E04H4/00 E04H4/12 E04H4/14 E04H4/16
CPC: C02F1/001 C02F1/004 C02F1/008 C02F1/281 C02F1/66 C02F1/76 C02F1/78 C02F9/00 C02F2103/42 C02F2201/008 E04H4/1209
European: C02F1/00D6 C02F9/00 E04H4/12A M02F1/00D M02F1/00T M02F1/28B M02F1/66 M02F1/76 M02F1/78 M02F103/42 M02F201/00M
US: 210/167.11 210/169 210/206 210/259 210/263 210/416.2 4/507 4/507P

Family:

Publication number	Publication date	Application number	Application date
AT366713 E	20070815	AT20030380093T	20030414
CA2426556 AA	20031025	CA20032426556	20030423
CN1242930 C	20060222	CN20031010696	20030425
CN1453219 A	20031105	CN20031010696	20030425
DE60314799 D1	20070823	DE20036014799	20030414
DE60314799 T2	20080410	DE20036014799T	20030414
EP1357088 A1	20031029	EP20030380093	20030414
EP1357088 B1	20070711	EP20030380093	20030414
ES1051831 UA	20021001	ES20020001161U	20020425
ES1051831 Y1	20030201	ES20020001161U	20020425
ES1051831 YA	20030201	ES20020001161U	20020425
ES1053148 UA	20030316	ES20020002459U	20021015
ES1053148 Y1	20030701	ES20020002459U	20021015
ES2290417 T3	20080216	ES20030380093T	20030414
HK1061383 A1	20080201	HK20040102778	20040421
HK1061383 A3	20040917	HK20040102778	20040421
JP2004000958 A2	20040108	JP20030121531	20030425
US2003200603 AA	20031030	US20030413126	20030414
US6852218 BB	20050208	US20030413126	20030414

Priority:

CA20032426556 20030423 ES20020001161 20030107 ES20020001161U 20020425
ES20020002459U 20021015 ES20020002459 20021015

Probable Assignee: FLUIDRA ESPANA SA

Assignee(s): (std): MARKET POOL A I E ; PLASTERAL SA ; PLASTERAL S A SOC UNIPERSONAL ; PLAISTRO S A ; ASTRAL POOL ESPANA S A ; ASTRAL POOL ESPANA S A U

Assignee(s): ASTRAL POOL ESPANA SA ; ASTRAL POOL ESPANA SAU ; ASTRAL POOL ESPANA U PINTOR VELAZQUEZ SA ; FLUIDRA ESPANA SA ; PLAISTRO SA ; PLASTERAL S A ; MARKET POOL AIE ; PLASTERAL S A SOCIEDAD UNIPERSONAL ; PLASTERAL (SOCIEDAD UNIPERSONAL) SA ; VILA CORTS FRANCESC XAVIER ; PLASTERAL SOCIEDAD UNIPERSONAL SA

Inventor(s): (std): VILA CORTS FRANCESC XAVIER ; KOTZ FRANCISCA ZEWIL VILLA ; CORTS VILA

Inventor(s): FRANCISCA ZEWIL VILLA KOTZ ; VILA CORTS

Agent(s): ROBIC; HARA KENZO; STEINBERG AND RASKIN PC

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT366713 E	20070815	LSGT	+	granted / extensions (spc, cpc, pte)	
AT366713 E	20080115	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
CA2426556 AA	20031025	LSPB	+	published / reissued	
CA2426556 AA	20031125	LSES	+EEER	EXAMINATION REQUEST	

CA2426556 AA	20091029	LSLE	-FZDE	DEAD	
CN1242930 C	20060222	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1242930 C	20031105	LSPB	+C06	PUBLICATION	
CN1242930 C	20060222	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1242930 C	20110119	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	
CN1242930 C	20110119	LSAS	C56	CHANGE IN THE NAME OR ADDRESS OF THE PATENTEE	OWNER NAME : FULUODELA AISIPANA CO., LTD. DESCRIPTION : FORMER NAME: PLESTERO S.A.
CN1242930 C	20160615	LSRV	-EXPY	TERMINATION OF PATENT RIGHT OR UTILITY MODEL	
CN1453219 A	20031105	LSPB	+	published / reissued	
DE60314799 D1	20080221	LSOP	-8363	OPPOSITION AGAINST THE PATENT	
DE60314799 D1	20101125	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	OWNER NAME : FLUIDRA, ESPANA,S.A., POLINYA, BARCELONA, ES
DE60314799 T2	20080410	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1357088 A1	20031029	LSPB	+	published / reissued	
EP1357088 A1	20040526	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20040329
EP1357088 A1	20040526	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : ASTRAL POOL ESPANA, S.A.
EP1357088 A1	20040721	LSFE	+AKX	PAYMENT OF DESIGNATION FEES	DESIGNATED STATE(S) : AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
EP1357088 A1	20070711	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1357088 A1	20070731	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1357088 A1	20070905	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1357088 A1	20080109	LSOP	-26	OPPOSITION FILED	OPPONENT NAME : MOTOMAN ROBOTEC GMBH EFFECTIVE DATE : 20071127
EP1357088 A1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : NL DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : BG DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20071011
EP1357088 A1	20080131	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1357088 A1	20080201	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	
EP1357088 A1	20080201	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1061383 COUNTRY OF REF DOCUMENT : HK

EP1357088 A1	20080216	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2290417 KIND CODE OF REF DOCUMENT : T3
EP1357088 A1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : PT DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20071211
EP1357088 A1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : FI DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : CH DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : LI DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : AT DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : BE DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : GR DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20071012
EP1357088 A1	20080530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : CZ DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20080530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SK DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20080530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DK DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711

EP1357088 A1	20080630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : RO DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20080630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SE DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20071011
EP1357088 A1	20080806	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080414
EP1357088 A1	20081128	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : MC DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20080430
EP1357088 A1	20081128	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 20080415 YEAR OF FEE PAYMENT : 06
EP1357088 A1	20090227	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : EE DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20090430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : IE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20080414
EP1357088 A1	20090430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : ES PAYMENT DATE : 20090324 YEAR OF FEE PAYMENT : 07
EP1357088 A1	20090630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SI DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : CY DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20090831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IT PAYMENT DATE : 20090429 YEAR OF FEE PAYMENT : 07
EP1357088 A1	20091130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20090625 YEAR OF FEE PAYMENT : 07
EP1357088 A1	20091130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20090429 YEAR OF FEE PAYMENT : 07
EP1357088 A1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : LU DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20080414
EP1357088 A1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : HU DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20080112

EP1357088 A1	20100730	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : ES PAYMENT DATE : 20100519 YEAR OF FEE PAYMENT : 08
EP1357088 A1	20100730	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 20100428 YEAR OF FEE PAYMENT : 08
EP1357088 A1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : TR DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20070711
EP1357088 A1	20100831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IT PAYMENT DATE : 20100429 YEAR OF FEE PAYMENT : 08
EP1357088 A1	20101130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20100630 YEAR OF FEE PAYMENT : 08
EP1357088 A1	20101130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20100614 YEAR OF FEE PAYMENT : 08
EP1357088 A1	20110121	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : CD
EP1357088 A1	20110217	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : PC2A OWNER NAME : FLUIDRA ESPANA, S.A. UNIPERSONAL EFFECTIVE DATE : 20110207
EP1357088 A1	20110729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 20110428 YEAR OF FEE PAYMENT : 09
EP1357088 A1	20110729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20110328 YEAR OF FEE PAYMENT : 09
EP1357088 A1	20110930	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IT PAYMENT DATE : 20110329 YEAR OF FEE PAYMENT : 09
EP1357088 A1	20111130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : ES PAYMENT DATE : 20110826 YEAR OF FEE PAYMENT : 09
EP1357088 A1	20111130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20110630 YEAR OF FEE PAYMENT : 09
EP1357088 A1	20120731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20120425 YEAR OF FEE PAYMENT : 10
EP1357088 A1	20120831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 20120425 YEAR OF FEE PAYMENT : 10
EP1357088 A1	20120831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20120411 YEAR OF FEE PAYMENT : 10
EP1357088 A1	20120831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 20120425 YEAR OF FEE PAYMENT : 10
EP1357088 A1	20120928	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IT PAYMENT DATE : 20120424 YEAR OF FEE PAYMENT : 10
EP1357088 A1	20120928	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IT PAYMENT DATE : 20120424 YEAR OF FEE PAYMENT : 10
EP1357088 A1	20121231	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : ES PAYMENT DATE : 20120529 YEAR OF FEE PAYMENT : 10
EP1357088 A1	20130430	LSFE	+PGFP	POSTGRANT: ANNUAL	REF COUNTRY CODE : ES

				FEES PAID TO NATIONAL OFFICE	PAYMENT DATE : 20130306 YEAR OF FEE PAYMENT : 11
EP1357088 A1	20130731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20130422 YEAR OF FEE PAYMENT : 11
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EP1357088 A1	20130830	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 20130515 YEAR OF FEE PAYMENT : 11
EP1357088 A1	20130830	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IT PAYMENT DATE : 20130424 YEAR OF FEE PAYMENT : 11
EP1357088 A1	20140731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20140422 YEAR OF FEE PAYMENT : 12
EP1357088 A1	20140829	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20140414 YEAR OF FEE PAYMENT : 12
EP1357088 A1	20140829	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : IT PAYMENT DATE : 20140423 YEAR OF FEE PAYMENT : 12
EP1357088 A1	20140829	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : ES PAYMENT DATE : 20140408 YEAR OF FEE PAYMENT : 12
EP1357088 A1	20140829	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 20140422 YEAR OF FEE PAYMENT : 12
EP1357088 A1	20151103	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 60314799 COUNTRY OF REF DOCUMENT : DE
EP1357088 A1	20151223	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20150414
EP1357088 A1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20151103
EP1357088 A1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : IT DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20150414
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EP1357088 A1	20160129	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20151231
EP1357088 A1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : FR DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20150430
EP1357088 A1	20160527	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20160527
EP1357088 A1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : ES DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20150415

EP1357088 B1	20070711	LSGT	+	granted / extensions (spc, cpc, pte)	
ES1051831 UA	20021001	LSPB	+	published / reissued	
ES1051831 UA	20030201	LSGT	+FG1K	UTILITY MODEL GRANTED	
ES1051831 UA	20101028	LSLE	-FD1K	UTILITY MODEL LAPSED	EFFECTIVE DATE : 20101018
ES1051831 Y1	20030201	LSGT	+	granted / extensions (spc, cpc, pte)	
ES1051831 YA	20030201	LSGT	+	granted / extensions (spc, cpc, pte)	
ES1053148 UA	20030316	LSPB	+	published / reissued	
ES1053148 UA	20030701	LSGT	+FG1K	UTILITY MODEL GRANTED	
ES1053148 UA	20100628	LSLE	-FD1K	UTILITY MODEL LAPSED	EFFECTIVE DATE : 20100616
ES1053148 Y1	20030701	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2290417 T3	20080216	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1061383 A1	20080201	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1061383 A1	20151106	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	EFFECTIVE DATE : 20150414
HK1061383 A3	20040917	LSPB	+	published / reissued	
JP2004000958 A2	20040108	LSPB	+	published / reissued	
JP2004000958 A2	20060414	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20060413
JP2004000958 A2	20080618	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20080617
JP2004000958 A2	20090107	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20090106
US2003200603 AA	20031030	LSPB	+	published / reissued	
US6852218 BB	20050208	LSGT	+	granted / extensions (spc, cpc, pte)	
US6852218 BB	20030414	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PLASTERAL, S.A. (SOCIEDAD UNIPERSONAL), SPAIN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VILA CORTS, FRANCESC XAVIER; REEL/FRAME:013976/0230 EFFECTIVE DATE : 20030312
US6852218 BB	20040831	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ASTRAL POOL ESPANA, S.A.U., SPAIN OLDPARTY : CHANGE OF NAME; ASSIGNOR:PLASTERAL, S.A. (SOCIEDAD UNIPERSONAL); REEL/FRAME:015057/0878 EFFECTIVE DATE : 20030528
US6852218 BB	20080723	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6852218 BB	20100121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FLUIDRA ESPANA, S.A., SPAIN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ASTRAL POOL ESPANA, S.A.U.; REEL/FRAME:023828/0501 EFFECTIVE DATE : 20090825
US6852218 BB	20120724	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6852218 BB	20170208	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6852218 BB	20170328	LSLE	-FP	EXPIRED DUE TO	EFFECTIVE DATE : 20170208

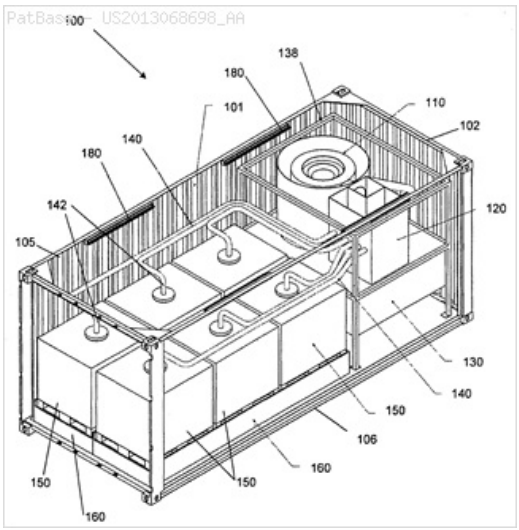
FAILURE TO PAY
MAINTENANCE FEE

19) Family number: 49608174 (US2013068698A)

Title: MOBILE WATER FILTRATION UNIT

Abstract: Source: US2013068698A A water filtration unit, comprising: a housing; a passive separator in the housing to receive a pressurized source of particulate-heavy water, to separate most of the particulate mass from the water and to output particulate-lean water; particulate egress means disposed at least partly within the housing to receive, and allow disposal of, the particulate separated from the water; at least one filtration module in the housing to each receive the particulate-lean water simultaneously, to filter remaining particulate and contaminants from the particulate-lean water by allowing passage of the water through porous filtration media of each module under gravity; and at least one outlet conduit coupled to an outlet in a wall of the housing to receive filtered water from the filtration modules and provide the filtered water to a fluid sink outside the housing.

Classifications:
International (IPC 8-9): B01D21/00 B01D21/01 B01D21/02 B01D21/08 B01D21/26 B01D21/30 B01D35/00 B01D36/04 C02F C02F1/00 C02F1/38 C02F1/52 C02F1/66 C02F7/00 C02F9/00 C02F9/02 C02F9/04 (Advanced/Invention);
B01D21/00 B01D36/04 C02F9/02 C02F9/04 (Core/Invention)
CPC: C02F1/006 C02F1/52 C02F7/00 C02F9/00 B01D21/0045 B01D21/267 C02F1/001 C02F1/38 C02F1/5245 C02F1/66 C02F2001/007 C02F2103/10 C02F2201/007 C02F2201/008 C02F2201/009 C02F2209/005 C02F2209/06 C02F2209/11 Y02W10/37
European: B01D21/00N4 B01D21/26Y
US: 210/150 210/198.1 210/232 210/241 210/323.1 210/416.1 210/723



Family:

Publication number	Publication date	Application number	Application date
AU2011229155 AA	20110922	AU20110229155	20110318
AU2011229155 BB	20160922	AU20110229155	20110318
BR112012023508 A2	20160531	BR20121123508	20110318
CN102869620 A	20130109	CN201180021477	20110318
CN102869620 B	20150729	CN201180021477	20110318
IL221985 A0	20121129	IL20110221985	20110318
IN09020DN2012 A	20140328	IN2012DN09020	20121017
JP2013522012 T2	20130613	JP20120557356T	20110318
JP5841550 B2	20160113	JP20120557356T	20110318
KR20130009810 A	20130123	KR20127027219	20110318
NZ603097 A	20141224	NZ20110603097	20110318
SG184139 A1	20121030	SG20120069290	20110318
TH133803 A	20140519	TH20121004815	20110318
US2013068698 AA	20130321	US20110635891	20110318
WO11113110 A1	20110922	WO2011AU00307	20110318

Priority:

US20100315134P 20100318 US20100377677P 20100827 US20110635891 20110318
WO2011AU00307 20110318

Probable Assignee: ENVIROSTREAM SOLUTIONS PTY LTD

Assignee(s): (std): EDDY RHYS LATHLAIN ; ENVIROSTREAM SOLUTIONS PTY LTD ; KENNEDY ROWAN JOHN ; TANNER JAMES JOHN

Inventor(s): (std): EDDY RHYS LATHLAIN ; KENNEDY ROWAN JOHN ; TANNER JAMES JOHN

Inventor(s): RHYS LATHLAIN EDDY ; ROWAN JOHN KENNEDY ; JAMES JOHN TANNER

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; TAMURA YASUO; SAMEJIMA MUTSUMI; GONJOU KEIICHI; YOSHIDA TAMAKI; HIND RAYMOND 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2011229155 AA	20110922	LSPB	+	published / reissued	
AU2011229155 AA	20170119	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	

AU2011229155 BB	20160922	LSGT	+	granted / extensions (spc, cpc, pte)	
BR112012023508 A2	20160531	LSPB	+	published / reissued	
BR112012023508 A2	20170117	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A ANUIDADE.
CN102869620 A	20130109	LSPB	+	published / reissued	
CN102869620 A	20130109	LSPB	+C06	PUBLICATION	
CN102869620 A	20150729	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102869620 B	20150729	LSGT	+	granted / extensions (spc, cpc, pte)	
IN09020DN2012 A	20140328	LSPB	+	published / reissued	
JP2013522012 T2	20130613	LSPB	+	published / reissued	
JP2013522012 T2	20140318	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20140317
JP2013522012 T2	20141015	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20141014
JP2013522012 T2	20150113	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150113
JP2013522012 T2	20150513	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150512
JP2013522012 T2	20150811	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150811
JP2013522012 T2	20151015	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2013522012 T2	20151021	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20151020
JP2013522012 T2	20151119	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20151113
JP5841550 B2	20160113	LSGT	+	granted / extensions (spc, cpc, pte)	
KR20130009810 A	20130123	LSPB	+	published / reissued	
KR20130009810 A	20160304	LSES	A201	REQUEST FOR EXAMINATION	
NZ603097 A	20141224	LSPB	+	published / reissued	
NZ603097 A	20150327	LSGT	+PSEA	PATENT SEALED	
NZ603097 A	20150327	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	DESCRIPTION : PATENT RENEWED FOR 3 YEARS UNTIL 18 MAR 2018 BY DAVIES COLLISON CAVE EFFECTIVE DATE : 20150325
SG184139 A1	20121030	LSPB	+	published / reissued	
TH133803 A	20140519	LSPB	+	published / reissued	
US2013068698 AA	20130321	LSPB	+	published / reissued	
US2013068698 AA	20121127	LSAS	AS	ASSIGNMENT	OWNER NAME : ENVIROSTREAM SOLUTIONS PTY LTD., AUSTRALIA

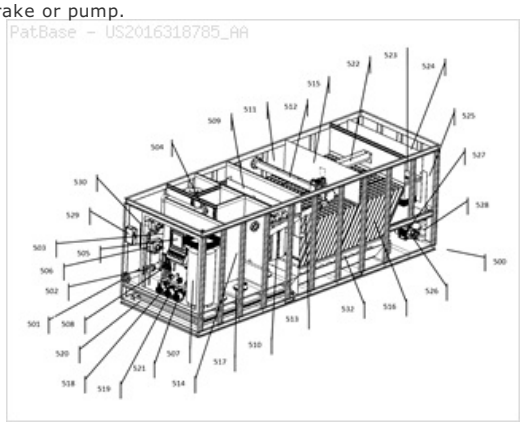
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WO11113110 A1	20110922	LSPB	+	published / reissued	
WO11113110 A1	20120918	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2012557356 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
WO11113110 A1	20120918	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11113110 A1	20120918	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012557356 COUNTRY OF REF DOCUMENT : JP
WO11113110 A1	20120918	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1201004815 COUNTRY OF REF DOCUMENT : TH
WO11113110 A1	20120919	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 221985 COUNTRY OF REF DOCUMENT : IL
WO11113110 A1	20121018	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20127027219 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A
WO11113110 A1	20121108	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2011229155 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20110318 KIND CODE OF REF DOCUMENT : A
WO11113110 A1	20121130	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13635891 COUNTRY OF REF DOCUMENT : US
WO11113110 A1	20130508	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 11755570 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1
WO11113110 A1	20160531	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112012023508 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 EFFECTIVE DATE : 20120918

20) Family number: 63912108 (US2016318785A)

Title: COMPACT SCALABLE MODULAR SYSTEM AND METHOD FOR TREATMENT OF WATER

Abstract: Source: US2016318785A A compact scalable modular system and process for treatment of water. Various water treatment components may be integrated into a scalable module to reduce an overall footprint of the module and accommodate easier installation without significant time and cost. The integrated treatment components in the module may be customized based on the target pollutants to treat, such as soluble and insoluble organic and inorganic substances, or expected quality of effluent water, such as for human consumption, and industrial or environmental usage, to achieve. A two-phase separation system may be used in a combination with any treatment component. One such embodiment includes a treatment component in a combination with a coagulation and flocculation treatment component so that the pollutants may be coagulated and flocculated before the separation process of the coagulants and flocculants. By using settling plates or tubes, the two-phase separation system embodiment may effectively form floatable solids and settlable solids. The floatable solids may be removed from the separation component by a sludge skimmer or a device with a similar function and the floatable solids may be removed from the separation component by a sludge rake or pump.

Classifications:
International (IPC 8-9)**:** C02F1/00 C02F1/463 C02F11/12 C02F9/00 (Advanced/Invention)
CPC: C02F9/00 C02F1/008 C02F2001/007 C02F1/001 C02F1/5281 C02F1/66 C02F1/78 C02F2201/007 C02F2209/06 C02F2209/10 C02F2209/11 C02F1/24 C02F1/32 C02F1/441 C02F1/463 C02F1/5245 C02F1/5272 C02F1/56 C02F11/12
US: 204/555



Family:

Publication number	Publication date	Application number	Application date
US2016318785 AA	20161103	US20160141654	20160428

Priority:

US20150153941P 20150428 US20160141654 20160428

Probable Assignee: BENCHMARK ENVIRONMENTAL INC
Assignee(s): (std)**:** BENCHMARK ENV INC
Assignee(s): BENCHMARK ENVIRONMENTAL INC
Inventor(s): (std)**:** ENSLOW MARK ANTHONY

Legal status (INPADOC)

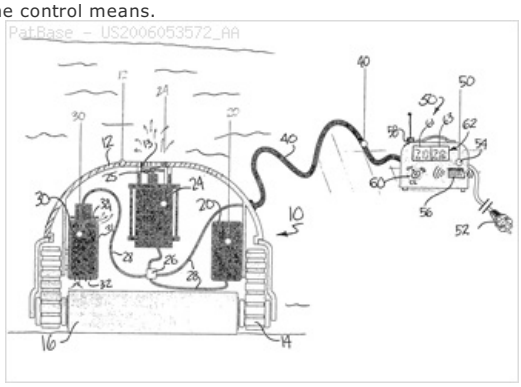
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Patent	Date recorded	Event group	Code	Event	Details
US2016318785 AA	20161103	LSPB	+	published / reissued	
US2016318785 AA	20160428	LSAS	AS	ASSIGNMENT	OWNER NAME : BENCHMARK ENVIRONMENTAL, INC., WASHINGTON DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ENSLOW, MARK ANTHONY; REEL/FRAME:038414/0913 EFFECTIVE DATE : 20160428

21) Family number: 32712815 (US2006053572A)

Title: POOL CLEANER WITH INTEGRAL CHLORINE GENERATOR

Abstract: Source: US2006053572A An automated self-propelled robotic pool cleaner having a housing and drive means for moving the pool cleaner over at least the bottom wall of a pool, is provided with an integral on-board electrochemical chlorine generator for producing chlorine from a chlorine compound, e.g., sodium chloride, that is dissolved in the pool water, a source of electrical power operatively connected to the electrochemical chlorine generator, control means for initiating and terminating the operation of the chlorine generator, and an outlet for discharging water containing chlorine ions produced by the electrochemical generator to thereby distribute the chlorine into the water proximate the exterior of the pool cleaner housing as the pool cleaner follows a programmed operational mode across the bottom and/or side walls of the pool. The operation of the chlorine generator is in response to a manually operated switch and/or signals generated by an automated testing probe, which signals are transmitted directly or indirectly to the control means.



Classifications:

International (IPC 8-9): C02F1/461 C02F1/467 C25B1/26 C25C7/00 C25F7/00 E04H E04H4/12 E04H4/16 (Advanced/Invention); C02F1/00 C02F103/42 C25B1/26 (Advanced/Non-invention); C25B1/00 E04H4/00 (Core/Invention); E04H (Subclass/Invention)

CPC: C02F2201/4612 C02F2201/46145 C02F2201/46165 C02F2209/008 C02F2209/05 C02F2209/29 C02F2209/44 C02F2301/024 C02F2303/04 C02F2305/00 C02F1/4674 C02F2103/42 C02F2201/008 C02F2201/4618 C02F2305/02 C02F2307/12 E04H4/1281 G06Q20/3255 E04H4/1654

European: C02F1/467B2 E04H4/12B E04H4/16C M02F103/42 M02F201/00M M02F201/461B6 M02F209/00T4 M02F209/29 M02F209/44 M02F301/02D

US: 1/1 15/1.7 15/1.700P 204/196.02 204/228.1 204/228.6 204/229.4 204/229.400S 204/230.2 204/230.3 204/248 204/248S 204/271 204/275.1 204/275.100S 204/278.5 204/672 205/359 205/411 205/459 205/464 205/473 205/474 205/474S 205/498 205/556 205/618 205/620 205/742 205/743 205/744 205/745 210/140 210/140S 210/167.1 210/167.11 210/167.15 210/169 210/746 210/753 210/754 210/96.1 210/96.100P

Family:

Publication number	Publication date	Application number	Application date
AU2010235166 AA	20101014	AU20100235166	20100407
AU2010235166 BB	20150813	AU20100235166	20100407
AU2015255266 AA	20151203	AU20150255266	20151112
CN102449251 A	20120509	CN201080022866	20100407
CN102449251 B	20141015	CN201080022866	20100407
CN103696592 A	20140402	CN201310688266	20100407
CN103696592 B	20150715	CN201310688266	20100407
EP2417313 A1	20120215	EP20100762001	20100407
EP2417313 A4	20130403	EP20100762001	20100407
EP2792816 A2	20141022	EP20140163011	20100407
EP2792816 A3	20150909	EP20140163011	20100407
IL215513 A0	20111229	IL20100215513	20100407
IL215513 A1	20140930	IL20100215513	20100407
US2006053572 AA	20060316	US20040942158	20040915
US2009282627 AA	20091119	US20090384806	20090408
US2011290707 AA	20111201	US20110207132	20110810
US2013001074 AA	20130103	US20120613149	20120913
US2014339175 AA	20141120	US20140451052	20140804
US2016160520 A9	20160609	US20120613149	20120913
US8007653 BB	20110830	US20090384806	20090408
US8307484 BB	20121113	US20110207132	20110810
US8795510 BB	20140805	US20040942158	20040915
US9353541 BB	20160531	US20120613149	20120913
WO10117469 A1	20101014	WO2010US01071	20100407

Priority:

AU20100235166 20100407 AU20150255266 20151112 US20040942158 20040915
EP20100762001 20100407 SG20100007156 20100930 CN201080022866 20100407
US20090384806 20090408 WO2010US01071 20100407 US20120613149 20120913
US20110207132 20110810 US20140451052 20140804

Probable Assignee: AQUA PRODUCTS INC

Assignee(s): (std): AQUA PRODUCTS INC ; AQUATRON INC ; PORAT JOSEPH

Assignee(s): OOI HEE CHAI ; AQUATRON LLC

Inventor(s): (std): JOSEPH PORAT ; PORAT JOSEPH

Inventor(s): OOI HEE CHAI

Agent(s): AHEARN FOX; GERVASI GEMMA; DE BORTOLI TIZIANO; SANFORD TCOLB AND CO; ABELMAN FRAYNE AND SCHWAB; SPATH THOMAS E

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 LI 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details

AU2010235166 AA	20101014	LSPB	+	published / reissued	
AU2010235166 AA	20151210	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2010235166 BB	20150813	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2015255266 AA	20151203	LSPB	+	published / reissued	
AU2015255266 AA	20161103	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
CN102449251 A	20120509	LSPB	+	published / reissued	
CN102449251 A	20140212	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	OWNER NAME : AQUA PRODUCTS INC. DESCRIPTION : FORMER OWNER: AQUATRON INC. EFFECTIVE DATE : 20140116
CN102449251 A	20140212	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN102449251 A	20141015	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102449251 B	20141015	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103696592 A	20140402	LSPB	+	published / reissued	
CN103696592 A	20140402	LSPB	+C06	PUBLICATION	
CN103696592 A	20150715	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103696592 B	20150715	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2417313 A1	20120215	LSPB	+	published / reissued	
EP2417313 A1	20120215	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20111108
EP2417313 A1	20130403	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20130304
EP2417313 A1	20130403	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : E04H 4/16 20060101AFI20130226BHEP
EP2417313 A1	20130403	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : E04H 4/12 20060101ALI20130226BHEP
EP2417313 A1	20140219	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20140115
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EP2417313 A1	20150506	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20150408
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EP2792816 A2	20141022	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140401
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EP2792816 A2	20150909	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : E04H 4/16 20060101AFI20150803BHEP
EP2792816 A2	20160420	LSES	+R17P	REQUEST FOR EXAMINATION FILED (CORRECTION)	EFFECTIVE DATE : 20160309
EP2792816 A2	20160810	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20160708
IL215513 A0	20150129	LSGT	+FF	PATENT GRANTED	
IL215513 A0	20150331	LSFE	+KB	PATENT RENEWED	
IL215513 A0	20160421	LSFE	+KB	PATENT RENEWED	
IL215513 A1	20140930	LSPB	+	published / reissued	
US2006053572 AA	20060316	LSPB	+	published / reissued	

US2006053572 AA	20040915	LSAS	AS	ASSIGNMENT	OWNER NAME : AQUATRON LLC., NEW JERSEY DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PORAT, JOSEPH; REEL/FRAME:015804/0953 EFFECTIVE DATE : 20040915
US2006053572 AA	20080321	LSAS	AS	ASSIGNMENT	OWNER NAME : AQUATRON INC., FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AQUATRON LLC; REEL/FRAME:020683/0658 EFFECTIVE DATE : 20070404
US2006053572 AA	20110819	LSAS	AS	ASSIGNMENT	OWNER NAME : AQUATRON, INC., FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PORAT, JOSEPH; REEL/FRAME:026778/0245 EFFECTIVE DATE : 20110228
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US2009282627 AA	20090408	LSAS	AS	ASSIGNMENT	OWNER NAME : AQUATRON, INC., FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PORAT, JOSEPH; REEL/FRAME:022578/0513 EFFECTIVE DATE : 20090403
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US2011290707 AA	20110816	LSAS	AS	ASSIGNMENT	OWNER NAME : AQUATRON, INC., FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PORAT, JOSEPH; REEL/FRAME:026756/0461 EFFECTIVE DATE : 20090403
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US2014339175 AA	20141120	LSPB	+	published / reissued	
US8007653 BB	20110830	LSGT	+	granted / extensions (spc, cpc, pte)	
US8007653 BB	20090408	LSAS	AS	ASSIGNMENT	OWNER NAME : AQUATRON, INC., FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PORAT, JOSEPH; REEL/FRAME:022578/0513 EFFECTIVE DATE : 20090403
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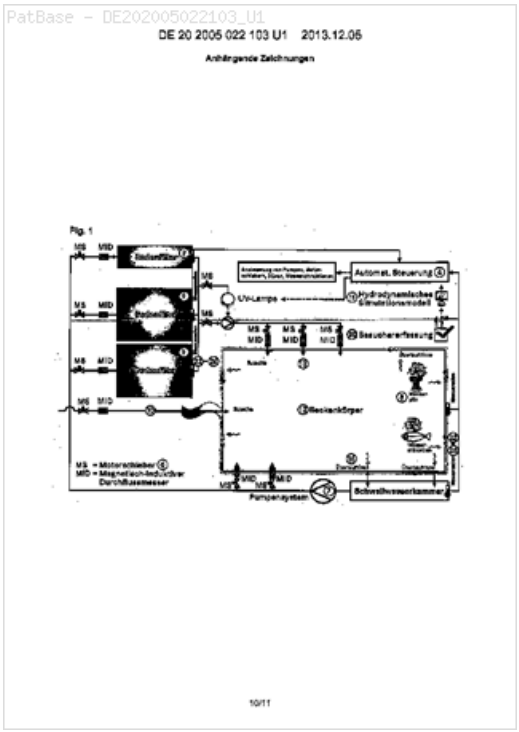
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US8307484 BB	20120815	LSAS	AS	ASSIGNMENT	OWNER NAME : AQUA PRODUCTS, INC., NEW JERSEY DESCRIPTION : MERGER; ASSIGNOR:AQUATRON, INC.; REEL/FRAME:028788/0214 EFFECTIVE DATE : 20111222
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US8795510 BB	20110225	LSAS	AS	ASSIGNMENT	OWNER NAME : PORAT, JOSEPH, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AQUATRON, LLC; REEL/FRAME:026510/0016 EFFECTIVE DATE : 20110216
US9353541 BB	20160531	LSGT	+	granted / extensions (spc, cpc, pte)	
WO10117469 A1	20101014	LSPB	+	published / reissued	
WO10117469 A1	20111003	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 215513 COUNTRY OF REF DOCUMENT : IL
WO10117469 A1	20111010	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO10117469 A1	20111103	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2010235166 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20100407 KIND CODE OF REF DOCUMENT : A

22) Family number: 34172785 (DE202005022103U1)

Title: SYSTEM ZUR UEBERWACHUNG UND STEUERUNG DER WASSERGUETE IN NATURERLEBNISBAEDERN

Abstract: Source: DE202005022103U1 System zur ueberwachung und Steuerung der Wasserguete in Naturschwimmbaedern mit – einer Wasseraufbereitungseinheit, – einer Datenerfassungseinheit (1), die mehrere Messsonden und automatische Probenehmer aufweist, welche an unterschiedlichen Stellen im Becken und an der Wasseraufbereitungseinheit angeordnet sind und jeweils den aktuellen Zustand der Wasserqualitaet aufnehmen, und – einer automatischen Anlagensteuerung (4), dadurch gekennzeichnet, – dass die Datenerfassungseinheit (1) zumindest eine Messsonde zum Erfassen einer Truebung des Wassers aufweist, – dass die Anlagensteuerung (4) die mit der Datenerfassungseinheit (1) erfasste Wasserguete mit einem hydrodynamischen Simulationsmodell (11) und einem Gewaesserguetemodell (21) in der Anlagensteuerung (4) auswertet, – dass das Simulationsmodell (11) eine erfasste Besucherzahl und/oder -verteilung beruecksichtigt, und – dass die Wasseraufbereitungseinheit bewachsene Bodenfilter aufweist, die die Anlagensteuerung (4) bedarfsabhaengig zuschaltet, – dass die Wasseraufbereitungseinheit einen Bodenfilter aufweist, der mit phosphatbindenden Substraten befuellt ist, wobei die Anlagensteuerung (4) einen variablen Teilstroms von abgebadetem Wasser ueber den Bodenfilter leitet, – dass die Anlagensteuerung (4) Wasserspiele und -attraktionen (8) steuert, um aufbereitetes Wasser und/oder Frischwasser (10) in das Schwimmbecken zu leiten und um Publikum zu lenken und/oder ein Gaesteverhalten zu beeinflussen.

Classifications:
International (IPC 8-9): E04H4/12 G01N21/47 G01N33/18 (Advanced/Invention); G01N33/18 (Core/Invention)
CPC: C02F1/001 C02F1/32 C02F1/56 C02F2103/42 C02F2209/005 C02F2209/02 C02F2209/11 G05D21/02 G01N21/51 G01N21/534 E04H4/1209 C02F1/281 C02F1/52 C02F9/00 C02F2101/105 C02F2103/00 C02F2209/06 C02F2209/22 C02F1/008
European: C02F1/00T G05D21/02 M02F1/00D M02F1/32 M02F1/56 M02F103/42 M02F209/00T M02F209/02 M02F209/11



Family:

Publication number	Publication date	Application number	Application date
DE102005035238 A1	20070201	DE200510035238	20050725
DE202005022103 U1	20131205	DE2005200221O3U	20050725

Priority:
DE200520022103U 20050725 DE200510035238 20050725

Probable Assignee: PAULY UDO
Assignee(s): (std): PAULY UDO
Assignee(s): PAULY
Inventor(s): (std): PAULY UDO ; REHFUS STEFAN

Legal status (INPADOC)

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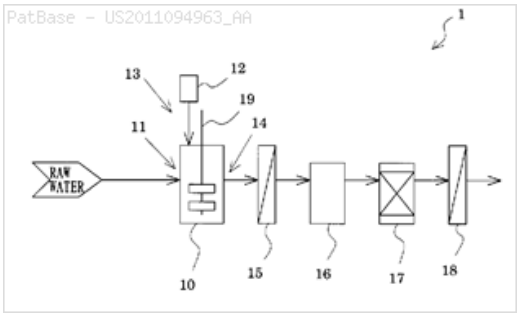
Patent	Date recorded	Event group	Code	Event	Details
DE102005035238 A1	20070201	LSPB	+	published / reissued	
DE102005035238 A1	20070201	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE102005035238 A1	20130221	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102005035238 A1	20130801	LSWD	-R120	APPLICATION WITHDRAWN OR IP RIGHT ABANDONED	EFFECTIVE DATE : 20130604
DE202005022103 U1	20131205	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202005022103 U1	20131205	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20131205

DE202005022103 U1	20140428	LSGT	+R152	TERM OF PROTECTION EXTENDED TO 10 YEARS	
DE202005022103 U1	20140605	LSGT	+R152	TERM OF PROTECTION EXTENDED TO 10 YEARS	EFFECTIVE DATE : 20140428
DE202005022103 U1	20150731	LSLE	-R071	EXPIRY OF RIGHT	

23) Family number: 42925413 (US2011094963A)

Title: MEMBRANE SEPARATION METHOD AND MEMBRANE SEPARATION DEVICE

Abstract: Source: US2011094963A To provide a membrane separation method capable of attaining reduced adsorption of a membrane-fouling substance contained in treatment water onto the surface of a separation membrane during membrane separation of the treatment water, to thereby lead retarded deterioration in membrane separation performance, and a membrane separation apparatus for performing the method. In the membrane separation method, to treatment water, a particulate cationic polymer which swells in water but does not substantially dissolve therein is added, and the treatment water is subjected to membrane separation.



Classifications:
International (IPC 8-9): B01D21/01 B01D61/00 B01D61/02 B01D61/04 B01D61/16 B01D61/58 B01D65/06 B01J20/26 C02F1/28 C02F1/42 C02F1/44 C02F1/52 C02F1/56 C02F9/00 C02F9/02 C02F9/04 C02F9/08 (Advanced/Invention);
B01D61/02 B01D61/04 B01D61/12 B01D61/14 B01D61/16 B01D61/22 B01D61/58 B01D65/02 C02F1/24 C02F1/28 C02F1/54 C02F1/56 C02F1/66 C02F101/30 C02F101/34 (Advanced/Non-invention);
B01D21/01 B01D61/02 B01D61/16 B01D61/58 B01D65/00 B01J20/22 C02F1/28 C02F1/42 C02F1/44 C02F1/52 C02F1/54 C02F9/00 (Core/Invention)
CPC: B01D65/08 B01D2321/168 C02F1/28 C02F1/52 B01D61/04 B01D61/12 B01D61/145 B01D61/147 B01D61/22 B01D65/02 B01D2311/06 B01D2311/246 B01D2311/2623 B01D2311/263 B01D2311/2642 B01D2321/04 B01D2321/164 C02F1/5209 C02F1/5245 C02F1/5272 C02F1/54 C02F2101/301 C02F2101/34 C02F2209/001 C02F2209/003 C02F2209/20 B01D61/16 B01D61/025 B01D61/58 B01D2311/2626 B01D2317/025 C02F1/24 C02F1/283 C02F1/285 C02F1/441 C02F1/442 C02F1/444 C02F1/5236 C02F1/66 C02F2001/007 C02F2001/422 C02F2001/425 C02F2101/30 C02F2209/06 C02F2209/11 C02F2209/21 C02F2303/16 C02F2303/20 B01D2311/04 C02F1/42 C02F1/44 C02F1/56 C02F9/00
European: B01D61/16 B01D61/58 B01D65/08 C02F1/28F C02F1/44 C02F9/00 L01D311/04 L01D311/26J L01D317/02D L01D321/16H L01D61/02D M02F1/00S M02F1/24 M02F1/28 M02F1/28D M02F1/42 M02F1/42B M02F1/42D M02F1/44 M02F1/44B M02F1/44C M02F1/44D M02F1/52 M02F1/52F M02F1/56 M02F1/66 M02F101/30 M02F209/06 M02F209/11 M02F209/21 M02F303/16 M02F303/20
US: 210/202 210/202S 210/636 210/638 210/638S

Family:

Publication number	Publication date	Application number	Application date
BRPI0815054 A2	20150210	BR2008PI15054	20080806
CN101815677 A	20100825	CN200880102068	20080806
CN101815677 B	20140212	CN200880102068	20080806
CN103768947 A	20140507	CN201410011104	20080806
CN103768947 B	20160323	CN201410011104	20080806
EP2177479 A1	20100421	EP20080827117	20080806
EP2177479 A4	20130529	EP20080827117	20080806
JP2009056454 A2	20090319	JP20070284111	20071031
JP2009106898 A2	20090521	JP20070284112	20071031
JP2009240974 A2	20091022	JP20080092395	20080331
JP2009240975 A2	20091022	JP20080092396	20080331
JP5218731 B2	20130626	JP20070284112	20071031
JP5282864 B2	20130904	JP20070284111	20071031
JP5348369 B2	20131120	JP20080092395	20080331
KR20100054126 A	20100524	KR20107002175	20080806
TW200914108 A	20090401	TW20080130006	20080807
TWI459997 B	20141111	TW20080130006	20080807
US2011094963 AA	20110428	US20080673165	20080806
WO09020157 A1	20090212	WO2008JP64137	20080806

Priority:

CN200880102068 20080806 JP20070205854 20070807 JP20070284111 20071031
JP20070284112 20071031 JP20080092395 20080331 JP20080092396 20080331
WO2008JP64137 20080806

Probable Assignee: KURITA WATER IND LTD

Assignee(s): (std): IKEDA HIROYUKI ; KURITA WATER IND LTD ; TADA KEIJIROU ; SATO SHIGERU ; OSAWA MASANOBU

Assignee(s): KURITA WATER INDUSTRIES LTD

Inventor(s): (std): KEIJIROU TADA ; MASANOBU OSAWA ; OSAWA KIMINOBU ; OSAWA MASANOBU ; HIROYUKI IKEDA ; IKEDA HIROYUKI ; SATO SHIGERU ; SHIGERU SATO ; TADA KEIJIRO ; TADA KEIJIROU

Agent(s): STREHL SCHUEBEL HOPF AND PARTNER; KURIHARA HIROYUKI 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 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 KE KG KM KN KP KR KZ LA LC LI 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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CN101815677 A	20100825	LSPB	+	published / reissued	

CN101815677 A	20100825	LSPB	+C06	PUBLICATION	
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CN101815677 B	20140212	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103768947 A	20140507	LSPB	+	published / reissued	
CN103768947 A	20140507	LSPB	+C06	PUBLICATION	
CN103768947 A	20160323	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
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EP2177479 A1	20100421	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100304
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EP2177479 A1	20160217	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/42 20060101ALI20160112BHEP
EP2177479 A1	20160217	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B01D 61/22 20060101ALN20160112BHEP
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EP2177479 A1	20160224	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/28 20060101ALI20160119BHEP
EP2177479 A1	20160224	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/42 20060101ALI20160119BHEP
EP2177479 A1	20160224	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B01D 61/04 20060101ALN20160119BHEP
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EP2177479 A1	20160224	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B01D 61/02 20060101ALI20160119BHEP
EP2177479 A1	20160224	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B01D

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EP2177479 A1	20160224	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B01D 65/02 20060101ALN20160119BHEP
EP2177479 A1	20160224	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/56 20060101ALN20160119BHEP
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EP2177479 A1	20161207	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20160614
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JP2009056454 A2	20101005	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20101004
JP2009056454 A2	20130207	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130206
JP2009056454 A2	20130405	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130404
JP2009056454 A2	20130425	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130424
JP2009056454 A2	20130501	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A711 EFFECTIVE DATE : 20130430
JP2009056454 A2	20130521	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20130430
JP2009056454 A2	20130523	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130514
JP2009106898 A2	20090521	LSPB	+	published / reissued	

JP2009106898 A2	20101005	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20101004
JP2009106898 A2	20130129	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2009106898 A2	20130207	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130206
JP2009106898 A2	20130314	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130219
JP2009106898 A2	20130315	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20160315 YEAR OF FEE PAYMENT : 3
JP2009106898 A2	20130315	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP2009240974 A2	20091022	LSPB	+	published / reissued	
JP2009240974 A2	20110119	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110118
JP2009240974 A2	20130516	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130515
JP2009240974 A2	20130705	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130704
JP2009240974 A2	20130718	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2009240974 A2	20130725	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130724
JP2009240974 A2	20130829	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130806
JP2009240974 A2	20130830	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP2009240975 A2	20091022	LSPB	+	published / reissued	
JP2009240975 A2	20110119	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110118
JP2009240975 A2	20130516	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130515
JP2009240975 A2	20130926	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20130925
JP5218731 B2	20130626	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5218731 B2	20101005	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20101004
JP5218731 B2	20130129	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	

JP5218731 B2	20130207	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130206
JP5218731 B2	20130314	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130219
JP5218731 B2	20130315	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20160315 YEAR OF FEE PAYMENT : 3
JP5218731 B2	20130315	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP5282864 B2	20130904	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5282864 B2	20101005	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20101004
JP5282864 B2	20130207	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130206
JP5282864 B2	20130405	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130404
JP5282864 B2	20130425	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130424
JP5282864 B2	20130501	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A711 EFFECTIVE DATE : 20130430
JP5282864 B2	20130521	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20130430
JP5282864 B2	20130523	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130514
JP5282864 B2	20160412	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
JP5348369 B2	20131120	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5348369 B2	20110119	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110118
JP5348369 B2	20130516	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130515
JP5348369 B2	20130705	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130704
JP5348369 B2	20130718	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP5348369 B2	20130725	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130724
JP5348369 B2	20130829	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130806
JP5348369 B2	20130830	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150

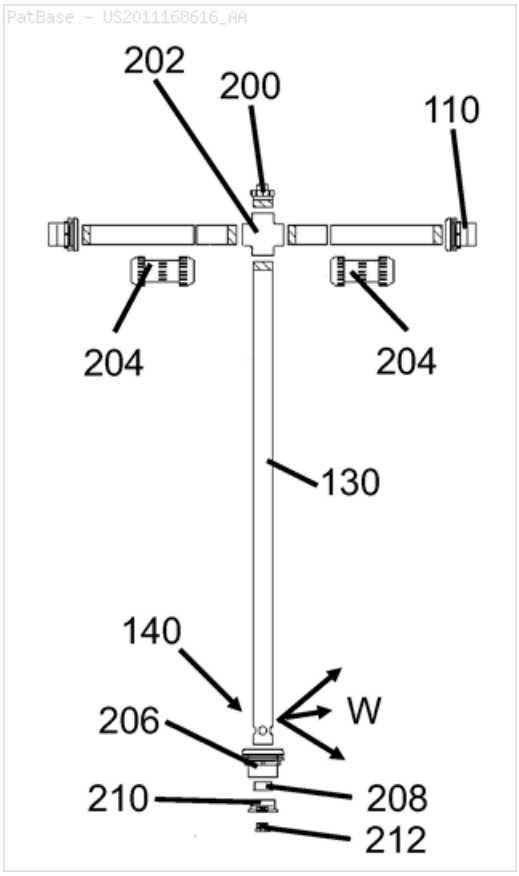
				OF UTILITY MODEL	
KR20100054126 A	20100524	LSPB	+	published / reissued	
KR20100054126 A	20130328	LSES	A201	REQUEST FOR EXAMINATION	
KR20100054126 A	20150519	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20100054126 A	20151124	LSRV	-E90F	NOTIFICATION OF REASON FOR FINAL REFUSAL	
KR20100054126 A	20160129	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
TW200914108 A	20090401	LSPB	+	published / reissued	
TWI459997 B	20141111	LSGT	+	granted / extensions (spc, cpc, pte)	
US2011094963 AA	20110428	LSPB	+	published / reissued	
US2011094963 AA	20100225	LSAS	AS	ASSIGNMENT	OWNER NAME : KURITA WATER INDUSTRIES LTD., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TADA, KEIJIROU; OSAWA, MASANOBU; SATO, SHIGERU; AND OTHERS; REEL/FRAME:023990/0599 EFFECTIVE DATE : 20100128
US2011094963 AA	20100318	LSAS	AS	ASSIGNMENT	OWNER NAME : KURITA WATER INDUSTRIES LTD., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TADA, KEIJIROU; OSAWA, MASANOBU; SATO, SHIGERU; AND OTHERS; REEL/FRAME:024099/0913 EFFECTIVE DATE : 20100128
WO09020157 A1	20090212	LSPB	+	published / reissued	
WO09020157 A1	20100129	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20107002175 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A
WO09020157 A1	20100209	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09020157 A1	20100211	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12673165 COUNTRY OF REF DOCUMENT : US
WO09020157 A1	20150210	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0815054 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 EFFECTIVE DATE : 20100201

24) Family number: 49239023 (US2011168616A)

Title: SYSTEM AND PROCESS FOR REMOVING NITROGEN COMPOUNDS AND ODORS FROM WASTEWATER AND WASTEWATER TREATMENT SYSTEM

Abstract: Source: US2011168616A A wastewater treatment system includes independent wastewater treatment facilities. Each of the facilities has a number of wastewater treatment subsystems. A wastewater collection subsystem holds wastewater to be treated. A pump subsystem moves wastewater from a wastewater collector to a filtration subsystem having a bioreacting filter. The filter has a sump and a fluidized-bed filter therein and supports the filter upright. The filter has an upwardly expanding, hollow, conical filter body with filter media. A monitoring subsystem measures wastewater process parameters. Control devices receive control commands and, dependent upon the command received, alter parameters of the wastewater treatment subsystems. A communication device connects the wastewater treatment subsystems and the control devices and sends information corresponding to the wastewater process parameters measured by the monitors, receives control messages corresponding to the control commands, and transmits control commands the control devices to, thereby, alter a wastewater process parameter.

Classifications:
International (IPC 8-9): B01D17/028 B01D17/12 B01D21/01 B01D24/36 B01D29/11 B01D35/26 C02F1/00 C02F1/52 C02F1/68 C02F1/76 C02F3/00 C02F3/02 C02F3/08 C02F3/12 C02F3/14 C02F3/20 C02F3/28 C02F3/30 C02F9/00 C02F9/02 C02F9/14 G05B15/00 (Advanced/Invention);
B01F5/00 C02F1/00 C02F101/16 C02F103/20 C02F3/08 C02F3/28 (Advanced/Non-invention)
CPC: C02F2103/005 C02F2103/32 C02F2209/08 C02F2209/22 C02F3/2826 C02F2103/327 C02F2209/005 C02F2209/02 C02F2209/06 C02F2209/10 C02F2209/40 C02F2209/42 B01F5/0057 C02F3/006 C02F3/20 Y02W10/12 C02F1/001 C02F3/08 C02F3/302 C02F2101/16 C02F2101/163 C02F2101/166 C02F2103/20 C02F2209/006 C02F2209/008 C02F2303/02 Y02W10/15 C02F3/1247 C02F3/301 C02F3/085 C02F3/30 C02F9/00 C02F3/305 C02F3/14 C02F1/5281 C02F1/68 B01D21/01 B01D29/117 C02F1/766 C02F3/2833 C02F3/303
European: C02F1/00T C02F3/00R M02F101/16 M02F101/16B M02F101/16D M02F103/20 M02F209/00T2 M02F209/00T4 M02F303/02
US: 1/1 210/141 210/143 210/151 210/199 210/202 210/257.1 210/258 210/259 210/522 210/614 210/617 210/85 210/85S 210/86 210/86P 210/87 210/87S 210/919 210/96.1 700/273 702/50



Family:

Publication number	Publication date	Application number	Application date
US2011168616 AA	20110714	US20100793144	20100603
US2012091045 AA	20120419	US20110240608	20110922
US2013193038 AA	20130801	US20130748131	20130123
US2013240420 AA	20130919	US20130830480	20130314
US2014034558 AA	20140206	US20130051876	20131011
US2016115059 AA	20160428	US20150986008	20151231
US2016362321 AA	20161215	US20160228845	20160804
US8388833 BB	20130305	US20110240608	20110922
US8585892 BB	20131119	US20100793144	20100603
US9272931 BB	20160301	US20130830480	20130314
US9440870 BB	20160913	US20130748131	20130123
WO11088105 A1	20110721	WO2011US20967	20110112

Priority:

US20100294521P 20100113 US20100385603P 20100923 US20100793144 20100603
US20110240608 20110922 US20100793444 20100603 US20130051876 20131011
WO2011US20967 20110112 US20130748131 20130123 US20130830480 20130314
US20130751041P 20130110 US20150986008 20151231 US20160228845 20160804

Probable Assignee: BIOFILTER SYSTEMS LLC

Assignee(s): (std): BIOFILTER SYSTEMS LLC ; COX JOHN ; COX JOHN D ; WHITE DANIEL T ; ROBERTSON MARK B ; O KEEFE DAVID

Inventor(s): (std): COX JOHN ; COX JOHN D ; O KEEFE DAVID ; ROBERTSON MARK B ; WHITE DANIEL T

Inventor(s): O'KEEFE DAVID

Agent(s): MAYBACK AND HOFFMAN P A; GREGORY L; MAYBACK AND HOFFMAN PA; MAYBACK GREGORY L 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 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2011168616 AA	20110714	LSPB	+	published / reissued	
US2011168616 AA	20131009	LSAS	AS	ASSIGNMENT	OWNER NAME : BIOFILTER SYSTEMS, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROBERTSON, MARK B.; O'KEEFE, DAVID; COX, JOHN; AND OTHERS; SIGNING DATES FROM 20130930 TO 20131003; REEL/FRAME:031372/0515
US2012091045 AA	20120419	LSPB	+	published / reissued	
US2012091045 AA	20111206	LSAS	AS	ASSIGNMENT	OWNER NAME : BIOFILTER SYSTEMS, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROBERTSON, MARK B.; O'KEEFE, DAVID; COX, JOHN D.; AND OTHERS; SIGNING DATES FROM 20110926 TO 20110928; REEL/FRAME:027338/0088
US2013193038 AA	20130801	LSPB	+	published / reissued	
US2013193038 AA	20160126	LSAS	AS	ASSIGNMENT	OWNER NAME : BIOFILTER SYSTEMS, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROBERTSON, MARK B.; O'KEEFE, DAVID; COX, JOHN D.; AND OTHERS; SIGNING DATES FROM 20110926 TO 20110928; REEL/FRAME:037584/0775
US2013240420 AA	20130919	LSPB	+	published / reissued	
US2014034558 AA	20140206	LSPB	+	published / reissued	
US2016115059 AA	20160428	LSPB	+	published / reissued	
US2016362321 AA	20161215	LSPB	+	published / reissued	
US8388833 BB	20130305	LSGT	+	granted / extensions (spc, cpc, pte)	
US8388833 BB	20111206	LSAS	AS	ASSIGNMENT	OWNER NAME : BIOFILTER SYSTEMS, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROBERTSON, MARK B.; O'KEEFE, DAVID; COX, JOHN D.; AND OTHERS; SIGNING DATES FROM 20110926 TO 20110928; REEL/FRAME:027338/0088
US8388833 BB	20160901	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US8585892 BB	20131009	LSAS	AS	ASSIGNMENT	OWNER NAME : BIOFILTER SYSTEMS, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROBERTSON, MARK B.; O'KEEFE, DAVID; COX, JOHN; AND OTHERS; SIGNING DATES FROM 20130930 TO 20131003; REEL/FRAME:031372/0515
US9272931 BB	20160301	LSGT	+	granted / extensions (spc, cpc, pte)	
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WO11088105 A1	20110721	LSPB	+	published /	

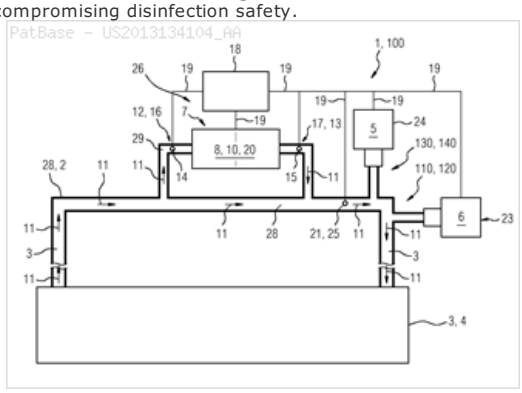
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WO11088105 A1	20120713	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11088105 A1	20130206	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 11733307 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

25) Family number: 53855621 (US2013134104A)

Title: METHOD AND ARRANGEMENT FOR A WATER TREATMENT

Abstract: Source: US2013134104A In a method for water treatment by chlorine disinfection, a chlorine stabilizer is dosed into water to be treated as far as a predetermined chlorine stabilizer concentration in said water is achieved. As soon as the predetermined chlorine stabilizer concentration is achieved said achieved chlorine stabilizer concentration is maintained in said water constant. A chlorine disinfectant concentration is adjusted in said water to be treated to a predetermined chlorine disinfectant concentration in said water by dosing a non-stabilized chlorine disinfectant (free chlorine) into said water to be treated. Therefore advantages of free chlorine and stabilized chlorine disinfection and facilitating to reduce DBPs at low chlorine stabilizer concentrations in water can be combined, without compromising disinfection safety.

Classifications:
International (IPC 8-9): C02F1/00 C02F1/32 C02F1/66 C02F1/68 C02F1/76 C02F101/12 C02F101/36 C02F103/42 E04H4/12 (Advanced/Invention); C02F1/32 C02F1/66 C02F101/12 C02F101/36 C02F103/42 (Advanced/Non-invention)
CPC: E04H4/1209 C02F1/008 C02F1/32 C02F1/66 C02F1/68 C02F1/76 C02F2101/12 C02F2101/36 C02F2103/42 C02F2209/001 C02F2209/003 C02F2209/006 C02F2209/29 C02F2209/40 C02F2209/44 C02F2301/043 C02F2301/046 C02F2303/04 C02F2303/185 E04H4/1281
US: 1/1 210/739 210/754 210/756 210/96.1



Family:

Publication number	Publication date	Application number	Application date
DE602011013105 D1	20150226	DE201160013105T	20111129
EP2599752 A1	20130605	EP20110191164	20111129
EP2599752 B1	20150114	EP20110191164	20111129
US2013134104 AA	20130530	US20120688403	20121129
US9279264 BB	20160308	US20120688403	20121129

Priority:
EP20110191164 20111129

Probable Assignee: EVOQUA WATER TECHNOLOGIES GMBH
Assignee(s): (std): EVOQUA WATER TECHNOLOGIES GMBH ; SIEMENS AG
Assignee(s): SIEMENS AKTIENGESELLSCHAFT ; SIEMENS WATER TECHNOLOGIES GMBH
Inventor(s): (std): FORSTMEIER DIETER ; SICHEL COSIMA ; STEIN JOHANNES
Agent(s): MURGITROYD AND CO; BOERNER ROBERT
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
EP2599752 A1	20130605	LSPB	+	published / reissued	
EP2599752 A1	20130731	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130620
EP2599752 A1	20131113	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20131010
EP2599752 A1	20140618	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : EVOQUA WATER TECHNOLOGIES GMBH
EP2599752 A1	20140702	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 103/42 20060101ALN20140526BHEP
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EP2599752 A1	20141217	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20141121
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EP2599752 A1	20150211	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2599752 A1	20150215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 706944 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150215
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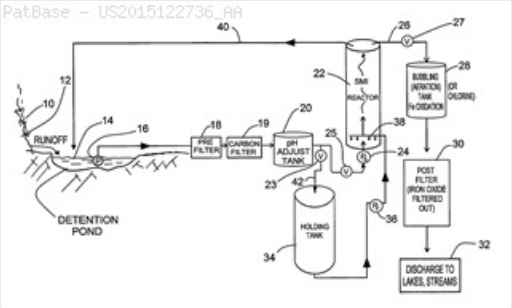
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EP2599752 B1	20150114	LSGT	+	granted / extensions (spc, cpc, pte)	
US2013134104 AA	20130530	LSPB	+	published / reissued	
US2013134104 AA	20130508	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS AKTIENGESELLSCHAFT, GERMANY DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FORSTMEIER, DIETER; SICHEL, COSIMA; STEIN, JOHANNES; SIGNING DATES FROM 20130201 TO 20130205; REEL/FRAME:030378/0058
US2013134104 AA	20140218	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS WATER TECHNOLOGIES GMBH, GERMANY DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SIEMENS AKTIENGESELLSCHAFT; REEL/FRAME:032237/0827 EFFECTIVE DATE : 20140107
US2013134104 AA	20140409	LSAS	AS	ASSIGNMENT	OWNER NAME : EVOQUA WATER TECHNOLOGIES GMBH, GERMANY DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SIEMENS WATER TECHNOLOGIES GMBH; REEL/FRAME:032642/0077 EFFECTIVE DATE : 20140205
US9279264 BB	20160308	LSGT	+	granted / extensions (spc, cpc, pte)	

26) Family number: 59134958 (US2015122736A)

Title: REMOVAL OF SELENIUM FROM COAL MINING RUNOFF WATER

Abstract: Source: US2015122736A Overburden from surface coal mining in many regions can produce a rain runoff laden with selenium, in the selenate form. This occurs from exposed selenium-containing rocks in the overburden, from which selenate is leached out by the nearly-pure rainwater. The selenium-containing runoff water is caught in ponds. Remediation of the pond water to remove selenate down to permissible levels for discharge to lakes and streams is performed by treatment with sulfur-modified iron (SMI) in a contact bed of an upflow reactor vessel. After a prefiltering step, the pond water is pH-adjusted as needed and pumped through the SMI reactor. The treated water can then be run through an oxidation tank and filtered to remove iron. For extending effectiveness and life of the SMI the contact bed is periodically "fluffed" with a high-velocity upflow of water through the bed, expanding and loosening the contact bed to prevent or break up compacting of the SMI medium.

Classifications:
International (IPC 8-9): B01D61/00 B01D61/02 B01D67/00 C02F1/00 C02F1/28 C02F1/52 C02F1/66 C02F9/00 C02F9/04 (Advanced/Invention);
C02F1/00 C02F1/28 C02F1/52 C02F1/66 C02F1/74 C02F1/76 C02F101/10 C02F103/00 C02F103/10 (Advanced/Non-invention)
CPC: C02F9/00 C02F1/008 C02F1/281 C02F1/283 C02F1/001 C02F1/5245 C02F1/66 C02F1/74 C02F1/76 C02F2101/106 C02F2103/001 C02F2103/10 C02F2209/001 C02F2209/06 C02F2303/24 B01D61/025 B01D67/0011
US: 1/1 210/662 210/684 210/96.1



Family:

Publication number	Publication date	Application number	Application date
CA2880137 AA	20150731	CA20152880137	20150127
US2015122736 AA	20150507	US20140170472	20140131
US9272934 BB	20160301	US20140170472	20140131
US9427706 BA	20160830	US20160058090	20160301

Priority:

US20120555620 20120723 US20130759039P 20130131 US20140170472 20140131 US20160058090 20160301

Probable Assignee: SANTINA PETER F
Assignee(s): (std): SANTINA PETER F
Inventor(s): (std): SANTINA PETER F
Agent(s): FINLAYSON AND SINGLEHURST; THOMAS M

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2880137 AA	20150731	LSPB	+	published / reissued	
US2015122736 AA	20150507	LSPB	+	published / reissued	
US9272934 BB	20160301	LSGT	+	granted / extensions (spc, cpc, pte)	
US9427706 BA	20160830	LSGT	+	granted / extensions (spc, cpc, pte)	

27) Family number: 41618993 (US2008067131A)

Title: MOBILE SYSTEM AND METHOD FOR MINERAL HARDNESS MANAGEMENT

Abstract: Source: US2008067131A The disclosed systems and methods for maintenance of an enclosed body of water generally include mobile systems and/or methods for removal of mineral hardness and other particulate impurities via lime softening filtration. Chemicals are added to a body of water containing unwanted mineral hardness (or other particulate impurities) and mixed to assist dispersion. The chemicals react with the hardness minerals making them insoluble. The resulting precipitate falls out of solution to the bottom of the body of water for subsequent removal via filtration. This eliminates or otherwise reduces the need for draining water and/or adding new water to a body of water to maintain proper mineral hardness balance and/or concentration of other particulate impurities.

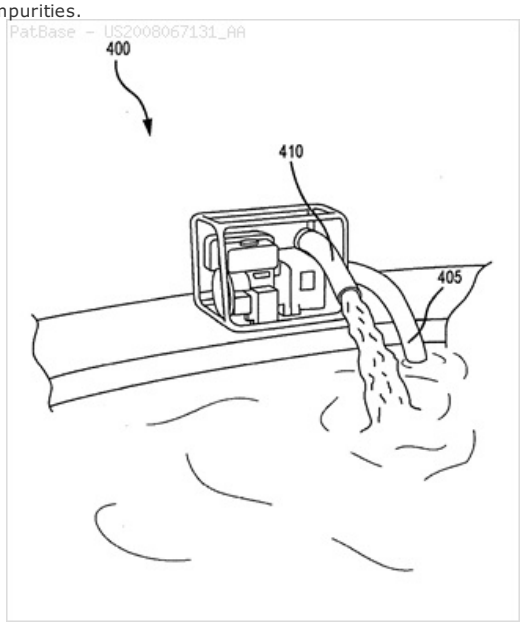
Classifications:

International (IPC 8-9): B01D21/30 B01D29/00 B01J49/00 C02F1/00 C02F1/42 C02F1/52 C02F1/56 C02F1/58 C02F103/42 C02F5/02 (Advanced/Invention);
C02F1/00 C02F1/56 C02F1/66 C02F103/42 C02F5/10 C02F9/00 (Advanced/Non-invention);
B01D21/30 C02F1/00 C02F1/52 (Core/Invention)

CPC: B01J49/0008 C02F1/001 C02F1/5245 C02F1/56 C02F1/66 C02F5/10 C02F9/00 C02F2103/42 C02F2201/008 C02F2209/03 C02F2209/055 C02F2209/06 C02F2301/046 C02F2303/16 Y02W10/37 C02F1/5236 B01J49/06 B01J49/53

European: B01J49/00B2 B01J49/00M2 C02F1/52F2 M02F1/00D M02F1/56 M02F1/66 M02F103/42 M02F201/00M M02F209/03 M02F209/055 M02F209/06 M02F301/04D M02F303/16 M02F5/10 M02F9/00

US: 1/1 134/103.1 134/109 134/109S 134/110 134/110S 134/111 134/95.1 134/95.100S 210/137 210/137S 210/167.11 210/167.12 210/167.3 210/167.300S 210/196 210/199 210/205 210/205S 210/206 210/241 210/258 210/670 210/675 210/676 210/677 210/716 210/723 210/723S 210/724 210/724S 210/725 210/728 210/728S 210/732 210/732S 210/738 210/738S 210/85 210/85S 210/96.1 502/25 502/25P



Family:

Publication number	Publication date	Application number	Application date
US2008067131 AA	20080320	US20070778265	20070716
US2011077144 AA	20110331	US20100889350	20100923
US2012037569 AA	20120216	US20110211286	20110816
US2014196753 AA	20140717	US20130046958	20131005
US8017001 BB	20110913	US20070778265	20070716
US8585906 BB	20131119	US20100889350	20100923
US9186665 BB	20151117	US20130046958	20131005

Priority:

US20060807369P 20060714 US20070778265 20070716 US20100305945P 20100218
US20100889350 20100923 US20110211286 20110816 US20130046958 20131005

Probable Assignee: RAYNE DEALERSHIP CORP

Assignee(s): (std): DOLE ERIC JOHN ; JESSEN H MARTIN ; MORGAN DAVID ; RAYNE DEALERSHIP CORP

Assignee(s): CALSAWAY POOL SERVICES INC ; COMERICA BANK ; DM INNOVATIONS LLC ; ONEWEST BANK FSB

Inventor(s): (std): DOLE ERIC JOHN ; JESSEN H MARTIN ; MORGAN DAVID

Agent(s): NOBLITT AND GILMORE LLC; JANAH AND ASSOCIATES PC; ASHOK K

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2008067131 AA	20080320	LSPB	+	published / reissued	
US2008067131 AA	20071008	LSAS	AS	ASSIGNMENT	OWNER NAME : DM INNOVATIONS, LLC, ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MORGAN, DAVID; REEL/FRAME:019928/0951 EFFECTIVE DATE : 20070917
US2008067131 AA	20100107	LSAS	AS	ASSIGNMENT	OWNER NAME : CALSAWAY POOL SERVICES, INC., ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DM INNOVATIONS, LLC; REEL/FRAME:023753/0309 EFFECTIVE DATE : 20091214
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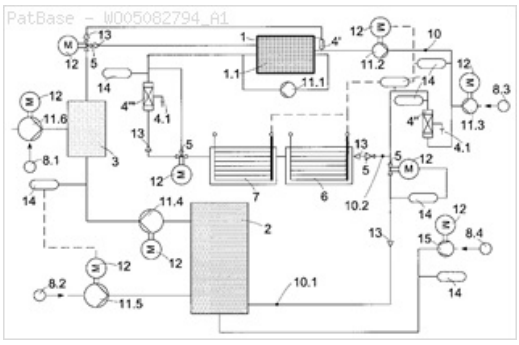
					ASSIGNOR:CALSAWAY POOL SERVICES, INC.; REEL/FRAME:023753/0301 EFFECTIVE DATE : 20091214
US2011077144 AA	20110331	LSPB	+	published / reissued	
US2011077144 AA	20110628	LSAS	AS	ASSIGNMENT	OWNER NAME : ONEWEST BANK, FSB, CALIFORNIA DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:RAYNE CORPORATION; RAYNE DEALERSHIP CORPORATION; RAYNE - SAN DIEGO, INC.; AND OTHERS; REEL/FRAME:026514/0851 EFFECTIVE DATE : 20110624
US2011077144 AA	20131001	LSAS	AS	ASSIGNMENT	OWNER NAME : RAYNE DEALERSHIP CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JESSEN, H. MARTIN; DOLE, ERIC JOHN; MORGAN, DAVID; SIGNING DATES FROM 20101001 TO 20101015; REEL/FRAME:031320/0550
US2012037569 AA	20120216	LSPB	+	published / reissued	
US2012037569 AA	20121030	LSAS	AS	ASSIGNMENT	OWNER NAME : CALSAWAY POOL SERVICES, INC., ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DM INNOVATIONS, LLC; REEL/FRAME:029212/0037 EFFECTIVE DATE : 20091214
US2012037569 AA	20121030	LSAS	AS	ASSIGNMENT	OWNER NAME : DM INNOVATIONS, LLC, ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MORGAN, DAVID; REEL/FRAME:029216/0991 EFFECTIVE DATE : 20070917
US2012037569 AA	20121030	LSAS	AS	ASSIGNMENT	OWNER NAME : RAYNE DEALERSHIP CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CALSAWAY POOL SERVICES, INC.; REEL/FRAME:029212/0202 EFFECTIVE DATE : 20091214
US2014196753 AA	20140717	LSPB	+	published / reissued	
US2014196753 AA	20131005	LSAS	AS	ASSIGNMENT	OWNER NAME : RAYNE DEALERSHIP CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JESSEN, H. MARTIN; DOLE, ERIC JOHN; MORGAN, DAVID; SIGNING DATES FROM 20101001 TO 20101015; REEL/FRAME:031353/0057
US8017001 BB	20110913	LSGT	+	granted / extensions (spc, cpc, pte)	
US8017001 BB	20071008	LSAS	AS	ASSIGNMENT	OWNER NAME : DM INNOVATIONS, LLC, ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MORGAN, DAVID; REEL/FRAME:019928/0951 EFFECTIVE DATE : 20070917
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US8017001 BB	20150225	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8017001 BB	20160518	LSAS	AS	ASSIGNMENT	OWNER NAME : COMERICA BANK, CALIFORNIA DESCRIPTION : SECURITY INTEREST;

					ASSIGNOR:RAYNE DEALERSHIP CORPORATION; REEL/FRAME:038637/0381 EFFECTIVE DATE : 20160513
US8585906 BB	20131119	LSGT	+	granted / extensions (spc, cpc, pte)	
US8585906 BB	20110628	LSAS	AS	ASSIGNMENT	OWNER NAME : ONEWEST BANK, FSB, CALIFORNIA DESCRIPTION : SECURITY AGREEMENT; ASSIGNORS:RAYNE CORPORATION; RAYNE DEALERSHIP CORPORATION; RAYNE - SAN DIEGO, INC.; AND OTHERS; REEL/FRAME:026514/0851 EFFECTIVE DATE : 20110624
US8585906 BB	20131001	LSAS	AS	ASSIGNMENT	OWNER NAME : RAYNE DEALERSHIP CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JESSEN, H. MARTIN; DOLE, ERIC JOHN; MORGAN, DAVID; SIGNING DATES FROM 20101001 TO 20101015; REEL/FRAME:031320/0550
US8585906 BB	20160518	LSAS	AS	ASSIGNMENT	OWNER NAME : COMERICA BANK, CALIFORNIA DESCRIPTION : SECURITY INTEREST; ASSIGNOR:RAYNE DEALERSHIP CORPORATION; REEL/FRAME:038637/0381 EFFECTIVE DATE : 20160513
US9186665 BB	20151117	LSGT	+	granted / extensions (spc, cpc, pte)	
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28) Family number: 32222966 (WO05082794A1)

Title: METHOD FOR TREATING WATER FROM DISPLACEMENT AND THERAPY BASINS

Abstract: The invention relates to a method for treating water from displacement and therapy basins for humans and animals, whereby continuously high cleaning power can be achieved when the displacement and therapy basins, which are used only temporarily in parts, have alternating degrees of water contamination. According to the method, the basin water (1.1) is treated in a circuit having several purification steps. Said method consists of the following steps: filtering a suctioned contaminated water basin total volume flow (10) by means of a filter (4'), optionally, adding a flocculation agent (8.3) to the water basin total volume flow (10) and subsequently filtering the undisolved suspended matter by means of a filter (4), separating the suctioned water basin volume flow (10) in a first water basin partial volume flow (10.1), which is to be treated biotechnologically, and in a second water basin partial volume flow (10.2), which is to be treated physically, and guiding the first water basin partial volume flow (10.1) and the second water basin partial volume flow (10.2), which are to be purified again, to the displacement and therapy basin (1).



Classifications:
International (IPC 8-9): C02F103/42 C02F9/00
C02F9/14 (Advanced/Invention);
C02F1/00 C02F1/32 C02F1/36 C02F1/56 C02F1/72 C02F103/42 C02F3/12 C02F3/30 C02F3/34 (Advanced/Non-invention);
C02F9/00 C02F9/14 (Core/Invention);
C02F1/00 C02F1/32 C02F1/34 C02F1/54 C02F1/72 C02F3/12 C02F3/30 C02F3/34 (Core/Non-invention)
International (IPC 1-7): C02F1/32 C02F1/36 C02F1/72 C02F1/74 C02F103/42 C02F9/02 C02F9/12 C02F9/14
CPC: Y02W10/15 C02F9/00 C02F1/001 C02F1/32 C02F1/36 C02F1/56 C02F1/722 C02F3/12 C02F3/30 C02F3/308 C02F3/348 C02F2103/42 C02F2209/06 C02F2209/08 C02F2209/11 C02F2301/043 C02F2303/24
European: C02F9/00 M02F1/00D M02F1/32 M02F1/36 M02F1/56 M02F1/72C M02F103/42 M02F209/06 M02F209/08 M02F209/11 M02F3/12 M02F3/30 M02F3/30F M02F3/34Z M02F301/04B M02F303/24

Family:

Publication number	Publication date	Application number	Application date
AT392395 E	20080515	AT20050733703T	20050224
DE102004010188 A1	20050915	DE200410010188	20040226
DE502005003739 D1	20080529	DE200550003739T	20050224
EP1727770 A1	20061206	EP20050733703	20050224
EP1727770 B1	20080416	EP20050733703	20050224
WO05082794 A1	20050909	WO2005DE00340	20050224

Priority:

DE200410010188 20040226 WO2005DE00340 20050224

Probable Assignee: TECH ZENTRUM ENTWICKLUNGS AND HA

Assignee(s): (std): KLUG BERNHARD ; LOETTEL EYK ; LOETTEL WOLFGANG ; SAUNUS CHRISTOPH ; TECH ZENTRUM ENTWICKLUNGS AND HA ; WORSCHECH MANFRED ; FITZNER WIGAND

Assignee(s): HANDELSGMBH ; TECHNISCHES ZENTRUM ENTWICKLUNGS AND HANDELSGMBH ; TECHNISCHES ZENTRUM ENTWICKLUNGS AMP AMP ; TECHNISCHES ZENTRUM ENTWICKLUNGS AND HANDELSGESELLSCHAFT MBH ; TECHNISCHES ZENTRUM ENTWICKLUNGS AND ; TECHNISCHES ZENTRUM ENTWICKLUNGS AND HANDELSGESELL

Inventor(s): (std): FITZNER WIGAND ; KLUG BERNHARD ; KOEHLER LOTHAR ; LOETTEL EYK ; LOETTEL WOLFGANG ; SAUNUS CHRISTOPH ; WORSCHECH MANFRED

Agent(s): HEYNER KLAUS

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT392395 E	20080515	LSGT	+	granted / extensions (spc, cpc, pte)	
DE102004010188 A1	20050915	LSPB	+	published / reissued	
DE102004010188 A1	20050915	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE102004010188 A1	20060223	LSWD	-8130	WITHDRAWAL	
DE502005003739 D1	20090507	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
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EP1727770 A1	20061206	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060825
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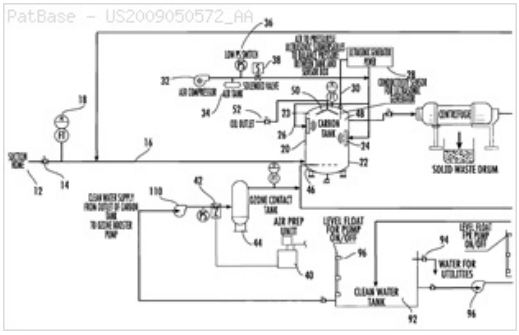
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WO05082794 A1	20060825	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005733703 COUNTRY OF REF DOCUMENT : EP
WO05082794 A1	20061206	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005733703 COUNTRY OF REF DOCUMENT : EP
WO05082794 A1	20080416	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005733703 COUNTRY OF REF DOCUMENT : EP

29) Family number: 42972025 (US2009050572A)

Title: ENHANCED WATER TREATMENT FOR RECLAMATION OF WASTE FLUIDS AND INCREASED EFFICIENCY TREATMENT OF POTABLE WATERS

Abstract: Source: US2009050572A Disclosed is a process for reclamation of waste fluids. A conditioning container is employed for receipt of waste material on a continuous flow for treatment within the container by immersible transducers producing ultrasonic acoustic waves in combination with a high level of injected ozone. The treated material exhibits superior separation properties for delivery into a centrifuge for enhanced solid waste removal. The invention discloses a cost efficient and environmentally friendly process and apparatus for cleaning and recycling of flowback, or frac water, which has been used to stimulate gas production from shale formations. The apparatus is mobile and containerized and suitable for installation at the well site.



Classifications:

International (IPC 8-9): C02F1/02 C02F1/24 C02F1/32 C02F1/34 C02F1/36 C02F1/40 C02F1/44 C02F1/461 C02F1/463 C02F1/467 C02F1/48 C02F1/52 C02F1/66 C02F1/68 C02F1/78 C02F101/20 C02F101/30 C02F5/02 C02F9/00 C02F9/04 C02F9/06 C02F9/08 C02F9/12 E21B43/00 E21B43/26 (Advanced/Invention); C02F1/28 C02F1/32 C02F1/34 C02F1/36 C02F1/38 C02F1/40 C02F1/44 C02F1/46 C02F1/461 C02F1/463 C02F1/467 C02F1/52 C02F1/78 C02F101/20 C02F101/30 C02F101/32 C02F101/34 C02F103/00 C02F103/06 C02F103/36 (Advanced/Non-invention); C02F1/32 C02F1/34 C02F1/40 C02F1/44 C02F1/463 C02F1/68 C02F1/78 C02F9/00 C02F9/08 (Core/Invention)

CPC: C01B11/062 C01B13/02 C01B13/10 C01B15/01 C02F1/006 C02F1/24 C02F1/727 C02F2101/32 C02F2103/06 E21B43/0122 C02F1/008 C02F1/004 C02F1/38 C02F2103/10 C02F2209/05 C02F2209/42 C02F2301/08 C02F2001/46157 C02F2201/002 C02F2201/46165 C02F2201/782 C02F2201/784 C02F2301/024 C02F2301/066 C02F2303/14 C02F2303/26 C02F2305/023 C02F2305/026 C02F2305/08 C02F2001/46142 E21B43/26 C02F2101/345 C02F2103/007 C02F2203/008 C02F1/34 C02F1/461 C02F2101/30 C02F2201/009 B01F3/04503 B01F5/0415 B01F5/0428 B01F5/0619 B01F13/0037 B01F13/1022 B01F2003/04886 C02F1/36 C02F1/463 C02F1/48 C02F1/52 C02F5/02 C02F2001/46152 C02F2001/46171 C02F2103/365 C02F2303/04 C02F2303/22 C02F1/283 C02F1/32 C02F1/385 C02F1/40 C02F1/441 C02F1/444 C02F1/4602 C02F1/4672 C02F1/5236 C02F9/00 C02F2001/46119 C02F2101/20 C02F2201/008 C02F2201/4617 C02F2303/16 C02F1/46104 C02F1/78

European: C01B11/06A C01B13/02 C01B13/10 C01B15/01 C02F1/00D6 C02F1/00T C02F1/24 C02F1/28D C02F1/34 C02F1/36 C02F1/38 C02F1/467B C02F1/78 C02F9/00 E21B43/01M M02F1/00R M02F1/24 M02F1/28D M02F1/32 M02F1/34 M02F1/36 M02F1/38B M02F1/40 M02F1/44B M02F1/44D M02F1/461 M02F1/461B2D M02F1/461B2J2B M02F1/461B2L M02F1/461B2L2 M02F1/463 M02F1/467B M02F1/46C M02F1/52F M02F1/72S M02F1/78 M02F101/20 M02F101/32 M02F103/00H M02F103/06 M02F103/10 M02F103/36P M02F201/00D M02F201/00M M02F201/00P M02F201/461B10B M02F201/461B10D M02F201/782 M02F201/784 M02F209/05 M02F209/42 M02F301/02D M02F301/06D M02F301/08 M02F303/04 M02F303/14 M02F303/16 M02F303/22 M02F303/26 M02F305/02B M02F305/02D M02F305/08 M02F9/00

US: 1/1 166/267 166/267S 166/308.1 166/90.1 166/90.100S 204/572 204/660 204/660S 204/665 204/665S 204/667 210/150 210/150S 210/151 210/151P 210/151S 210/153 210/170.09 210/171 210/171S 210/177 210/177S 210/190 210/190S 210/198.1 210/198.100S 210/199 210/199S 210/200 210/205 210/205S 210/206 210/206S 210/209 210/243 210/638 210/638P 210/660 210/665 210/665S 210/668 210/668S 210/669 210/702 210/702S 210/706 210/721 210/747 210/747.1 210/747.100P 210/748 210/748.01 210/748.02 210/748.020P 210/748.03 210/748.04 210/748.040S 210/748.1 210/748.100S 210/748.16 210/748.160S 210/749 210/760 36/660 422/127 422/128 422/186 422/20 422/22 422/24 422/27 422/43

Family:

Publication number	Publication date	Application number	Application date
US2009050572 AA	20090226	US20080184716	20080801
US2009230059 AA	20090917	US20090399481	20090306
US2010193360 AA	20100805	US20100762949	20100419
US2010193448 AA	20100805	US20100762931	20100419
US2010224495 AA	20100909	US20100720456	20100309
US2010320147 AA	20101223	US20100765971	20100423
US2011186526 AA	20110804	US20110019113	20110201
US2011233143 AA	20110929	US20110100023	20110503
US2012018386 AA	20120126	US20110157143	20110609
US2012205301 AA	20120816	US20120450172	20120418
US2013248456 AA	20130926	US20120707227	20121206
US2013327720 AA	20131212	US20120493634	20120611
US2014048466 AA	20140220	US20130973537	20130822
US2014290957 AA	20141002	US20140252900	20140415
US2015291454 AA	20151015	US20150691385	20150420
US7699988 BB	20100420	US20090399481	20090306
US7699994 BB	20100420	US20080184716	20080801
US7785470 BB	20100831	US20100762949	20100419
US7943087 BB	20110517	US20100762931	20100419
US8318027 BB	20121127	US20110100023	20110503
US8721898 BB	20140513	US20100765971	20100423
US8906242 BB	20141209	US20110019113	20110201
US8968577 BB	20150303	US20120493634	20120611
US8999154 BB	20150407	US20130973537	20130822
US9034180 BB	20150519	US20140252900	20140415
US9169146 BB	20151027	US20120707227	20121206
US9266752 BB	20160223	US20150691385	20150420
WO09032455 A1	20090312	WO2008US71950	20080801
WO12170891 A1	20121213	WO2012US41665	20120608
WO12171006 A1	20121213	WO2012US41904	20120611
WO14089310 A1	20140612	WO2013US73344	20131205

Priority:

US20070953584P 20070802 US20080184716 20080801 US20090399481 20090306
US20100762931 20100419 US20100720456 20100309 US20100353041P 20100609
US20100762949 20100419 US20100765971 20100423 US20110019113 20110201
US20110100023 20110503 US20110495237P 20110609 US20110157143 20110609

US20120450172 20120418 US20120493634 20120611 US20120707227 20121206
US20130973537 20130822 US20140252900 20140415 US20150691385 20150420

Probable Assignee: ECOSPHERE TECHNOLOGIES INC

Assignee(s): (std): ECOSPHERE TECHNOLOGIES INC ; JAKHETE SANJEEV ; MCGUIRE DENNIS

Assignee(s): BRISBEN WATER SOLOUTIONS LLC ; BRISBEN WATER SOLTIONS LLC ; BRISBEN WATER SOLUTIONS LLC

Inventor(s): (std): JAKHETE SANJEEV ; MCGUIRE DENNIS

Agent(s): MCHALE AND SLAVIN PA; SLAVIN MICHAEL A ET AL; SLAVIN MICHAEL A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2009050572 AA	20090226	LSPB	+	published / reissued	
US2009230059 AA	20090917	LSPB	+	published / reissued	
US2010193360 AA	20100805	LSPB	+	published / reissued	
US2010193448 AA	20100805	LSPB	+	published / reissued	
US2010224495 AA	20100909	LSPB	+	published / reissued	
US2010320147 AA	20101223	LSPB	+	published / reissued	
US2011186526 AA	20110804	LSPB	+	published / reissued	
US2011233143 AA	20110929	LSPB	+	published / reissued	
US2012018386 AA	20120126	LSPB	+	published / reissued	
US2012018386 AA	20110610	LSAS	AS	ASSIGNMENT	OWNER NAME : ECOSPHERE TECHNOLOGIES, INC., FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; SIGNING DATES FROM 20110608 TO 20110609; REEL/FRAME:026422/0681
US2012205301 AA	20120816	LSPB	+	published / reissued	
US2012205301 AA	20120418	LSAS	AS	ASSIGNMENT	OWNER NAME : ECOSPHERE TECHNOLOGIES, INC., FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:028068/0255 EFFECTIVE DATE : 20110609
US2013248456 AA	20130926	LSPB	+	published / reissued	
US2013327720 AA	20131212	LSPB	+	published / reissued	
US2014048466 AA	20140220	LSPB	+	published / reissued	
US2014290957 AA	20141002	LSPB	+	published / reissued	
US2015291454 AA	20151015	LSPB	+	published / reissued	
US7699988 BB	20100420	LSGT	+	granted / extensions (spc, cpc, pte)	
US7699988 BB	20090713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:022946/0658 EFFECTIVE DATE : 20090306
US7699988 BB	20090713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

					OWNER : ECOSPHERE TECHNOLOGIES, INC.,FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:022946/0658 EFFECTIVE DATE : 20090306
US7699988 BB	20131008	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7699988 BB	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037543/0172 EFFECTIVE DATE : 20160118
US7699988 BB	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLOUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US7699988 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US7699988 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
US7699988 BB	20160914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:039724/0566 EFFECTIVE DATE : 20160912
US7699988 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
US7699988 BB	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:041459/0603 EFFECTIVE DATE : 20170228
US7699994 BB	20100420	LSGT	+	granted / extensions (spc, cpc, pte)	
US7699994 BB	20090128	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:022166/0327 EFFECTIVE DATE : 20070802
US7699994 BB	20090128	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC.,FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:022166/0327 EFFECTIVE DATE : 20070802

US7699994 BB	20131008	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7699994 BB	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037543/0172 EFFECTIVE DATE : 20160118
US7699994 BB	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLOUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US7699994 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US7699994 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
US7699994 BB	20160914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:039724/0566 EFFECTIVE DATE : 20160912
US7699994 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
US7699994 BB	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:041459/0603 EFFECTIVE DATE : 20170228
US7785470 BB	20100831	LSGT	+	granted / extensions (spc, cpc, pte)	
US7785470 BB	20100817	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:024846/0299 EFFECTIVE DATE : 20090306
US7785470 BB	20140305	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7785470 BB	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037543/0172 EFFECTIVE DATE : 20160118
US7785470 BB	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLOUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.;

					REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US7785470 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US7785470 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
US7785470 BB	20160914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:039724/0566 EFFECTIVE DATE : 20160912
US7785470 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
US7785470 BB	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:041459/0603 EFFECTIVE DATE : 20170228
US7943087 BB	20110517	LSGT	+	granted / extensions (spc, cpc, pte)	
US7943087 BB	20101115	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:025360/0748 EFFECTIVE DATE : 20070802
US7943087 BB	20141106	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7943087 BB	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037543/0172 EFFECTIVE DATE : 20160118
US7943087 BB	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLOUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US7943087 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US7943087 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE

					TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
US7943087 BB	20160914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:039724/0566 EFFECTIVE DATE : 20160912
US7943087 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
US7943087 BB	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:041459/0603 EFFECTIVE DATE : 20170228
US8318027 BB	20121127	LSGT	+	granted / extensions (spc, cpc, pte)	
US8318027 BB	20110503	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:026219/0223 EFFECTIVE DATE : 20070802
US8318027 BB	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037543/0172 EFFECTIVE DATE : 20160118
US8318027 BB	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLOUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US8318027 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US8318027 BB	20160527	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8318027 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
US8318027 BB	20160914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:039724/0566 EFFECTIVE DATE : 20160912
US8318027 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE

					TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
US8318027 BB	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:041459/0603 EFFECTIVE DATE : 20170228
US8721898 BB	20140513	LSGT	+	granted / extensions (spc, cpc, pte)	
US8721898 BB	20100423	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:024277/0687 EFFECTIVE DATE : 20100412
US8721898 BB	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037543/0172 EFFECTIVE DATE : 20160118
US8721898 BB	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLOUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US8721898 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US8721898 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
US8721898 BB	20160914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:039724/0566 EFFECTIVE DATE : 20160912
US8721898 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
US8721898 BB	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:041459/0603 EFFECTIVE DATE : 20170228
US8906242 BB	20141209	LSGT	+	granted / extensions (spc, cpc, pte)	
US8906242 BB	20110203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA

					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:025736/0650 EFFECTIVE DATE : 20110125
US8906242 BB	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037543/0172 EFFECTIVE DATE : 20160118
US8906242 BB	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLOUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US8906242 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US8906242 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
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US8968577 BB	20120611	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCGUIRE, DENNIS; JAKHETE, SANJEEV; REEL/FRAME:028354/0946 EFFECTIVE DATE : 20110609
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					TECHNOLOGIES, INC.; REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US8968577 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US8968577 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
US8968577 BB	20160914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:039724/0566 EFFECTIVE DATE : 20160912
US8968577 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
US8968577 BB	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:041459/0603 EFFECTIVE DATE : 20170228
US8999154 BB	20150407	LSGT	+	granted / extensions (spc, cpc, pte)	
US8999154 BB	20130822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MCGUIRE, DENNIS; REEL/FRAME:031064/0341 EFFECTIVE DATE : 20130819
US8999154 BB	20150512	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLTIONS LLC, FLORIDA OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:035636/0126 EFFECTIVE DATE : 20150508
US8999154 BB	20150515	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE NAME PREVIOUSLY RECORDED AT REEL: 035636 FRAME: 0126. ASSIGNOR(S) HEREBY CONFIRMS THE SECURITY AGREEMENT; ASSIGNOR:BRISBEN WATER SOLUTIONS LLC; REEL/FRAME:035675/0978 EFFECTIVE DATE : 20150508
US8999154 BB	20150604	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNOR NAME PREVIOUSLY RECORDED AT REEL: 035675 FRAME: 0978. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:035793/0208 EFFECTIVE DATE : 20150508

US8999154 BB	20150721	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:036139/0953 EFFECTIVE DATE : 20150508
US8999154 BB	20150817	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:036340/0110 EFFECTIVE DATE : 20150618
US8999154 BB	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037543/0172 EFFECTIVE DATE : 20160118
US8999154 BB	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLOUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US8999154 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US8999154 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
US8999154 BB	20160914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:039724/0566 EFFECTIVE DATE : 20160912
US8999154 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
US8999154 BB	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:041459/0603 EFFECTIVE DATE : 20170228
US9034180 BB	20150519	LSGT	+	granted / extensions (spc, cpc, pte)	
US9034180 BB	20140415	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MCGUIRE, DENNIS; REEL/FRAME:032673/0151 EFFECTIVE DATE : 20140414
US9034180 BB	20160121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST;

					ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037543/0172 EFFECTIVE DATE : 20160118
US9034180 BB	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLOUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US9034180 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US9034180 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
US9034180 BB	20160914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:039724/0566 EFFECTIVE DATE : 20160912
US9034180 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
US9034180 BB	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:041459/0603 EFFECTIVE DATE : 20170228
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US9169146 BB	20121206	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MCGUIRE, DENNIS; REEL/FRAME:029420/0905 EFFECTIVE DATE : 20121206
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US9169146 BB	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLOUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:037893/0204 EFFECTIVE DATE : 20160229
US9169146 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504

US9169146 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
US9169146 BB	20160914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:039724/0566 EFFECTIVE DATE : 20160912
US9169146 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
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US9266752 BB	20160223	LSGT	+	granted / extensions (spc, cpc, pte)	
US9266752 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ECOSPHERE TECHNOLOGIES, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MCGUIRE, DENNIS; REEL/FRAME:036000/0997 EFFECTIVE DATE : 20150526
US9266752 BB	20160505	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:038465/0139 EFFECTIVE DATE : 20160504
US9266752 BB	20160606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.'; REEL/FRAME:038818/0668 EFFECTIVE DATE : 20160602
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US9266752 BB	20161107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:040234/0673 EFFECTIVE DATE : 20161005
US9266752 BB	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BRISBEN WATER SOLUTIONS LLC, FLORIDA OLDPARTY : SECURITY INTEREST; ASSIGNOR:ECOSPHERE TECHNOLOGIES, INC.; REEL/FRAME:041459/0603 EFFECTIVE DATE : 20170228
WO09032455 A1	20090312	LSPB	+	published / reissued	

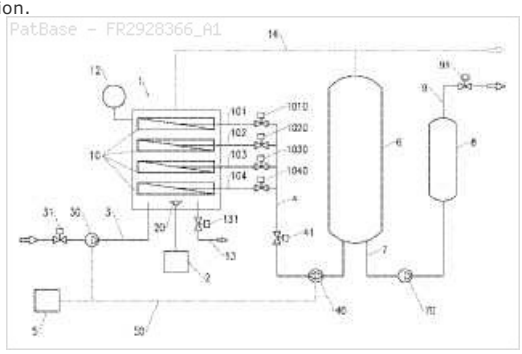
WO09032455 A1	20100203	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO12170891 A1	20121213	LSPB	+	published / reissued	
WO12170891 A1	20131209	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12170891 A1	20140702	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12737631 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1
WO12171006 A1	20121213	LSPB	+	published / reissued	
WO12171006 A1	20131209	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12171006 A1	20140702	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12743807 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1
WO14089310 A1	20140612	LSPB	+	published / reissued	
WO14089310 A1	20150608	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO14089310 A1	20151230	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 13815251 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

30) Family number: 43728241 (FR2928366A)

Title: INSTALLATION FOR TREATING POLLUTED WATER E.G. INDUSTRIAL WASTE WATER, COMPRISES SEALED FILTER REACTOR IN WHICH WATER CIRCULATES, WHERE THE REACTOR IS EQUIPPED WITH REMOVABLE MEMBRANES, OZONE GAS INJECTION UNIT AND INLET AND OUTLET PUMPS

Abstract: The installation comprises a sealed filter reactor (1) in which polluted water circulates. The reactor is equipped with removable membranes to be traversed by the polluted water for selectively separating the particles present in water, a unit (2) for injecting ozone gas within the reactor, an inlet pump arranged in upstream of the reactor for supplying polluted water from an inlet circuit (3) to inside of the reactor, and an outlet pump arranged in downstream of the reactor to evacuate purified water from the outlet of membranes towards an evacuation circuit (4). The installation comprises a sealed filter reactor (1) in which polluted water circulates. The reactor is equipped with removable membranes to be traversed by the polluted water for selectively separating the particles present in water, a unit (2) for injecting ozone gas within the reactor, an inlet pump arranged in upstream of the reactor for supplying polluted water from an inlet circuit (3) to inside of the reactor, and an outlet pump arranged in downstream of the reactor to evacuate purified water from the outlet of membranes towards an evacuation circuit (4). The inlet and outlet pumps are connected to a regulating device (5) to change their pumping speed so that the membranes work in negative pressure or positive pressure according to the used membranes. The reactor is configured to hold cylindrical ceramic membranes working under pressure and flat ceramic membranes working under depression. The membranes are mounted in a support that is fixed inside the reactor, and are organized by groups inside the reactor. The support comprises a specific housing to temporarily hold the cylindrical ceramic membranes and the flat ceramic membranes. Each group is present in the form of a module comprising many membranes. The shape of modules is identical regardless of the type of membranes used. The reactor has a rectangular shape or a cylindrical shape. The injection unit is a nozzle connected to an ozone generator and arranged inside the reactor so that the ozone bubbles formed are injected towards membrane walls. The outlet pump is arranged to evacuate the water purified in a membrane inlet towards a storage tank (6). A pump is arranged in downstream of the storage tank to bring the water stored in the tank towards an activated carbon filter. The outlet pump is reversible to supply the purified water to the membrane outlet and to perform a back-washing of the membranes. Sensors are arranged in the reactor for analyzing the quality of polluted water, and are equipped with the ozone gas injection unit to regulate the flow of injected ozone and periods of ozonation according to the analyzed water quality. The outlets of the membranes of a same group are connected to an evacuation duct equipped with a valve. The opening and closing operations of each valve are controlled independently to regulate the number of membranes to activate simultaneously. Independent claims are included for: (1) a movable unit for the treatment of polluted water; and (2) a process for functioning the water treatment installation.

Classifications:
International (IPC 8-9): C02F1/28 C02F1/44 C02F1/78 C02F9/02 (Advanced/Invention);
C02F1/28 C02F1/44 C02F1/78 C02F9/02 (Core/Invention)
CPC: B01D61/18 B01D2311/2661 B01D2313/26 B01D2315/08 B01D2319/04 C02F1/001 C02F1/008 C02F1/283 C02F1/32 C02F1/44 C02F1/52 C02F1/76 C02F1/78 C02F9/00 C02F2001/007 C02F2201/008 C02F2201/009 C02F2201/784 C02F2209/001 C02F2209/02 C02F2209/05 C02F2209/06 C02F2209/11 C02F2209/15 C02F2301/063 C02F2301/066 C02F2303/16
European: L01D311/26Q L01D313/26 L01D315/08 L01D319/04 M02F1/00D M02F1/00S M02F1/00T M02F1/28D M02F1/32 M02F1/52 M02F1/76 M02F201/00M M02F201/00P M02F201/784 M02F209/00B M02F209/02 M02F209/05 M02F209/06 M02F209/11 M02F209/15 M02F301/06B M02F301/06D M02F303/16 M02F9/00



Family:

Publication number	Publication date	Application number	Application date
FR2928366 A1	20090911	FR20080051531	20080310

Priority:

FR20080051531 20080310

Probable Assignee: VICHEM SOC PAR ACTIONS SIMPLIF
Assignee(s): (std): VICHEM SOC PAR ACTIONS SIMPLIF
Assignee(s): VICHEM SOC PAR ACTIONS SIMPLIFIEE ; VICHEM SOCIETE PAR ACTIONS SIMPLIFIEE ; VICHEM
Inventor(s): (std): MALUGANI GERARD ; SIRBA THIERRY
Inventor(s): THIERRY SIRBA ; GERARD MALUGANI
Agent(s): MICHEL ROMAN; CABINET ROMAN

Legal status (INPADOC)

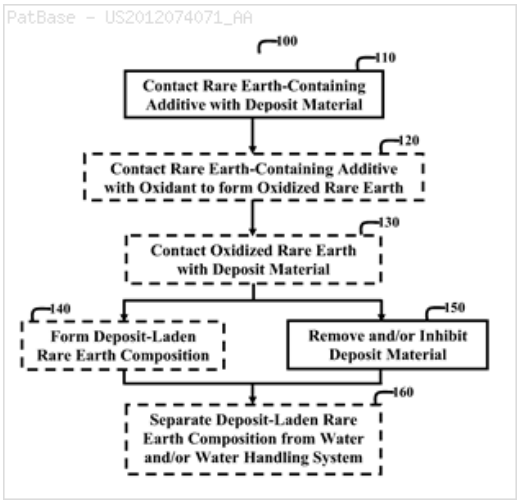
View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
FR2928366 A1	20090911	LSPB	+	published / reissued	
FR2928366 A1	20110527	LSLE	-ST	NOTIFICATION OF LAPSE	EFFECTIVE DATE : 20110422
FR2928366 A1	20110923	LSRE	RN	APPLICATION FOR RESTORATION	EFFECTIVE DATE : 20110519
FR2928366 A1	20121207	LSAS	TP	TRANSMISSION OF PROPERTY	OWNER NAME : VICHEM SA, CH EFFECTIVE DATE : 20121026
FR2928366 A1	20130614	LSAL	IC	DECISION OF THE DIRECTOR GENERAL TO DECLARE IRRECEIVABLE OR TO REJECT AN APPEAL	EFFECTIVE DATE : 20130513

31) Family number: 50830158 (US2012074071A)

Title: PROCESS FOR TREATING WATERS AND WATER HANDLING SYSTEMS TO REMOVE SCALES AND REDUCE THE SCALING TENDENCY

Abstract: Source: US2012074071A The present disclosure includes an embodiment to a method for treating water and/or a water handling system to decrease deposit formation and/or to remove a deposit. More particularly, to a method for treating water and/or a water handling system with one or more rare earths to decrease deposit formation and/or to remove a deposit. Struvite is an example of deposit material that can be removed and/or deposition inhibited by treating a water and/or water handling system with one or more earths.



Classifications:
International (IPC 8-9): A47K3/02 B01D15/04 B01D15/08 B01D17/00 B01D3/00 C01F17/00 C01G28/00 C02F1/00 C02F1/28 C02F1/42 C02F1/52 C02F1/58 C02F1/62 C02F1/68 C02F1/70 C02F1/72 C02F5/00 C02F5/08 C02F5/10 C02F5/12 C02F9/04 C09K3/00 C2F5/08 (Advanced/Invention);
B82Y99/00 C01F17/00 C02F1/00 C02F1/66 C02F1/70 C02F101/10 C02F101/12 C02F101/20 C02F101/30 C02F101/34 C02F101/36 C02F101/38 (Advanced/Non-invention)
CPC: C02F2101/101 C02F2101/12 C02F9/00 C02F2101/206 C02F2101/22 B01J20/0207 B01J20/0292 B01J20/06 B01J20/28004 B01J20/2803 B01J20/28057 B01J20/3007 B01J20/3035 B01J20/3078 B01J20/3204 B01J20/3236 B01J2220/56 C02F1/52 C02F2303/18 C02F2303/185 C02F5/105 B01J20/0281 B01J20/0288 B01J20/0296 C02F1/001 C02F1/02 C02F1/24 C02F1/283 C02F1/288 C02F1/302 C02F1/307 C02F1/32 C02F1/36 C02F1/38 C02F1/42 C02F1/441 C02F1/444 C02F1/467 C02F1/48 C02F1/50 C02F1/5245 C02F1/54 C02F1/683 C02F1/70 C02F1/722 C02F1/76 C02F1/78 C02F3/30 C02F2103/003 C02F2103/005 C02F2103/023 C02F2103/06 C02F2103/10 C02F2103/365 C02F2103/42 C02F2303/04 C02F2305/08 B01J20/0218 B01J20/024 B01J20/0251 B01J20/0259 B01J20/0277 B01J20/3085 B01J20/3202 B01J20/3433 B01J20/3441 B01J20/3483 C02F1/5236 C02F2101/105 C02F2103/20 C02F1/72 C02F1/281 C02F1/66 C02F1/705 C02F2001/007 C02F2101/103 C02F2101/20 C02F2303/16 Y02W10/37
European: C02F1/28B C02F1/52F C02F1/72 C02F5/10B M02F1/00D M02F1/02 M02F1/24 M02F1/28D M02F1/28L M02F1/30B M02F1/30G M02F1/32 M02F1/36 M02F1/38 M02F1/42 M02F1/44B M02F1/44D M02F1/467 M02F1/48 M02F1/50 M02F1/52F M02F1/52F2 M02F1/54 M02F1/66 M02F1/68K M02F1/70 M02F1/72 M02F1/72C M02F1/76 M02F1/78 M02F101/10B M02F101/10C M02F101/20 M02F103/00D M02F103/00E M02F103/02B M02F103/06 M02F103/10 M02F103/20 M02F103/36P M02F103/42 M02F3/30 M02F303/04 M02F303/16 M02F303/18 M02F303/18B M02F305/08
US: 1/1 210/209 210/209S 210/263 210/660 210/660S 210/665 210/668 210/669 210/681 210/681S 210/683 210/684 210/685 210/691 210/702 210/717 210/749 210/749S 210/763 210/767 252/175 252/175S 252/182.3 252/182.35 252/183.13 252/183.130P 252/183.14 252/183.140S 252/184 252/184S 4/538 423/253 423/263 423/263S 977/773 977/773S 977/902 977/902S

Family:

Publication number	Publication date	Application number	Application date
AU2011305160 AA	20120329	AU20110305160	20110923
AU2012243138 AA	20121018	AU20120243138	20120328
AU2012243138 BB	20160204	AU20120243138	20120328
CA2812311 AA	20130321	CA20112812311	20110923
CA2832908 AA	20131010	CA20122832908	20120328
CN103596886 A	20140219	CN201280029348	20120328
EP2619148 A2	20130731	EP20110827669	20110923
EP2619148 A4	20140402	EP20110827669	20110923
EP2697174 A1	20140219	EP20120771706	20120328
EP2697174 A4	20150902	EP20120771706	20120328
JP2013540049 T2	20131031	JP20130530378T	20110923
JP2014518538 T2	20140731	JP20140505164T	20120328
KR20140022416 A	20140224	KR20137029943	20120328
MX2013011949 A1	20140605	MX20130011949	20120328
US2012074071 AA	20120329	US20110244092	20110923
US2012103909 AA	20120503	US20110244117	20110923
US2012187047 AA	20120726	US20120356581	20120123
US2012187337 AA	20120726	US20120356574	20120123
US2012223022 AA	20120906	US20120410081	20120301
US2012261345 AA	20121018	US20120432987	20120328
US2012261347 AA	20121018	US20120433097	20120328
US2012261611 AA	20121018	US20120432895	20120328
US9233863 BB	20160112	US20120432987	20120328
WO12040650 A2	20120329	WO2011US53131	20110923
WO12040650 A3	20120628	WO2011US53131	20110923
WO12040652 A2	20120329	WO2011US53134	20110923
WO12040652 A3	20120607	WO2011US53134	20110923
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WO12118986 A1	20120907	WO2012US27308	20120301
WO12141895 A2	20121018	WO2012US30974	20120328
WO12141895 A3	20130613	WO2012US30974	20120328
WO12141896 A1	20121018	WO2012US30976	20120328
WO12141897 A2	20121018	WO2012US30991	20120328
WO12141897 A3	20140501	WO2012US30991	20120328

Priority:

US20100385880P 20100923 US20100386407P 20100924 US20100392804P 20101013
US20100412272P 20101110 US20100419630P 20101203 US20110244092 20110923
US20110453446P 20110316 US20110448021P 20110301 US20110445915P 20110223

US20110439741P 20110204	US20110436127P 20110125	US20110435663P 20110124
US20110435060P 20110121	US20110244117 20110923	US20110475155P 20110413
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US20110553809P 20111031	US20110558887P 20111111	US20110538634P 20110923
US20120410081 20120301	US20110564132P 20111128	US20110484919P 20110511
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US20120614427P 20120322	US20120614418P 20120322	US20120613883P 20120321
US20120613857P 20120321	US20120432987 20120328	US20120596851P 20120209
US20120433097 20120328	WO2011US53131 20110923	WO2012US30976 20120328

Probable Assignee: SECURE NATURAL RESOURCES LLC

Assignee(s): (std): BURBA JOHN ; CABLE ROBERT ; HASSLER CARL ; MOLYCORP MINERALS LLC

Assignee(s): WELLS FARGO BANK NATIONAL ASSOCIATION COLLATERAL A ; WELLS FARGO BANK NATIONAL ASSOCIATION COLLATERAL AGENT AS ; MOLYCORP MINERALS LLC1000 - 5619 DENVER TECH CENTER PKWYGREENWOOD VILLAGECO80111US ; SECURE NATURAL RESOURCES LLC

Inventor(s): (std): BURBA JOHN ; CABLE ROBERT ; HASSLER CARL

Inventor(s): HASSLER CARLUS ; JOHN BURBA ; ROBERT CABLE ; CABLE ROBERTUS ; CARL HASSLER ; BURBA JOHNUS

Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; BURNET DUCKWORTH AND PALMER LLP; HANNKE CHRISTIAN; STIEBE LARS MAGNUS; ONDA MAKOTO; ONDA HIRONORI; SHERIDAN ROSS PC; INCORVIA MICHAEL J; INCORVIA MICHAEL J ET AL; SWARTZ DOUGLAS W 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 LI 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 RW 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2011305160 AA	20120329	LSPB	+	published / reissued	
AU2011305160 AA	20150924	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU2012243138 AA	20121018	LSPB	+	published / reissued	
AU2012243138 AA	20160602	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012243138 BB	20160204	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2812311 AA	20130321	LSPB	+	published / reissued	
CA2812311 AA	20151118	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20150923
CA2832908 AA	20131010	LSPB	+	published / reissued	
CN103596886 A	20140219	LSPB	+	published / reissued	
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EP2619148 A2	20130731	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130412
EP2619148 A2	20140402	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20140304
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EP2619148 A2	20140402	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/52 20060101ALI20140226BHEP
EP2619148 A2	20140402	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 5/10 20060101ALI20140226BHEP
EP2619148 A2	20140402	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/28 20060101ALI20140226BHEP
EP2619148 A2	20140402	LSRE	RIC1	CLASSIFICATION	IPC : C02F 101/10

				(CORRECTION)	20060101ALN20140226BHEP
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EP2697174 A1	20150617	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 5/08 20060101AFI20150508BHEP
EP2697174 A1	20150902	LSES	+RA4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20150730
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JP2014518538 T2	20150326	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150326
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JP2014518538 T2	20160210	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160209
JP2014518538 T2	20160808	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160808
JP2014518538 T2	20161004	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20161004
KR20140022416 A	20140224	LSPB	+	published / reissued	
KR20140022416 A	20161121	LSES	A201	REQUEST FOR EXAMINATION	
MX2013011949 A1	20140605	LSPB	+	published / reissued	
US2012074071 AA	20120329	LSPB	+	published / reissued	
US2012074071 AA	20111024	LSAS	AS	ASSIGNMENT	OWNER NAME : MOLYCORP MINERALS, LLC, COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HASSLER, CARL R.; BURBA, JOHN L.; CABLE, ROBERT; SIGNING DATES FROM 20110926 TO 20110930; REEL/FRAME:027107/0451
US2012074071 AA	20120611	LSAS	AS	ASSIGNMENT	OWNER NAME : WELLS FARGO BANK, NATIONAL ASSOCIATION, AS COLLATE DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:MOLYCORP MINERALS, LLC; REEL/FRAME:028355/0440 EFFECTIVE DATE : 20120611
US2012103909 AA	20120503	LSPB	+	published / reissued	
US2012103909 AA	20111024	LSAS	AS	ASSIGNMENT	OWNER NAME : MOLYCORP MINERALS, LLC, COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BURBA, JOHN L.; HASSLER, CARL R.; CABLE, ROBERT; SIGNING DATES FROM

					20110926 TO 20110930; REEL/FRAME:027107/0690
US2012103909 AA	20120611	LSAS	AS	ASSIGNMENT	OWNER NAME : WELLS FARGO BANK, NATIONAL ASSOCIATION, AS COLLATE DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:MOLYCORP MINERALS, LLC; REEL/FRAME:028355/0440 EFFECTIVE DATE : 20120611
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US2012187047 AA	20120315	LSAS	AS	ASSIGNMENT	OWNER NAME : MOLYCORP MINERALS, LLC, COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CABLE, ROBERT; HASSLER, CARL; BURBA, JOHN; SIGNING DATES FROM 20120124 TO 20120301; REEL/FRAME:027871/0425
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US2012187337 AA	20120315	LSAS	AS	ASSIGNMENT	OWNER NAME : MOLYCORP MINERALS, LLC, COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HASSLER, CARL; BURBA, JOHN; CABLE, ROBERT; SIGNING DATES FROM 20120124 TO 20120301; REEL/FRAME:027871/0705
US2012187337 AA	20120611	LSAS	AS	ASSIGNMENT	OWNER NAME : WELLS FARGO BANK, NATIONAL ASSOCIATION, AS COLLATE DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:MOLYCORP MINERALS, LLC; REEL/FRAME:028355/0440 EFFECTIVE DATE : 20120611
US2012223022 AA	20120906	LSPB	+	published / reissued	
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US2012261347 AA	20120611	LSAS	AS	ASSIGNMENT	OWNER NAME : WELLS FARGO BANK, NATIONAL ASSOCIATION, AS COLLATE DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:MOLYCORP MINERALS, LLC; REEL/FRAME:028355/0440 EFFECTIVE DATE : 20120611
US2012261347 AA	20160421	LSAS	AS	ASSIGNMENT	OWNER NAME : SECURE NATURAL RESOURCES LLC, ILLINOIS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLYCORP MINERALS, LLC; PP IV MOUNTAIN PASS II, INC.; PP IV MOUNTAIN PASS INC.; AND OTHERS; REEL/FRAME:038340/0265 EFFECTIVE DATE : 20160415
US2012261347 AA	20160503	LSAS	AS	ASSIGNMENT	OWNER NAME : SECURE NATURAL RESOURCES LLC, ILLINOIS DESCRIPTION : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE'S ADDRESS PREVIOUSLY RECORDED ON REEL 038340 FRAME 0265. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNORS:MOLYCORP MINERALS, LLC; PP IV MOUNTAIN PASS II, INC.; PP IV MOUNTAIN PASS INC.; AND OTHERS; REEL/FRAME:038596/0138 EFFECTIVE DATE : 20160415
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WO12040650 A3	20130322	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2013530378 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
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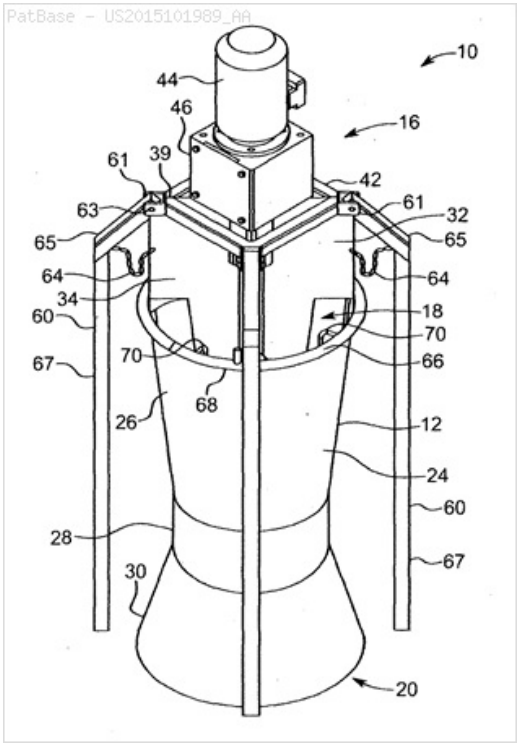
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32) Family number: 55310232 (US2015101989A)

Title: WATER TREATMENT

Abstract: Source: US2015101989A An apparatus for treating water in a reservoir includes a funnel. A support assembly supports the funnel in a lengthwise upright orientation when the funnel is submerged. A water moving arrangement is arranged to move water through the funnel in a direction from an inlet at an upper end of the funnel towards an outlet at lower end of the funnel.

Classifications:
International (IPC 8-9): B01D29/085 B01D29/60 B01F13/00 B01F15/00 B01F5/04 B01F7/04 B01F7/16 B01F7/22 C02F1/00 C02F1/68 C02F9/00 E02B15/00 (Advanced/Invention); C02F1/52 C02F1/76 C02F3/20 (Advanced/Non-invention)
CPC: C02F2209/40 E03C2201/40 C02F1/52 C02F1/76 C02F2103/007 C02F2201/008 C02F2209/008 C02F2209/02 C02F2209/06 C02F2209/29 C02F2301/022 B01F7/168 B01F7/22 B01F15/00915 C02F3/207 B01F5/0415 B01F5/0428 B01F13/0049 B01D29/085 C02F1/008 B01D29/603 C02F1/686 C02F2209/005 Y02W10/15
US: 210/137 210/206 210/232 210/242.1 210/416.1 210/497.3 210/739 210/97



Family:

Publication number	Publication date	Application number	Application date
AU2013270424 AA	20131205	AU20130270424	20130603
EP2855363 A1	20150408	EP20130797251	20130603
EP2855363 A4	20160615	EP20130797251	20130603
NZ631803 A	20161223	NZ20130631803	20130603
US2015101989 AA	20150416	US20130404004	20130603
WO13177632 A1	20131205	WO2013AU00580	20130603

Priority:
AU20120902287 20120601 AU20130270424 20130603 WO2013AU00580 20130603

Probable Assignee: ELLIOTT STEPHEN
Assignee(s): (std): ELLIOTT STEPHEN
Inventor(s): (std): ELLIOTT STEPHEN
Agent(s): EAGAR AND MARTIN PTY LTD; FISHER ADAMS KELLY CALLINANS; MUELLER AND SCHUBERT; EDGAR BARRY
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 LI 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 PA PE PG PH PL PT QA RO RS RU RW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2013270424 AA	20131205	LSPB	+	published / reissued	
EP2855363 A1	20150408	LSPB	+	published / reissued	
EP2855363 A1	20150408	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20141230
EP2855363 A1	20160224	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : B01F 7/22 20060101ALI20160115BHEP
EP2855363 A1	20160224	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : B01F 13/00 20060101ALI20160115BHEP
EP2855363 A1	20160224	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/68 20060101AFI20160115BHEP

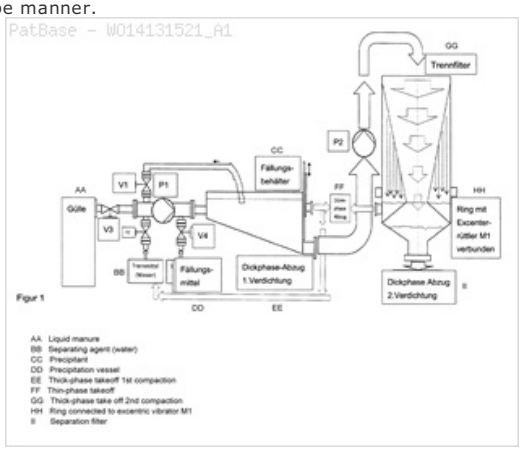
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NZ631803 A	20170331	LSGT	+PSEA	PATENT SEALED	
US2015101989 AA	20150416	LSPB	+	published / reissued	
WO13177632 A1	20131205	LSPB	+	published / reissued	
WO13177632 A1	20141125	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14404004 COUNTRY OF REF DOCUMENT : US
WO13177632 A1	20141201	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13177632 A1	20150122	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2013270424 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20130603 KIND CODE OF REF DOCUMENT : A

33) Family number: 57309813 (WO14131521A1)

Title: METHOD AND APPLIANCE FOR TREATING AGRICULTURAL LIQUID MANURE

Abstract: The invention relates to a method for treating agricultural liquid manure, in that the liquid manure is treated with precipitant in a settling and/or separation method and is separated into a thick phase and a thin phase or clear phase, according to the preamble of claim 1. In order thereby to increase markedly the separation of thick phase and thin phase or clear phase in pre-separated and non pre-separated liquid manure and permit in the result a year-round discharge of the thin phase of the liquid manure and utilization of the thick phase, according to the invention it is proposed that in addition water is used as separation medium, in such a manner that the suspended matter precipitating out in the reaction of the precipitant with the liquid manure floats on the separation medium water and/or falls in the separation medium water, and a thick phase thus separated from a clear phase can be separated off in a zone-type manner.

Classifications:
International (IPC 8-9): A01G31/06 C02F1/24 C02F1/28 C02F1/44 C02F1/52 C02F1/74 C02F103/20 C02F11/02 C02F11/12 C02F11/14 C02F11/16 C02F3/30 C02F3/32 C02F9/04 C02F9/14 C05F3/00 C05F3/06 C12F3/06 (Advanced/Invention);
C02F103/20 (Advanced/Non-invention)
CPC: C02F2103/20 C02F1/5263 C02F2209/05 C02F2209/06 C02F2209/08 C02F2209/10 C02F2209/11 C02F2209/14 C02F2209/15 C02F2209/19 C02F2209/225 C02F2301/08 C02F2305/04 A01G33/00 C05F3/06 C05F11/08 C05F17/0018 C05F17/0045 C02F1/5245 C02F3/327 C02F3/32 Y02W30/43 Y02W10/18 C05F3/00 C02F1/24 C02F1/547 C02F3/201 C02F3/302 C02F2001/007 C02F2209/22 C02F2209/26 C02F11/14 C02F1/52 Y02P20/129 Y02P20/145 Y02W10/15



Family:

Publication number	Publication date	Application number	Application date
DE102013003606 A1	20140904	DE201310003606	20130301
DE102013003606 B4	20160901	DE201310003606	20130301
DE102013007829 A1	20141030	DE201310007829	20130427
DE102013007829 B4	20150416	DE201310007829	20130427
DE102013012976 A1	20150205	DE201310012976	20130803
DE102013012976 B4	20151126	DE201310012976	20130803
DE102013017531 A1	20150423	DE201310017531	20131022
DE102013017531 B4	20151015	DE201310017531	20131022
EP2961695 A1	20160106	EP20140710802	20140227
WO14131521 A1	20140904	WO2014EP00518	20140227

Priority:

DE201310003606 20130301 DE201310007829 20130427 DE201310017531 20131022
DE201310012976 20130803 WO2014EP00518 20140227

Probable Assignee: ROGMANS MARIA

Assignee(s): (std): AGRI V RAIFFEISEN EG ; AGRIV RAIFFEISEN E G ; AGRIV RAIFFEISEN EG ; ROGMANS MARIA

Inventor(s): (std): MAAS HANS PETER ; WILHELM HERMANN JOSEF ; WILMS UWE ; MAAS HANSPETER

Agent(s): SCHMIDT KARL MICHAEL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT JP KE KG KM KN KP KR KZ LA LC LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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DE102013003606 A1	20130523	LSES	+R012	REQUEST FOR EXAMINATION VALIDLY FILED	
DE102013003606 A1	20140205	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102013003606 A1	20160219	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102013003606 A1	20160220	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102013003606 A1	20160409	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102013003606 A1	20160509	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102013003606 A1	20160512	LSGT	+R018	GRANT DECISION BY EXAMINATION SECTION/EXAMINING DIVISION	
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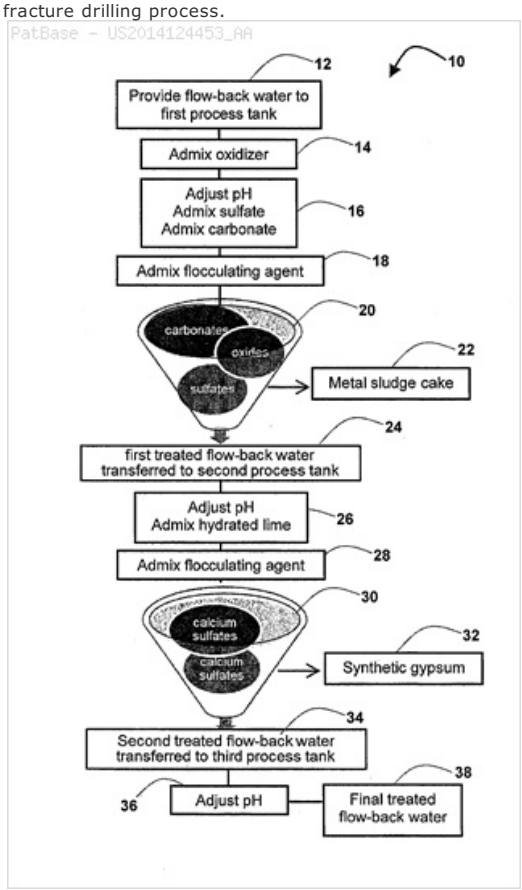
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DE102013007829 A1	20130725	LSES	+R012	REQUEST FOR EXAMINATION VALIDLY FILED	
DE102013007829 A1	20141128	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102013007829 A1	20141218	LSGT	+R018	GRANT DECISION BY EXAMINATION SECTION/EXAMINING DIVISION	
DE102013007829 A1	20160119	LSGT	+R020	PATENT GRANT NOW FINAL	
DE102013007829 B4	20150416	LSGT	+	granted / extensions (spc, cpc, pte)	
DE102013012976 A1	20150205	LSPB	+	published / reissued	
DE102013012976 A1	20131025	LSES	+R012	REQUEST FOR EXAMINATION VALIDLY FILED	
DE102013012976 A1	20141128	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102013012976 A1	20150810	LSGT	+R018	GRANT DECISION BY EXAMINATION SECTION/EXAMINING DIVISION	
DE102013012976 A1	20160827	LSGT	+R020	PATENT GRANT NOW FINAL	
DE102013012976 B4	20151126	LSGT	+	granted / extensions (spc, cpc, pte)	
DE102013017531 A1	20150423	LSPB	+	published / reissued	
DE102013017531 A1	20140115	LSES	+R012	REQUEST FOR EXAMINATION VALIDLY FILED	
DE102013017531 A1	20141127	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
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DE102013017531 A1	20160716	LSGT	+R020	PATENT GRANT NOW FINAL	
DE102013017531 B4	20151015	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2961695 A1	20160106	LSPB	+	published / reissued	
EP2961695 A1	20160106	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150924
WO14131521 A1	20140904	LSPB	+	published / reissued	
WO14131521 A1	20150901	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

34) Family number: 56392761 (US2014124453A)

Title: CHEMICAL CO-PRECIPITATION PROCESS FOR RECOVERY OF FLOW-BACK WATER, PRODUCED WATER AND WASTEWATER OF SIMILAR CHARACTERISTICS

Abstract: Source: US2014124453A Methods and systems for treating contaminated flow-back water produced by hydraulic fracture are provided. The method involves precipitating metals from the flow-back water stream in a first reaction using at least one oxidizing agent, at least one pH adjusting agent, a source of sulfate and carbonate ions, and at least one co-precipitation agent. The precipitated metals may be dewatered using a first filter and may be used as an additive to drilling mud. The flow-back water may be further purified in a second reaction by addition of at least one pH adjusting agent and hydrated lime to precipitate salts. The precipitated salts may be dewatered using a second filter and may be used as an accelerating additive to concrete. The purified flow-back water may be stabilized by the addition of at least one pH adjusting agent to provide a water stream that may be reused in the hydraulic fracture drilling process.

Classifications:
International (IPC 8-9)**:** C02F1/52 C02F1/56 C02F1/66 C02F1/72 C02F9/00 E21B21/06 (Advanced/Invention);
C02F1/00 C02F1/76 C02F101/10 C02F101/20 C02F103/10 C02F103/36 (Advanced/Non-invention)
CPC: C02F9/00 C02F1/001 C02F1/5236 C02F1/5245 C02F1/5272 C02F1/529 C02F1/56 C02F1/66 C02F1/72 C02F1/76 C02F2101/10 C02F2101/20 C02F2101/203 C02F2101/206 C02F2103/10 C02F2103/365 C02F2201/008 C02F2209/001 C02F2209/40 E21B21/063
US: 1/1 210/137 210/203 210/721 210/723



Family:

Publication number	Publication date	Application number	Application date
US2014124453 AA	20140508	US20120671853	20121108
US9284206 BB	20160315	US20120671853	20121108

Priority:
US20120671853 20121108

Probable Assignee:	PRESUTTI MICHAEL
Assignee(s): (std)**:**	PRESUTTI MICHAEL
Inventor(s): (std)**:**	PRESUTTI MICHAEL
Agent(s):	COHEN AND GRIGSBY PC

Legal status (INPADOC)

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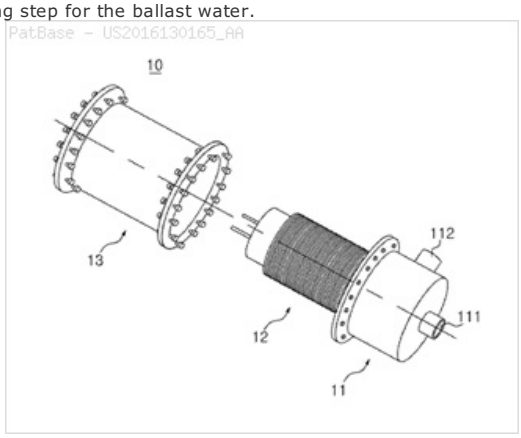
Patent	Date recorded	Event group	Code	Event	Details
US2014124453 AA	20140508	LSPB	+	published / reissued	
US9284206 BB	20160315	LSGT	+	granted / extensions (spc, cpc, pte)	

35) Family number: 57467132 (US2016130165A)

Title: BALLAST WATER TREATMENT SYSTEM

Abstract: Source: US2016130165A The present invention relates to a ballast water treatment system. The ballast water treatment system comprises: a filter and electrolysis unit for receiving ballast water from the outside, and filtering and electrolyzing the ballast water; a first sensor unit for measuring seawater characteristics of the ballast water passing through the filter and electrolysis unit; a control unit for determining a contamination level of the ballast water according to the measured seawater characteristic values so as to generate control signals for determining the strength of electrolysis and the input amount of chlorine dioxide; a chlorine dioxide generation unit for generating the chlorine dioxide; a UV/TiO2 system which includes a TiO2-coated plate, generates an OH radical through an interaction between ultraviolet rays and TiO2 so as to enable the OH radical to sterilize residual microorganisms included in the ballast water passing through the filter and electrolysis unit; an automatic neutralization treatment device which includes a neutralizing agent, receives a neutralizing agent discharge signal from the control unit, and neutralizes the ballast water passing through the filter and the electrolysis unit; and a second sensor unit for measuring a TRO concentration of the ballast water neutralized in the automatic neutralization treatment device and transferring the measurement result to the control unit, wherein the control unit generates a control signal for controlling an amount of the neutralizing agent discharged from the automatic neutralization treatment device according to the measurement result received from the second sensor unit. Thus, the sterilization efficiency for the ballast water satisfies the USCG standards during the ballasting step for the ballast water.

Classifications:
International (IPC 8-9): B63B13/00 B63J4/00 C02F1/00 C02F1/28 C02F1/32 C02F1/46 C02F1/461 C02F1/50 C02F1/66 C02F1/70 C02F1/72 C02F1/76 C02F9/00 (Advanced/Invention); B01D29/46 B63J4/00 C02F1/00 C02F1/32 C02F1/72 C02F1/76 C02F103/00 C02F9/00 (Advanced/Non-invention)
CPC: C02F1/461 C02F2209/003 B01D29/46 C02F2209/02 C02F2209/05 C02F2303/185 C02F1/008 C02F1/46104 C02F9/00 B63J4/002 C02F1/004 C02F1/32 C02F1/66 C02F1/725 C02F1/76 C02F2103/008 C02F2209/001 C02F2209/005 C02F2209/06 C02F2209/22 C02F2209/29 C02F2303/04 C02F2305/023 C02F2305/10 C02F1/50 C02F2201/46
US: 210/96.1



Family:

Publication number	Publication date	Application number	Application date
CN105246837 A	20160113	CN201480028958	20140321
EP2977355 A1	20160127	EP20140771176	20140321
EP2977355 A4	20160316	EP20140771176	20140321
JP2016521200 T2	20160721	JP20160505386T	20140321
KR101486499 B1	20150126	KR20130031147	20130322
KR101486502 B1	20150126	KR20130031157	20130322
KR20140115874 A	20141001	KR20130031147	20130322
KR20140115879 A	20141001	KR20130031157	20130322
US2016130165 AA	20160512	US20140779153	20140321
WO14148867 A1	20140925	WO2014KR02415	20140321

Priority:
KR20130031147 20130322 KR20130031157 20130322 WO2014KR02415 20140321

Probable Assignee: TECH CROSS CO LTD
Assignee(s): (std): TECH CROSS CO LTD
Assignee(s): TECH CROSS CO
Inventor(s): (std): KIM DAE WON ; KIM DAEWON ; KIM SEONG TAE ; KIM SEONGTAE ; KIM YU JIN ; KIM YUJIN ; KU JA HUN ; KU JAHUN ; LEE HAI DON ; LEE HAIDON ; LEE KI SUNG ; LEE KISUNG ; PARK KYU WON ; PARK KYUWON ; PARK YONG SEOK ; PARK YONGSEOK
Agent(s): CABINET PLASSERAUD; JEONG HWOIHWAN
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT JP KE KG KM KN KP KZ LA LC LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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CN105246837 A	20160113	LSPB	+	published / reissued	
CN105246837 A	20160113	LSPB	+C06	PUBLICATION	
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EP2977355 A1	20160127	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20151021
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EP2977355 A1	20161005	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : LEE, HAIDON
EP2977355 A1	20161005	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : KIM, DAEWON
EP2977355 A1	20161005	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : KIM, YUJIN
EP2977355 A1	20161005	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : PARK, KYUWON

EP2977355 A1	20161005	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : PARK, YONGSEOK
EP2977355 A1	20161005	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : KIM, SEONGTAE
EP2977355 A1	20161005	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : KU, JAHUN
EP2977355 A1	20170329	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20170223
JP2016521200 T2	20160721	LSPB	+	published / reissued	
JP2016521200 T2	20170228	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20170228
KR101486499 B1	20150126	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101486499 B1	20130322	LSES	A201	REQUEST FOR EXAMINATION	
KR101486499 B1	20140530	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101486499 B1	20141125	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR101486499 B1	20141224	LSRE	AMND	AMENDMENT	
KR101486499 B1	20150106	LSGT	+X701	DECISION TO GRANT (AFTER RE-EXAMINATION)	
KR101486499 B1	20150120	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101486502 B1	20150126	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101486502 B1	20130322	LSES	A201	REQUEST FOR EXAMINATION	
KR101486502 B1	20140609	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101486502 B1	20141125	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR101486502 B1	20141224	LSRE	AMND	AMENDMENT	
KR101486502 B1	20150106	LSGT	+X701	DECISION TO GRANT (AFTER RE-EXAMINATION)	
KR101486502 B1	20150120	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20140115874 A	20141001	LSPB	+	published / reissued	
KR20140115879 A	20141001	LSPB	+	published / reissued	
US2016130165 AA	20160512	LSPB	+	published / reissued	
WO14148867 A1	20140925	LSPB	+	published / reissued	
WO14148867 A1	20150922	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO14148867 A1	20150924	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2016505386 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
WO14148867 A1	20151230	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14779153 COUNTRY OF REF DOCUMENT : US

36) Family number: 29957232 (US2004129645A)

Title: METHODS, APPARATUS, AND COMPOSITIONS FOR CONTROLLING ORGANISMS IN BALLAST WATER

Abstract: Source: US2004129645A Apparatuses and methods of a ballast water treatment system are disclosed. The ballast water treatment system includes a control system and a ballast tank system. The control system controls the concentration of a biocide in the ballast tank system. In addition, the ballast water treatment system can be implemented in a vessel. The ballast water treatment system includes a control system, a biocide generation system, and a ballast tank system. The control system is capable of controlling the concentration of a biocide in the ballast tank system by controlling the amount of the biocide feed into the ballast tank system from the biocide generation system. Further, the ballast water treatment system involves methods for controlling organisms in ballast water of a vessel. A representative method includes providing the ballast water, and treating the ballast water with chlorine dioxide.

Classifications:
International (IPC 8-9): B63B17/00 B63B29/16 B63J4/00 C01B11/02 C02F1/00 C02F1/50 C02F1/68 C02F1/76 (Advanced/Invention);
C02F1/00 C02F1/50 (Advanced/Non-invention);
C02F1/50 C02F1/76 (Core/Invention);
C02F1/00 C02F1/50 (Core/Non-invention)
International (IPC 1-7): B63B029/16 B63B29/16 B63J4/00 C01B011/02 C01B11/02 C02F1/00 C02F1/50 C02F1/76
CPC: B63J4/002 C02F1/001 C02F1/686 C02F1/76 C02F2209/006 C02F2209/008 C02F2209/06 C02F2209/36 C02F2209/40 C02F2303/04 C02F1/763 C02F1/008 C02F1/50 C02F2103/008 C02F2209/04 C02F2209/29 C02F2303/185
European: B63J4/00B C02F1/00T C02F1/68P2 C02F1/76 C02F1/76E M02F1/00D M02F1/00T M02F1/50 M02F103/00S M02F209/00T2 M02F209/00T4 M02F209/04 M02F209/06 M02F209/29 M02F209/36 M02F209/40 M02F303/04 M02F303/18B
US: 210/143 210/192 210/198.1 210/205 210/754 210/758 210/764


PatBase – US2004129645_AA

	BIO-DEGRADABLE	COST	OTHER COMMENTS
CHLORINE DIOXIDE	HIGHLY BIO-DEGRADABLE	MODERATE	DOES NOT FORM CHLORINATED BY-PRODUCTS
SODIUM HYPOCHLORITE/ CALCIUM HYPOCHLORITE	MODERATE FOR BLEACH ITSELF. LOW FOR CHLORINATED BY-PRODUCTS	LOW	STABILITY PROBLEMS' FORMS CHLORINATED BY-PRODUCTS
GLUTERALDEHYDE	MODERATELY HIGH AT USE CONCENTRATIONS	MODERATE TO MODERATELY HIGH	ODORS
HYDROGEN PEROXIDE	HIGHLY BIO-DEGRADABLE	RELATIVELY LOW	STABILITY, STORAGE, AND HANDLING
DRY CHLORINE COMPOUNDS	LOW TO MODERATE	RELATIVELY LOW	DUSTING, HANDLING ISSUES
OZONE	HIGHLY BIO-DEGRADABLE	VERY HIGH IN ALL REGARDS	EQUIPMENT EXPENSIVE MAINTENANCE INTENSIVE
QUATERNARY AMMONIA COMPOUND	POOR FOR MOST FORMULATIONS	MODERATELY HIGH	FOAMS INACTIVATED BY SOLIDS, SYNERGISTIC WITH C102
PERACETIC ACID	HIGHLY BIO-DEGRADABLE	MODERATLEY HIGH	SAFETY AND HANDLING

Family:

Publication number	Publication date	Application number	Application date
AU2002226987 AA	20020611	AU20020226987	20011128
AU2002226987 BB	20051027	AU20020226987	20011128
AU200226987 A5	20020611	AU20020026987	20011128
BRPI0115748 A	20041207	BR2001PI15748	20011128
BRPI0115748 B1	20110503	BR2001PI15748	20011128
EP1337469 A2	20030827	EP20010995942	20011128
JP2004534630 T2	20041118	JP20020546039T	20011128
KR100654105 B1	20061205	KR20037007200	20011128
KR20030069175 A	20030825	KR20037007200	20030528
US2004129645 AA	20040708	US20010996135	20011128
US2005016933 AA	20050127	US20040876762	20040628
US6773611 BB	20040810	US20010996135	20011128
WO0244089 A2	20020606	WO2001US44370	20011128
WO0244089 A3	20030522	WO2001US44370	20011128

Priority:

US20000253650P 20001128 US20010282542P 20010409 US20010996135 20011128
US20040876762 20040628 WO2001US44370 20011128

Probable Assignee: ECOCHLOR INC

Assignee(s): (std): ECOCHLOR INC

Assignee(s): GOODSILL CHARLES ; PERLICH TOM

Inventor(s): (std): GOODSILL CHARLES ; PERLICH TOM

Inventor(s): TOM PERLICH ; CHARLES GOODSILL

Agent(s): PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; SMITH GAMBRELL AND RUSSELL LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG UZ VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2002226987 AA	20020611	LSPB	+	published / reissued	
AU2002226987 BB	20051027	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2002226987 BB	20060223	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU200226987 A5	20020611	LSPB	+	published / reissued	
BRPI0115748 A	20041207	LSPB	+	published / reissued	
BRPI0115748 A	20090714	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	

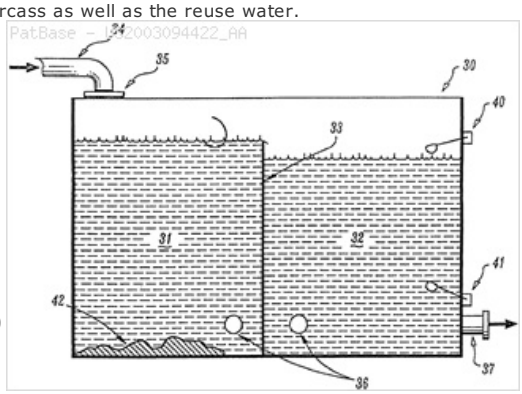
BRPI0115748 A	20100831	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0115748 A	20110503	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	DESCRIPTION : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 28/11/2001, OBSERVADAS AS CONDICOES LEGAIS.
BRPI0115748 B1	20110503	LSGT	+	granted / extensions (spc, cpc, pte)	
BRPI0115748 B1	20090714	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
BRPI0115748 B1	20100831	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0115748 B1	20110503	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	DESCRIPTION : PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 28/11/2001, OBSERVADAS AS CONDICOES LEGAIS.
EP1337469 A2	20030827	LSPB	+	published / reissued	
EP1337469 A2	20040121	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20031121
EP1337469 A2	20070228	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20040415
EP1337469 A2	20140917	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20140822
EP1337469 A2	20150701	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20150106
JP2004534630 T2	20041118	LSPB	+	published / reissued	
JP2004534630 T2	20041126	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20041125
JP2004534630 T2	20041126	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20041125
JP2004534630 T2	20070322	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20070320
JP2004534630 T2	20070919	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20070918
JP2004534630 T2	20071017	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20071016
JP2004534630 T2	20080709	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20080708
KR100654105 B1	20061205	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100654105 B1	20040813	LSES	A201	REQUEST FOR EXAMINATION	
KR100654105 B1	20060324	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR100654105 B1	20060828	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR100654105 B1	20061129	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR100654105 B1	20121031	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20121031 YEAR OF FEE PAYMENT : 7
KR100654105 B1	20131101	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20131101 YEAR OF FEE PAYMENT : 8
KR100654105 B1	20141107	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20141107 YEAR OF FEE PAYMENT : 9

KR100654105 B1	20151030	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20151030 YEAR OF FEE PAYMENT : 10
KR100654105 B1	20161028	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20161028 YEAR OF FEE PAYMENT : 11
KR20030069175 A	20030825	LSPB	+	published / reissued	
US2004129645 AA	20040708	LSPB	+	published / reissued	
US2005016933 AA	20050127	LSPB	+	published / reissued	
US6773611 BB	20040810	LSGT	+	granted / extensions (spc, cpc, pte)	
US6773611 BB	20030612	LSAS	AS	ASSIGNMENT	OWNER NAME : ECOCHLOR, INC., NEW YORK DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PERLICH, TOM; GOODSILL, CHARLES; REEL/FRAME:014166/0293 EFFECTIVE DATE : 20020614
US6773611 BB	20080317	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6773611 BB	20110913	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6773611 BB	20160204	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
WO0244089 A2	20020606	LSPB	+	published / reissued	
WO0244089 A3	20030527	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002226987 COUNTRY OF REF DOCUMENT : AU
WO0244089 A3	20030527	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002546039 COUNTRY OF REF DOCUMENT : JP
WO0244089 A3	20030528	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020037007200 COUNTRY OF REF DOCUMENT : KR
WO0244089 A3	20030604	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001995942 COUNTRY OF REF DOCUMENT : EP
WO0244089 A3	20030825	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020037007200 COUNTRY OF REF DOCUMENT : KR
WO0244089 A3	20030827	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001995942 COUNTRY OF REF DOCUMENT : EP
WO0244089 A3	20031009	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0244089 A3	20060210	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002226987 COUNTRY OF REF DOCUMENT : AU

37) Family number: 30130326 (US2003094422A)

Title: POULTRY PROCESSING WATER RECOVERY AND RE-USE PROCESS

Abstract: Source: US2003094422A The inventions of the present disclosure are directed to processes designed to recover water used in certain aspects of the processing of poultry, treat the recovered water to remove solids, fats, oils and greases, animal proteins and pathogenic organisms and to reuse the treated water for poultry processing operations. The processes described herein reduce bacteria and microorganisms associated with the poultry and reuse water. The present disclosure can be employed with an approach that includes unexpected positive results of reacting ozone and chlorine with water being treated for reuse to generate hypochlorous acid and/or other effective biocides. Ozone reacts with fats, oils, and greases, dissolved in the reuse water, to produce specific surface-active agents and surfactants which reduce the surface tension of the water which it is dissolved. The combination of these surface-active agents and surfactants and the biocides cause an extraordinary release and destruction of bacteria from the poultry carcass as well as the reuse water.



Classifications:

International (IPC 8-9): A23B4/24 A23B4/30 A61L2/00 A61L2/18 B01D17/00 B01D21/00 C02F1/00 C02F1/32 C02F1/66 C02F1/76 C02F1/78 C02F9/00 C02F9/02 C02F9/04 G01N33/02 (Advanced/Invention); C02F1/00 C02F1/32 C02F1/40 C02F1/78 C02F9/02 (Advanced/Non-invention); A23B4/14 A23B4/26 A61L2/18 B01D17/00 B01D21/00 C02F1/00 C02F1/66 C02F1/76 C02F1/78 C02F9/00 C02F9/02 (Core/Invention); C02F1/00 C02F1/32 C02F1/40 C02F1/78 (Core/Non-invention)

International (IPC 1-7): A01N1/00 A21D4/00 A22C21/00 A61L2/00 A61L9/00 B01D1/00 B01D17/025 B01D17/12 B01D21/24 B01J19/08 C02F1/40 C02F1/68 C02F1/76 C02F1/78 C02F103/22 C02F9/02 C02F9/04

CPC: Y10S210/905 Y10S210/908 B01D21/0042 B03D1/028 C02F9/00 A23B4/24 A23B4/30 A61L2/183 B01D21/2488 B01D21/305 B01D21/32 B03D1/1431 C02F1/001 C02F1/008 C02F1/24 C02F1/40 C02F1/66 C02F2209/005 C02F2209/02 C02F2209/04 C02F2209/06 C02F2209/23 C02F2209/42 C02F2303/04 B01D21/0084 B01D21/302 A22C21/0061 B01D21/0012 B01D21/003 B01D21/2405 B01D21/2433 B01D21/2444 B01D21/245 B01D21/34 B01D2221/06 C02F1/32 C02F1/76 C02F1/78 C02F2101/32 C02F2101/325 C02F2101/38 C02F2103/22 B01D17/12

European: A22C21/00H A23B4/24 A23B4/30 A61L2/18L B01D17/00 B01D21/00F B01D21/00M B01D21/00N B01D21/00N2 B01D21/00T B01D21/24A B01D21/24D B01D21/24G B01D21/24N B01D21/24R B01D21/30C B01D21/32 B01D21/34 B03D1/14D C02F1/00T C02F1/66 C02F1/76 C02F1/78 C02F9/00 L01D21/00F L01D221/06 M02F1/00D M02F1/00T M02F1/24 M02F1/32 M02F1/40 M02F1/66 M02F1/76 M02F1/78 M02F101/32 M02F101/32E M02F101/38 M02F103/22 M02F209/00T M02F209/02 M02F209/04 M02F209/06 M02F209/23 M02F209/42 M02F303/04

US: 134/10 210/195.1 210/259 210/532.1 210/704 210/708 210/724 210/745 210/752 210/754 210/756 210/76 210/760 210/764 210/776 210/800 210/805 210/806 210/905 210/908 422/186.07 422/28 422/28P 422/28S 422/31 422/32 422/34 422/37 422/79 426/231 426/231P 426/320 426/321 426/326 426/332 426/335 452/173

Family:

Publication number	Publication date	Application number	Application date
AU200037017 A5	20000904	AU20000037017	20000218
US2003094422 AA	20030522	US20020045778	20020111
US2004067160 AA	20040408	US20030613475	20030702
US2005016934 AA	20050127	US20040927379	20040826
US2006070959 AA	20060406	US20050245257	20051006
US2009208616 AA	20090820	US20090388208	20090218
US6605253 BA	20030812	US20000591513	20000609
US6802984 BA	20041012	US20000507163	20000218
US6946080 BB	20050920	US20040927379	20040826
US7077967 BB	20060718	US20020045778	20020111
WO0048951 A1	20000824	WO2000US04272	20000218
WO0048951 C2	20020502	WO2000US04272	20000218

Priority:

US19990120953P 19990219 US19990138368P 19990610 US20000507163 20000218
US20050245257 20051006 US20030613475 20030702 US20040927379 20040826
US20020045778 20020111 US20000591513 20000609 US20010261012P 20010111
US20090388208 20090218 WO2000US04272 20000218

Probable Assignee: ZENTOX CORP

Assignee(s): (std): GANN DALE ; MCGRANE WILLIAM ; MILLER RICHARD ; PERKINS MICHAEL ; PHILLIPS JOE ; ZENTOX CORP

Assignee(s): SVRLUGA RICHARD C

Inventor(s): (std): GANN DALE ; MCGRANE WILLIAM ; MILLER RICHARD ; MILLER RICHARD DEAN ; PERKINS MICHAEL ; PHILLIPS JOE

Inventor(s): RICHARD DEAN MILLER ; MICHAEL PERKINS ; JOE PHILLIPS ; DALE GANN

Agent(s): BROWN RUDNICK BERLACK AND ISRAELS LLP; MARK S LEONARDO ESQ BROWN RUDNICK BERLACK ISRAELS LLP; SEYFARTH SHAW LLP; BROWN RUDNICK BERLACK ISRAELS LLP; LEONARDO MARK S; SERIO JOHN C; JOHN C; MARK S

Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU200037017 A5	20000904	LSPB	+	published / reissued	

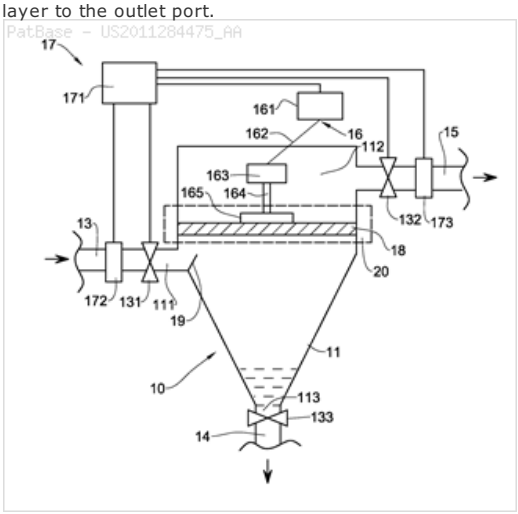
AU200037017 A5	20020110	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
US2003094422 AA	20030522	LSPB	+	published / reissued	
US2004067160 AA	20040408	LSPB	+	published / reissued	
US2004067160 AA	20030930	LSAS	AS	ASSIGNMENT	OWNER NAME : SVRLUGA, RICHARD C., MASSACHUSETTS DESCRIPTION : SECURITY INTEREST; ASSIGNOR:ZENTOX CORPORATION; REEL/FRAME:014015/0422 EFFECTIVE DATE : 20030903
US2004067160 AA	20031111	LSAS	AS	ASSIGNMENT	OWNER NAME : ZENTOX CORPORATION, MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PERKINS, MICHAEL; REEL/FRAME:014120/0021 EFFECTIVE DATE : 20031020
US2005016934 AA	20050127	LSPB	+	published / reissued	
US2006070959 AA	20060406	LSPB	+	published / reissued	
US2009208616 AA	20090820	LSPB	+	published / reissued	
US6605253 BA	20030812	LSGT	+	granted / extensions (spc, cpc, pte)	
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US6605253 BA	20070212	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6605253 BA	20110211	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6605253 BA	20150812	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6605253 BA	20150929	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20150812
US6802984 BA	20041012	LSGT	+	granted / extensions (spc, cpc, pte)	
US6802984 BA	20000218	LSAS	AS	ASSIGNMENT	OWNER NAME : ZENTOX CORPORATION, MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PERKINS, MICHAEL; PHILLIPS, JOE; GANN, DALE; AND OTHERS; REEL/FRAME:015041/0327; SIGNING DATES FROM 19990219 TO 19990224
US6802984 BA	20030930	LSAS	AS	ASSIGNMENT	OWNER NAME : SVRLUGA, RICHARD C., MASSACHUSETTS DESCRIPTION : SECURITY INTEREST; ASSIGNOR:ZENTOX CORPORATION; REEL/FRAME:014015/0422 EFFECTIVE DATE : 20030903
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US6802984 BA	20120229	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6802984 BA	20161012	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6802984 BA	20161129	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY	EFFECTIVE DATE : 20161012

				MAINTENANCE FEE	
US6946080 BB	20050920	LSGT	+	granted / extensions (spc, cpc, pte)	
US6946080 BB	20050302	LSAS	AS	ASSIGNMENT	OWNER NAME : ZENTOX CORPORATION, MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PERKINS, MICHAEL; PHILLIPS, JOE; GANN, DALE; AND OTHERS; REEL/FRAME:015717/0938; SIGNING DATES FROM 19990219 TO 19990224
US6946080 BB	20090306	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6946080 BB	20130318	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7077967 BB	20060718	LSGT	+	granted / extensions (spc, cpc, pte)	
US7077967 BB	20020628	LSAS	AS	ASSIGNMENT	OWNER NAME : ZENTOX CORPORATION, MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PHILLIPS, JOE; MCGRANE, WILLIAM; REEL/FRAME:013053/0623 EFFECTIVE DATE : 20020531
US7077967 BB	20030930	LSAS	AS	ASSIGNMENT	OWNER NAME : SVRLUGA, RICHARD C., MASSACHUSETTS DESCRIPTION : SECURITY INTEREST; ASSIGNOR:ZENTOX CORPORATION; REEL/FRAME:014015/0422 EFFECTIVE DATE : 20030903
US7077967 BB	20100105	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7077967 BB	20140107	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
WO0048951 A1	20000824	LSPB	+	published / reissued	
WO0048951 C2	20011213	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642

38) Family number: 44072915 (US2011284475A)

Title: APPARATUS AND METHOD FOR TREATMENT OF A CONTAMINATED WATER-BASED FLUID

Abstract: Source: US2011284475A An apparatus and method for controllable separation of a purified fluid from a process water-based fluid containing at least one contaminating component are described. The apparatus comprises a housing having an inlet port for receiving the process water-based fluid through a controllable inlet valve, an outlet port for discharge of the purified fluid and a sludge port for discharge of a sludge fluid. The apparatus also includes an acoustic vibrator configured for generating a controllable acoustic wave having at least one adjustable parameter selected from frequency, amplitude and intensity. This acoustic vibrator creates at least one layer in the process water-based fluid dividing the process water-based fluid into a pre-filtered fluid and a sludge fluid. This layer is substantially perpendicular to a flow direction of said process water-based fluid. The layer comprises hydroxide radicals and oxygen species reacting with the contaminating component thereby transforming the component into radical form and oxidizing the component thereby causing binding of the component into insoluble aggregates which are precipitated within the sludge fluid. In addition, the apparatus comprises a filter unit disposed within the housing in a flow of the pre-filtered fluid from the layer to the outlet port.



Classifications:
International (IPC 8-9): C02F1/34 C02F1/36
C02F1/72 (Advanced/Invention);
C02F1/72 (Advanced/Non-invention);
C02F1/34 (Core/Invention);
C02F1/72 (Core/Non-invention);
C02F (Subclass/Invention)
International (IPC 1-7): C02F1/34 C02F1/36 C02F1/72
CPC: C02F1/004 C02F1/008 C02F1/34 C02F1/36 C02F1/5236 C02F1/72 C02F9/00 C02F2101/301 C02F2101/308 C02F2101/327 C02F2101/345 C02F2103/001 C02F2103/007 C02F2103/06 C02F2103/08 C02F2103/322 C02F2103/325 C02F2103/327 C02F2209/001 C02F2209/003 C02F2209/04 C02F2209/05 C02F2209/055 C02F2209/06 C02F2209/07 C02F2209/08 C02F2209/10 C02F2209/11 C02F2209/14 C02F2209/15 C02F2209/16 C02F2209/19 C02F2209/20 C02F2209/22 C02F2209/29 C02F2301/022 C02F2305/023
European: C02F1/00D6 C02F1/00T C02F1/34 C02F1/36 C02F1/72 M02F1/52F M02F101/30B M02F101/30S M02F101/32P M02F101/34P M02F103/00B M02F103/00H M02F103/06 M02F103/08 M02F103/32B M02F103/32D M02F103/32F M02F209/00B M02F209/00D M02F209/04 M02F209/05 M02F209/055 M02F209/06 M02F209/07 M02F209/08 M02F209/10 M02F209/11 M02F209/14 M02F209/15 M02F209/16 M02F209/19 M02F209/20 M02F209/22 M02F209/29 M02F301/02B M02F305/02B M02F9/00
US: 210/198.1 210/198.100S 210/748.02 210/748.020P

Family:

Publication number	Publication date	Application number	Application date
CA2725483 AA	20091203	CA20092725483	20090517
EP2285744 A1	20110223	EP20090754328	20090517
IL209376 A0	20110131	IL20090209376	20090517
IN02473MN2010 A	20110610	IN2010MN02473	20101122
US2011284475 AA	20111124	US20100947472	20101116
WO09144709 A1	20091203	WO2009IL00492	20090517

Priority:

IL20100209376 20101117 US20080056104 20080527 US20080056104P 20080527
WO2009IL00492 20090517 US20100947472 20101116

Probable Assignee: KOLMIR WATER TECHNOLOGIES LTD

Assignee(s): (std): KOLMIR WATER TECH LTD ; KOLMIR WATER TECHNOLOGIES LTD ; KOLODNY YURI

Inventor(s): (std): KOLODNY YURI

Agent(s): OGILVY RENAULT LLP SENCRL SRL; BECKER KURIG STRAUS; REINHOLD COHN AND PARTNERS

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 LI 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA2725483 AA	20091203	LSPB	+	published / reissued	
CA2725483 AA	20130714	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20130517
EP2285744 A1	20110223	LSPB	+	published / reissued	
EP2285744 A1	20110223	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20101116
EP2285744 A1	20130529	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20121201
IN02473MN2010 A	20110610	LSPB	+	published / reissued	
US2011284475 AA	20111124	LSPB	+	published / reissued	

US2011284475 AA	20101116	LSAS	AS	ASSIGNMENT	OWNER NAME : KOLMIR WATER TECHNOLOGIES LTD., ISRAEL DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KOLODNY, YURI; REEL/FRAME:025379/0301 EFFECTIVE DATE : 20101005
WO09144709 A1	20091203	LSPB	+	published / reissued	
WO09144709 A1	20101117	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2725483 COUNTRY OF REF DOCUMENT : CA
WO09144709 A1	20101117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2725483 COUNTRY OF REF DOCUMENT : CA
WO09144709 A1	20101130	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

39) Family number: 47930977 (US2010326923A)

Title: HIGH PERFORMANCE LOW ENVIRONMENTAL IMPACT DETACKIFIER

Abstract: Source: US2010326923A The current invention relates to composition and method for treating impurities in a circulating water system. The circulating water system impurities may be oversprayed paint in paint spray booth applications. The composition includes an aqueous solution of a cationized starch, a polybasic aluminum salt such as aluminum chlorohydrate or polyaluminum chloride and a solution of a medium to high MW aqueous flocculent. The composition is particularly useful when added to recirculating scrubber water in paint spray booths for effectively treating both water based and solvent based paints.

Classifications:
International (IPC 8-9): B01D21/01 B05B15/12 B08B3/14 C02F1/00 C02F1/38 C02F1/52 C02F1/54 C02F1/56 C02F1/66 C02F103/04 C08K3/24 C08L101/00 C08L3/02 C08L3/08 C09D7/00 G05F1/00 (Advanced/Invention);
C02F103/04 C02F103/14 C09K3/32 (Advanced/Non-invention);
C02F1/52 C08K3/24 C08L101/00 C08L3/02 C09D7/00 (Core/Non-invention);
C02F (Subclass/Invention)
International (IPC 1-7): C02F1/52
CPC: C08L3/08 C02F1/66 C08L1/28 C08L1/284 C08L5/00 B08B3/14 B05B15/1281 C02F1/001 C02F1/38 C02F2209/06 C02F1/52 C02F1/24 C02F1/5281 C02F2103/007 C02F1/5245 C02F2103/14 C02F1/54 C02F1/56
European: C02F1/52F2 C02F1/56 C08L1/28 C08L1/28D C08L3/08 C08L5/00 M02F103/14
US: 134/13 210/712 210/723 210/724 210/725 210/728 210/731 210/734 252/180 252/181 524/47 524/47S

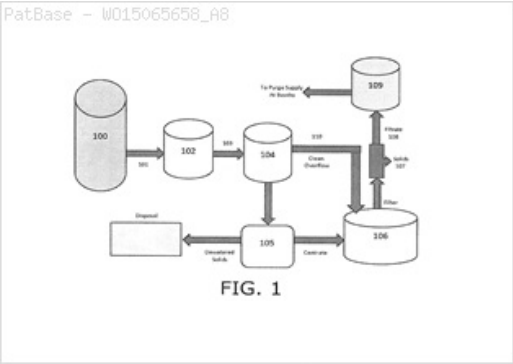


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
AR077137 AA	20110803	AR2010P102158	20100618
AU2010270973 AA	20110113	AU20100270973	20100621
AU2010270973 BB	20151001	AU20100270973	20100621
CA2762858 AA	20111118	CA20102762858	20100621
CA2762858 C	20150224	CA20102762858	20100621
CA2881197 AA	20110113	CA20102881197	20100621
CA2929452 AA	20160428	CA20142929452	20141006
CN102459090 A	20120516	CN201080026868	20100621
CN102459090 B	20140910	CN201080026868	20100621
CN105722793 A	20160629	CN201480060899	20141006
EP2448869 A2	20120509	EP20100797543	20100621
EP2448869 A4	20130918	EP20100797543	20100621
EP3063096 A1	20160907	EP20140858255	20141006
JP2012531301 T2	20121210	JP20120517625T	20100621
JP2016534859 T2	20161110	JP20160527248T	20141006
KR20120092006 A	20120820	KR20117030962	20100621
KR20160079054 A	20160705	KR20167014219	20141006
MX2011013092 A1	20120112	MX20110013092	20100621
MX2016005671 A1	20160811	MX20160005671	20141006
TW201100508 A	20110101	TW20100115247	20100513
TWI490287 B	20150701	TW20100115247	20100513
US2010326923 AA	20101230	US20090490909	20090624
US2014053872 AA	20140227	US20130068624	20131031
US2014251921 AA	20140911	US20140284522	20140522
US8591744 BB	20131126	US20090490909	20090624
WO11005475 A2	20110113	WO2010US39323	20100621
WO11005475 A3	20110421	WO2010US39323	20100621
WO15065658 A1	20150507	WO2014US59351	20141006
WO15065658 A8	20160616	WO2014US59351	20141006
ZA201108758 A	20120829	ZA20110008758	20111129

Priority:

CA20102762858 20100621 CA20152762858 20150211 US20090490909 20090624
WO2010US39323 20100621 US20130068624 20131031 US20140284522 20140522
WO2014US59351 20141006

Probable Assignee: NALCO CO

Assignee(s): (std): SCHEIMANN DAVID W ; MIKNEVICH JOSEPH P ; NALCO CO

Assignee(s): MOONEY SAMUEL P ; NALCO COMPANY ; BALENT PAUL ; CARTER GORDON M ; HARE SHAYNE B

Inventor(s): (std): BALENT PAUL ; CARTER GORDON M ; DAVID W SCHEIMANN ; GORDON M CARTER ; HARE SHAYNE B ; JOSEPH P MIKNEVICH ; MIKNEVICH JOSEPH P ; MOONEY SAMUEL P ; PAUL BALENT ; SAMUEL P MOONEY ; SCHEIMANN DAVID W ; SHAYNE B HARE

Agent(s): BALDWINS INTELLECTUAL PROPERTY; EQUINOX; BORDEN LADNER GERVAIS LLP; CHALK ANTHONY JOHN; GODEMEYER BLUM LENZE PATENTANWAELTE PARTNERSCHAFT MBB WERKPATENT; YKI PATENT ATTORNEYS; WILLIAM J MAHERAS PATENT AND LICENSING DEPARTMENT; ANDREW D; EDWARD O; YONTER EDWARD O ET AL; SORENSEN ANDREW D

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT JP KE KG KM KN KP KR KZ LA LC LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AR077137 AA	20110803	LSPB	+	published / reissued	
AU2010270973 AA	20110113	LSPB	+	published / reissued	
AU2010270973 AA	20160128	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2010270973 BB	20151001	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2762858 AA	20111118	LSPB	+	published / reissued	
CA2762858 AA	20140930	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20140918
CA2762858 C	20150224	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2881197 AA	20110113	LSPB	+	published / reissued	
CA2881197 AA	20150327	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20150310
CA2929452 AA	20160428	LSPB	+	published / reissued	
CN102459090 A	20120516	LSPB	+	published / reissued	
CN102459090 A	20140910	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102459090 B	20140910	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105722793 A	20160629	LSPB	+	published / reissued	
CN105722793 A	20160629	LSPB	+C06	PUBLICATION	
EP2448869 A2	20120509	LSPB	+	published / reissued	
EP2448869 A2	20120509	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120124
EP2448869 A2	20130918	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20130816
EP2448869 A2	20130918	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/52 20060101AFI20130809BHEP
EP2448869 A2	20130918	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 103/04 20060101ALI20130809BHEP
EP2448869 A2	20161019	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20160914
EP2448869 A2	20170215	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20170118
EP3063096 A1	20160907	LSPB	+	published / reissued	
EP3063096 A1	20160907	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160428
JP2012531301 T2	20121210	LSPB	+	published / reissued	
JP2012531301 T2	20130517	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130516
JP2012531301 T2	20130517	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20130516
JP2012531301 T2	20140514	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140513

JP2012531301 T2	20140814	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140813
JP2012531301 T2	20150325	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20150324
JP2012531301 T2	20150724	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150724
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JP2012531301 T2	20151005	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20151002
JP2012531301 T2	20161018	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20161018
JP2016534859 T2	20161110	LSPB	+	published / reissued	
KR20120092006 A	20120820	LSPB	+	published / reissued	
KR20120092006 A	20150610	LSES	A201	REQUEST FOR EXAMINATION	
KR20120092006 A	20161101	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20160079054 A	20160705	LSPB	+	published / reissued	
MX2011013092 A1	20120112	LSPB	+	published / reissued	
MX2011013092 A1	20150611	LSGT	+FG	GRANT OR REGISTRATION	
MX2016005671 A1	20160811	LSPB	+	published / reissued	
TW201100508 A	20110101	LSPB	+	published / reissued	
TWI490287 B	20150701	LSGT	+	granted / extensions (spc, cpc, pte)	
US2010326923 AA	20101230	LSPB	+	published / reissued	
US2010326923 AA	20090624	LSAS	AS	ASSIGNMENT	OWNER NAME : NALCO COMPANY, ILLINOIS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MIKNEVICH, JOSEPH P.; SCHEIMANN, DAVID W.; REEL/FRAME:022870/0671 EFFECTIVE DATE : 20090624
US2014053872 AA	20140227	LSPB	+	published / reissued	
US2014053872 AA	20140418	LSAS	AS	ASSIGNMENT	OWNER NAME : NALCO COMPANY, ILLINOIS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BALENT, PAUL; CARTER, GORDON M.; MOONEY, SAMUEL P.; AND OTHERS; SIGNING DATES FROM 20130117 TO 20140405; REEL/FRAME:032706/0281
US2014251921 AA	20140911	LSPB	+	published / reissued	
US2014251921 AA	20140604	LSAS	AS	ASSIGNMENT	OWNER NAME : NALCO COMPANY, ILLINOIS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MIKNEVICH, JOSEPH P.; SCHEIMANN, DAVID W.; SIGNING DATES FROM 20140528 TO 20140529; REEL/FRAME:033029/0108
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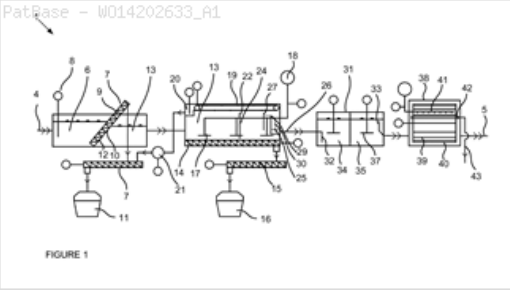
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WO11005475 A3	20111118	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2762858 COUNTRY OF REF DOCUMENT : CA
WO11005475 A3	20111123	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010270973 COUNTRY OF REF DOCUMENT : AU
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WO11005475 A3	20111227	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15065658 A1	20150507	LSPB	+	published / reissued	
WO15065658 A1	20160428	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2929452 COUNTRY OF REF DOCUMENT : CA
WO15065658 A1	20160502	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15065658 A8	20160428	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2016527248 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
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ZA201108758 A	20120829	LSGT	+	granted / extensions (spc, cpc, pte)	

40) Family number: 58123975 (WO14202633A1)

Title: WASTEWATER PURIFICATION SYSTEM

Abstract: A unit for wastewater treatment is provided. The unit (1) comprises a free- standing pre-assembled module on legs (2), a water inlet (4) and a water outlet (5), located in opposite sides of the unit (1). A screening compartment (6), containing a sieve (7) and a level transmitter (8) is arranged in the unit, and a grit trap compartment (13), containing a horizontal screw conveyor (14), and an inclined screw conveyor (15) is arranged downstream the screening compartment (6). Plates (22) are placed in said grit trap compartment (13) to create a vertical slit (23) after which there is a dosing point (24) for the metal salts. A polymer dosing zone (25) is located just before the outlet (26) of the grit trap compartment (13). A baffle (27) creates a gap (28) at the bottom of said grit trap compartment (13) and a weir (29) creates a horizontal barrier from the bottom of said grit trap compartment (13) followed by a mixing cavity (30) with a polymer dosing point (25) and an outlet (26). A method for operating the unit (1) is also provided.

Classifications:
International (IPC 8-9): B01D21/00 B01D21/01 B01D21/08 B01D21/24 B01F5/06 C02F1/24 C02F1/40 C02F1/52 C02F1/56 C02F9/00 (Advanced/Invention)
CPC: C02F9/00 C02F1/004 C02F1/24 C02F1/40 C02F1/52 C02F1/5245 C02F1/56 C02F2001/007 C02F2201/007 C02F2303/24 B01D21/003 B01D21/2461



Family:

Publication number	Publication date	Application number	Application date
WO14202633 A1	20141224	WO2014EP62762	20140617

Priority:
SE20130050741 20130618

Probable Assignee: CONPURA AB
Assignee(s): (std): CONPURA AB
Inventor(s): (std): GUNNARSSON LARS ; HELANDER MATS
Agent(s): STROEM AND GULLIKSSON AB
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
WO14202633 A1	20141224	LSPB	+	published / reissued	
WO14202633 A1	20151218	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO14202633 A1	20160713	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14730556 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

41) Family number: 62004110 (WO16044960A1)

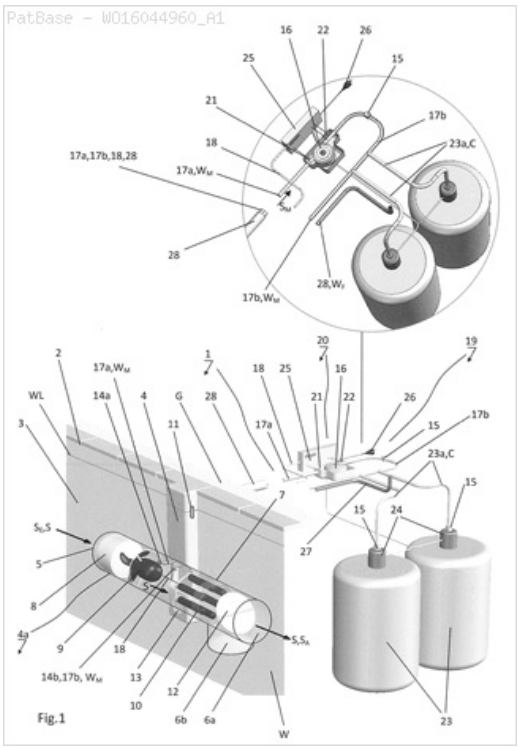
Title: CLEANING SYSTEM FOR A SWIMMING POOL

Abstract: The invention relates to a cleaning system (1) for a swimming pool (3), which cleaning system comprises two elements, of which a first element is located in the swimming pool (3) in the form of a water circulation housing (4a), and a second element, which is a technical center (19) on land. The first element comprises an inlet opening (5), an outlet opening (6, 6a), filters (8, 10), a circulation pump (9), and a water intake pipe (14a), and a water discharge pipe (14b). The second element comprises a measuring system (20), which comprises: a flow-through probe (21), a measurement water pump (16), measurement probes (22), a check valve (15), and a controller (25); and a container (23) having a metering pump (24) is also stationed there. The two elements, the housing carrier (4a) and the technical center (19), are connected by means of measurement water pipes (17, 17a).

Classifications:

International (IPC 8-9): B01D35/00 C02F1/00 C02F9/00 E04H4/12 E04H4/16 (Advanced/Invention);
C02F103/42 (Advanced/Non-invention)

CPC: E04H4/1209 E04H4/1245 E04H4/1281 C02F1/001 C02F1/008 C02F1/32 C02F1/686 C02F1/72 C02F2103/42 C02F2201/006 C02F2209/006 C02F2209/04 C02F2209/06 C02F2209/29 C02F2209/40 C02F2209/42 C02F2301/043



Family:

Publication number	Publication date	Application number	Application date
CH710143 A2	20160331	CH20140001441	20140922
WO16044960 A1	20160331	WO2015CH00142	20150922

Priority:

CH20140001441 20140922

Probable Assignee: MUELLER PETER A

Assignee(s): (std): MUELLER PETER A

Assignee(s): PETER A MUELLER

Inventor(s): (std): MUELLER PETER A ; MUELLER SANDRO

Inventor(s): PETER A MUELLER ; SANDRO MUELLER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

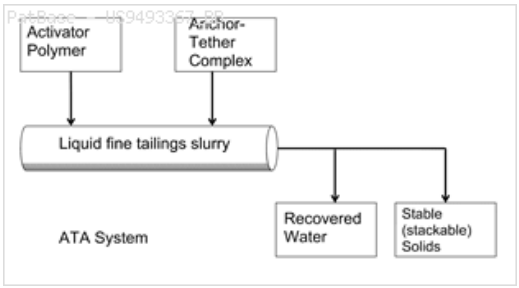
View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CH710143 A2	20160331	LSPB	+	published / reissued	
WO16044960 A1	20160331	LSPB	+	published / reissued	

42) Family number: 43632637 (US2009206040A)

Title: SYSTEMS AND METHODS FOR REMOVING FINELY DISPERSED PARTICULATE MATTER FROM A FLUID STREAM

Abstract: Source: US2009206040A Disclosed herein are systems for removing particulate matter from a fluid, comprising a particle functionalized by attachment of at least one activating group or amine functional group, wherein the modified particle complexes with the particulate matter within the fluid to form a removable complex therein. The particulate matter has preferably been contacted, complexed or reacted with a tethering agent. The system is particularly advantageous to removing particulate matter from a tailing solution.



Classifications:
International (IPC 8-9): B01D21/01 B01D21/26 B01D37/02 B01D37/03 B01J8/00 B03D1/01 B03D3/06 B09B3/00 C02F1/00 C02F1/28 C02F1/38 C02F1/40 C02F1/52 C02F1/54 C02F1/56 C02F1/68 C02F9/00 C10L5/00 C10L5/04 C10L5/06 E01C3/00 (Advanced/Invention); C02F1/00 C02F1/52 C02F1/68 C02F103/10 (Advanced/Non-invention); B01D37/00 B01J8/00 B03D3/00 C02F1/38 C02F1/52 C02F1/54 (Core/Invention)
CPC: C02F1/54 C10L5/00 C10L5/12 C10L5/14 C10L5/22 C10L5/363 C10L5/38 C02F9/00 B01D21/01 C02F1/683 C02F2103/10 C02F1/001 C02F1/385 C02F1/40 C02F1/56 C02F2001/007 C02F2305/12 B03D1/01 C02F1/004 C02F1/5281
European: C02F1/56 C10L5/00 C10L5/12 C10L5/14 C10L5/22 C10L5/36D C10L5/38 L01D21/01 M02F1/00D M02F1/00S M02F1/38B M02F1/40 M02F1/68K M02F103/10 M02F305/12 Y02E50/30
US: 210/170.09 210/170.090S 210/198.1 210/198.100S 210/207 210/207S 210/666 210/679 210/702 210/702S 210/705 210/723 210/723S 210/726 210/727 210/728 210/730 210/735 210/776 210/787 210/804 210/806 404/72 405/128.1 44/608 44/608P

Family:

Publication number	Publication date	Application number	Application date
AU2009215102 AA	20090820	AU20090215102	20090202
AU2009215102 BB	20110526	AU20090215102	20090202
AU2010310675 AA	20110428	AU20100310675	20101020
BRPI0905921 A2	20150623	BR2009PI05921	20090202
CA2653582 AA	20090814	CA20092653582	20090211
CA2653582 C	20110809	CA20092653582	20090211
CA2740123 AA	20090814	CA20092740123	20090211
CA2740123 C	20130709	CA20092740123	20090211
CA2777987 AA	20120417	CA20102777987	20101020
CN101970119 A	20110209	CN200980109058	20090202
CN101970119 B	20140716	CN200980109058	20090202
ECSP10010477 A	20101130	EC2010SP10477	20100913
EP2252404 A1	20101124	EP20090709653	20090202
EP2252404 A4	20131023	EP20090709653	20090202
MX2010008953 A1	20110331	MX20100008953	20100813
US2009206040 AA	20090820	US20090363369	20090130
US2011131873 AA	20110609	US20100792181	20100602
US2013134103 AA	20130530	US20120675661	20121113
US2013193078 AA	20130801	US20120706586	20121206
US2017101332 AA	20170413	US20160299263	20161020
US8349188 BB	20130108	US20100792181	20100602
US8353641 BB	20130115	US20090363369	20090130
US9493367 BB	20161115	US20120706586	20121206
US9611156 BB	20170404	US20120675661	20121113
WO09102565 A1	20090820	WO2009US32816	20090202

Priority:

CA20092653582 20090211	CA20092740123 20090211	US20080028717 20080214
US20080117757 20081125	US20080028717P 20080214	CA20112653582 20110530
US20080140525 20081223	US20090183331P 20090602	US20090246585P 20090929
US20090253332P 20091020	US20100346702P 20100520	US20090363369 20090130
US20080117757P 20081125	US20080140525P 20081223	WO2009US32816 20090202
US20100792181 20100602	US20100791438 20100601	WO2010US53416 20101020
US20120675661 20121113	US20120706586 20121206	US20160299263 20161020

Probable Assignee: SOANE MINING LLC

Assignee(s): (std): ASHCRAFT NATHAN ; BERG MICHAEL C ; DISE JOHN H ; MAHONEY ROBERT P ; PETERSEN KEVIN T ; SOANE ENERGY LLC ; WARE WILLIAM JR ; STOKES KRISTOFFER K ; THAKRAR ATUL C ; SOANE DAVID ; WARE JR WILLIAM ; SOANE MINING LLC

Inventor(s): (std): DAVID SOANE ; SOANE DAVID S ; WARE WILLIAN JR ; WILLIAM WARE JR ; WARE WILLIAM JR ; THAKRAR ATUL C ; STOKES KRISTOFFER K ; SOANE DAVID ; PETERSEN KEVIN T ; MAHONEY ROBERT P ; DISE JOHN H ; BERG MICHAEL C ; ASHCRAFT NATHAN ; WARE JR WILLIAM

Inventor(s): ATUL C THAKRAR ; KRISTOFFER K STOKES ; KEVIN T PETERSEN ; JOHN H DISE ; MICHAEL C BERG ; WILLIAN WARE JR ; ASHCRAFT JAMES NATHAN

Agent(s): PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; CHAPMAN PAUL WILLIAM; ELMORE PATENT LAW GROUP PC; MAHREEN CHAUDHRY; CAROLYN S; ELMORE CAROLYN 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 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 LI 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2009215102 AA	20090820	LSPB	+	published / reissued	
AU2009215102 AA	20110922	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2009215102 AA	20160407	LSAS	PC	ASSIGNMENT REGISTERED	OWNER NAME : SOANE MINING LLC DESCRIPTION : FORMER OWNER WAS: SOANE ENERGY, LLC
AU2009215102 BB	20110526	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2010310675 AA	20110428	LSPB	+	published / reissued	
AU2010310675 AA	20150514	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
BRPI0905921 A2	20150623	LSPB	+	published / reissued	
BRPI0905921 A2	20161025	LSAS	B25A	REQUESTED TRANSFER OF RIGHTS APPROVED	OWNER NAME : SOANE MINING LLC (US)
CA2653582 AA	20090814	LSPB	+	published / reissued	
CA2653582 AA	20090710	LSES	+EEER	EXAMINATION REQUEST	
CA2653582 C	20110809	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2740123 AA	20090814	LSPB	+	published / reissued	
CA2740123 AA	20110513	LSES	+EEER	EXAMINATION REQUEST	
CA2740123 AA	20110624	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20110513
CA2740123 C	20130709	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2777987 AA	20120417	LSPB	+	published / reissued	
CA2777987 AA	20120417	LSES	+EEER	EXAMINATION REQUEST	
CA2777987 AA	20120608	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20120417
CA2777987 AA	20151119	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20150924
CN101970119 A	20110209	LSPB	+	published / reissued	
CN101970119 A	20110209	LSPB	+C06	PUBLICATION	
CN101970119 A	20140716	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101970119 A	20161005	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN101970119 B	20140716	LSGT	+	granted / extensions (spc, cpc, pte)	
ECSP10010477 A	20101130	LSPB	+	published / reissued	
EP2252404 A1	20101124	LSPB	+	published / reissued	
EP2252404 A1	20101124	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100913
EP2252404 A1	20131023	LSES	+A4	DESPATCH OF SUPPLEMENTARY	EFFECTIVE DATE : 20130924

				SEARCH REPORT	
EP2252404 A1	20131023	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/56 20060101ALI20130918BHEP
EP2252404 A1	20131023	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : B03D 3/06 20060101AFI20130918BHEP
EP2252404 A1	20160525	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : SOANE MINING LLC
EP2252404 A1	20160727	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20160623
MX2010008953 A1	20110331	LSPB	+	published / reissued	
MX2010008953 A1	20130227	LSGT	+FG	GRANT OR REGISTRATION	
US2009206040 AA	20090820	LSPB	+	published / reissued	
US2009206040 AA	20090413	LSAS	AS	ASSIGNMENT	OWNER NAME : SOANE ENERGY, LLC, MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BERG, MICHAEL C.; DISE, JOHN H.; PETERSEN, KEVIN T.; AND OTHERS; REEL/FRAME:022540/0166; SIGNING DATES FROM 20090205 TO 20090225
US2011131873 AA	20110609	LSPB	+	published / reissued	
US2011131873 AA	20100812	LSAS	AS	ASSIGNMENT	OWNER NAME : SOANE MINING, LLC, MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SOANE, DAVID; WARE, WILLIAM, JR.; MAHONEY, ROBERT P.; AND OTHERS; REEL/FRAME:024831/0011 EFFECTIVE DATE : 20100714
US2013134103 AA	20130530	LSPB	+	published / reissued	
US2013134103 AA	20160126	LSAS	AS	ASSIGNMENT	OWNER NAME : SOANE MINING LLC, MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SOANE ENERGY LLC; REEL/FRAME:037584/0585 EFFECTIVE DATE : 20150728
US2013193078 AA	20130801	LSPB	+	published / reissued	
US2017101332 AA	20170413	LSPB	+	published / reissued	
US8349188 BB	20130108	LSGT	+	granted / extensions (spc, cpc, pte)	
US8349188 BB	20100812	LSAS	AS	ASSIGNMENT	OWNER NAME : SOANE MINING, LLC, MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SOANE, DAVID; WARE, WILLIAM, JR.; MAHONEY, ROBERT P.; AND OTHERS; REEL/FRAME:024831/0011 EFFECTIVE DATE : 20100714
US8349188 BB	20160623	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8349188 BB	20160913	LSRE	CC	CERTIFICATE OF CORRECTION	
US8353641 BB	20130115	LSGT	+	granted / extensions (spc, cpc, pte)	
US8353641 BB	20090413	LSAS	AS	ASSIGNMENT	OWNER NAME : SOANE ENERGY, LLC, MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BERG, MICHAEL C.; DISE, JOHN H.; PETERSEN, KEVIN T.; AND OTHERS; REEL/FRAME:022540/0166; SIGNING DATES FROM 20090205 TO 20090225

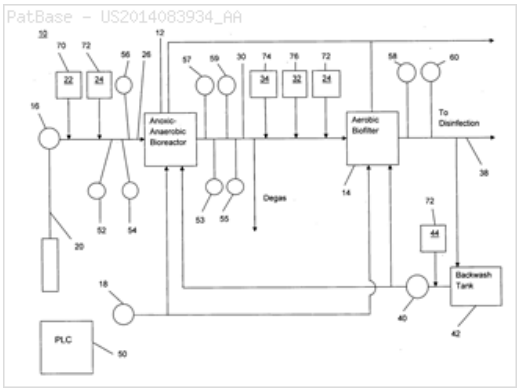
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US8353641 BB	20160630	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9493367 BB	20161115	LSGT	+	granted / extensions (spc, cpc, pte)	
US9611156 BB	20170404	LSGT	+	granted / extensions (spc, cpc, pte)	
WO09102565 A1	20090820	LSPB	+	published / reissued	
WO09102565 A1	20100817	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09102565 A1	20100818	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009215102 COUNTRY OF REF DOCUMENT : AU
WO09102565 A1	20100909	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2009215102 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20090202 KIND CODE OF REF DOCUMENT : A
WO09102565 A1	20150623	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0905921 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 EFFECTIVE DATE : 20100813

43) Family number: 55052383 (US2014083934A)

Title: BIOLOGICAL TWO-STAGE CONTAMINATED WATER TREATMENT SYSTEM

Abstract: Source: US2014083934A The systems may be used for treatment of water that contains contaminants. Water containing at least one of a nitrate, percholate, chromate, selenate and a volatile organic chemical is combined with nutrients and then is processed in an anoxic-anaerobic bioreactor. The combined effluent may also be oxygenated by dosing with hydrogen peroxide or liquid oxygen. The combined effluent of the bioreactor is dosed with a particle conditioning agent. The combined effluent treated water of the bioreactor is then filtered in a biofilter to produce a treated effluent stream. The influent water and combined effluent of the anoxic-anaerobic bioreactor may also be dosed with hydrogen peroxide to control biomass content in the system.

Classifications:
International (IPC 8-9)**:** C02F C02F1/52 C02F1/72 C02F3/00 C02F3/30 C02F9/00 (Advanced/Invention);
C02F101/12 C02F101/22 C02F101/32 C02F103/06 (Advanced/Non-invention);
C02F (Subclass/Invention)
CPC: C02F1/52 C02F3/006 C02F3/302 C02F2101/106 C02F2101/12 C02F2101/163 C02F2101/22 C02F2101/322 C02F2103/06 C02F2209/03 C02F2209/11 C02F2209/15 C02F2209/22 C02F1/722 C02F3/30 C02F1/5209 C02F9/00 C02F2209/005 C02F2209/008 C02F2209/29
US: 210/141 210/605 210/96.1



Family:

Publication number	Publication date	Application number	Application date
EP2711343 A1	20140326	EP20130183747	20130910
HK1198331 A1	20150402	HK20140109664	20140925
IL225586 A0	20130930	IL20130225586	20130404
US2014083934 AA	20140327	US20120573533	20120922
US9580341 BA	20170228	US20140196584	20140304

Priority:

US20120573533 20120922 US20140196584 20140304

Probable Assignee: BIOTTTA LLC

Assignee(s): (std)**:** BIOTTA LLC ; BIOTTTA LLC ; BROWN JESS C ; CAROLLO ENGINEERS INC ; CLEVELAND CHRISTOPHER T

Inventor(s): (std)**:** BROWN JESS C ; CLEVELAND CHRISTOPHER T

Agent(s): ZEUNER SUMMERER STUETZ; WEBB LAW FIRM

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
EP2711343 A1	20140326	LSPB	+	published / reissued	
EP2711343 A1	20140507	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : CAROLLO ENGINEERS, INC.
EP2711343 A1	20140507	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : CLEVELAND, CHRISTOPHER T.
EP2711343 A1	20140507	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : BROWN, JESS C.
EP2711343 A1	20141008	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : BIOTTTA LLC
EP2711343 A1	20141105	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140926
HK1198331 A1	20150402	LSGT	+	granted / extensions (spc, cpc, pte)	
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US2014083934 AA	20131218	LSAS	AS	ASSIGNMENT	OWNER NAME : CAROLLO ENGINEERS, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROWN, JESS C.; CLEVELAND, CHRISTOPHER T.; SIGNING DATES FROM 20131203 TO

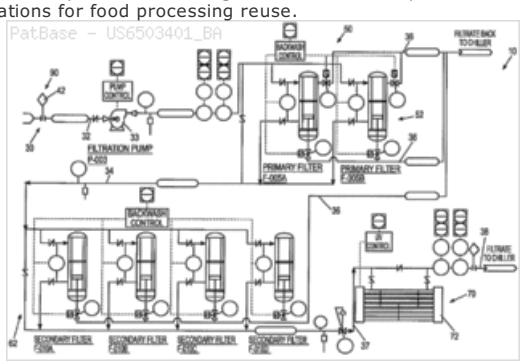
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US2014083934 AA	20140612	LSAS	AS	ASSIGNMENT	OWNER NAME : BIOTTTA LLC, ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CAROLLO ENGINEERS, INC.; REEL/FRAME:033089/0344 EFFECTIVE DATE : 20140528
US9580341 BA	20170228	LSGT	+	granted / extensions (spc, cpc, pte)	
US9580341 BA	20140428	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CAROLLO ENGINEERS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROWN, JESS C.; CLEVELAND, CHRISTOPHER T.; REEL/FRAME:032769/0750 EFFECTIVE DATE : 20140404
US9580341 BA	20140612	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BIOTTTA LLC, ARIZONA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CAROLLO ENGINEERS, INC.; REEL/FRAME:033089/0344 EFFECTIVE DATE : 20140528

44) Family number: 27907763 (US6503401B)

Title: EFFLUENT PURIFYING SYSTEM

Abstract: Source: US6503401B An automatic system and process for effectively, reliably and economically reconditioning for direct reuse various waste water, and particularly that in the poultry and other food processing industries, without the use of added chemicals and filter-aid compounds. The system includes water filtration and purification units, the purification unit consisting of an ultra-violet sterilizer. The integrity of the reconditioned water is continuously monitored in-line by sensors, which information is directly correlated to correspond to associated levels of solids and microorganisms. This invention presents a fully automated process to provide reconditioned water essentially free of microorganisms and of acceptable clarity to meet current United States Department of Agriculture regulations for food processing reuse.

Classifications:
International (IPC 8-9): C02F9/00 (Advanced/Invention); C02F1/00 C02F1/32 C02F1/44 (Advanced/Non-invention); C02F9/00 (Core/Invention); C02F1/00 C02F1/32 C02F1/44 (Core/Non-invention)
International (IPC 1-7): C02F1/32
CPC: Y10S210/908 C02F9/00 C02F1/001 C02F1/008 C02F1/32 C02F1/444 C02F2103/22 C02F2103/32 C02F2209/02 C02F2209/08 C02F2209/10 C02F2209/11 C02F2209/15 C02F2209/36 C02F2209/40 C02F2303/04 C02F2303/16
European: C02F9/00 M02F1/00D M02F1/00T M02F1/32 M02F1/44D M02F103/22 M02F103/32 M02F209/02 M02F209/08 M02F209/10 M02F209/11 M02F209/15 M02F209/36 M02F209/40 M02F303/04 M02F303/16
US: 210/103 210/195.1 210/259 210/407 210/742 210/748 210/748.11 210/791 210/85 210/908



Family:

Publication number	Publication date	Application number	Application date
US6503401 BA	20030107	US20000546848	20000411

Priority:

US19990130608P 19990422 US20000546848 20000411

Probable Assignee: KIESSLER BRIDGES AND CO PA D B A KGF PROPERTIES INC A CORP OF FLORIDA

Assignee(s): (std): KGF PROPERTIES INC

Assignee(s): KGF PROPERTIES INC A FLORIDA C O KIESSLER BRIDGES ; KGF PROPERTIES INC A FLORIDA C O KIESSLER BRIDGES AND CO PA CORP ; KIESSLER BRIDGES AND CO PA ; KIESSLER BRIDGES AND CO PA D B A KGF PROPERTIES IN ; KIESSLER BRIDGES AND CO PA D B A KGF PROPERTIES INC A CORP OF FLORIDA

Inventor(s): (std): WILLIS TERRY K

Legal status (INPADOC)

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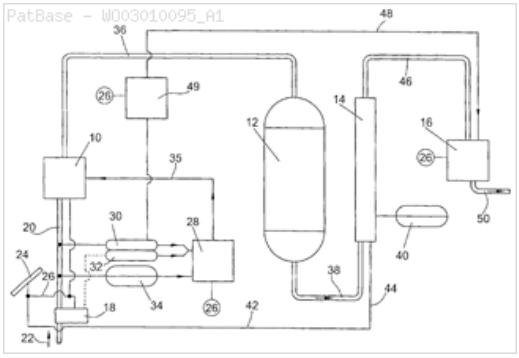
Patent	Date recorded	Event group	Code	Event	Details
US6503401 BA	20030107	LSGT	+	granted / extensions (spc, cpc, pte)	
US6503401 BA	20000411	LSAS	AS	ASSIGNMENT	OWNER NAME : KIESSLER, BRIDGES AND COMPANY, P.A., D/B/A KGF PROPE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WILLIS, TERRY K.; REEL/FRAME:010705/0411 EFFECTIVE DATE : 20000327
US6503401 BA	20000810	LSAS	AS	ASSIGNMENT	OWNER NAME : KGF PROPERTIES, INC., A FLORIDA CORPORATION C/O KI DESCRIPTION : CORRECTIVE ASSIGNMENT TO CHANGE THE NAME OF THE ASSIGNEE, DOCUMENT PREVIOUSLY RECORDED AT REEL 010705 FRAME 0411; ASSIGNOR:WILLIS, TERRY K.; REEL/FRAME:011056/0008 EFFECTIVE DATE : 20000327
US6503401 BA	20060912	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6503401 BA	20100707	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6503401 BA	20150107	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6503401 BA	20150224	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20150107

45) Family number: 28041313 (ZA200400839A)

Title: METHOD AND DEVICE FOR DISINFECTING WATER.

Abstract: Source: ZA200400839A The invention relates to a method for continuously disinfecting water, including drinking water, bathing water and industrial water, comprising a filtering step, a short-term disinfection step and a long-term disinfection step with the addition of precious metal ions. The invention also relates to a device suitable for use with said method.

Classifications:
International (IPC 8-9): C02F1/50 C02F9/00 (Advanced/Invention); C02F1/00 C02F1/32 C02F1/46 C02F1/463 C02F1/52 (Advanced/Non-invention);
C02F1/50 C02F9/00 (Core/Invention);
C02F1/00 C02F1/32 C02F1/46 C02F1/463 C02F1/52 (Core/Non-invention)
International (IPC 1-7): C02F1/32 C02F1/50 C02F1/52 C02F9/00
CPC: C02F1/505 C02F1/001 C02F1/32 C02F1/4606 C02F1/463 C02F1/52 C02F9/00 C02F2103/42 C02F2201/009 C02F2201/46125 C02F2201/46145 C02F2201/46165 C02F2209/11 C02F2209/40 C02F2209/44 C02F2303/04
European: C02F1/50B C02F9/00 M02F1/00D M02F1/32 M02F1/463 M02F1/46H M02F1/52 M02F103/42 M02F201/00I M02F201/00P M02F201/461B10B M02F201/461B6B M02F201/461B6D M02F209/11 M02F209/40 M02F209/44 M02F303/04



Family:

Publication number	Publication date	Application number	Application date
DE10136014 A1	20030227	DE20011036014	20010724
EP1409417 A1	20040421	EP20020740755	20020627
IN00281DN2004 A	20060310	IN2004DN00281	20040209
WO03010095 A1	20030206	WO2002EP07103	20020627
ZA200400839 A	20050202	ZA20040000839	20040202

Priority:
DE20011036014 20010724 WO2002EP07103 20020627

Probable Assignee: KLEIN KARL JOHANN
Assignee(s): (std): KLEIN KARL JOHANN
Assignee(s): KARL JOHANN KLEIN
Inventor(s): (std): KLEIN KARL JOHANN
Inventor(s): KARL JOHANN KLEIN
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE10136014 A1	20030227	LSPB	+	published / reissued	
DE10136014 A1	20030227	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE10136014 A1	20040609	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	
EP1409417 A1	20040421	LSPB	+	published / reissued	
EP1409417 A1	20040421	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20040128
EP1409417 A1	20060628	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20060103
IN00281DN2004 A	20060310	LSPB	+	published / reissued	
WO03010095 A1	20030206	LSPB	+	published / reissued	
WO03010095 A1	20040128	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002740755 COUNTRY OF REF DOCUMENT : EP
WO03010095 A1	20040202	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200400839 COUNTRY OF REF DOCUMENT : ZA
WO03010095 A1	20040202	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2004/00839 COUNTRY OF REF

					DOCUMENT : ZA
WO03010095 A1	20040421	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002740755 COUNTRY OF REF DOCUMENT : EP
WO03010095 A1	20040506	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO03010095 A1	20060103	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002740755 COUNTRY OF REF DOCUMENT : EP
WO03010095 A1	20060508	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO03010095 A1	20060508	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : JP
ZA200400839 A	20050202	LSGT	+	granted / extensions (spc, cpc, pte)	

46) Family number: 28115310 (US2001004962A)

Title: Water treatment device

Abstract: Source: US2001004962A The present invention is directed to a new water treatment device comprising an electrolytic tank to put water in, an electrode provided in the electrolytic tank, a water treating path for pouring water in a pool and returning to the pool the water in the electrolytic tank, a residual chlorine sensor for measuring the residual chlorine concentration of water, and control means for controlling the energization of the electrode on the basis of the measured value by the residual chlorine sensor, and capable of simply and efficiently sterilizing water stored in pools of various sizes from a swimming pool to a home bathtub.

Classifications:

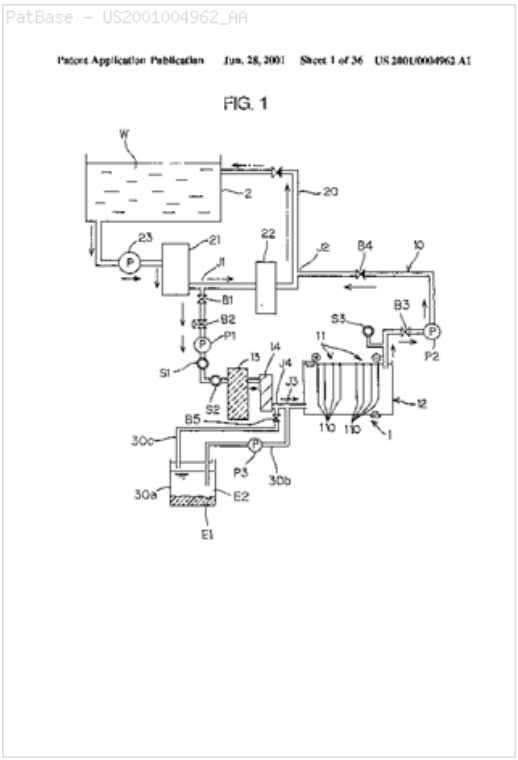
International (IPC 8-9): B01J35/02 C02F1/32 C02F1/46 C02F1/461 C02F1/467 C02F1/50 C02F1/76 C25B9/00 G01N27/416 (Advanced/Invention); C02F1/00 C02F1/42 C02F1/467 C02F1/66 C02F1/76 C02F9/00 C25B9/00 (Advanced/Non-invention); B01J35/00 C02F1/32 C02F1/46 C02F1/50 C02F1/76 C25B9/00 G01N27/416 (Core/Invention); C25B9/00 (Core/Non-invention)

International (IPC 1-7): B01J35/02 C02F1/32 C02F1/46 C02F1/461 C02F1/467 C02F1/50 C02F1/76 C25B9/00 C25C3/16 C25C3/20 G01N27/416

CPC: C02F1/001 C02F1/42 C02F1/46104 C02F1/4674 C02F1/66 C02F1/76 C02F9/00 C02F2001/46119 C02F2001/46128 C02F2001/46152 C02F2103/42 C02F2201/4612 C02F2201/46125 C02F2201/4613 C02F2201/46145 C02F2201/4615 C02F2201/46155 C02F2201/4618 C02F2209/006 C02F2209/02 C02F2209/05 C02F2209/06 C02F2209/29 C02F2301/043 C02F2303/04

European: C02F1/461B C02F1/467B2 M02F1/00D M02F1/42 M02F1/461B2D M02F1/461B2H M02F1/461B2L M02F1/66 M02F1/76 M02F103/42 M02F201/461B12 M02F201/461B6 M02F201/461B6B M02F201/461B6B2 M02F201/461B6D M02F201/461B6F M02F201/461B8 M02F209/00T2 M02F209/02 M02F209/05 M02F209/06 M02F209/29 M02F301/04B M02F303/04 M02F9/00

US: 204/228.1 204/228.100P 204/228.6 204/228.600S 204/230.2 204/230.200S 204/275.1



Family:

Publication number	Publication date	Application number	Application date
CN1151980 C	20040602	CN20001028264	20001214
CN1299782 A	20010620	CN20001028264	20001214
DE60020327 D1	20050630	DE20006020327	20001213
EP1108683 A2	20010620	EP20000311087	20001213
EP1108683 A3	20020109	EP20000311087	20001213
EP1108683 B1	20050525	EP20000311087	20001213
IN01140DE2000 A	20051104	IN2000DE01140	20001212
IN217902 B	20080425	IN2000DE01140	20001212
JP2001170638 A2	20010626	JP19990354875	19991214
JP2001170642 A2	20010626	JP19990359356	19991217
JP2001219168 A2	20010814	JP20000030902	20000208
JP2001232364 A2	20010828	JP20000043437	20000221
JP2001293476 A2	20011023	JP20000115332	20000417
JP3398104 B2	20030421	JP19990359356	19991217
JP3439164 B2	20030825	JP19990354875	19991214
JP3530446 B2	20040524	JP20000030902	20000208
JP3530452 B2	20040524	JP20000043437	20000221
KR100404948 B1	20031110	KR20000075734	20001213
KR20010082576 A	20010830	KR20000075734	20001213
US2001004962 AA	20010628	US20000734001	20001212
US6627053 BB	20030930	US20000734001	20001212

Priority:

JP19990354875 19991214 JP19990359356 19991217 JP20000030902 20000208 JP20000043437 20000221 JP20000115332 20000417

Probable Assignee: SANYO ELECTRIC CO LTD

Assignee(s): (std): SHIMIZU YASUHIKO ; YONEZAWA TAKAAKI ; YAMAMOTO KAZUHIRO ; SANYO ELECTRIC CO

Assignee(s): SANYO ELECTRIC CO LTD ; FUJIKAWA KIYOKAZU ; HIROTA TATSUYA ; INAMOTO YOSHIHIRO ; KAWAMURA TAMOTSU ; KAWAMURA YOZO ; KISHI MINORU ; KONDO YASUHITO ; NAKANISHI MINORU ; NYO ELECTRIC CO LTDSA

Inventor(s): (std): INAMOTO YOSHIHIRO ; KAWAMURA TAMOTSU ; KAWAMURA YOZO ; KISHI MINORU ; KIYOKAZU FUJIKAWA ; KONDO YASUHITO ; KONDO YASUTO ; NAKANISHI MINORU ; SHIMIZU YASUHIKO ; TATSUYA HIROTA ; YAMAMOTO KAZUHIRO ; YONEZAWA TAKAAKI ; YOSHIHIRO INAKI ; FUJIKAWA KIYOKAZU ; HIROTA TATSUYA

Inventor(s): INAKI YOSHIHIRO ; YOZO KAWAMURA ; YOSHIHIRO INAMOTO ; YASUHIKO SHIMIZU ; YASHUHITO KONDO ; TAMOTSU KAWAMURA ; TAKAAKI YONEZAWA ; MINORU NAKANISHI ; MINORU KISHI ; KAZUHIRO YAMAMOTO ; YASHUHIKO SHIMIZU

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN1151980 C	20040602	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1151980 C	20010620	LSPB	+C06	PUBLICATION	
CN1151980 C	20040602	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1299782 A	20010620	LSPB	+	published / reissued	
DE60020327 D1	20060427	LSWD	-8332	NO LEGAL EFFECT FOR DE	
EP1108683 A2	20010620	LSPB	+	published / reissued	
EP1108683 A2	20020417	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020207
EP1108683 A2	20020925	LSFE	+AKX	PAYMENT OF DESIGNATION FEES	DESCRIPTION : DE FR GB IT
EP1108683 A2	20040128	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20031216
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EP1108683 A2	20050615	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1108683 A2	20050826	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DE DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20050826
EP1108683 A2	20060517	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20060228
EP1108683 A2	20081031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : FR DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20051231
EP1108683 A2	20081128	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : FR DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20050525
EP1108683 A2	20090630	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20081210 YEAR OF FEE PAYMENT : 09
EP1108683 A2	20100430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20091209 YEAR OF FEE PAYMENT : 10
EP1108683 A2	20110824	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20101213
EP1108683 A2	20111130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO	REF COUNTRY CODE : GB DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20101213

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EP1108683 B1	20050525	LSGT	+	granted / extensions (spc, cpc, pte)	
IN01140DE2000 A	20051104	LSPB	+	published / reissued	
IN217902 B	20080425	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2001170638 A2	20010626	LSPB	+	published / reissued	
JP2001170642 A2	20010626	LSPB	+	published / reissued	
JP2001219168 A2	20010814	LSPB	+	published / reissued	
JP2001232364 A2	20010828	LSPB	+	published / reissued	
JP2001293476 A2	20011023	LSPB	+	published / reissued	
JP2001293476 A2	20061205	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20061204
JP2001293476 A2	20090630	LSWD	-A761	WRITTEN WITHDRAWAL OF APPLICATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A761 EFFECTIVE DATE : 20090629
JP3398104 B2	20030421	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3398104 B2	20080212	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20090214 YEAR OF FEE PAYMENT : 6
JP3398104 B2	20090214	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3439164 B2	20030825	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3439164 B2	20080605	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20080613 YEAR OF FEE PAYMENT : 5
JP3439164 B2	20080610	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20090613 YEAR OF FEE PAYMENT : 6
JP3439164 B2	20090609	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20100613 YEAR OF FEE PAYMENT : 7
JP3439164 B2	20100608	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20110613 YEAR OF FEE PAYMENT : 8
JP3439164 B2	20110607	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20120613 YEAR OF FEE PAYMENT : 9
JP3439164 B2	20120612	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20130613 YEAR OF FEE PAYMENT : 10
JP3530446 B2	20040524	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3530446 B2	20031203	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20031202
JP3530446 B2	20040128	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20040127
JP3530446 B2	20040216	LSGT	+TRDD	DECISION OF GRANT OR	

				REJECTION WRITTEN	
JP3530446 B2	20040225	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20040224
JP3530446 B2	20040304	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20040227
JP3530446 B2	20080311	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20090305 YEAR OF FEE PAYMENT : 5
JP3530446 B2	20090324	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20100305 YEAR OF FEE PAYMENT : 6
JP3530446 B2	20100309	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20110305 YEAR OF FEE PAYMENT : 7
JP3530446 B2	20120214	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20130305 YEAR OF FEE PAYMENT : 9
JP3530446 B2	20130312	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20140305 YEAR OF FEE PAYMENT : 10
JP3530452 B2	20040524	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3530452 B2	20031203	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20031202
JP3530452 B2	20040129	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20040128
JP3530452 B2	20040216	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP3530452 B2	20040225	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20040224
JP3530452 B2	20040304	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20040227
JP3530452 B2	20080311	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20090305 YEAR OF FEE PAYMENT : 5
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JP3530452 B2	20130312	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20140305 YEAR OF FEE PAYMENT : 10
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				cpc, pte)	
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KR100404948 B1	20030429	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR100404948 B1	20030926	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR100404948 B1	20031029	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR100404948 B1	20120927	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20120928 YEAR OF FEE PAYMENT : 10
KR100404948 B1	20130930	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20131001 YEAR OF FEE PAYMENT : 11
KR100404948 B1	20141001	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20141002 YEAR OF FEE PAYMENT : 12
KR100404948 B1	20150917	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20150917 YEAR OF FEE PAYMENT : 13
KR100404948 B1	20160922	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160922 YEAR OF FEE PAYMENT : 14
KR20010082576 A	20010830	LSPB	+	published / reissued	
US2001004962 AA	20010628	LSPB	+	published / reissued	
US6627053 BB	20030930	LSGT	+	granted / extensions (spc, cpc, pte)	
US6627053 BB	20010719	LSAS	AS	ASSIGNMENT	OWNER NAME : SANYO ELECTRIC CO., LTD., JAPAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HIROTA, TATSUYA; FUJIKAWA, KIYOKAZU; INAMOTO, YOSHIHIRO; AND OTHERS; REEL/FRAME:012038/0202 EFFECTIVE DATE : 20001124
US6627053 BB	20070302	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6627053 BB	20110302	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6627053 BB	20150225	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12

47) Family number: 36071851 (US2004065614A)

Title: MOBILE DESALINATION PLANTS AND SYSTEMS, AND METHODS FOR PRODUCING DESALINATED WATER

Abstract: Source: US2004065614A Systems, methods, and apparatus for desalinating water are provided. A vessel includes a water intake system, a reverse osmosis system, a concentrate discharge system, a permeate transfer system, a power source, and a control system. The concentrate discharge system includes a plurality of concentrate discharge ports.

Classifications:

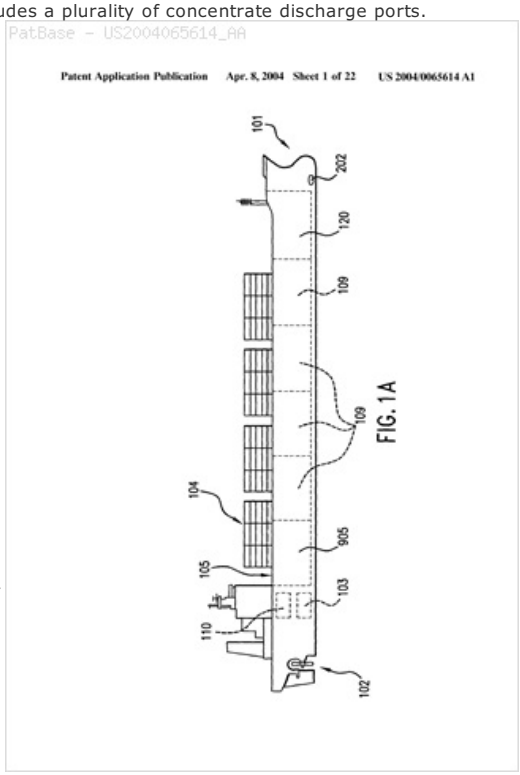
International (IPC 8-9): B01D35/00 B01D61/00 B01D61/02 B01D61/08 B01D61/10 B01D61/12 B01D63/00 B01D65/04 B01F5/06 B63B13/00 B63B27/24 B63B35/44 B63J1/00 C02F1/00 C02F1/44 C02F1/58 C02F1/66 C02F1/68 C02F103/08 C02F9/00 E03B3/04 (Advanced/Invention);
B01D35/00 B01D61/00 C02F1/00 C02F1/04 C02F1/44 C02F1/66 C02F1/68 C02F103/08 C02F9/00 (Advanced/Non-invention);
B01D61/02 B01D63/00 B01F5/06 B63B27/00 B63B35/44 B63J1/00 C02F1/00 C02F1/44 C02F9/00 E03B3/00 (Core/Invention);
C02F1/00 C02F1/44 C02F9/00 (Core/Non-invention);
C02F (Subclass/Invention);
C02F (Subclass/Non-invention)

International (IPC 1-7): B01D35/00 B01D61/02 B01D61/14 C02F C02F1/00 C02F1/44 C02F103/08 C02F9/00

CPC: C02F2001/007 Y02W10/37 B01D61/04 B01D2313/10 B63J1/00 B01D61/025 B01D61/08 B01D61/10 B01D61/12 B01F5/0603 B01F5/0606 B01F5/0682 B01F5/0688 C02F1/001 C02F1/041 C02F1/06 C02F1/441 C02F1/444 C02F1/66 C02F1/68 C02F9/00 C02F2103/08 C02F2201/001 C02F2201/008 C02F2201/009 C02F2209/005 C02F2209/006 C02F2209/008 C02F2209/02 C02F2303/24 B63B35/44 B63B2035/4473 C02F1/008

European: B01D61/02D B01D61/04 B01D61/08 B01D61/10 B01D61/12 B01F5/06B2 B01F5/06B2D2 B01F5/06F B01F5/06F4B B63B35/44 B63J1/00 C02F1/00D4 C02F1/00T C02F1/44B L01D313/10 L63B35/44F M02F1/00D M02F1/00S M02F1/04C M02F1/06 M02F1/44B M02F1/44D M02F1/66 M02F1/68 M02F103/08 M02F201/00A M02F201/00I M02F201/00M M02F201/00P M02F209/00T M02F209/00T2 M02F209/00T4 M02F209/02 M02F303/24 M02F9/00

US: 114/382 202/83 203/10 203/10S 203/11 210/143 210/143S 210/170 210/170.01 210/170.010S 210/170.05 210/170.050S 210/170.11 210/170.110S 210/195.2 210/195.200S 210/242.1 210/242.100S 210/257.2 210/258 210/259 210/321.6 210/321.600S 210/321.76 210/321.85 210/359 210/498 210/650 210/652 210/739 210/744 210/747 210/747.6 210/747.600P 210/747.600S 210/86 210/96.1 366/165.2 366/340 366/348



Family:

Publication number	Publication date	Application number	Application date
AP200503301 A0	20050630	AP20050003301	20030827
AP200603692 A0	20060831	AP20060003692	20041118
AT459578 E	20100315	AT20040817834T	20041118
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AU2003268197 AA	20040504	AU20030268197	20030827
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BRPI0314569 B1	20140218	BR2003PI14569	20030827
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CN1714048 B	20100526	CN20038025545	20030827
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CN1890184 B	20100526	CN200480036833	20041118
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DE602004025848 D1	20100415	DE200460025848T	20041118
EG24347 A	20090212	EG20060000543	20060611
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EP2208709 A2	20100721	EP20090167362	20030827
EP2208709 A3	20110309	EP20090167362	20030827
ES2291149 T1	20080301	ES20030749148T	20030827
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IL167866 A0	20090211	IL20050167866	20050405
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IL176226 A0	20061005	IL20040176226	20041118
IN01962DN2005 A	20090327	IN2005DN01962	20050509
IN03766DN2006 A	20070713	IN2006DN03766	20060630
IN04385DN2007 A	20070824	IN2007DN04385	20070608
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IN04387DN2007 A	20070831	IN2007DN04387	20070608
IN259484 B	20140321	IN2005DN01962	20050509
JP2006502049 T2	20060119	JP20050501052T	20030827
JP2007513759 T2	20070531	JP20060543837T	20041118
KR20050083745 A	20050826	KR20057006197	20050408
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MA28281 A1	20061101	MA20060029159	20060703
NI200600129 A	20070410	NI20060000129	20060609
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RU2006124355 A	20080120	RU20060124355	20041118
SG158741 A1	20100226	SG20070006117	20030827
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US2004206681 AA	20041021	US20030734050	20031211
US2006273009 AA	20061207	US20060485720	20060713
US2007056907 AA	20070315	US20060521020	20060914
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WO04033372 A1	20040422	WO2003US20942	20030703
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ZA200503684 A	20060222	ZA20050003684	20050509
ZA200605694 A	20071031	ZA20060005694	20060711

Priority:

EP20030749148	20030827	EP20040817834	20041118	US20030505341P	20030714
US20030453206	20030603	US20030505341P	20030603	US20020416907P	20021008
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US20070946667P	20070627	US20070865521	20071001	US20090369584	20090211
WO2004US38535	20041118	WO2003US20942	20030703	WO2003US26726	20030827

Probable Assignee: WATER STANDARD CO LLC

Assignee(s): (std): CAVANAUGH MICHAEL J ; CUSHING CHARLES R ; DURANCEAU STEVEN J ; WATER STANDARD CO ; GORDON ANDREW W ; WATER STANDARD COMPANY LLC ; WATER STANDARD COMPANY ; WATER STANDARD CI LP ; WATER STANDARD CO LLC

Assignee(s): WATER STANDARD ; WATER STANDARD LP ; CAVANAUGH J MICHAEL ; WATER STANDARD HOLDING CO

Inventor(s): (std): DURANCEAU STEVEN J ET AL ; GORDON ANDREW ; GORDON ANDREW W ; STEVEN J DURANCEAU ; MICHAEL J CAVANAUGH ; GORDON ANDREW W CUSHING CHARLE ; CHARLES R CUSHING ; ANDREW W GORDON ; DURANCEAU STEVEN J ; CUSHING CHARLES R ; CAVANAUGH J MICHAEL ; CAVANAUGH MICHAEL J

Inventor(s): CAVANAUGH J ; CAVAVAUGH MICHAEL J ; CAVANAUGH MICHEAL J ; CAVANAUGH MICHAEL ; CUSHING CHARLES ; DURANCEAU STEVEN ; GORDON ANDREW W CUSHING CHARLES R DURANCEAU STEVEN

Agent(s): PEGASUS IP; IP SOLVED ANZ PTY LTD; OGILVY RENAULT LLP SENCRL SRL; ALVARO CORREA ORDONEZ; HIBBERT JULIET JANE GRACE; EITAN MEHULAL AND SADOT; RUDEN MCCLOSKY SMITH SCHUSTER AND RUSSELL PA; OSHA LIANG LLP; STANLEY A; RUBEN; OSHA-LIANG LLP; OSHA • LIANG LLP; CALKINS CHARLES W; KIM STANLEY A

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM 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 LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR 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 SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT459578 E	20100315	LSGT	+	granted / extensions (spc, cpc, pte)	
AT459578 E	20100915	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AU2003248808 AA	20040504	LSPB	+	published / reissued	
AU2003248808 AA	20050623	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT	

				APPLIC. NOT ENTERING NATIONAL PHASE	
AU2003268197 AA	20040504	LSPB	+	published / reissued	
AU2003268197 AA	20090723	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2003268197 AA	20100401	LSAS	PC	ASSIGNMENT REGISTERED	OWNER NAME : WATER STANDARD HOLDING COMPANY DESCRIPTION : FORMER OWNER WAS: WATER STANDARD COMPANY LLC
AU2003268197 BB	20090326	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2004303800 AA	20050707	LSPB	+	published / reissued	
AU2004303800 AA	20080515	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU2004303800 AA	20101216	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2004303800 BB	20100819	LSGT	+	granted / extensions (spc, cpc, pte)	
BRPI0314569 A	20050830	LSPB	+	published / reissued	
BRPI0314569 A	20080415	LSAS	B25G	REQUESTED CHANGE OF HEADQUARTER APPROVED	OWNER NAME : WATER STANDARD COMPANY, LLC (US) DESCRIPTION : SEDE ALTERADA CONFORME SOLICITADO NA PETICAO NO 018070019467/SP DE 02/04/2007.
BRPI0314569 A	20110531	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
BRPI0314569 A	20131126	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI0314569 A	20140218	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	DESCRIPTION : PRAZO DE VALIDADE: 10 (DEZ) ANOS CONTADOS A PARTIR DE 18/02/2014, OBSERVADAS AS CONDICOES LEGAIS.
BRPI0314569 B1	20140218	LSGT	+	granted / extensions (spc, cpc, pte)	
BRPI0417121 A	20070306	LSPB	+	published / reissued	
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CA2501414 AA	20090827	LSLE	-FZDE	DEAD	
CA2548720 AA	20060607	LSPB	+	published / reissued	

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CA2548720 AA	20091118	LSLE	-FZDE	DEAD	
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CN1714048 A	20051228	LSPB	+C06	PUBLICATION	
CN1714048 A	20100526	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1714048 B	20100526	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1890184 A	20070103	LSPB	+	published / reissued	
CN1890184 A	20070103	LSPB	+C06	PUBLICATION	
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CN1890184 B	20100526	LSGT	+	granted / extensions (spc, cpc, pte)	
CO5720990 A2	20070131	LSPB	+	published / reissued	
CO5720990 A2	20090717	LSRV	-FC	APPLICATION REFUSED	
DE602004025848 D1	20110324	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
EG24347 A	20090212	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP1551769 A2	20050713	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20050506
EP1551769 A2	20050914	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : CUSHING, CHARLES, R.
EP1551769 A2	20050914	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : DURANCEAU, STEVEN, J.
EP1551769 A2	20050914	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : GORDON, ANDREW, W.
EP1551769 A2	20050914	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : CAVANAUGH, J., MICHAEL
EP1551769 A2	20050928	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : WATER STANDARD COMPANY, LLC
EP1551769 A2	20071219	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20071114
EP1551769 A2	20100113	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : WATER STANDARD (CI), LP
EP1551769 A2	20100310	LSRV	-18R	REFUSED	EFFECTIVE DATE : 20100112
EP1551769 A2	20120413	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1079756 COUNTRY OF REF DOCUMENT : HK
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EP1697261 A1	20060906	LSES	+17P	REQUEST FOR EXAMINATION	EFFECTIVE DATE : 20060626

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EP1697261 A1	20071219	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20071115
EP1697261 A1	20090902	LSRE	RTI1	TITLE (CORRECTION)	TEXT : DESALINATION SHIP AND METHOD FOR PRODUCING DESALINATED WATER
EP1697261 A1	20100113	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : WATER STANDARD (CI), LP
EP1697261 A1	20100303	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1697261 A1	20100315	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1697261 A1	20100331	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1697261 A1	20100421	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GR REF LEGAL EVENT CODE : EP REF DOCUMENT NUMBER : 20100400688 COUNTRY OF REF DOCUMENT : GR
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EP1697261 A1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100603
EP1697261 A1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100303
EP1697261 A1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100703
EP1697261 A1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100303
EP1697261 A1	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100303
EP1697261 A1	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

					LAPSED DATE : 20100705
EP1697261 A1	20110209	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20101206
EP1697261 A1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100303
EP1697261 A1	20110630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20101130
EP1697261 A1	20110630	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1697261 A1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20101130
EP1697261 A1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20101130
EP1697261 A1	20110819	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20110801
EP1697261 A1	20110901	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602004025848 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20110531
EP1697261 A1	20111031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20101130
EP1697261 A1	20120131	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20111005 YEAR OF FEE PAYMENT : 8
EP1697261 A1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100904
EP1697261 A1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20101118
EP1697261 A1	20130628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110531
EP1697261 A1	20130814	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1697261 A1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING	COUNTRY OF REF DOCUMENT : IE

				STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20121118
EP1697261 A1	20150130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20141118 YEAR OF FEE PAYMENT : 11
EP1697261 A1	20160129	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20151127 YEAR OF FEE PAYMENT : 12
EP1697261 A1	20160229	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151126 YEAR OF FEE PAYMENT : 12
EP1697261 A1	20160229	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : CY PAYMENT DATE : 20151103 YEAR OF FEE PAYMENT : 12
EP1697261 A1	20170131	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161128 YEAR OF FEE PAYMENT : 13
EP1697261 A1	20170228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161128 YEAR OF FEE PAYMENT : 13
EP1697261 B1	20100303	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2208709 A2	20100721	LSPB	+	published / reissued	
EP2208709 A2	20110309	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/44 20060101AFI20110203BHEP
EP2208709 A2	20110309	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/00 20060101ALI20110203BHEP
EP2208709 A2	20111026	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20110909
EP2208709 A2	20120314	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20120213
EP2208709 A2	20130220	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20120824
ES2291149 T1	20080301	LSPB	+	published / reissued	
ES2291150 T1	20080301	LSPB	+	published / reissued	
ES2291150 T3	20100630	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1079756 A3	20060413	LSPB	+	published / reissued	
HK1094570 A3	20070404	LSPB	+	published / reissued	
IL167866 A0	20120830	LSGT	+FF	PATENT GRANTED	
IL167866 A0	20130530	LSLE	-MM9K	PATENT NOT IN FORCE DUE TO NON-PAYMENT OF RENEWAL FEES	
IL167866 A1	20120430	LSPB	+	published / reissued	
IN01962DN2005 A	20090327	LSPB	+	published / reissued	
IN03766DN2006 A	20070713	LSPB	+	published / reissued	
IN04385DN2007 A	20070824	LSPB	+	published / reissued	
IN04386DN2007 A	20070824	LSPB	+	published / reissued	
IN04387DN2007 A	20070831	LSPB	+	published / reissued	

IN259484 B	20140321	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2006502049 T2	20060119	LSPB	+	published / reissued	
JP2006502049 T2	20060530	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20060529
JP2006502049 T2	20060608	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20060529
JP2006502049 T2	20081104	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20081031
JP2006502049 T2	20090330	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20090327
JP2007513759 T2	20070531	LSPB	+	published / reissued	
JP2007513759 T2	20071117	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20071116
JP2007513759 T2	20071120	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20071119
JP2007513759 T2	20100921	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100917
JP2007513759 T2	20100921	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100917
JP2007513759 T2	20110307	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20110304
JP2007513759 T2	20110307	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20110304
KR20050083745 A	20050826	LSPB	+	published / reissued	
KR20050083745 A	20070620	LSES	A201	REQUEST FOR EXAMINATION	
KR20050083745 A	20081127	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20050083745 A	20090526	LSRV	-E90F	NOTIFICATION OF REASON FOR FINAL REFUSAL	
KR20050083745 A	20090909	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20060123444 A	20061201	LSPB	+	published / reissued	
KR20060123444 A	20100105	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
MA28281 A1	20061101	LSPB	+	published / reissued	
NI200600129 A	20070410	LSGT	+	granted / extensions (spc, cpc, pte)	
NO20063344 A	20060915	LSPB	+	published / reissued	
NO20063344 A	20070625	LSRE	+RE	REESTABLISHMENT OF RIGHTS (PAR. 72 PATENTS ACT)	
NO20063344 A	20100628	LSRV	-FC2A	WITHDRAWAL, REJECTION OR DISMISSAL OF LAID OPEN PATENT APPLICATION	
RU2006124355 A	20080120	LSPB	+	published / reissued	

RU2006124355 A	20090820	LSWD	-FA92	ACKNOWLEDGEMENT OF APPLICATION WITHDRAWN (LACK OF SUPPLEMENTARY MATERIALS SUBMITTED)	EFFECTIVE DATE : 20090618
SG158741 A1	20100226	LSPB	+	published / reissued	
US2004065614 AA	20040408	LSPB	+	published / reissued	
US2004206681 AA	20041021	LSPB	+	published / reissued	
US2006273009 AA	20061207	LSPB	+	published / reissued	
US2007056907 AA	20070315	LSPB	+	published / reissued	
US2007227962 AA	20071004	LSPB	+	published / reissued	
US2007227962 AA	20061117	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD COMPANY, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W., MR.; REEL/FRAME:018532/0648 EFFECTIVE DATE : 20060908
US2008011681 AA	20080117	LSPB	+	published / reissued	
US2008011681 AA	20070910	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD CO., LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W., MR.; REEL/FRAME:019802/0478 EFFECTIVE DATE : 20070828
US2008011681 AA	20080430	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD COMPANY LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W.; REEL/FRAME:020881/0641 EFFECTIVE DATE : 20080415
US2008011689 AA	20080117	LSPB	+	published / reissued	
US2008156731 AA	20080703	LSPB	+	published / reissued	
US2008156731 AA	20071009	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD CO., LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W., MR.; REEL/FRAME:019934/0301 EFFECTIVE DATE : 20071004
US2008156731 AA	20080430	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD COMPANY LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W.; REEL/FRAME:020881/0664 EFFECTIVE DATE : 20080415
US2008173589 AA	20080724	LSPB	+	published / reissued	
US2008173589 AA	20070910	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD CO., LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W., MR.; REEL/FRAME:019801/0295 EFFECTIVE DATE : 20070827
US2008173589 AA	20080430	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD COMPANY LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W.;

					REEL/FRAME:020878/0409 EFFECTIVE DATE : 20080415
US2009139933 AA	20090604	LSPB	+	published / reissued	
US7081205 BB	20060725	LSGT	+	granted / extensions (spc, cpc, pte)	
US7081205 BB	20031104	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD COMPANY, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GORDON, ANDREW W.; CUSHING, CHARLES R.; DURANCEAU, STEVEN J.; AND OTHERS; REEL/FRAME:014666/0565; SIGNING DATES FROM 20030828 TO 20030905
US7081205 BB	20100125	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7081205 BB	20140127	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7416666 BB	20080826	LSGT	+	granted / extensions (spc, cpc, pte)	
US7416666 BB	20040503	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD COMPANY, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W.; REEL/FRAME:015298/0663 EFFECTIVE DATE : 20031229
US7416666 BB	20120227	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7416666 BB	20160226	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7455778 BB	20081125	LSGT	+	granted / extensions (spc, cpc, pte)	
US7455778 BB	20061121	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD COMPANY, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W., MR.; REEL/FRAME:018541/0279 EFFECTIVE DATE : 20060918
US7455778 BB	20120525	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7455778 BB	20160525	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7476323 BB	20090113	LSGT	+	granted / extensions (spc, cpc, pte)	
US7476323 BB	20070818	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD CO., LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W., MR.; REEL/FRAME:019713/0624 EFFECTIVE DATE : 20070817
US7476323 BB	20080430	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD COMPANY LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, ANDREW W.; REEL/FRAME:020878/0418 EFFECTIVE DATE : 20080415
US7476323 BB	20120713	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7476323 BB	20160713	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7510658 BB	20090331	LSGT	+	granted / extensions (spc, cpc, pte)	

US7510658 BB	20060809	LSAS	AS	ASSIGNMENT	OWNER NAME : WATER STANDARD COMPANY, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, MR. ANDREW W.; REEL/FRAME:018074/0457 EFFECTIVE DATE : 20060714
US7510658 BB	20121001	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7510658 BB	20160930	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
WO04033372 A1	20040422	LSPB	+	published / reissued	
WO04033372 A1	20060726	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	
WO04033372 A1	20060905	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO04033372 A1	20060905	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : JP
WO04033373 A2	20040422	LSPB	+	published / reissued	
WO04033373 A3	20050405	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2501414 COUNTRY OF REF DOCUMENT : CA
WO04033373 A3	20050405	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 167866 COUNTRY OF REF DOCUMENT : IL
WO04033373 A3	20050406	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005501052 COUNTRY OF REF DOCUMENT : JP
WO04033373 A3	20050408	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020057006197 COUNTRY OF REF DOCUMENT : KR
WO04033373 A3	20050408	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2005/003825 COUNTRY OF REF DOCUMENT : MX
WO04033373 A3	20050506	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003749148 COUNTRY OF REF DOCUMENT : EP
WO04033373 A3	20050509	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200503684 COUNTRY OF REF DOCUMENT : ZA
WO04033373 A3	20050509	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005/03684 COUNTRY OF REF DOCUMENT : ZA
WO04033373 A3	20050509	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003268197 COUNTRY OF REF DOCUMENT : AU
WO04033373 A3	20050606	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 20038255456 COUNTRY OF REF DOCUMENT : CN
WO04033373 A3	20050713	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2003749148 COUNTRY OF REF DOCUMENT : EP
WO04033373 A3	20050826	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020057006197 COUNTRY OF REF DOCUMENT : KR

WO05061389 A1	20050707	LSPB	+	published / reissued	
WO05061389 A1	20060602	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12006501090 COUNTRY OF REF DOCUMENT : PH
WO05061389 A1	20060605	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006543837 COUNTRY OF REF DOCUMENT : JP
WO05061389 A1	20060607	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2548720 COUNTRY OF REF DOCUMENT : CA
WO05061389 A1	20060608	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PA/A/2006/006493 COUNTRY OF REF DOCUMENT : MX
WO05061389 A1	20060608	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 176226 COUNTRY OF REF DOCUMENT : IL
WO05061389 A1	20060626	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2004303800 COUNTRY OF REF DOCUMENT : AU
WO05061389 A1	20060626	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 548132 COUNTRY OF REF DOCUMENT : NZ
WO05061389 A1	20060626	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2004817834 COUNTRY OF REF DOCUMENT : EP
WO05061389 A1	20060707	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020067013672 COUNTRY OF REF DOCUMENT : KR
WO05061389 A1	20060711	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200605694 COUNTRY OF REF DOCUMENT : ZA
WO05061389 A1	20060711	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006124355 COUNTRY OF REF DOCUMENT : RU
WO05061389 A1	20060711	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006/05694 COUNTRY OF REF DOCUMENT : ZA
WO05061389 A1	20060720	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2004303800 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20041118 KIND CODE OF REF DOCUMENT : A
WO05061389 A1	20060720	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2004303800 COUNTRY OF REF DOCUMENT : AU
WO05061389 A1	20060906	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2004817834 COUNTRY OF REF DOCUMENT : EP
WO05061389 A1	20061201	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1020067013672 COUNTRY OF REF DOCUMENT : KR
WO05061389 A1	20070306	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0417121 COUNTRY OF REF DOCUMENT : BR

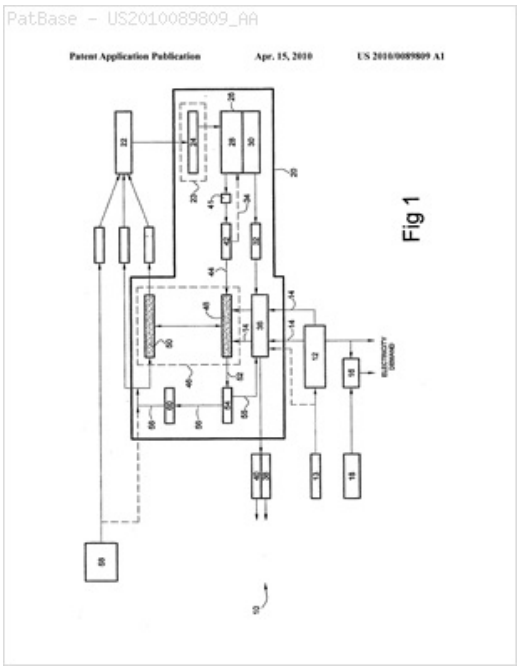
WO07103056 A2	20070913	LSPB	+	published / reissued	
WO07103056 A3	20080902	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
ZA200503684 A	20060222	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200605694 A	20071031	LSGT	+	granted / extensions (spc, cpc, pte)	

48) Family number: 41733114 (US2010089809A)

Title: INTEGRATED UTILITY SYSTEM

Abstract: Source: US2010089809A An integrated utility system (10) comprising; i) a power supply (12); and ii) a wastewater treatment system (20), wherein waste energy from the power supply (12) is utilised in the wastewater treatment system (20).

Classifications:
International (IPC 8-9): B01D61/08 C02F1/00 C02F1/16 C02F1/28 C02F1/42 C02F1/44 C02F1/50 C02F1/72 C02F11/00 C02F11/06 C02F11/12 C02F9/00 E03C1/00 F01K17/00 F02B65/00 F02C6/18 F02G5/00 F03G7/00 F23G7/00 (Advanced/Invention);
C02F1/02 C02F1/28 C02F1/44 C02F1/50 C02F1/52 C02F11/06 C02F11/12 C02F11/14 (Advanced/Non-invention);
B01D61/02 C02F1/00 C02F1/16 C02F1/28 C02F1/42 C02F1/44 C02F1/50 C02F1/72 C02F11/12 C02F9/00 E03C1/00 F01K17/00 F02C6/18 F03G7/00 (Core/Invention)
International (IPC 1-7): C02F1/00
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European: C02F9/00 M02F1/02 M02F1/28D M02F1/44B M02F1/44D M02F1/50 M02F11/06 M02F11/12 M02F11/12C M02F209/00T4 Y02E20/14 Y02E50/11
US: 210/142 210/175 210/175S 210/198.1 210/198.100S 210/251 210/251S 210/769 210/769S



Family:

Publication number	Publication date	Application number	Application date
AU2007307388 AA	20080417	AU20070307388	20071008
AU2007307388 BB	20130110	AU20070307388	20071008
BRPI0719832 A2	20140204	BR2007PI19832	20071008
CA2701364 AA	20080417	CA20072701364	20071008
CA2701364 C	20150407	CA20072701364	20071008
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CN104743620 A	20150701	CN201510096393	20071008
EA014379 B1	20101029	EA20090070380	20071008
EA200970380 A1	20091030	EA20090070380	20071008
EP2086887 A2	20090812	EP20070860942	20071008
EP2086887 A4	20140917	EP20070860942	20071008
IN03038DN2009 A	20090717	IN2009DN03038	20090508
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JP5491183 B2	20140514	JP20090532320T	20071008
US2010089809 AA	20100415	US20070445064	20071008
WO08044945 A2	20080417	WO2007NZ00297	20071008
WO08044945 A3	20080529	WO2007NZ00297	20071008

Priority:

AU20060905601 20061009 AU20060905601P 20061009 WO2007NZ00297 20071008
AU20070307388 20071008 CN200780037683 20071008

Probable Assignee: MONTCRIEFF IAN

Assignee(s): (std): BRIDLE TREVOR REDVERS ; IAN MONCRIEFF ; MONCRIEFF IAN

Assignee(s): MONTCRIEFF IAN

Inventor(s): (std): IAN MONCRIEFF ; REDVERS BRIDLE TREVOR ; MONCRIEFF IAN ; BRIDLE TREVOR REDVERS

Inventor(s): TREVOR REDVERS BRIDLE

Agent(s): WRAYS; MOFFAT AND CO; BUCKS TERESA ANNE; HIRAYAMA KOJI; ONO SHINJIRO; SHAMOTO ICHIO; KOBAYASHI YASUSHI; TOMITA HIROYUKI; CHIBA AKIO; INTELLECTUAL PROPERTY / TECHNOLOGY LAW; WRAY AND ASSOCIATES

Designated states: AE AG AL AM 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 LI 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 SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2007307388 AA	20080417	LSPB	+	published / reissued	

AU2007307388 AA	20130509	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2007307388 BB	20130110	LSGT	+	granted / extensions (spc, cpc, pte)	
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CA2701364 AA	20080417	LSPB	+	published / reissued	
CA2701364 AA	20100621	LSES	+EEER	EXAMINATION REQUEST	
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CA2701364 C	20150407	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN101528608 A	20150826	LSRV	-C12	REJECTION OF A PATENT APPLICATION AFTER ITS PUBLICATION	
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EA014379 B1	20101029	LSGT	+	granted / extensions (spc, cpc, pte)	
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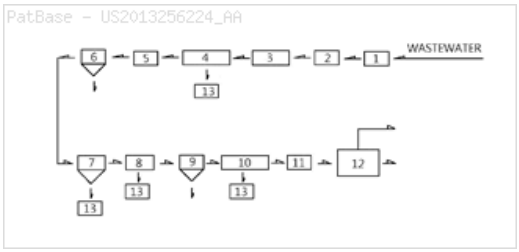
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JP5491183 B2	20121222	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20121221
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JP5491183 B2	20140307	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5491183 COUNTRY OF REF DOCUMENT : JP
JP5491183 B2	20170307	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
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49) Family number: 48749894 (US2013256224A)

Title: TANNING WASTEWATER TREATMENT AND REUSE APPARATUS AND METHOD THEREFOR

Abstract: Source: US2013256224A A tanning wastewater treatment and reuse apparatus includes a coarse filter, a regulation pool, a hydraulic sieve, a desulfurization pool, a first nanocatalytic electrolyzer, a flocculation pool, a first settling pool, a flotation device, a biochemical pool, a second settling pool, a second nanocatalytic electrolyzer, a fine filter, and a compressor. Also provided is a tanning wastewater treatment and reuse method includes the steps of desulfurization, first nanocatalytic electrolysis, flocculation, biochemical treatment, second catalytic electrolysis, and filtration. The invention allows high CODCr removal rate, reduced chemical agent consumption, reduced sludge formation, thorough treatment, and high water reuse rate.



Classifications:
International (IPC 8-9): C02F1/00 C02F1/24 C02F1/44 C02F1/461 C02F1/463 C02F1/465 C02F1/467 C02F1/52 C02F1/56 C02F1/72 C02F101/10 C02F101/16 C02F101/30 C02F101/32 C02F103/24 C02F11/12 C02F3/02 C02F3/30 C02F9/00
C02F9/14 (Advanced/Invention);
C02F1/24 C02F1/44 C02F1/461 C02F1/463 C02F1/465 C02F1/467 C02F1/52 C02F1/56 C02F1/72 C02F101/10 C02F101/16 C02F101/30 C02F101/32 C02F103/24 C02F11/12 C02F3/02
C02F3/30 (Advanced/Non-invention)
CPC: C02F9/00 C02F1/001 C02F1/24 C02F1/444 C02F1/463 C02F1/5245 C02F1/56 C02F3/302 C02F2303/24 C02F1/4672 C02F1/461 C02F1/465 C02F1/725 C02F3/02 C02F3/30 C02F11/12 C02F2001/007 C02F2001/46142 C02F2101/101 C02F2101/16 C02F2101/308 C02F2101/32 C02F2103/24 C02F2201/46135 C02F2201/4614 C02F2201/4615 C02F2209/001 C02F2209/19 C02F2301/08 C02F2303/04 C02F2305/023 C02F2305/08 Y02W10/15
European: C02F9/00 M02F1/00D M02F1/24 M02F1/44D M02F1/463 M02F1/52F2 M02F1/56 M02F3/30D M02F303/24
US: 210/151 210/195.1 210/295 210/620 210/748.01 210/763

Family:

Publication number	Publication date	Application number	Application date
CN102010107 A	20110413	CN201010605706	20101224
CN102010107 B	20111228	CN201010605706	20101224
DE602011029474 D1	20161006	DE201160029474T	20110701
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EP2657197 A4	20150225	EP20110850287	20110701
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IN01221MN2013 A	20150605	IN2013MN01221	20130621
US2013256224 AA	20131003	US20110992755	20110701
US8715509 BB	20140506	US20110992755	20110701
WO12083674 A1	20120628	WO2011CN76759	20110701

Priority:

CN201010605706 20101224 EP20110850287 20110701 WO2011CN76759 20110701 WO2011CN076759 20110701

Probable Assignee: BOYING XIAMEN SCI AND TECH CO

Assignee(s): (std): BOYING XIAMEN SCI AND TECH CO ; BOYING XIAMEN SCIENCE AND TECHNOLOGY CO LTD ; ZHANG SHIWEN

Assignee(s): BOYING XIAMEN SCIENCE AND TECHNOLOGY CO LTD XIAMEN ; BOYING XIAMEN SCIENCE AND TECHNOLOGY CO

Inventor(s): (std): FENG WANG ; HONGDA FANG ; MEIPING PAN ; SHIWEN ZHANG ; XIHE JI ; ZHANG SHIWEN

Inventor(s): WANG FENG ; PAN MEIPING ; JI XIHE ; FANG HONGDA

Agent(s): SCHWERBROCK FLORIAN; QUANZHOU BOYI PATENT AGENCY

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 LI 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN102010107 A	20110413	LSPB	+	published / reissued	
CN102010107 A	20110413	LSPB	+C06	PUBLICATION	
CN102010107 A	20111228	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
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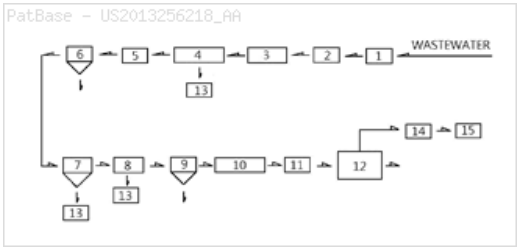
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EP2657197 B1	20160817	LSGT	+	granted / extensions (spc, cpc, pte)	
IN01221MN2013 A	20150605	LSPB	+	published / reissued	
US2013256224 AA	20131003	LSPB	+	published / reissued	
US2013256224 AA	20130610	LSAS	AS	ASSIGNMENT	OWNER NAME : BOYING XIAMEN SCIENCE AND TECHNOLOGY CO., LTD., CH DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ZHANG, SHIWEN; REEL/FRAME:030573/0848 EFFECTIVE DATE : 20130610
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US8715509 BB	20140506	LSGT	+	granted / extensions (spc, cpc, pte)	
WO12083674 A1	20120628	LSPB	+	published / reissued	
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WO12083674 A1	20130624	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

50) Family number: 48887961 (US2013256218A)

Title: PRINTING AND DYEING WASTEWATER TREATMENT AND REUSE APPARATUS AND METHOD THEREFOR

Abstract: Source: US2013256218A A printing and dyeing wastewater treatment and reuse apparatus includes a coarse filter, a regulation pool, a hydraulic sieve, a desulfurization pool, a nanocatalytic electrolyzer, a flocculation pool, a flocculation tank, a settling pool, a flotation device, a biochemical pool, a secondary settling pool, a secondary nanocatalytic electrolyzer, a fine filter, a compressor, a nanomembrane assembly, and a recycling pool. Also provided is a printing and dyeing wastewater treatment and reuse method including steps of desulfurization, nanocatalytic electrolysis, flocculation, biochemical treatment, secondary catalytic electrolysis, filtration, and separation by membrane. The invention allows high CODCr removal rate, reduced chemical agent consumption, reduced sludge formation, thorough treatment, and high water reuse rate.



Classifications:
International (IPC 8-9): C02F1/00 C02F1/24 C02F1/44 C02F1/461 C02F1/463 C02F1/465 C02F1/467 C02F1/52 C02F1/56 C02F1/72 C02F101/10 C02F101/30 C02F103/14 C02F103/30 C02F11/12 C02F3/02 C02F3/30 C02F9/00 C02F9/14 (Advanced/Invention); C02F1/24 C02F1/44 C02F1/461 C02F1/463 C02F1/465 C02F1/467 C02F1/52 C02F1/56 C02F1/72 C02F101/10 C02F101/30 C02F103/14 C02F103/30 C02F11/12 C02F3/02 C02F3/30 (Advanced/Non-invention)
CPC: C02F1/24 C02F1/441 C02F1/5245 C02F1/56 C02F3/30 C02F2001/007 C02F2101/101 C02F2103/14 C02F2303/24 C02F1/461 C02F9/00 C02F1/4672 C02F2001/46142 C02F2201/4615 C02F1/001 C02F1/442 C02F1/444 C02F1/463 C02F1/465 C02F1/725 C02F3/02 C02F11/12 C02F2101/308 C02F2103/30 C02F2201/46135 C02F2201/4614 C02F2209/001 C02F2209/19 C02F2301/08 C02F2303/04 C02F2305/023 C02F2305/08 Y02W10/15
US: 210/195.1 210/202 210/295 210/605 210/608 210/748.01 210/763

Family:

Publication number	Publication date	Application number	Application date
CN102050555 A	20110511	CN201010605977	20101224
CN102050555 B	20120725	CN201010605977	20101224
DE602011022537 D1	20160225	DE201160022537T	20110701
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EP2657198 A4	20150225	EP20110851155	20110701
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IN01222MN2013 A	20150605	IN2013MN01222	20130621
US2013256218 AA	20131003	US20110992754	20110701
US8715508 BB	20140506	US20110992754	20110701
WO12083673 A1	20120628	WO2011CN76749	20110701

Priority:
CN201010605977 20101224 EP20110851155 20110701 WO2011CN76749 20110701

Probable Assignee: BOYING XIAMEN SCI AND TECH CO

Assignee(s): (std): BOYING XIAMEN SCI AND TECH CO ; BOYING XIAMEN SCIENCE AND TECHNOLOGY CO LTD ; ZHANG SHIWEN

Assignee(s): BOYING XIAMEN SCIENCE AND TECHNOLOGY CO LTD XIAMEN ; BOYING XIAMEN SCIENCE AND TECHNOLOGY CO

Inventor(s): (std): ZHANG SHIWEN ; XIHE JI ; SHIWEN ZHANG ; MEIPING PAN ; HONGDA FANG ; FENG WANG

Inventor(s): FANG HONGDA ; JI XIHE ; PAN MEIPING ; WANG FENG

Agent(s): SCHWERBROCK FLORIAN; QUANZHOU BOYI PATENT AGENCY

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 LI 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 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN102050555 A	20110511	LSPB	+	published / reissued	
CN102050555 A	20110511	LSPB	+C06	PUBLICATION	
CN102050555 A	20120725	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102050555 B	20120725	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2657198 A1	20131030	LSPB	+	published / reissued	
EP2657198 A1	20131030	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130722
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EP2657198 A1	20160210	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2657198 A1	20160215	LSNP	REG	REFERENCE TO A	REF COUNTRY CODE : AT

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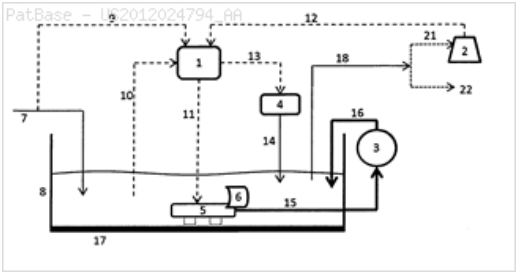
51) Family number: 50551269 (US2012024794A)

Title: METHOD AND SYSTEM FOR TREATING WATER USED FOR INDUSTRIAL PURPOSES

Abstract: Source: US2012024794A A low cost method and system for treating water, which will be used in an industrial process, is provided. A system of the invention generally includes at least one containing means, at least one coordination means, at least one chemical application means, at least one mobile suction means, and at least one filtration means. The coordination means can control the necessary processes depending on the system needs (e.g., water quality or purity). The method and system of the invention purifies the water and eliminates suspended solids without the need of filtering the totality of the water volume, but only filtering a small fraction of up to 200 times less than the flow filtered by a conventional water treatment filtration system.

Classifications:

International (IPC 8-9): B01D21/01 B01D21/02 B01D21/30 B01D36/00 B01D36/04 B01D61/04 C02F C02F1/00 C02F1/20 C02F1/28 C02F1/44 C02F1/50 C02F1/52 C02F1/56 C02F1/64 C02F1/66 C02F1/68 C02F1/70 C02F1/72 C02F1/76 C02F1/78 C02F5/00 C02F5/08 C02F5/10 C02F5/12 C02F5/14 C02F9/00 C02F9/02 C02F9/04 (Advanced/Invention);
C02F1/24 C02F1/44 C02F1/50 C02F1/52 C02F1/56 C02F1/72 C02F1/76 C02F1/78 C02F101/20 C02F103/02 C02F103/08 C02F103/10 C02F5/08 (Advanced/Non-invention);
C02F1/00 (Core/Invention);
B01D C02F (Subclass/Invention)



CPC: C02F1/004 C02F1/008 B01D21/30 C02F1/24 C02F1/441 C02F1/442 C02F1/444 C02F1/50 C02F1/5236 C02F1/56 C02F1/722 C02F1/76 C02F1/766 C02F1/78 C02F5/08 C02F2101/203 C02F2101/206 C02F2103/02 C02F2103/08 C02F2103/10 C02F2209/02 C02F2209/04 C02F2209/10 C02F2209/11 C02F2303/185 Y02W10/33 Y02W10/37

European: B01D21/30 C02F9/00 M02F1/00T M02F1/28 M02F1/44B M02F1/44D M02F1/467B M02F1/52F M02F1/56 M02F1/76G M02F1/78 M02F101/20B M02F101/20D M02F209/02 M02F209/03 M02F209/04 M02F5/08

US: 1/1 210/141 210/141S 210/170.09 210/665 210/709 210/709S 210/712 210/712S 210/721 210/742 210/747.9

Family:

Publication number	Publication date	Application number	Application date
AP201307116 A0	20130930	AP20130007116	20110912
AP3746 A	20160731	AP20130007116	20110912
AR085764 AA	20131023	AR2012P101092	20120329
AU2011363516 AA	20121004	AU20110363516	20110912
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AU2016202093 AA	20160428	AU20160202093	20160404
CA2830175 AA	20130912	CA20112830175	20110912
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CN103608296 B	20150527	CN201180069717	20110912
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DK2691340 T3	20170403	DK19110862833T	20110912
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EA201690700 A1	20160729	EA20160090700	20110912
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HK1213215 A1	20160630	HK20160101070	20140416
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US2012024794 AA	20120202	US20110136474	20110801
US2013306532 AA	20131121	US20130948619	20130723
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ZA201306541 A	20131127	ZA20130006541	20130830

Priority:

AU20110363516 20110912 AU20160202093 20160404 EP20110862833 20110912
JP20140502536 20110912 CN201180069717 20110912 JP20140502536T 20110912
US20110469537P 20110330 US20110136474 20110801 WO2011US51236 20110912
US20130948619 20130723

Probable Assignee: CRYSTAL LAGOONS CURACAO BV

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Inventor(s): FERNANDO T FISCHMANN ; FISCHMANN TFERNANDO FT

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; ROBIC; ESTUDIO CLARKE MODET CO LIMITADA; SILVANA MARIA LOPEZ DIAZ; CARVAJAL Y URQUIJO ISABEL; FRICK ROBERT; SIMON LAVIE; DREW AND NAPIER LLC; MERCHANT AND GOULD PC; KOWALCHYK KATHERINE M

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 LI 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 RW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AP3746 A	20160731	LSGT	+	granted / extensions (spc, cpc, pte)	
AR085764 AA	20131023	LSPB	+	published / reissued	
AU2011363516 AA	20121004	LSPB	+	published / reissued	
AU2011363516 AA	20160901	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2011363516 BB	20160505	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2016202093 AA	20160428	LSPB	+	published / reissued	
CA2830175 AA	20130912	LSPB	+	published / reissued	
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CL52481 B	20160505	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN103608296 A	20140226	LSPB	+C06	PUBLICATION	
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					REF DOCUMENT NUMBER : 1190695 COUNTRY OF REF DOCUMENT : HK
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				(CORRECTION)	CLASSIFICATIONSYMBOL : C02F 103/08 20060101ALN20140205BHEP
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EP2691340 A1	20140312	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/78 20060101ALN20140205BHEP
EP2691340 A1	20140312	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 103/02 20060101ALN20140205BHEP
EP2691340 A1	20140312	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 9/02 20060101ALI20140205BHEP
EP2691340 A1	20150304	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20150202
EP2691340 A1	20160817	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20160722
EP2691340 A1	20160817	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 9/02 20060101ALI20160713BHEP
EP2691340 A1	20160817	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/50 20060101ALN20160713BHEP
EP2691340 A1	20160817	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/78 20060101ALN20160713BHEP
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EP2691340 A1	20161230	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2691340 A1	20170115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 856807 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20170115
EP2691340 A1	20170125	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2691340 A1	20170209	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602011033936 COUNTRY OF REF DOCUMENT : DE
EP2691340 A1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161228
EP2691340 B1	20161228	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP2705885 A1	20140709	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140529
EP2705885 A1	20150304	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20150202
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EP2705885 A1	20160817	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : FISCHMANN, T., FERNANDO
EP2705885 A1	20161230	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2705885 A1	20170115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 856808 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20170115

EP2705885 A1	20170125	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2705885 A1	20170223	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602011033950 COUNTRY OF REF DOCUMENT : DE
EP2705885 A1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161228
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EP3147015 A1	20170329	LSPB	+	published / reissued	
EP3156111 A1	20170419	LSPB	+	published / reissued	
GE20156316 B	20150710	LSGT	+	granted / extensions (spc, cpc, pte)	
GT201300223 A	20150325	LSPB	+	published / reissued	
HK1190695 A1	20160520	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1213215 A1	20160630	LSGT	+	granted / extensions (spc, cpc, pte)	
IL228460 A1	20170131	LSPB	+	published / reissued	
IL239846 A1	20160831	LSPB	+	published / reissued	
IN02953KN2013 A	20131108	LSPB	+	published / reissued	
JP2014097494 A2	20140529	LSPB	+	published / reissued	
JP2014097494 A2	20150325	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150324
JP2014097494 A2	20150924	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150924
JP2014097494 A2	20160127	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160126
JP2014097494 A2	20160721	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160721
JP2014097494 A2	20160907	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014097494 A2	20160913	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20160913
JP2014097494 A2	20161020	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20161012
JP2014512263 T2	20140522	LSPB	+	published / reissued	
JP2014512263 T2	20140409	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140408
JP2014512263 T2	20140709	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523

					EFFECTIVE DATE : 20140708
JP2014512263 T2	20140806	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140805
JP2014512263 T2	20141031	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20141030
JP2014512263 T2	20141119	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014512263 T2	20141126	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20141125
JP2014512263 T2	20150108	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20141224
JP5676048 B2	20150225	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6026392 B2	20161116	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101579067 B1	20151221	LSGT	+	granted / extensions (spc, cpc, pte)	
KR20130135324 A	20131210	LSPB	+	published / reissued	
KR20130135324 A	20130930	LSES	A201	REQUEST FOR EXAMINATION	
KR20130135324 A	20150417	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20130135324 A	20151209	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
MA35053 B1	20140403	LSGT	+	granted / extensions (spc, cpc, pte)	
MX2013011198 A1	20131216	LSPB	+	published / reissued	
MX2013011198 A1	20150105	LSGT	+FG	GRANT OR REGISTRATION	
MY153481 A	20150216	LSGT	+	granted / extensions (spc, cpc, pte)	
NZ614058 A	20151224	LSPB	+	published / reissued	
NZ614058 A	20160331	LSGT	+PSEA	PATENT SEALED	
NZ614058 A	20160624	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	DESCRIPTION : PATENT RENEWED FOR 3 YEARS UNTIL 12 SEP 2018 BY HENRY HUGHES IP LIMITED EFFECTIVE DATE : 20160607
PE04162014 A1	20140403	LSPB	+	published / reissued	
PH2015500470 A	20150413	LSPB	+	published / reissued	
PH2015500470 B	20150413	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2013145461 A	20150420	LSPB	+	published / reissued	
RU2534091 C1	20141127	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2606599 C2	20170110	LSGT	+	granted / extensions (spc, cpc, pte)	
SG193638 A1	20131129	LSPB	+	published / reissued	
SG2014015168 A1	20140926	LSPB	+	published /	

				reissued	
TH132848 A	20140423	LSPB	+	published / reissued	
TN2013000376 A1	20150120	LSPB	+	published / reissued	
UA108925 C2	20150625	LSGT	+	granted / extensions (spc, cpc, pte)	
US2012024794 AA	20120202	LSPB	+	published / reissued	
US2013306532 AA	20131121	LSPB	+	published / reissued	
US8518269 BB	20130827	LSGT	+	granted / extensions (spc, cpc, pte)	
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US8518269 BB	20130308	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CRYSTAL LAGOONS (CURACAO) B.V., NETHERLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CRYSTAL LAGOONS CORPORATION LLC; REEL/FRAME:029957/0159 EFFECTIVE DATE : 20120703
US8518269 BB	20170216	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9051193 BB	20150609	LSGT	+	granted / extensions (spc, cpc, pte)	
UY33991 A1	20120928	LSPB	+	published / reissued	
WO12134526 A1	20121004	LSPB	+	published / reissued	
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WO12134526 A1	20130912	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2830175 COUNTRY OF REF DOCUMENT : CA
WO12134526 A1	20130916	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 13228 COUNTRY OF REF DOCUMENT : GE KIND CODE OF REF DOCUMENT : P
WO12134526 A1	20130916	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13228 COUNTRY OF REF DOCUMENT : GE
WO12134526 A1	20130927	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014502536 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
WO12134526 A1	20130930	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20137025797 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A
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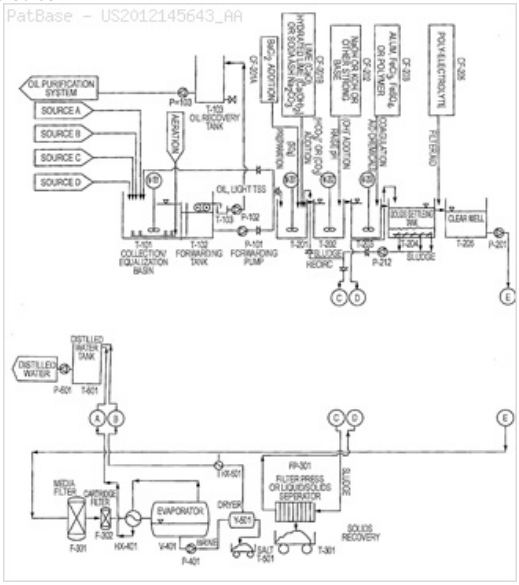
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52) Family number: 50888012 (US2012145643A)

Title: HIGH EFFICIENCY WATER-SOFTENING PROCESS

Abstract: Source: US2012145643A A high-efficiency water softening process is disclosed. The softening-process is particularly effective for the treatment of water process streams containing a broad array of contaminants, such as Ca, Mg, Ba, Sr, iron, aluminum, manganese, copper, zinc, silica, TOC, oil, and grease. The softening-process includes steps of: (a) adding carbonate ions and hydroxide ions to said water process stream until the process stream pH is raised to between at or about 10.5 and at or about 14.0; (b) optionally adding a coagulation aid so as to facilitate the creation of separated solids comprising a substantial portion of the contaminants; (c) optionally adding a polyelectrolyte so as to facilitate the creation of separated solids comprising a substantial portion of the contaminants; and (d) phase-separating the separated solids so as to remove the contaminants and produce a highly purified water process stream.

Classifications:
International (IPC 8-9): B01D21/01 B01D61/14 B01D61/58 C02F1/04 C02F1/52 C02F1/56 C02F1/66 C02F101/10 C02F5/02 C02F9/02 C02F9/04 (Advanced/Invention);
C02F1/00 C02F101/10 C02F101/20 C02F101/32 C02F11/12 C02F5/00 (Advanced/Non-invention)
CPC: Y10S210/912 C02F5/02 C02F1/24 C02F5/06 C02F9/00 C02F11/121 C02F2103/007 C02F2103/365 C02F2209/05 C02F2209/06 C02F1/56 B01D21/01 B01D61/58 C02F1/001 C02F1/04 C02F1/5236 C02F1/66 C02F5/00 C02F11/122 C02F2001/007 C02F2101/10 C02F2101/203 C02F2101/206 C02F2101/32 C02F2209/001 C02F2209/10 C02F2209/20
European: C02F1/56 M02F1/00D M02F1/00S M02F1/52F M02F1/66 M02F101/20B M02F101/20D M02F101/32 M02F11/12C M02F209/00B M02F209/10 M02F209/20 M02F5/02 M02F5/06
US: 1/1 210/638 210/639 210/705 210/709 210/717 210/719 210/719S 210/725 210/727 210/912



Family:

Publication number	Publication date	Application number	Application date
US2012145643 AA	20120614	US20120398648	20120216
US8147696 BA	20120403	US20060523679	20060919
US9056784 BB	20150616	US20120398648	20120216
WO13122593 A1	20130822	WO2012US25498	20120216

Priority:
US20060523679 20060919 US20120398648 20120216

Probable Assignee: AWTS INC

Assignee(s): (std): AWTS INC ; PANDYA KEN V

Inventor(s): (std): PANDYA KEN V

Agent(s): JACK D; SCHEEF AND STONE LLP; STONE JACK D

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 RW 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

Legal status (INPADOC)

View legal status timeline

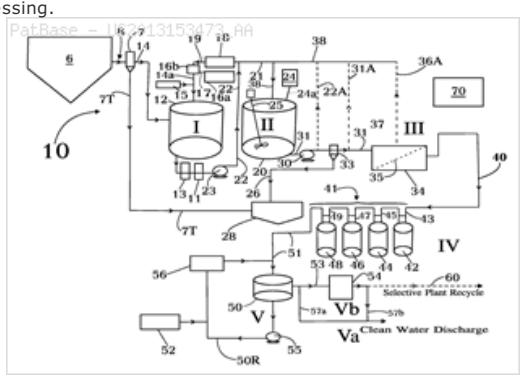
Patent	Date recorded	Event group	Code	Event	Details
US2012145643 AA	20120614	LSPB	+	published / reissued	
US8147696 BA	20120403	LSGT	+	granted / extensions (spc, cpc, pte)	
US8147696 BA	20061010	LSAS	AS	ASSIGNMENT	OWNER NAME : AWTS, INC., TEXAS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PANDYA, KEN V.; REEL/FRAME:018383/0406 EFFECTIVE DATE : 20060920
US8147696 BA	20130205	LSRE	CC	CERTIFICATE OF CORRECTION	
US8147696 BA	20150717	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9056784 BB	20150616	LSGT	+	granted / extensions (spc, cpc, pte)	
WO13122593 A1	20130822	LSPB	+	published /	

				reissued	
WO13122593 A1	20140818	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13122593 A1	20150325	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12706974 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

53) Family number: 50951579 (US2013153473A)

Title: CONCENTRATE TREATMENT SYSTEM

Abstract: Source: US2013153473A In one aspect the invention provides a system for treating a wastestream, particularly a radwaste, for safe disposal and, in final processing converting it into one or both forms including an aqueous form for safe discharge to the environment and a solidified form for safe disposal. In another aspect the invention provides the capacity to employ a step where a specific target element strategy can be set up synchronizing sorbent substance choices and multiple recycle options to remove target substances from wastestream as a part of its Sorption or Powder Sorbent Isotopic Reduction step (II). Other steps cooperate with Sorption step (II) including Oxidation (I), Solid-Liquid separation (III), and Selective Ion Exchange (IV) to deliver the wastestream to final processing.



Classifications:
International (IPC 8-9): A62D3/00 A62D3/38 B01D21/00 B01D35/00 B01J49/00 C02F1/00 C02F1/04 C02F1/28 C02F1/38 C02F1/42 C02F1/44 C02F1/66 C02F1/68 C02F1/72 C02F1/74 C02F1/76 C02F1/78 C02F101/00 C02F11/12 C02F9/00 G21C19/46 G21F9/00 G21F9/06 G21F9/08 G21F9/12 (Advanced/Invention); A62D3/00 A62D3/30 A62D3/32 C02F1/42 C02F1/72 C02F1/78 C02F101/00 C02F103/34 G21F9/12 G21F9/28 G21F9/30 (Advanced/Non-invention)
CPC: A62D3/38 G21F9/125 C02F1/04 C02F1/28 C02F1/38 C02F1/42 C02F1/444 C02F1/66 C02F1/722 C02F1/74 C02F1/76 C02F1/78 C02F9/00 C02F11/12 C02F2001/007 C02F2101/006 C02F2209/005 C02F2209/008 C02F2209/02 C02F2209/04 C02F2209/06 C02F2303/12 G21C19/46 Y02W30/883 G21F9/08 C02F1/008 G21F9/06 A62D3/00 A62D3/30 A62D3/32 C02F1/72 C02F2103/34 G21F9/28 C02F1/001 C02F1/20 C02F2209/001 C02F2209/006 C02F2301/046 G21F9/04 G21F9/12 G21F9/30
European: G21F9/12 G21F9/12E
US: 1/1 210/109 210/177 210/194 210/195.1 210/199 210/202 210/662 210/668 210/681 210/682 210/721 210/768 210/85 210/96.1 210/97

Family:

Publication number	Publication date	Application number	Application date
CN103108677 A	20130515	CN201180041888	20110925
CN103108677 B	20160831	CN201180041888	20110925
DE602011026787 D1	20160630	DE201160026787T	20110925
EP2593191 A1	20130522	EP20110832996	20110925
EP2593191 A4	20150422	EP20110832996	20110925
EP2593191 B1	20160518	EP20110832996	20110925
ES2587439 T3	20161024	ES20110832996T	20110925
RU2013116933 A	20141020	RU20130116933	20110925
RU2541357 C2	20150210	RU20130116933	20110925
US2013153473 AA	20130620	US20110820145	20110925
US2015221404 AA	20150806	US20140274717	20140510
US2015380117 AA	20151231	US20130900548	20130523
US8753518 BB	20140617	US20110820145	20110925
US9283418 BB	20160315	US20130900548	20130523
WO12050802 A1	20120419	WO2011US53185	20110925

Priority:

EP20110832996 20110925 US20100393804P 20101015 US20110820145 20110925
US20140274717 20140510 US20130900548 20130523 US20130820145 20130228
WO2011US53185 20110925

Probable Assignee: AVANTECH INC

Assignee(s): (std): AVANTECH INC ; BEETS LARRY E ; JENSEN CHARLES E ; BRUNSELL DENNIS A ; DIVERSIFIED TECHNOLOGIES SERVICES INC ; DIVERSIFAJD TEKNOLODZHIZ SERVISEZ INK

Assignee(s): BRANCH BANKING AND TRUST CO ; AVANTECH INC COLUMBIA

Inventor(s): (std): BEETS LARRY ; BEETS LARRY E ; BRUNSELL DENNIS A ; BITS LARRI E ; BRANSELL DENNIS A ; BRUNSELL DENNIS ; JENSEN CHARLES E ; DZHENSEN CHARL Z E ; JENSEN CHARLES

Agent(s): THURSTON JOANNA; DURAN LUIS ALFONSO; ALEX BROWN LAW FIRM; MONROE ALEX; NELSON MULLINS RILEY AND SCARBOROUGH LLP; BROWN MONROE ALEX

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 LI 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 RW 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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN103108677 A	20130515	LSPB	+	published / reissued	
CN103108677 A	20130515	LSPB	+C06	PUBLICATION	
CN103108677 A	20150408	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	OWNER NAME : AVANTECH, INC. DESCRIPTION : FORMER OWNER: DIVERSIFIED TECHNOLOGIES SERVICES INC. EFFECTIVE DATE : 20150316
CN103108677 A	20150408	LSAS	C41	TRANSFER OF PATENT	

				APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN103108677 A	20160831	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103108677 B	20160831	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2593191 A1	20130522	LSPB	+	published / reissued	
EP2593191 A1	20130522	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130213
EP2593191 A1	20150422	LSES	+RA4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20150325
EP2593191 A1	20150422	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : AVANTECH, INC.
EP2593191 A1	20150422	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : G21F 9/12 20060101ALI20150319BHEP
EP2593191 A1	20150422	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : A62D 3/38 20070101ALI20150319BHEP
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EP2593191 A1	20151223	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/74 20060101ALI20151116BHEP
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EP2593191 A1	20160531	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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EP2593191 A1	20160817	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 6
EP2593191 A1	20160926	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2593191 A1	20161024	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2587439

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EP2593191 A1	20161130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : CZ PAYMENT DATE : 20160913 YEAR OF FEE PAYMENT : 6
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EP2593191 A1	20161230	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20160907 YEAR OF FEE PAYMENT : 6
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EP2593191 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160518
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ES2587439 T3	20161024	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2013116933 A	20141020	LSPB	+	published / reissued	
RU2541357 C2	20150210	LSGT	+	granted / extensions (spc, cpc, pte)	
US2013153473 AA	20130620	LSPB	+	published / reissued	
US2015221404 AA	20150806	LSPB	+	published / reissued	
US2015221404 AA	20141112	LSAS	AS	ASSIGNMENT	OWNER NAME : DIVERSIFIED TECHNOLOGIES SERVICES, INC., TENNESSEE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BEETS, LARRY E.; BRUNSELL, DENNIS A.; JENSEN, CHARLES E.; REEL/FRAME:034149/0978 EFFECTIVE DATE : 20141110
US2015221404 AA	20141114	LSAS	AS	ASSIGNMENT	OWNER NAME : BRANCH BANKING AND TRUST COMPANY, NORTH CAROLINA DESCRIPTION : SECURITY INTEREST; ASSIGNOR:AVANTECH, INC.; REEL/FRAME:034177/0631 EFFECTIVE DATE : 20141114
US2015221404 AA	20141217	LSAS	AS	ASSIGNMENT	OWNER NAME : AVANTECH, INC., SOUTH CAROLINA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DIVERSIFIED TECHNOLOGIES SERVICES, INC.; REEL/FRAME:034526/0707 EFFECTIVE DATE : 20141114
US2015221404 AA	20150112	LSAS	AS	ASSIGNMENT	OWNER NAME : DIVERSIFIED TECHNOLOGIES SERVICES, INC., TENNESSEE DESCRIPTION : SECURITY INTEREST; ASSIGNOR:AVANTECH, INC.; REEL/FRAME:034685/0860 EFFECTIVE DATE : 20141114
US2015380117 AA	20151231	LSPB	+	published / reissued	
US8753518 BB	20140617	LSGT	+	granted / extensions (spc, cpc, pte)	
US8753518 BB	20141111	LSAS	AS	ASSIGNMENT	OWNER NAME : DIVERSIFIED TECHNOLOGIES SERVICES, INC., TENNESSEE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BEETS, LARRY E.; BRUNSELL, DENNIS A.; JENSEN,

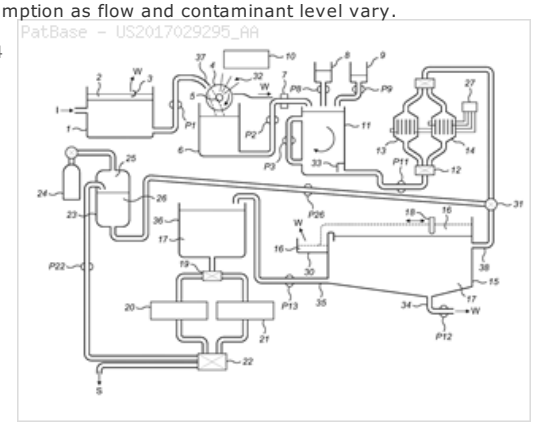
					CHARLES E.; REEL/FRAME:034149/0873 EFFECTIVE DATE : 20141110
US8753518 BB	20141114	LSAS	AS	ASSIGNMENT	OWNER NAME : BRANCH BANKING AND TRUST COMPANY, NORTH CAROLINA DESCRIPTION : SECURITY INTEREST; ASSIGNOR:AVANTECH, INC.; REEL/FRAME:034177/0631 EFFECTIVE DATE : 20141114
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US8753518 BB	20150211	LSAS	AS	ASSIGNMENT	OWNER NAME : DIVERSIFIED TECHNOLOGIES SERVICES, INC., TENNESSEE DESCRIPTION : SECURITY INTEREST; ASSIGNOR:AVANTECH, INC.; REEL/FRAME:034939/0925 EFFECTIVE DATE : 20141114
US9283418 BB	20160315	LSGT	+	granted / extensions (spc, cpc, pte)	
WO12050802 A1	20120419	LSPB	+	published / reissued	
WO12050802 A1	20130228	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13820145 COUNTRY OF REF DOCUMENT : US
WO12050802 A1	20130412	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2013116933 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A
WO12050802 A1	20130415	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

54) Family number: 55715705 (US2017029295A)

Title: METHOD AND PLANT FOR TREATMENT OF AQUEOUS DISPERSION

Abstract: Source: US2017029295A A plant for treatment of a waste water stream comprising fat includes pre-treatment apparatus for removal of liquid oil and gross contaminants, a flow-through assembly for electrocoagulation treatment of a liquid, a floc-separation apparatus arranged for removal of a flocculated fat-containing layer from the aqueous dispersion to provide clarified aqueous solution for disposal and a controller arranged to control voltage and/or current across the electrodes and the flow of the waste water stream through the components of the plant. Also disclosed are methods for using the plant to provide efficient separation with minimised power consumption as flow and contaminant level vary.

Classifications:
International (IPC 8-9): B01D17/02 B01D17/06 C02F1/00 C02F1/24 C02F1/40 C02F1/463 C02F1/465 C02F1/52 C02F1/66 C02F103/32 C02F9/00 C02F9/02 (Advanced/Invention);
C02F103/32 (Advanced/Non-invention)
CPC: C02F2103/32 C02F2209/03 C02F2209/11 C02F2209/40 C02F2303/16 C02F9/00 B01D17/0205 B03D1/1431 B03D1/1462 C02F1/40 C02F1/008 C02F1/52 C02F1/66 C02F1/001 C02F2201/46135 C02F2201/4614 C02F1/463 B01D17/06 C02F1/24 C02F1/465 C02F2209/001 C02F2209/05 C02F2209/06 C02F2303/22



Family:

Publication number	Publication date	Application number	Application date
EP3074348 A1	20161005	EP20140803223	20141125
GB201321084 A0	20140115	GB20130021084	20131129
GB2520734 A1	20150603	GB20130021084	20131129
US2017029295 AA	20170202	US20140039920	20141125
WO15079211 A1	20150604	WO2014GB53469	20141125

Priority:
GB20130021084 20131129 WO2014GB53469 20141125

Probable Assignee: SUREWATERS CONSULTANCY LTD

Assignee(s): (std): KOLINA LTD ; SUREWATERS CONSULTANCY LTD

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Inventor(s): ROGER NICHOLAS HENSBY ; DANIEL THOMAS EXLEY RITCHIE

Agent(s): APPLEYARD LEES IP LLP; APPLEYARD LEES

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT JP KE KG KM KN KP KR KZ LA LC LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP3074348 A1	20161005	LSPB	+	published / reissued	
EP3074348 A1	20161005	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160531
GB2520734 A1	20150603	LSPB	+	published / reissued	
US2017029295 AA	20170202	LSPB	+	published / reissued	
US2017029295 AA	20160527	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KOLINA LIMITED, GREAT BRITAIN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RITCHIE, DANIEL THOMAS EXLEY; HENSBY, ROGER NICHOLAS; SIGNING DATES FROM 20160516 TO 20160517; REEL/FRAME:038734/0640
WO15079211 A1	20150604	LSPB	+	published / reissued	
WO15079211 A1	20160527	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15039920 COUNTRY OF REF DOCUMENT : US

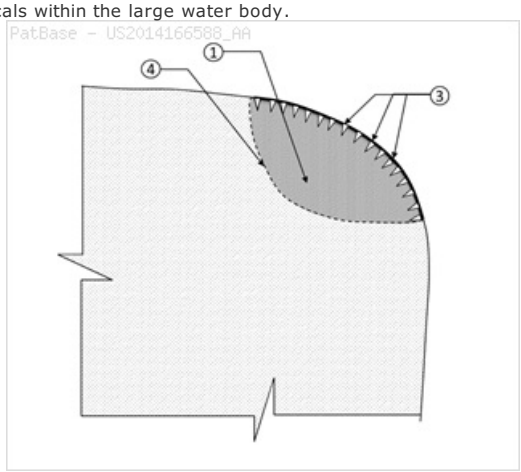
WO15079211 A1	20160530	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

55) Family number: 55759059 (US2014166588A)

Title: LOCALIZED DISINFECTION SYSTEM FOR LARGE WATER BODIES

Abstract: Source: US2014166588A The present disclosure relates to a method for controlling the microbiological properties of a portion of water within a large body of water by treating such zone with chemical agents, according to the temperature of the water, its salinity, its dilution power and the diffusion of chemicals within the large water body.

Classifications:
International (IPC 8-9): A61L A61Q15/00 C02F C02F1/00 C02F1/50 C02F1/52 C02F1/66 C02F1/68 C02F1/72 C02F1/76 C02F1/78 C02F103/42 C02F9/00 E02B1/00 (Advanced/Invention);
C02F1/50 C02F1/76 C02F1/78 C02F103/00 C02F103/42 (Advanced/Non-invention);
A61Q15/00 C02F1/00 C02F1/50 C02F1/72 (Core/Invention);
A61L C02F (Subclass/Invention)
CPC: C02F1/72 C02F1/008 C02F1/50 C02F1/76 C02F1/766 C02F1/78 C02F2103/007 C02F2209/005 C02F2209/02 C02F2209/04 C02F2209/05 C02F2303/04 C02F2103/42 C02F1/00
US: 210/742 210/743 210/747.5 210/747.9 210/764



Family:

Publication number	Publication date	Application number	Application date
AP201407354 A0	20140131	AP20140007354	20121219
AR093814 AA	20150624	AR2013P104514	20131205
AU2012385928 AA	20140703	AU20120385928	20121219
CA2855564 AA	20140103	CA20122855564	20121219
CO6852058 A2	20140130	CO20140003411	20140109
DE602013002522 D1	20150917	DE201360002522T	20131218
DK178728 B1	20161205	DK20140070252	20140429
DK201470252 A5	20140626	DK20140070252	20140429
DK2746227 T3	20151026	DK20130198092T	20131218
EA024711 B1	20161031	EA20140000008	20121219
EA201400008 A1	20140630	EA20140000008	20121219
EP2746227 A1	20140625	EP20130198092	20131218
EP2746227 B1	20150805	EP20130198092	20131218
ES2521465 AB	20141112	ES20130031725	20131127
ES2521465 BA	20160530	ES20130031725	20131127
ES2521465 R1	20150518	ES20130031725	20131127
ES2548193 T3	20151014	ES20130198092T	20131218
GB201321551 A0	20140122	GB20130021551	20121219
GB2509605 A1	20140709	GB20130021551	20131205
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GB2509605 B2	20150729	GB20130021551	20121219
GR1008456 B	20150331	GR20130100680	20131206
GR20130100680 A	20140718	GR20130100680	20131206
HR20151178 T1	20160212	HR20150001178	20151104
HU025910 T2	20160428	HU20130198092T	20131218
IL230377 A0	20140430	IL20120230377	20121219
IL230377 A1	20161229	IL20120230377	20121219
IN00171CN2014 A	20150313	IN2014CN00171	20140108
JP2015507536 T2	20150312	JP20140552552T	20121219
JP2016155133 A2	20160901	JP20160096339	20160512
JP6002244 B2	20161005	JP20140552552T	20121219
KR20150097378 A	20150826	KR20147000734	20121219
MA35606 B1	20141101	MA20140036669	20140110
NZ619342 A	20160226	NZ20120619342	20121219
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PT107341 A	20140612	PT20130107341	20131205
PT107341 B	20150202	PT20130107341	20131205
PT2746227 T	20151020	PT20130198092T	20131218
RO129997 A2	20150130	RO20130000971	20131206
RS54350 B1	20160229	RS20150000659	20131218
SG2014002133 A1	20140828	SG20140002133	20121219
SI2746227 T1	20160129	SI20130030085T	20131218
SMT201500290 B	20160108	SM20150000290T	20151126
TH143201 A	20150922	TH20141000146	20121219
TW201427908 A	20140716	TW20130144279	20131203
TWI511933 B	20151211	TW20130144279	20131203
US2014166588 AA	20140619	US20130955699	20130731
US8753520 BA	20140617	US20130955699	20130731
WO14094844 A1	20140626	WO2012EP76170	20121219
ZA201400200 A	20150527	ZA20140000200	20140109

Priority:

CO20140003411 20140109 EP20130198092 20131218 US20130955699 20130731
WO2012EP76170 20121219 JP20160096339 20160512 JP20140552552T 20121219

Probable Assignee: CRYSTAL LAGOONS CURACAO BV

Assignee(s): (std): CRYSTAL LAGOONS CURAA AO BV ; CRYSTAL LAGOONS CURACAO BV

Assignee(s): CRYSTAL LAGOONS CURACAO BVKAYA W.F.G. (JOMBI) MENSING 14WILLEMSTADCURACAONL ; FISCHMANN FERNANDO BENJAMIN ; CRYSTAL LAGOONS CURACAO BASE ROTTEN FENNOATSIAP

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Inventor(s): FISCHMANN FERNANDO BENJAMIN VITACURA ; FISCHMANN FERNANDO BENJAMINCL

Agent(s): WRAYS; BORDEN LADNER GERVAIS LLP; LUZ CLEMENCIA DE PAEZ; GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB; GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB; CARPINTERO MARIO; REINHOLD COHN AND PARTNERS; INO SARI; KURASAWA ICHIRO; MATSUSHITA MITSURU; DESHIMARU TAKESHI; KUMAKURA YOSHIO; NISHIJIMA TAKAKI; MERCHANT AND GOULD PC; GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAEUSSER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 LI 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 PA PE PG PH PL PT QA RO RS RU RW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AR093814 AA	20150624	LSPB	+	published / reissued	
AU2012385928 AA	20140703	LSPB	+	published / reissued	
CA2855564 AA	20140103	LSPB	+	published / reissued	
CO6852058 A2	20140130	LSPB	+	published / reissued	
CO6852058 A2	20141022	LSGT	+FG	APPLICATION GRANTED	
DK178728 B1	20161205	LSGT	+	granted / extensions (spc, cpc, pte)	
DK201470252 A5	20140626	LSPB	+	published / reissued	
DK2746227 T3	20151026	LSGT	+	granted / extensions (spc, cpc, pte)	
EA024711 B1	20161031	LSGT	+	granted / extensions (spc, cpc, pte)	
EA201400008 A1	20140630	LSPB	+	published / reissued	
EP2746227 A1	20140625	LSPB	+	published / reissued	
EP2746227 A1	20140625	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20131218
EP2746227 A1	20150128	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : FISCHMANN, FERNANDO BENJAMIN
EP2746227 A1	20150211	LSES	+R17P	REQUEST FOR EXAMINATION FILED (CORRECTION)	EFFECTIVE DATE : 20141218
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EP2746227 A1	20150917	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602013002522 COUNTRY OF REF DOCUMENT : DE
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EP2746227 A1	20160229	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : RS PAYMENT DATE : 20151202 YEAR OF FEE PAYMENT : 3
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EP2746227 A1	20170228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : SI PAYMENT DATE : 20161125 YEAR OF FEE PAYMENT : 4
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EP2746227 A1	20170228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : HR PAYMENT DATE : 20161125 YEAR OF FEE PAYMENT : 4
EP2746227 A1	20170228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161209 YEAR OF FEE PAYMENT : 4
EP2746227 A1	20170228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161222 YEAR OF FEE PAYMENT : 4
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EP2746227 A1	20170228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : SM PAYMENT DATE : 20161128 YEAR OF FEE PAYMENT : 4
EP2746227 A1	20170228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : AL PAYMENT DATE : 20161216 YEAR OF FEE PAYMENT : 4

EP2746227 B1	20150805	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2521465 AB	20141112	LSPB	+	published / reissued	
ES2521465 AB	20160530	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 2521465 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : B1 DESIGNATED STATE(S) : EFFECTIVE DATE : 20160530
ES2521465 AB	20170301	LSWD	-FA2A	APPLICATION WITHDRAWN	EFFECTIVE DATE : 20170223
ES2521465 BA	20160530	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2548193 T3	20151014	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2509605 A1	20140709	LSPB	+	published / reissued	
GB2509605 A1	20140709	LSPB	+	published / reissued	
GB2509605 B2	20150729	LSGT	+	granted / extensions (spc, cpc, pte)	
GR1008456 B	20150331	LSGT	+	granted / extensions (spc, cpc, pte)	
GR1008456 B	20150526	LSGT	+PG	PATENT GRANTED	EFFECTIVE DATE : 20150421
GR20130100680 A	20140718	LSPB	+	published / reissued	
HR20151178 T1	20160212	LSPB	+	published / reissued	
HU025910 T2	20160428	LSPB	+	published / reissued	
IL230377 A1	20161229	LSPB	+	published / reissued	
IN00171CN2014 A	20150313	LSPB	+	published / reissued	
JP2015507536 T2	20150312	LSPB	+	published / reissued	
JP2015507536 T2	20150611	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150610
JP2015507536 T2	20151208	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151208
JP2015507536 T2	20160512	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160512
JP2015507536 T2	20160526	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20160525
JP2015507536 T2	20160613	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160613
JP2015507536 T2	20160719	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160719
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JP2016155133 A2	20160901	LSPB	+	published / reissued	
JP2016155133 A2	20160527	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160527
JP2016155133 A2	20160527	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20160527
JP2016155133 A2	20161128	LSES	-A131	NOTIFICATION OF	TEXT : JAPANESE

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JP6002244 B2	20161005	LSGT	+	granted / extensions (spc, cpc, pte)	
KR20150097378 A	20150826	LSPB	+	published / reissued	
MA35606 B1	20141101	LSGT	+	granted / extensions (spc, cpc, pte)	
NZ619342 A	20160226	LSPB	+	published / reissued	
NZ619342 A	20160527	LSGT	+PSEA	PATENT SEALED	
NZ619342 A	20161223	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 19 DEC 2017 BY JAMES + WELLS EFFECTIVE DATE : 20161205
PH2014500111 A	20141008	LSPB	+	published / reissued	
PT107341 A	20140612	LSPB	+	published / reissued	
PT107341 A	20150202	LSGT	+FG3A	PATENT GRANTED, DATE OF GRANTING	EFFECTIVE DATE : 20150128
PT107341 B	20150202	LSGT	+	granted / extensions (spc, cpc, pte)	
PT2746227 T	20151020	LSGT	+	granted / extensions (spc, cpc, pte)	
RO129997 A2	20150130	LSPB	+	published / reissued	
RS54350 B1	20160229	LSGT	+	granted / extensions (spc, cpc, pte)	
SG2014002133 A1	20140828	LSPB	+	published / reissued	
SI2746227 T1	20160129	LSGT	+	granted / extensions (spc, cpc, pte)	
SMT201500290 B	20160108	LSGT	+	granted / extensions (spc, cpc, pte)	
TH143201 A	20150922	LSPB	+	published / reissued	
TW201427908 A	20140716	LSPB	+	published / reissued	
TWI511933 B	20151211	LSGT	+	granted / extensions (spc, cpc, pte)	
US2014166588 AA	20140619	LSPB	+	published / reissued	
US8753520 BA	20140617	LSGT	+	granted / extensions (spc, cpc, pte)	
US8753520 BA	20140408	LSAS	AS	ASSIGNMENT	OWNER NAME : CRYSTAL LAGOONS (CURACAO), B.V., NETHERLANDS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FISCHMANN, FERNANDO BENJAMIN; REEL/FRAME:032624/0594 EFFECTIVE DATE : 20130724
WO14094844 A1	20140626	LSPB	+	published / reissued	
WO14094844 A1	20140103	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2855564 COUNTRY OF REF DOCUMENT : CA
WO14094844 A1	20140109	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 13347 COUNTRY OF REF DOCUMENT : GE KIND CODE OF REF DOCUMENT : P
WO14094844 A1	20140109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13347 COUNTRY OF REF DOCUMENT : GE
WO14094844 A1	20140110	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014552552 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
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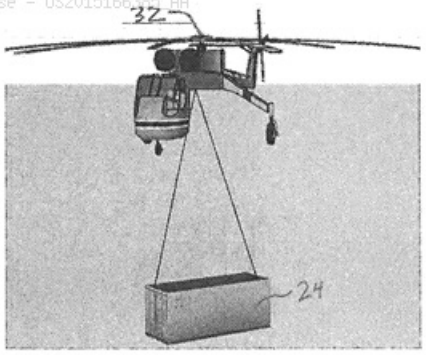
WO14094844 A1	20150619	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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ZA201400200 A	20150527	LSGT	+	granted / extensions (spc, cpc, pte)	

56) Family number: 59511374 (US2015166385A)

Title: MOBILE WATER PURIFICATION SYSTEM AND METHOD

Abstract: Source: US2015166385A A mobile water purification system is configured as modules to be air-lifted to a site requiring potable water. Raw water is pumped to a pre-treatment module that separates suspended solids and preferably oxidizes organic contaminants. At least one, and preferably two or more filtration modules coupled in parallel, then remove contaminants using ultrafiltration and/or reverse osmosis, and pass treated water to a storage tank. A control system operates valves to stagger backwashing of filtration modules, allowing one such module to be backwashed while allowing others to continue filtering water. The control system can selectively bypass a reverse osmosis unit, and disable related booster pumps, depending upon raw water quality. During backwash cycles, sodium bisulfite is added to fill water directed into ultrafiltration units to neutralize free chlorine present in backwash fluid.

Classifications:
International (IPC 8-9): C02F1/00 C02F1/32 C02F1/44 C02F1/72 C02F9/00 (Advanced/Invention)
CPC: C02F9/00 C02F1/004 C02F1/008 C02F1/32 C02F1/385 C02F1/441 C02F1/444 C02F1/52 C02F1/70 C02F1/722 C02F1/76 C02F2201/008 C02F2209/001 C02F2209/005 C02F2209/008 C02F2209/02 C02F2209/03 C02F2209/04 C02F2209/10 C02F2209/11 C02F2209/40 C02F2301/043 C02F2303/16 C02F2303/185 C02F2303/24 B01D61/025 B01D61/04 B01D61/08 B01D61/18 B01D2311/04 B01D2311/2634 B01D2311/2649 B01D2311/2676 B01D2313/243 B01D2313/50
US: 210/138 210/202 210/251 210/257.2 210/652 210/96.2



Family:

Publication number	Publication date	Application number	Application date
US2015166385 AA	20150618	US20130107783	20131216

Priority:
US20130107783 20131216

Probable Assignee: HENNESY MECHANICAL SALES LLC
Assignee(s): (std): HENNESY MECHANICAL SALES LLC
Inventor(s): (std): BOERM WESLEY C ; HENNESY JR E PATRICK

Legal status (INPADOC)

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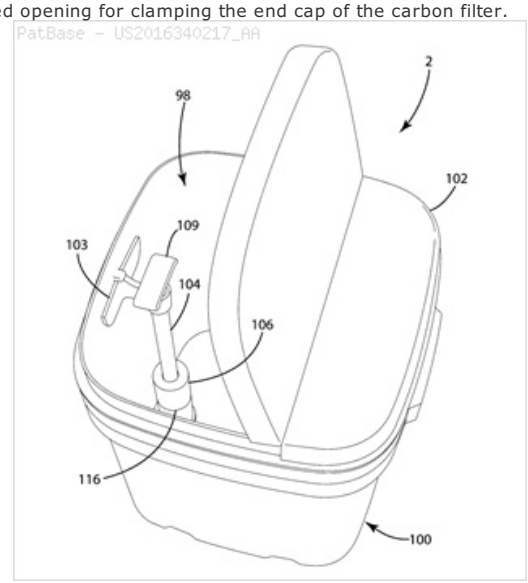
Patent	Date recorded	Event group	Code	Event	Details
US2015166385 AA	20150618	LSPB	+	published / reissued	
US2015166385 AA	20131216	LSAS	AS	ASSIGNMENT	OWNER NAME : HENNESY MECHANICAL SALES, LLC, ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BOERM, WESLEY C., MR.; HENNESY, E. PATRICK, JR, MR.; REEL/FRAME:031791/0851 EFFECTIVE DATE : 20131213

57) Family number: 64049764 (US2016340217A)

Title: WATER TREATMENT SYSTEM

Abstract: Source: US2016340217A A portable water treatment system selectively configurable between a portable configuration and a water treatment system configuration. The portable water treatment system includes multiple nest and stack containers. A flocculation container includes a manual valve component that interacts with a filter support to form a valve that controls flow of water. The filter system may include one or more rotatable biofoam filters, each with a restriction orifice to control flow rate and allow a biological community to colonize and develop on or in the filters. The filters can be rotated between a filter operating position and a filter maintenance position. The water treatment system may include a chlorination system that can handle a chlorine tablet that does not contain a stabilizer. The water treatment system may include a storage container with a carbon filter that removes chlorine from the water before being dispensed. The carbon filter can be retained in place using a retaining frame with a U-shaped opening for clamping the end cap of the carbon filter.

Classifications:
International (IPC 8-9): C02F1/28 C02F1/52 C02F1/76 C02F3/00 C02F3/06 C02F9/00 (Advanced/Invention);
C02F101/10 C02F9/08 C02F9/14 (Advanced/Non-invention)
CPC: C02F9/00 C02F1/52 C02F3/00 C02F2203/008 B01D21/2444 C02F1/002 C02F3/06 C02F2101/103 C02F2201/005 C02F2201/007 C02F2209/40 C02F2209/44 C02F2303/04 C02F1/283 C02F1/5281 C02F1/76 C02F2201/008 Y02W10/15
US: 210/715



Family:

Publication number	Publication date	Application number	Application date
US2016340217 AA	20161124	US20160159852	20160520
WO16187488 A1	20161124	WO2016US33401	20160520

Priority:

US20150164919P 20150521 US20160159852 20160520 US20160306256P 20160310

Probable Assignee: ACCESS BUSINESS GROUP INT LLC

Assignee(s): (std): ACCESS BUSINESS GROUP INT LLC

Inventor(s): (std): CAI ZHENXIAO ; KUENNEN ROY W ; LAUTZENHEISER TERRY L ; LY KENNY ; SCHAMPER RYAN D ; WEBER RICHARD J

Agent(s): SHUNTA DUSTIN H ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

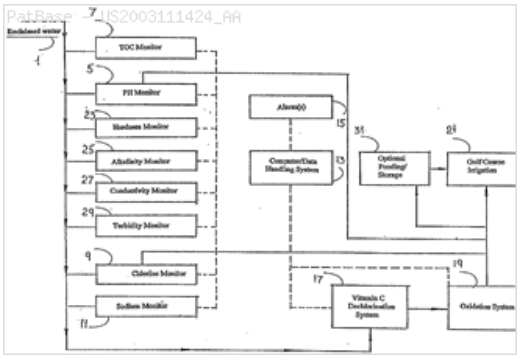
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Patent	Date recorded	Event group	Code	Event	Details
US2016340217 AA	20161124	LSPB	+	published / reissued	
US2016340217 AA	20160525	LSAS	AS	ASSIGNMENT	OWNER NAME : ACCESS BUSINESS GROUP INTERNATIONAL LLC, MICHIGAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KUENNEN, ROY W.; WEBER, RICHARD J.; LAUTZENHEISER, TERRY L.; AND OTHERS; SIGNING DATES FROM 20160523 TO 20160524; REEL/FRAME:038715/0280
WO16187488 A1	20161124	LSPB	+	published / reissued	

58) Family number: 31338013 (US2003111424A)

Title: GOLF COURSE IRRIGATION WATER MONITORING AND TREATMENT SYSTEM

Abstract: Source: US2003111424A The present invention is process for irrigation of a golf course, which involves monitoring reclaimed water, and treating it when necessary to avoid harmful effects to plantlike. The reclaimed water is tested with a plurality of monitors to obtain results for water quality characteristics, including: total organic carbon compounds; pH; residual chlorine; chlorides; and, sodium. These results are inputted to a computerized data handling system for data collection, storage and analysis for comparison to predetermined acceptable ranges for water quality characteristic, and to show any deviation from said acceptable ranges. Either alarms are set off or treatment occurs or both, when deviations are observed. Treatment includes a dechlorination system and an oxidation system to correct active chlorine and total organic compound levels, respectively. Other important monitors may be included for one or more of the following: hardness; turbidity; alkalinity; conductivity and nitrates.



Classifications:
International (IPC 8-9): B01D17/12 B01D61/00 B01D61/12 C02F1/00 C02F1/72 C02F1/76 C02F9/04 (Advanced/Invention); C02F1/72 C02F1/76 (Advanced/Non-invention); B01D61/02 C02F1/00 C02F1/72 (Core/Invention)
International (IPC 1-7): A01G25/16 B01D17/12 C02F01/72 C02F1/00 C02F1/72 C02F9/04 C02R1/00
CPC: C02F1/008 C02F1/72 C02F2103/001 C02F2103/007 C02F2103/06 C02F2209/003 C02F2209/006 C02F2209/05 C02F2209/055 C02F2209/06 C02F2209/07 C02F2209/11 C02F2209/15 C02F2209/20 C02F2209/29 C02F2303/16 C02F2303/185 C02F1/441 C02F1/68 C02F2209/005 C02F2209/008 C02F1/722 C02F1/78 A01G25/16 A01G25/00
European: C02F1/00T M02F1/44B M02F1/68 M02F1/72 M02F103/00B M02F103/00H M02F103/06 M02F209/00D M02F209/00T M02F209/00T2 M02F209/00T4 M02F209/05 M02F209/055 M02F209/06 M02F209/07 M02F209/11 M02F209/15 M02F209/20 M02F209/29 M02F303/16 M02F303/18B
US: 210/143 210/143S 210/170 210/170.08 210/170.080S 210/259 210/259S 210/266 210/266S 210/652 210/739 210/743 210/746 210/746S 210/747 210/747.1 210/747.100S 210/749 210/754 210/758 210/806 210/85 210/85P 210/96.1 210/96.100S 405/36 405/37 405/37S 700/23 702/55 702/55S

Family:

Publication number	Publication date	Application number	Application date
AU2003247520 AA	20041126	AU20030247520	20030611
US2003111424 AA	20030619	US20010022568	20011213
US2003213754 AA	20031120	US20030464330	20030618
US2003217977 AA	20031127	US20030417740	20030417
US2005127010 AA	20050616	US20040988758	20041115
US2006091046 AA	20060504	US20050304356	20051215
US6620329 BB	20030916	US20010022568	20011213
US6955765 BB	20051018	US20030417740	20030417
US7404899 BB	20080729	US20040988758	20041115
US7572378 BB	20090811	US20050304356	20051215
WO04099093 A1	20041118	WO2003US18468	20030611

Priority:

US20010022568 20011213 US20030417740 20030417 WO2003US18468 20030611
US20050304356 20051215 US20040988758 20041115 US20030464330 20030618

Probable Assignee: TURF SENTRY INC
Assignee(s): (std): HODGES ROBERT D ; ROSEN PETER L ; TURF SENTRY INC
Assignee(s): TURF SENTRY INC A IN STATE OF ARIZONA CORP ; HODGES ROBERT
Inventor(s): (std): HODGES ROBERT ; HODGES ROBERT D ; ROSEN PETER L
Inventor(s): PETER L ROSEN ; ROBERT D HODGES ; ROSEN PETER
Agent(s): KENNETH P GLYNN ESQ GLYNN AND ASSOCIATES PC; KENNETH P GLYNN ESQ; KENNETH P; GLYNN ESQ KENNETH P
Designated states: AT AU BE BG CA CH CY CZ DE DK EE ES FI FR GB GR HU IE IT JP KR LU MC MX NL PT RO SE SI SK TR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2003247520 AA	20041126	LSPB	+	published / reissued	
AU2003247520 AA	20060112	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2) (F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
US2003111424 AA	20030619	LSPB	+	published / reissued	
US2003213754 AA	20031120	LSPB	+	published / reissued	
US2003213754 AA	20030618	LSAS	AS	ASSIGNMENT	OWNER NAME : TURF SENTRY, INC., ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSEN, PETER L.; HODGES, ROBERT D.; REEL/FRAME:014203/0331 EFFECTIVE DATE : 20030606

US2003217977 AA	20031127	LSPB	+	published / reissued	
US2005127010 AA	20050616	LSPB	+	published / reissued	
US2006091046 AA	20060504	LSPB	+	published / reissued	
US6620329 BB	20030916	LSGT	+	granted / extensions (spc, cpc, pte)	
US6620329 BB	20020801	LSAS	AS	ASSIGNMENT	OWNER NAME : TURF SENTRY, INC., A CORPORATION IN THE STATE OF A DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSEN, PETER L.; HODGES, ROBERT; REEL/FRAME:013159/0715 EFFECTIVE DATE : 20020724
US6620329 BB	20070531	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6620329 BB	20110916	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6620329 BB	20111108	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20110916
US6955765 BB	20051018	LSGT	+	granted / extensions (spc, cpc, pte)	
US6955765 BB	20030417	LSAS	AS	ASSIGNMENT	OWNER NAME : TURF SENTRY INC., ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PETER L. ROSEN ET AL.; REEL/FRAME:013985/0956 EFFECTIVE DATE : 20030411
US6955765 BB	20090616	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6955765 BB	20131018	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6955765 BB	20131210	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20131018
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US7404899 BB	20041115	LSAS	AS	ASSIGNMENT	OWNER NAME : TURF SENTRY, INC., ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSEN, PETER L.; HODGES, ROBERT D.; REEL/FRAME:015999/0385 EFFECTIVE DATE : 20040405
US7404899 BB	20120729	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7404899 BB	20120918	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20120729
US7572378 BB	20090811	LSGT	+	granted / extensions (spc, cpc, pte)	
US7572378 BB	20060523	LSAS	AS	ASSIGNMENT	OWNER NAME : TURF SENTRY, INC., ARIZONA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSEN, PETER L.; HODGES, ROBERT D.; REEL/FRAME:017913/0502 EFFECTIVE DATE : 20051006
US7572378 BB	20130811	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7572378 BB	20131001	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20130811
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WO04099093 A1	20070316	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO04099093 A1	20070316	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : JP

59) Family number: 46183769 (US2011303589A)

Title: GRAVITY FEED WATER TREATMENT SYSTEM

Abstract: Source: US2011303589A A portable water treatment system includes at least one sub-system to treat water including a flocculation system, a chlorination system, and a bio-sand filter system. The water treatment system may include multiple sub-systems for treating water that feed into one another. The sand filter system may include a mini bio-sand filter, a foam filter, or a pressed block filter. The flocculation system may include a tank bottom that urges settling particles toward a sump and a ladle that removes settled particles. A manual pump or siphon may be included in the water treatment system.

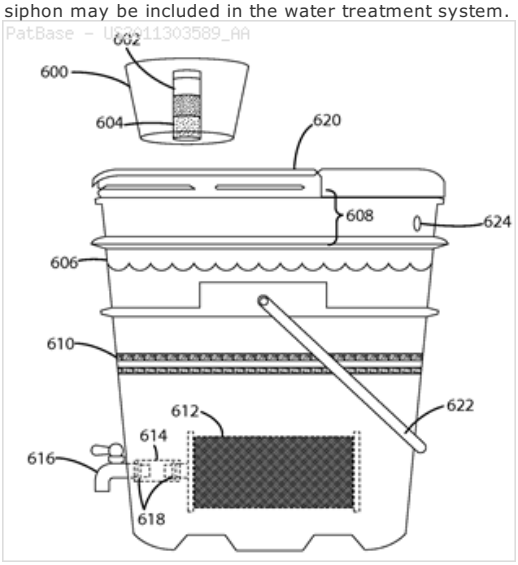
Classifications:

International (IPC 8-9)**:** B01D24/00 B01D25/00 B01D29/00 B01D36/04 C02F1/00 C02F1/18 C02F1/28 C02F1/44 C02F1/50 C02F1/52 C02F1/68 C02F1/76 C02F103/00 C02F3/00 C02F3/06 C02F9/00 C02F9/04 C02F9/14 (Advanced/Invention);
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C02F1/00 C02F1/28 C02F1/52 C02F1/68 C02F1/76 C02F9/00 (Core/Invention);
C02F1/44 C02F1/50 C02F1/52 C02F9/00 (Core/Non-invention);
C02F (Subclass/Invention)

CPC: C02F9/00 C02F2103/002 C02F2201/006 C02F2209/40 C02F2301/043 C02F2303/16 C02F2303/185 Y02W10/15 C02F3/04 C02F1/001 C02F9/005 C02F2101/103 C02F1/003 C02F1/281 C02F1/283 C02F1/52 C02F1/688 C02F1/76 C02F3/06

European: C02F1/00D4 M02F1/28B M02F1/28D M02F1/52 M02F1/68P6 M02F1/76 M02F103/00C M02F201/00D8 M02F209/40 M02F3/06 M02F301/04B M02F303/16 M02F303/18B M02F9/00

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Family:

Publication number	Publication date	Application number	Application date
AP201105805 A0	20110831	AP20110005805	20100112
AU2010204829 AA	20100722	AU20100204829	20100112
AU2010204829 AB	20110811	AU20100204829	20100112
CA2749191 AA	20100722	CA20102749191	20100112
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CN102438950 B	20161005	CN201080011622	20100112
CN105152392 A	20151216	CN201510503182	20100112
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NZ594012 A	20130125	NZ20100594012	20100112
NZ603933 A	20140328	NZ20100603933	20100112
RU2011133878 A	20130220	RU20110133878	20100112
RU2531301 C2	20141020	RU20110133878	20100112
TH127200 A	20130920	TH20111001144	20100112
TW201041812 A	20101201	TW20100100640	20100112
TW201634406 A	20161001	TW20160117170	20100112
TWI545089 B	20160811	TW20100100640	20100112
US2011303589 AA	20111215	US20100144302	20100112
US2016236958 AA	20160818	US20160139636	20160427
US9352979 BB	20160531	US20100144302	20100112
WO10083149 A2	20100722	WO2010US20728	20100112
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ZA201104901 A	20121031	ZA20110004901	20110704

Priority:

CN201080011622 20100112 NZ20100594012 20100112 US20090144323P 20090113
US20090150779P 20090208 US20090173458P 20090428 US20090238177P 20090830
WO2010US20728 20100112 US20100144302 20100112 US20160139636 20160427
US20110144302 20110830

Probable Assignee: SUTTER CYNTHIA G

Assignee(s): (std)**:** BEALS BRIAN S ; CONRAD KENNETH E ; LAUTZENHEISER TERRY L ; VANDERKOOI KAREN J ; STONER JR WILLIAM T ; TAYLOR JR ROY M ; SCHAMPER RYAN D ; KUENNEN ROY W ; ACCESS BUSINESS GROUP INT BV ; ACCESS BUSINESS GROUP INT LLC ; EHKSESS BIZNESS GRUP INTERNESHNL LLS ; SUTTER CYNTHIA G

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Inventor(s): STONER JR

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; FINLAYSON AND SINGLEHURST; MERRIFIELD SARAH ELIZABETH; WARNER NORCROSS AND JUDD LLP; SHUNTA DUSTIN H 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 LI 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2010204829 AA	20100722	LSPB	+	published / reissued	
AU2010204829 AA	20110811	LSRE	DA3	AMENDMENTS MADE SECTION 104	DESCRIPTION : THE NATURE OF THE AMENDMENT IS AS SHOWN IN THE STATEMENT(S) FILED 20 JUL
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CA2749191 AA	20100722	LSPB	+	published / reissued	
CA2749191 AA	20150128	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20150108
CA2749191 AA	20170223	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20170112
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CN102438950 A	20120502	LSPB	+C06	PUBLICATION	
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CN102438950 B	20161005	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105152392 A	20151216	LSPB	+	published / reissued	
CN105152392 A	20151216	LSPB	+C06	PUBLICATION	
EP2376387 A2	20111019	LSPB	+	published / reissued	
EP2376387 A2	20111019	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20110704
EP2376387 A2	20160217	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20160118
IN02947KN2011 A	20120210	LSPB	+	published / reissued	
MX2011007501 A1	20110812	LSPB	+	published / reissued	
MX2011007501 A1	20160608	LSGT	+FG	GRANT OR REGISTRATION	
MX339757 B	20160608	LSGT	+	granted / extensions (spc, cpc, pte)	
NZ594012 A	20130125	LSPB	+	published / reissued	
NZ594012 A	20130531	LSGT	+PSEA	PATENT SEALED	
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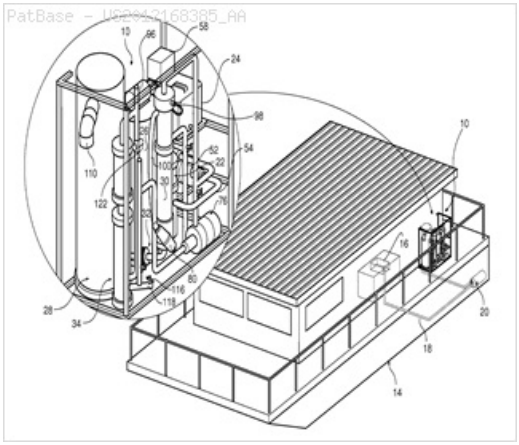
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RU2011133878 A	20130220	LSPB	+	published / reissued	
RU2531301 C2	20141020	LSGT	+	granted / extensions (spc, cpc, pte)	
TH127200 A	20130920	LSPB	+	published / reissued	
TW201041812 A	20101201	LSPB	+	published / reissued	
TW201634406 A	20161001	LSPB	+	published / reissued	
TWI545089 B	20160811	LSGT	+	granted / extensions (spc, cpc, pte)	
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US2016236958 AA	20160818	LSPB	+	published / reissued	
US9352979 BB	20160531	LSGT	+	granted / extensions (spc, cpc, pte)	
WO10083149 A2	20100722	LSPB	+	published / reissued	
WO10083149 A2	20110704	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010204829 COUNTRY OF REF DOCUMENT : AU
WO10083149 A2	20110707	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2749191 COUNTRY OF REF DOCUMENT : CA
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ZA201104901 A	20121031	LSGT	+	granted / extensions (spc, cpc, pte)	

60) Family number: 48432864 (US2012168385A)

Title: APPARATUS AND METHOD FOR THE TREATMENT OF WATER

Abstract: Source: US2012168385A The present invention relates to an apparatus and method for the treatment of water and, in particular, an apparatus and method which may be applied to fluids such as grey water to be treated prior to discharge. The invention is intended for particular use on marine vessels such as house boats to treat grey water which at present is discharged untreated.

Classifications:
International (IPC 8-9): B01D17/00 B01D17/035 B01D19/00 B03D1/00 B03D1/02 B03D1/14 B03D1/24 C02F1/20 C02F1/24 C02F1/40 C02F1/50 C02F1/52 C02F1/76 C02F9/00 C02F9/02 (Advanced/Invention);
C02F1/00 C02F103/00 (Advanced/Non-invention)
CPC: C02F1/24 B03D1/028 B03D1/1431 B03D1/1462 B03D1/247 C02F1/001 C02F1/50 C02F1/52 C02F1/5236 C02F1/76 C02F9/00 C02F2103/002 C02F2103/008 C02F2201/001 C02F2201/008 C02F2209/42
European: B03D1/14D C02F1/24 M02F1/00D M02F1/52F M02F1/76 M02F103/00C M02F103/00S M02F209/42
US: 1/1 210/138 210/138S 210/151 210/151S 210/207 210/207S 210/703



Family:

Publication number	Publication date	Application number	Application date
AU2010291882 AA	20110310	AU20100291882	20100907
AU2010291882 BB	20130207	AU20100291882	20100907
DE602010030038 D1	20160225	DE201060030038T	20100907
DK2475621 T3	20160411	DK20100813178T	20100907
EP2475621 A1	20120718	EP20100813178	20100907
EP2475621 A4	20131127	EP20100813178	20100907
EP2475621 B1	20160106	EP20100813178	20100907
ES2564477 T3	20160323	ES20100813178T	20100907
IN08574DN2011 A	20130111	IN2011DN08574	20111104
US2012168385 AA	20120705	US20100264288	20100907
US9233855 BB	20160112	US20100264288	20100907
WO11026197 A1	20110310	WO2010AU01156	20100907

Priority:

AU20090904384 20090907 AU20100291882 20100907 WO2010AU01156 20100907 EP20100813178 20100907

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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 LI 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2010291882 AA	20110310	LSPB	+	published / reissued	
AU2010291882 AA	20130606	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
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DK2475621 T3	20160411	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2475621 A1	20120718	LSPB	+	published / reissued	
EP2475621 A1	20120718	LSES	+17P	REQUEST FOR EXAMINATION	EFFECTIVE DATE : 20120330

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EP2475621 A1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SM NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160106
EP2475621 A1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160106
EP2475621 A1	20161130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20160905 YEAR OF FEE PAYMENT : 7
EP2475621 A1	20161130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160921

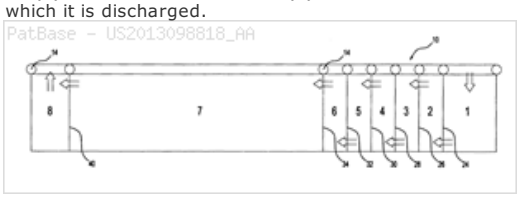
				OFFICE	YEAR OF FEE PAYMENT : 7
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EP2475621 A1	20161130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20160921 YEAR OF FEE PAYMENT : 7
EP2475621 A1	20161214	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20161007
EP2475621 A1	20161230	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20160920 YEAR OF FEE PAYMENT : 7
EP2475621 A1	20161230	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : LU PAYMENT DATE : 20161005 YEAR OF FEE PAYMENT : 7
EP2475621 A1	20161230	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20160916 YEAR OF FEE PAYMENT : 7
EP2475621 A1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160106
EP2475621 A1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160406
EP2475621 A1	20170228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160922 YEAR OF FEE PAYMENT : 7
EP2475621 B1	20160106	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2564477 T3	20160323	LSGT	+	granted / extensions (spc, cpc, pte)	
IN08574DN2011 A	20130111	LSPB	+	published / reissued	
US2012168385 AA	20120705	LSPB	+	published / reissued	
US2012168385 AA	20111013	LSAS	AS	ASSIGNMENT	OWNER NAME : AEROFLOAT (HOLDINGS) PTY LTD, AUSTRALIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ANDERSON, RAYMOND; REEL/FRAME:027058/0341 EFFECTIVE DATE : 20111005
US9233855 BB	20160112	LSGT	+	granted / extensions (spc, cpc, pte)	
WO11026197 A1	20110310	LSPB	+	published / reissued	
WO11026197 A1	20111013	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13264288 COUNTRY OF REF DOCUMENT : US
WO11026197 A1	20111020	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2010291882 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20100907 KIND CODE OF REF DOCUMENT :

					A
WO11026197 A1	20120307	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

61) Family number: 50438487 (US2013098818A)

Title: MODULAR WATER TREATMENT SYSTEM

Abstract: Source: US2013098818A Apparatus for the treatment of a substance such as a liquid includes a treatment pit (10) which has a plurality of chambers (1 to 8). Walls (24, 26, 28, 30, 32, 34) separate the chambers. Apertures (36) are located in non-adjacent walls (24, 28, 32) near the base of the pit (10). Further apertures (38) are located in non-adjacent walls (30, 34, 40), near the top of the pit (10). The liquid is introduced into the first chamber (1), and reagents added to the liquid. The water and reagent mix then flows through apertures (36) in the wall (24) between the first (1) and second (2) chambers into the second (2) chamber. Further reagents may be added in the second (2) chamber. The water and reagent mix then flows through apertures (38) in the wall (26) between the second (2) and third (3) chambers into the third (3) chamber. This process continues until the water reaches the final (8) chamber, from which it is discharged.



Classifications:
International (IPC 8-9): B01D21/00 C02F1/00 C02F1/28 C02F1/52 C02F1/66 C02F9/00 (Advanced/Invention);
C02F103/00 (Advanced/Non-invention);
C02F (Subclass/Invention)
CPC: C02F1/5281 B01D21/0003 B01D21/0033 C02F1/001 C02F1/283 C02F1/52 C02F1/66 C02F9/00 C02F2103/007 C02F2201/008 C02F2209/42 C02F2201/007
European: B01D21/00B B01D21/00M2 C02F9/00 M02F1/00D M02F1/28D M02F1/52 M02F1/66 M02F103/00H M02F201/00M M02F209/42
US: 210/170.01 210/170.05

Family:

Publication number	Publication date	Application number	Application date
AU2011274292 AA	20120105	AU20110274292	20110628
CA2802774 AA	20121214	CA20112802774	20110628
EP2588417 A1	20130508	EP20110799950	20110628
EP2588417 A4	20140101	EP20110799950	20110628
NZ605639 A	20141031	NZ20110605639	20110628
US2013098818 AA	20130425	US20110806721	20110628
WO12000019 A1	20120105	WO2011AU00785	20110628
ZA201300264 A	20140827	ZA20130000264	20130111

Priority:
AU20100902882 20100630 AU20110274292 20110628 WO2011AU00785 20110628

Probable Assignee: ACID IP PTY LTD
Assignee(s): (std): ACID IP PTY LTD ; BEATH JASON I N ; BEATH JASON IAN NATHANIEL
Assignee(s): BEATH JASON IN
Inventor(s): (std): BEATH JASON IAN NATHANIEL ; JASON IAN NATHANIEL BEATH ; BEATH JASON I N
Inventor(s): BEATH JASON IN
Agent(s): JOHN CHRISTIANSEN; GOWLING LAFLEUR HENDERSON LLP; SERJEANTS LLP; CHRISTIANSEN JOHN
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 LI 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2011274292 AA	20120105	LSPB	+	published / reissued	
AU2011274292 AA	20150702	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
CA2802774 AA	20121214	LSPB	+	published / reissued	
CA2802774 AA	20160810	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20160629
EP2588417 A1	20130508	LSPB	+	published / reissued	
EP2588417 A1	20130508	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130118
EP2588417 A1	20140101	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20131202
EP2588417 A1	20140101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/52 20060101ALI20131126BHEP
EP2588417 A1	20140101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : B01D 21/00 20060101ALI20131126BHEP

EP2588417 A1	20140101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/00 20060101AFI20131126BHEP
EP2588417 A1	20140101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 9/00 20060101ALI20131126BHEP
EP2588417 A1	20140101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/66 20060101ALI20131126BHEP
EP2588417 A1	20140101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 103/00 20060101ALI20131126BHEP
EP2588417 A1	20140101	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/28 20060101ALI20131126BHEP
EP2588417 A1	20160720	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20160616
EP2588417 A1	20170329	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20161027
NZ605639 A	20141031	LSPB	+	published / reissued	
NZ605639 A	20150227	LSGT	+PSEA	PATENT SEALED	
NZ605639 A	20150731	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 28 JUN 2016 BY JOHN CHRISTIANSEN EFFECTIVE DATE : 20150626
NZ605639 A	20170127	LSLE	-LAPS	PATENT LAPSED	
US2013098818 AA	20130425	LSPB	+	published / reissued	
US2013098818 AA	20121226	LSAS	AS	ASSIGNMENT	OWNER NAME : ACID IP PTY., LTD., AUSTRALIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BEATH, JASON I.N.; REEL/FRAME:029548/0104 EFFECTIVE DATE : 20121217
WO12000019 A1	20120105	LSPB	+	published / reissued	
WO12000019 A1	20121214	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2802774 COUNTRY OF REF DOCUMENT : CA
WO12000019 A1	20121221	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 13806721 COUNTRY OF REF DOCUMENT : US
WO12000019 A1	20121231	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12000019 A1	20130124	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2011274292 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20110628 KIND CODE OF REF DOCUMENT : A
ZA201300264 A	20140827	LSGT	+	granted / extensions (spc, cpc, pte)	

62) Family number: 53751055 (US2013126174A)

Title: WATER CONVERSION SYSTEM

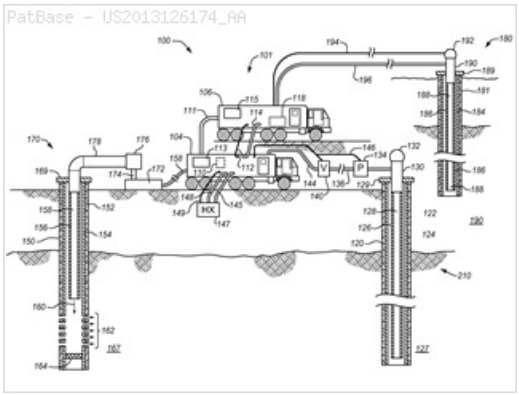
Abstract: Source: US2013126174A A mobile water conversion system including an electro-coagulation stage, a microfiltration stage, a cooling stage, a nanofiltration stage, and a reverse osmosis stage. The electro-coagulation stage receives heated input water, such as geothermal brackish water, and reduces total suspended solids. The microfiltration stage removes suspended solids and dissolved solids. The cooling stage provides cooled brine water. The nanofiltration stage removes hardness from the cooled brine water to provide sodium brine water. A portion of sodium brine water is provided to circulating water in the cooling stage. The reverse osmosis stage reduces sodium content and provides fresh water suitable for a specified purpose, such as fracking.

Classifications:

International (IPC 8-9): B01D21/00 B01D61/00 B01D63/00 C02F1/44 C02F1/463 C02F1/52 C02F1/72 C02F9/00 C02F9/02 C02F9/06 E21B43/26 G06Q10/08 (Advanced/Invention); C02F1/04 C02F1/20 C02F1/40 C02F1/46 C02F1/463 C02F1/469 C02F1/52 C02F1/68 C02F1/72 C02F1/76 C02F101/32 C02F103/00 C02F103/10 C02F103/32 C02F103/36 C02F11/12 C02F5/06 F24J3/08 (Advanced/Non-invention)

CPC: C02F2103/005 E21B43/26 F24J3/08 Y02E10/10 G06Q10/08 C02F1/048 C02F1/20 C02F1/40 C02F1/441 C02F1/442 C02F1/444 C02F1/445 C02F1/4602 C02F1/463 C02F1/4693 C02F1/68 C02F1/72 C02F1/722 C02F1/76 C02F5/06 C02F9/00 C02F11/12 C02F2001/5218 C02F2101/32 C02F2101/322 C02F2103/008 C02F2103/10 C02F2103/322 C02F2103/365 C02F2203/002 C02F2209/005 C02F2209/008 C02F2209/02 C02F2209/05 C02F2209/06 C02F2209/40 C02F2209/42 C02F2303/24

US: 1/1 166/308.1 210/103 210/104 210/202 210/259 210/638 210/652 210/85 210/96.2 210/97 705/330



Family:

Publication number	Publication date	Application number	Application date
US2013126174 AA	20130523	US20110304158	20111123
US2013126431 AA	20130523	US20120627713	20120926
US9322258 BB	20160426	US20110304158	20111123
US9524483 BB	20161220	US20120627713	20120926
WO13078124 A1	20130530	WO2012US65818	20121119

Priority:

US20110304158 20111123 US20120627713 20120926 US20120655921P 20120605

Probable Assignee: ADVANCED AQUA GROUP

Assignee(s): (std): ADVANCED AQUA GROUP ; HENSON LARRY K ; SZVETECZ EDWARD C

Inventor(s): (std): HENSON LARRY K ; SZVETECZ EDWARD C

Agent(s): HAYNES AND BOONE LLP; FOREST CARL A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 PA PE PG PH PL PT QA RO RS RU RW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2013126174 AA	20130523	LSPB	+	published / reissued	
US2013126174 AA	20111123	LSAS	AS	ASSIGNMENT	OWNER NAME : ADVANCED AQUA GROUP, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HENSON, LARRY K.; SZVETECZ, EDWARD C.; SIGNING DATES FROM 20111122 TO 20111123; REEL/FRAME:027274/0924
US2013126431 AA	20130523	LSPB	+	published / reissued	
US2013126431 AA	20120926	LSAS	AS	ASSIGNMENT	OWNER NAME : ADVANCED AQUA GROUP, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HENSON, LARRY K.; SZVETECZ, EDWARD C.; REEL/FRAME:029031/0629 EFFECTIVE DATE : 20120919
US9322258 BB	20160426	LSGT	+	granted / extensions (spc, cpc, pte)	
US9524483 BB	20161220	LSGT	+	granted / extensions (spc, cpc, pte)	

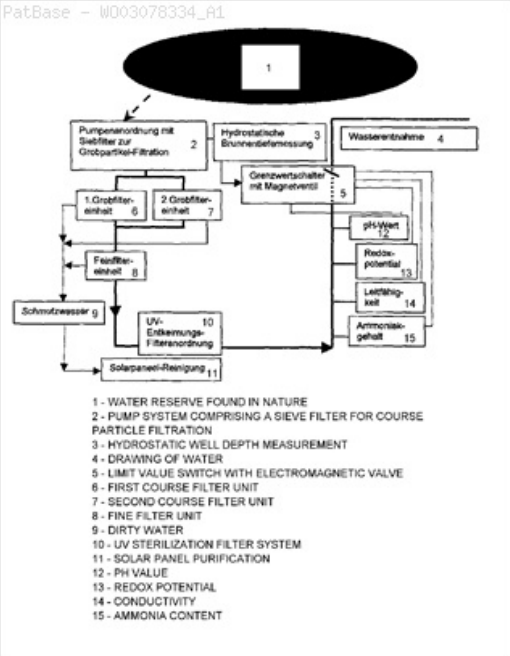
WO13078124 A1	20130530	LSPB	+	published / reissued	
WO13078124 A1	20140523	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13078124 A1	20141217	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12851313 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

63) Family number: 29088114 (WO03078334A1)

Title: FRESH WATER TREATMENT PLANT AND METHOD FOR OBTAINING DRINKING WATER

Abstract: The invention relates to a fresh water treatment plant for obtaining drinking water while utilizing occurrences in nature, particularly while utilizing groundwater and solar power for operating the plant that is essentially comprised of a pump system for providing water, of a solar cell unit, and of a UV sterilization filter system. The invention also relates to a method for obtaining drinking water while utilizing occurrences in nature, particularly while utilizing fresh water and solar energy.

Classifications:
International (IPC 8-9): C02F1/00 C02F9/00 C02F9/08 C02F9/12 G01N33/18 (Advanced/Invention);
C02F1/28 C02F1/32 C02F1/50 (Advanced/Non-invention);
C02F1/00 C02F9/00 C02F9/08 G01N33/18 (Core/Invention);
C02F1/28 C02F1/32 C02F1/50 (Core/Non-invention)
International (IPC 1-7): C02F1/00 C02F1/32 C02F9/08 C02F9/12 G01N33/18
CPC: C02F1/001 C02F1/008 C02F1/283 C02F1/32 C02F1/505 C02F9/00 C02F9/005 C02F2201/008 C02F2201/009 C02F2209/008 C02F2209/04 C02F2209/05 C02F2209/06 C02F2209/14 C02F2209/42 C02F2301/08 C02F2303/04 G01N33/18
European: C02F1/00T C02F9/00B G01N33/18 M02F1/00D M02F1/28D M02F1/32 M02F1/50B M02F201/00I M02F201/00M M02F201/00P M02F209/00T4 M02F209/04 M02F209/05 M02F209/06 M02F209/14 M02F209/42 M02F301/08 M02F303/04 M02F9/00



Family:

Publication number	Publication date	Application number	Application date
AU2003223885 AA	20030929	AU20030223885	20030320
DE10212442 A1	20031009	DE20021012442	20020320
WO03078334 A1	20030925	WO2003DE00920	20030320

Priority:
DE20021012442 20020320 WO2003DE00920 20030320

Probable Assignee: HESSE MICHAEL

Assignee(s): (std): HESSE MICHAEL

Inventor(s): (std): HESSE MICHAEL

Inventor(s): MICHAEL HESSE

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

Legal status (INPADOC)

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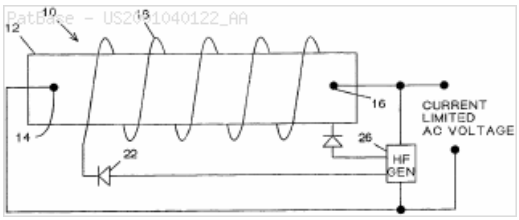
Patent	Date recorded	Event group	Code	Event	Details
AU2003223885 AA	20030929	LSPB	+	published / reissued	
AU2003223885 AA	20041209	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2) (F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
DE10212442 A1	20031009	LSPB	+	published / reissued	
DE10212442 A1	20031009	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE10212442 A1	20060105	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	
WO03078334 A1	20030925	LSPB	+	published / reissued	
WO03078334 A1	20041020	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003720216 COUNTRY OF REF DOCUMENT : EP
WO03078334 A1	20041021	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT

					NUMBER : 2003720216 COUNTRY OF REF DOCUMENT : EP
WO03078334 A1	20060623	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO03078334 A1	20060623	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : JP

64) Family number: 30111215 (US2001040122A)

Title: ASSEMBLY FOR PURIFYING WATER

Abstract: Source: US2001040122A An assembly for purifying water, the assembly consisting of a tube for carrying the water, the tube for carrying water having an upstream and a downstream end; a high intensity ultra-violet light or corona discharge ozone generator for introducing ozone into said tube for carrying water at an ozone introduction point within said tube; an ozone contact time tube segment situated between the ozone introduction point and the downstream end of the tube for carrying water; a bubble separator column having a water input port and a water output port, the downstream end of the tube for carrying water being positioned so that water emitting therefrom may pass through the water input port; and a water level sensitive electrically actuated valve for alternating collection of water within and discharging water from the bubble separator column.



Classifications:
International (IPC 8-9): A01M29/12 A61H33/00 A61H33/14 A61L2/10 A61L2/20 A61L9/00 A61L9/015 A61L9/12 A61L9/20 A62B25/00 A62B7/08 B01F5/00 B01F5/04 B01J19/08 C01B13/10 C01B13/11 C02F1/32 C02F1/46 C02F1/461 C02F1/76 C02F1/78 C02F9/04 C02F9/06 C02F9/12 E04H4/12 E04H4/16
G01N33/00 (Advanced/Invention);
B01F3/04 (Advanced/Non-invention);
A61H33/00 A61L2/10 A61L2/20 A61L9/015 A61L9/18 A62B25/00 B01F5/04 B01J19/08 C01B13/10 C01B13/11 C02F1/32 C02F1/46 C02F1/461 C02F1/78 C02F9/00 C02F9/08 E04H4/00 (Core/Invention);
B01F3/04 (Core/Non-invention)
International (IPC 1-7): A61H33/02 A61H33/14 A61L9/20 B01D1/00 B01J19/08 C02F1/30 C02F1/32 C02F1/78 F17D1/00
CPC: A01M29/12 A61L9/122 F25C2400/10 F25D17/042 F25D27/00 F25D2317/0416 F25D2317/061 F25D2323/121 F25D2323/122 A61L2/10 A61L2/202 A61H33/14 A61H2033/141 C02F1/008 A61H2033/0037 A61H2033/143 A61H2201/5058 A61H2201/5082 C02F2209/005 Y10S261/42 B01F3/04503 B01F5/0476 B01F5/0485 B01F5/106 C02F2201/004 C02F1/006 C02F1/20 C02F1/32 C02F2301/024 C02F2303/18 C02F9/00 A61H33/02 A61H33/601 A61H33/60 A61H33/6068 E04H4/1209 C02F1/4674 C02F2301/046 E04H4/1281 A61H33/0087 A61H33/005 A61H2033/002 A61H2201/102 C01B2201/22 C02F1/325 C02F2103/42 C02F2201/3223 C02F2201/328 C02F2201/782 C02F2303/04 A61L2209/111 A61L2209/14 Y10T436/206664 B01F3/04099 B01F2003/04886 Y10T137/0379 Y10T137/2202 Y10T137/87587 Y10T137/87611 B01F1/0033 B01F3/0865 B01F5/0428 B01F5/0606 B01F5/0608 Y10T137/87595 C02F2301/026 C02F2301/043 C02F1/78 A62B23/00 A61L9/015 A61L9/20 A62B17/006 A62B17/04 B01D53/38 B01D53/86 B01D2251/104 B01D2253/102 B01D2257/504 B01D2257/91 B01D2259/4541 B01D2259/4558 B01D2259/4566 B01D2259/4583 B01D2259/804 C01B13/10 C01B13/11 C01B2201/82 Y02P20/152 B01F2005/044
European: A01M29/12 A61H33/00N A61H33/14 A61L2/10 A61L2/20C A61L9/015 A61L9/12F A61L9/20 A62B23/00 B01D53/38 B01F1/00F2B B01F3/08F1 B01F5/04C12 B01F5/04C12S4 B01F5/06B2D2 B01F5/06B2D6 C01B13/10 C01B13/11 C02F1/00R C02F1/32D C02F1/467B2 C02F1/78 E04H4/12A E04H4/12B F25D17/04A F25D27/00 H05B3/00L K61H201/10A K61H201/50S K61H201/50S14 K61H33/00A4D K61H33/00A5 K61H33/00E K61H33/14A1 K61H33/14A2 K61L209/111 K61L209/140 K62B17/00H K62B17/04 L01D251/104 L01D253/102 L01D257/504 L01D257/91 L01D259/45P L01D259/45T2 L01D259/45V L01D259/45W L01D259/804 L01D53/86 L01F3/04C L01F3/04C20B4E M01B201/22 M01B201/82 M02F1/00T M02F1/20 M02F1/32 M02F1/467B2 M02F103/42 M02F201/322E M02F201/328 M02F201/782 M02F209/00T M02F301/02D M02F301/04D M02F303/04 M02F303/18 M02F9/00 R25C400/10 R25D317/0416 R25D317/061 R25D323/121 R25D323/122
US: 128/205.28 137/12 137/829 137/888 137/889 137/891 204/660 205/701 205/742 205/756 210/120 210/123 210/143 210/167 210/167.1 210/167.11 210/167.12 210/169 210/188 210/192 210/198.1 210/202 210/205 210/206 210/218 210/232 210/242.1 210/259 210/260 210/416.1 210/416.2 210/739 210/748.2 210/749 210/754 210/760 210/97 250/436 250/437 250/438 261/108 261/121.1 261/79.2 261/792 261/DIG.42 4/507 4/541.1 4/541.2 422/120 422/121 422/186.03 422/186.07 422/186.070S 422/186.12 422/186.15 422/186.3 422/186.300S 422/24 422/4 436/135 96/168 96/224 96/250 D23/208

Family:

Publication number	Publication date	Application number	Application date
US2001040122 AA	20011115	US19990418915	19991015
US2001042708 AA	20011122	US20000752982	20001231
US2002023866 AA	20020228	US20010794601	20010227
US6192911 BA	20010227	US19990393437	19990910
US6342154 BB	20020129	US19990418915	19991015
US6405387 BA	20020618	US20000520504	20000308
US6426053 BA	20020730	US20000717904	20001120
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US6623635 BB	20030923	US20000752982	20001231
US6723233 BA	20040420	US20020061752	20020201
US6881331 BA	20050419	US20030636071	20030807
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US6967008 BA	20051122	US20020176299	20020620
US7060180 BA	20060613	US20040827708	20040420
US7135108 BA	20061114	US20030668504	20030923
US7186334 BA	20070306	US20030701310	20031104
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US7604735 BA	20091020	US20070714411	20070306
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US8414839 BA	20130409	US20110931008	20110121
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Priority:

US19970066119P 19971121
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US20110931707 20110208	US20110324958 20111213	US20110931008 20110121
US20070980950 20071031		

Probable Assignee: MINTEQ UK LTD

Assignee(s): (std)**:** BARNES RONALD ; BARNES RONALD L

Assignee(s): MINTEQ UK LTD ; SAPPI NETHERLANDS SERVICES BV

Inventor(s): (std)**:** BARNES RONALD ; BARNES RONALD L

Agent(s): CLODFELTER MARK; MARK; KENYON AND KENYON; STEVEN M

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2001040122 AA	20011115	LSPB	+	published / reissued	
US2001042708 AA	20011122	LSPB	+	published / reissued	
US2002023866 AA	20020228	LSPB	+	published / reissued	
US6192911 BA	20010227	LSGT	+	granted / extensions (spc, cpc, pte)	
US6192911 BA	20040805	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6192911 BA	20080826	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6192911 BA	20130227	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6342154 BB	20020129	LSGT	+	granted / extensions (spc, cpc, pte)	
US6342154 BB	20050615	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6342154 BB	20100129	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6342154 BB	20100323	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20100129
US6405387 BA	20020618	LSGT	+	granted / extensions (spc, cpc, pte)	
US6405387 BA	20060331	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6405387 BA	20100617	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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US6426053 BA	20100729	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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US6623635 BB	20150923	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
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US6723233 BA	20080420	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US6723233 BA	20080610	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20080420
US6723233 BA	20081006	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20081007
US6723233 BA	20081007	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US6881331 BA	20050419	LSGT	+	granted / extensions (spc, cpc, pte)	
US6881331 BA	20081017	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6881331 BA	20130419	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
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US6881331 BA	20141020	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20141022
US6881331 BA	20141022	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6893610 BA	20050517	LSGT	+	granted / extensions (spc, cpc, pte)	
US6893610 BA	20081028	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US6893610 BA	20130709	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20130517
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US6893610 BA	20130909	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20130909
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US6951633 BA	20090929	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

US6951633 BA	20131003	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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US6967008 BA	20131121	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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US7060180 BA	20140603	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7135108 BA	20061114	LSGT	+	granted / extensions (spc, cpc, pte)	
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US7186334 BA	20100903	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7186334 BA	20150306	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7329343 BA	20080212	LSGT	+	granted / extensions (spc, cpc, pte)	
US7329343 BA	20110811	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7329343 BA	20160212	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7604735 BA	20091020	LSGT	+	granted / extensions (spc, cpc, pte)	
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US7875173 BA	20110125	LSGT	+	granted / extensions (spc, cpc, pte)	
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US8048370 BA	20111101	LSGT	+	granted / extensions (spc, cpc, pte)	
US8048370 BA	20151101	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8048370 BA	20151101	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US8048370 BA	20151222	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20151101
US8048370 BA	20160516	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20160519

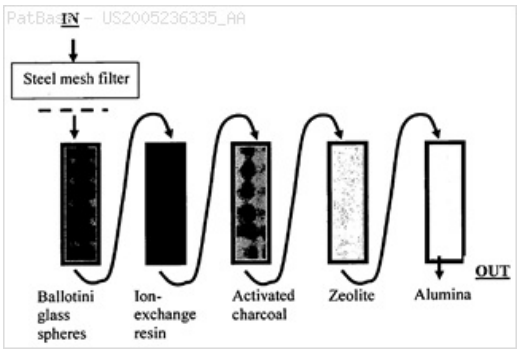
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US8061387 BA	20111122	LSGT	+	granted / extensions (spc, cpc, pte)	
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US8075784 BA	20111213	LSGT	+	granted / extensions (spc, cpc, pte)	
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US8075784 BA	20160202	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20151213
US8323511 BA	20121204	LSGT	+	granted / extensions (spc, cpc, pte)	
US8323511 BA	20161202	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8414839 BA	20130409	LSGT	+	granted / extensions (spc, cpc, pte)	
US8491775 BA	20130723	LSGT	+	granted / extensions (spc, cpc, pte)	
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USD493509 S1	20040727	LSGT	+	granted / extensions (spc, cpc, pte)	

65) Family number: 32360852 (US2005236335A)

Title: METHOD AND APPARATUS FOR REMOVING CONTAMINANTS FROM WATER

Abstract: Source: US2005236335A A method and apparatus is provided for the purification of water, in particular to the removal of surfactants and optionally organic, inorganic and/or biological contaminants from water using adsorption filtration techniques.

Classifications:
International (IPC 8-9): B01D21/01 B01J20/08 B01J20/10 B01J20/18 C02F1/28 C02F1/42 C02F1/52 C02F1/66 C02F9/00 C02F9/04 (Advanced/Invention);
C02F1/00 C02F1/28 C02F1/42 C02F1/66 C02F1/76 (Advanced/Non-invention);
C02F1/28 C02F1/66 C02F9/00 (Core/Invention);
C02F1/00 C02F1/42 C02F1/66 C02F1/76 (Core/Non-invention);
C02F (Subclass/Invention)
International (IPC 1-7): C02F1/28 C02F1/42 C02F1/66 C02F9/04
CPC: C02F1/001 C02F1/28 C02F1/281 C02F1/283 C02F1/66 C02F1/76 C02F9/00 C02F2001/422 C02F2001/425 C02F2101/301 C02F2103/002 C02F2209/06 C02F2209/11
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US: 210/199 210/202 210/202S 210/284 210/284S 210/665 210/690 210/690S 210/723 210/724 210/725



Family:

Publication number	Publication date	Application number	Application date
AU2005201711 AA	20051110	AU20050201711	20050422
AU2005201711 BB	20051124	AU20050201711	20050422
CA2562365 AA	20061006	CA20052562365	20050422
CN1950302 A	20070418	CN200580014825	20050422
EP1737794 A1	20070103	EP20050733423	20050422
EP1737794 A4	20090527	EP20050733423	20050422
IL178718 A0	20070211	IL20050178718	20050422
JP2007533439 T2	20071122	JP20070508673T	20050422
KR20070048133 A	20070508	KR20067021874	20061020
US2005236335 AA	20051027	US20040018938	20041221
US7491337 BB	20090217	US20040018938	20041221
WO05102937 A1	20051103	WO2005AU00568	20050422
ZA200609148 A	20080625	ZA20060009148	20061103

Priority:

AU20040902186 20040423 AU20040906259 20041029 AU20050201711 20050422
US20040018938 20041221 WO2005AU00568 20050422

Probable Assignee: JEFFBRAD INVESTMENTS PTY LTD

Assignee(s): (std): JEFFBRAD INVEST PTY LTD ; KARAMAN MARILYN E ; MARILYN KARAMAN ; PERPETUAL WATER PTY LTD

Assignee(s): JEFFBRAD INVESTMENTS PTY LIMITED ; JEFFBRAD INVESTMENTS PTY LTD

Inventor(s): (std): KARAMAN MARILYN E ; MARILYN E KARAMAN

Inventor(s): MARILYN KARAMAN

Agent(s): PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; FREEDMAN GORDON; WOLF GREENFIELD AND SACKS PC, FEDERAL RESERVE PLAZA; WOLF GREENFIELD AND SACKS PC

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2005201711 AA	20051110	LSPB	+	published / reissued	
AU2005201711 AA	20060323	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2005201711 AA	20090108	LSAS	PC	ASSIGNMENT REGISTERED	OWNER NAME : JEFFBRAD INVESTMENTS PTY LIMITED DESCRIPTION : FORMER OWNER WAS: PERPETUAL WATER PTY LTD
AU2005201711 AA	20101118	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2005201711 BB	20051124	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2562365 AA	20061006	LSPB	+	published / reissued	
CA2562365 AA	20061006	LSNP	+AFNE	NATIONAL PHASE ENTRY	

CA2562365 AA	20110426	LSLE	-FZDE	DEAD	
CA2562365 AA	20110621	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20110426
CN1950302 A	20070418	LSPB	+	published / reissued	
CN1950302 A	20070418	LSPB	+C06	PUBLICATION	
CN1950302 A	20091118	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP1737794 A1	20070103	LSPB	+	published / reissued	
EP1737794 A1	20070103	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20061024
EP1737794 A1	20090527	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20090423
EP1737794 A1	20100331	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20090723
JP2007533439 T2	20071122	LSPB	+	published / reissued	
JP2007533439 T2	20080318	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080317
JP2007533439 T2	20090609	LSWD	-A761	WRITTEN WITHDRAWAL OF APPLICATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A761 EFFECTIVE DATE : 20090608
KR20070048133 A	20070508	LSPB	+	published / reissued	
KR20070048133 A	20100523	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
US2005236335 AA	20051027	LSPB	+	published / reissued	
US7491337 BB	20090217	LSGT	+	granted / extensions (spc, cpc, pte)	
US7491337 BB	20050401	LSAS	AS	ASSIGNMENT	OWNER NAME : PERPETUAL WATER PTY LTD, AUSTRALIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KARAMAN, MARILYN E.; REEL/FRAME:015994/0286 EFFECTIVE DATE : 20050331
US7491337 BB	20090112	LSAS	AS	ASSIGNMENT	OWNER NAME : JEFFBRAD INVESTMENTS PTY LIMITED, AUSTRALIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PERPETUAL WATER LIMITED; REEL/FRAME:022093/0796 EFFECTIVE DATE : 20081118
US7491337 BB	20130217	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7491337 BB	20130409	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20130217
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WO05102937 A1	20061018	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 178718 COUNTRY OF REF DOCUMENT : IL
WO05102937 A1	20061019	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007508673 COUNTRY OF REF DOCUMENT : JP
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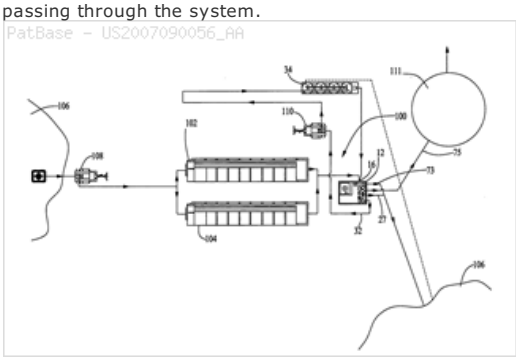
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WO05102937 A1	20061102	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006/09148 COUNTRY OF REF DOCUMENT : ZA
WO05102937 A1	20061109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200580014825.8 COUNTRY OF REF DOCUMENT : CN
WO05102937 A1	20070103	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005733423 COUNTRY OF REF DOCUMENT : EP
ZA200609148 A	20080625	LSGT	+	granted / extensions (spc, cpc, pte)	

66) Family number: 34399931 (US2007090056A)

Title: PORTABLE WATER QUALITY MONITORING AND TREATMENT SYSTEM

Abstract: Source: US2007090056A A portable system for on-site monitoring and treatment of water comprising a protective enclosure adapted to be positioned proximate a site of collected water, an internal fluid flow system disposed within the enclosure comprising a first conduit extending from a dirty water inlet on the enclosure to a pair of dirty water outlets and a second conduit extending from a return water inlet on the enclosure to a filtered water outlet and a clean water outlet. Probes are provided in the conduits for monitoring fluid parameters therein and communicating those parameters to a controller within the enclosure. The controller compares the measured parameter levels with predetermined acceptable levels and actuates valve members in said conduits in response to the measured parameter levels to selectively communicate the respective conduits with respective outlets for the treatment of water passing through the system.

Classifications:
International (IPC 8-9): B01D21/24 B01D29/00 B01D35/00 B01D35/157 B01D37/04 C02F1/00 C02F1/52 (Advanced/Invention); B01D35/00 C02F1/00 C02F1/52 (Core/Invention)
CPC: C02F1/001 C02F1/008 C02F1/52 C02F9/00 C02F2201/008 C02F2209/001 C02F2209/003 C02F2209/06 C02F2209/11
European: C02F1/00T C02F9/00 M02F1/00D M02F1/52 M02F201/00M M02F209/00B M02F209/00D M02F209/06 M02F209/11 M02F9/00
US: 210/103 210/105 210/143 210/198.1 210/198.100S 210/205 210/241 210/263 210/702 210/743 210/745 210/87 210/87P 210/96.1 210/96.100S 422/3 422/3P



Family:

Publication number	Publication date	Application number	Application date
CA2565394 AA	20070425	CA20062565394	20061024
CA2565394 C	20100126	CA20062565394	20061024
US2007090056 AA	20070426	US20050257710	20051025
US2008056936 AA	20080306	US20070932728	20071031
US2009020464 AA	20090122	US20080239609	20080926
US7431835 BB	20081007	US20050257710	20051025
US7553407 BB	20090630	US20080239609	20080926
US7553412 BB	20090630	US20070932728	20071031

Priority:
CA20062565394 20061024 US20050257710 20051025 US20070932728 20071031 US20080239609 20080926

Probable Assignee: WESTERN OILFIELDS SUPPLY CO
Assignee(s): (std): LACK DENNIS M ; WESTERN OILFIELDS SUPPLY CO
Assignee(s): WESTERN OILFIEDS SUPPLY CO
Inventor(s): (std): LACK DENNIS M
Inventor(s): LACK DENNIS
Agent(s): SMART AND BIGGAR; HOLLAND AND KNIGHT LLP; LYON JR RICHARD E; RICHARD E

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2565394 AA	20070425	LSPB	+	published / reissued	
CA2565394 AA	20061122	LSES	+EEER	EXAMINATION REQUEST	
CA2565394 C	20100126	LSGT	+	granted / extensions (spc, cpc, pte)	
US2007090056 AA	20070426	LSPB	+	published / reissued	
US2008056936 AA	20080306	LSPB	+	published / reissued	
US2009020464 AA	20090122	LSPB	+	published / reissued	
US7431835 BB	20081007	LSGT	+	granted / extensions (spc, cpc, pte)	
US7431835 BB	20051025	LSAS	AS	ASSIGNMENT	OWNER NAME : WESTERN OILFIEDS SUPPLY CO., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LACK, DENNIS M.; REEL/FRAME:017146/0760 EFFECTIVE DATE : 20051018
US7431835 BB	20120307	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

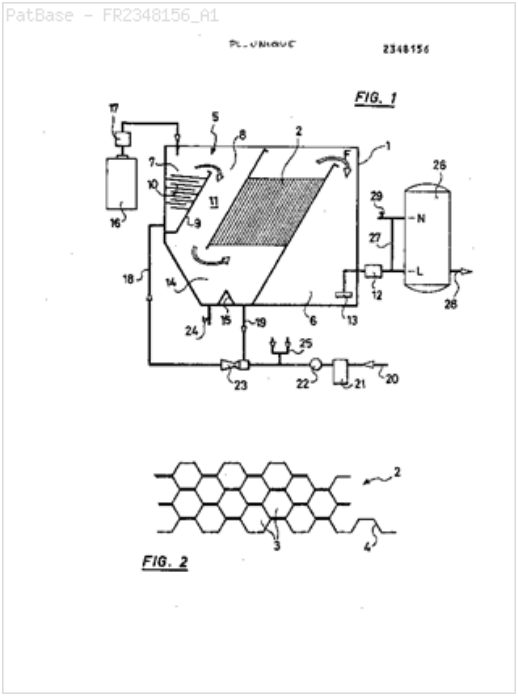
US7431835 BB	20160323	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7553407 BB	20090630	LSGT	+	granted / extensions (spc, cpc, pte)	
US7553407 BB	20080926	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WESTERN OILFIELDS SUPPLY CO., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LACK, DENNIS M.; REEL/FRAME:021596/0401 EFFECTIVE DATE : 20051018
US7553407 BB	20121001	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7553407 BB	20161215	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7553412 BB	20090630	LSGT	+	granted / extensions (spc, cpc, pte)	
US7553412 BB	20071031	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WESTERN OILFIELDS SUPPLY CO., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LACK, DENNIS M.; REEL/FRAME:020048/0038 EFFECTIVE DATE : 20051018
US7553412 BB	20121001	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7553412 BB	20161215	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8

67) Family number: 3512515 (FR2348156A)

Title: INSTALLATION DE PREPARATION D'EAU POTABLE COMPACT PLANT FOR PREPN. OF POTABLE WATER - WITH ALL STAGES IN SINGLE TRANSPORTABLE TANK

Abstract: Source: FR2348156A (Claim 1) 1. Installation de preparation d'eau potable (potabilisation) par exemple a partir de l'eau de lacs ou de rivieres, caracterisee en ce qu'elle comprend un recipient (1) ayant en substance la forme d'un parallelipipede, un tel recipient pouvant outre transportable et contenant a la fois un floculateur (5), un decanteur lamellaire (2) et une reserve d'eau decantee (capacite 6 Plant for the prepn. of potable water from lakes and rivers comprises a recipient parallelepipedal in shape, which contains a flocculator, a lamellar settler and a reservoir for the purified water. The raw water is introduced, under press. from an external pump, at the inlet and the pipe after passing through a filter and a hydroejector; this draws a certain amt. of sludge from the base of the water chamber which mixes with the raw water. This goes into the base of the first section of the flocculator. This first section is sepd. from the second section by th e inclined sheet; this directs the water, via the passage, to the settler where it overflows into the reservoir which acts as a suction chamber for the pump. The plant is completed by a press. filter of the multi-layer type; it is fed by the pump which can also be used for periodically cleaning the filter. Hypochlorite is added before or after filtration to sterilise the water; this goes to storage through the outlet. The combination of all the operations before filtration in a single tank results in a very compact, transportable plant.

Classifications:
International (IPC 8-9): B01D21/00 C02F9/00 (Advanced/Invention); C02F1/52 C02F1/66 C02F1/76 (Advanced/Non-invention); B01D21/00 C02F9/00 (Core/Invention); C02F1/52 C02F1/66 C02F1/76 (Core/Non-invention)
International (IPC 1-7): B01D21/00 B01D21/08 C02B1/20 C02F9/00
CPC: C02F9/00 B01D21/0012 B01D21/0042 B01D21/0051 B01D21/0066 B01D21/08 B01D21/2427 B01D21/2488 B01D2221/08 C02F1/001 C02F1/52 C02F1/66 C02F1/76 C02F2001/007 C02F2103/007 C02F2303/04
European: B01D21/00 B01D21/00F B01D21/00N B01D21/08 C02F9/00 M02F1/00D M02F1/00S M02F1/52 M02F1/66 M02F1/76 M02F103/00H M02F303/04



Family:

Publication number	Publication date	Application number	Application date
BE840717 A1	19760802	BE19760166134	19760414
FR2348156 A1	19771110	FR19760037544	19761206
FR2348156 B1	19821008	FR19760037544	19761206
OA5329 A	19810228	OA19760055826	19760519

Priority:
BE19760166134 19760414 BE19760840717 19760414

Probable Assignee: S E E STE D EPURATION ET D ENT
Assignee(s): (std): S E E STE D EPURATION ET D ENT ; SEE EPURATION ENTREPRISES SA
Assignee(s): S E E STE D EPURATION ET D ENTREPRISES S A

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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BE840717 A1	19861031	LSLE	-RE	LAPSED	OWNER NAME : SEE SOC. D'EPURATION ET D'ENTREPRISES S.A. EFFECTIVE DATE : 19860430
FR2348156 A1	19771110	LSPB	+	published / reissued	
FR2348156 A1	19861024	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2348156 B1	19821008	LSGT	+	granted / extensions (spc, cpc, pte)	
OA5329 A	19810228	LSGT	+	granted / extensions (spc,	

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cpc, pte)
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68) Family number: 40985659 (US2010307973A)

Title: MOBILE UNIT FOR THE TREATMENT OF RAW WATER

Abstract: Source: US2010307973A The subject of the present invention is a mobile unit for the treatment of raw water. It relates to the technical field of mobile installations and processes for potabilizing raw water for the purpose of providing an immediate solution to supplying drinking water to the heart of regions to be treated as being difficult to access. According to the invention, the mobile unit comprises:-a pumping means (5) for pumping the raw water (4) to be treated, connected to a supply circuit (6);-a transportable container (1) provided with said supply circuit and containing: a system (8) for analyzing the characteristics of the raw water to be treated, a first treatment module (9) for treating soft surface water or drilling water, a second treatment module (10) for treating brackish water or sea water, a third treatment module (11) for treating raw water contaminated by nuclear; radiological, biological and/or chemical (NRBC) agents and a device (15, 16, 120, 121, 122, 123, 124) suitable for directing the flow of raw water to be treated through said treatment modules according to the analyzed characteristics of the raw water. These characteristics allow the mobile unit to be rapidly modified so as to offer suitable treatment according to the characteristics of the raw water and thus obtain water of optimum quality.

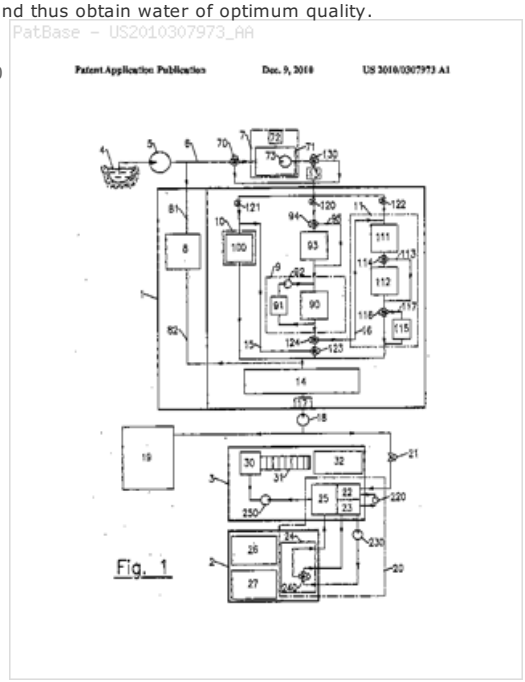
Classifications:

International (IPC 8-9): B01D21/01 B01D29/50 B01D36/00 B01D61/02 B01D61/18 B01D61/58 B01D63/02 B01D65/02 B65B3/00 C02F1/00 C02F1/18 C02F1/26 C02F1/28 C02F1/44 C02F1/52 C02F1/66 C02F1/68 C02F101/00 C02F103/00 C02F103/02 C02F103/06 C02F103/08 C02F103/10 C02F103/34 C02F9/00 C02F9/02 C02F9/10 G01N33/18 (Advanced/Invention);
C02F1/18 C02F1/26 C02F1/66 C02F1/68 C02F101/00 C02F103/00 C02F103/02 C02F103/06 C02F103/08 C02F103/10 C02F103/34 (Advanced/Non-invention);
B01D36/00 B01D61/02 B01D61/18 B01D61/58 B01D63/02 B01D65/00 C02F1/00 C02F1/18 C02F1/26 C02F1/28 C02F1/44 C02F1/52 C02F1/66 C02F1/68 C02F9/00 C02F9/02 C02F9/08 G01N33/18 (Core/Invention);
C02F1/18 C02F1/26 C02F1/66 C02F1/68 (Core/Non-invention)

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European: B01D61/02D B01D61/14D B01D61/58 C02F9/00B L01D61/02D L01D61/14D M02F1/00T M02F1/18 M02F1/22 M02F1/26C M02F1/44 M02F1/44B M02F1/52 M02F1/66 M02F1/68 M02F101/00R M02F103/00B M02F103/00H M02F103/02 M02F103/06 M02F103/08 M02F103/10 M02F201/00M M02F209/00 M02F209/11 M02F301/04D M02F301/08 M02F303/02 M02F305/06 M02F9/00

US: 141/11 141/11S 141/82 141/82S 210/177 210/177S 210/202 210/202S 210/241 210/241S 210/639 210/652 210/652S



Family:

Publication number	Publication date	Application number	Application date
BRPI0712874 A2	20120904	BR2007PI12874	20070611
EP2038224 A2	20090325	EP20070788859	20070611
FR2902026 A1	20071214	FR20060005180	20060612
JP2009539597 T2	20091119	JP20090514840T	20070611
MX2008015796 A1	20090205	MX20080015796	20070611
US2010307973 AA	20101209	US20070304239	20070611
WO07144491 A2	20071221	WO2007FR00954	20070611
WO07144491 A3	20080410	WO2007FR00954	20070611
WO07144491 B1	20080508	WO2007FR00954	20070611

Priority:

FR20060005180 20060612 WO2007FR00954 20070611

Probable Assignee: GRCEVIC VLADIMIR

Assignee(s): (std): GRCEVIC VLADIMIR

Assignee(s): VLADIMIR GRCEVIC

Inventor(s): (std): GRCEVIC VLADIMIR

Inventor(s): VLADIMIR GRCEVIC

Agent(s): ROMAN ALEXIS ET AL; MICHEL ROMAN; CABINET ROMAN; JEROME D JACKSON JACKSON PATENT LAW OFFICE

Designated states: AE AG AL AM 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 LI 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 SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BRPI0712874 A2	20120904	LSPB	+	published / reissued	
BRPI0712874 A2	20131001	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	DESCRIPTION : REFERENTE 6A. ANUIDADE(S).
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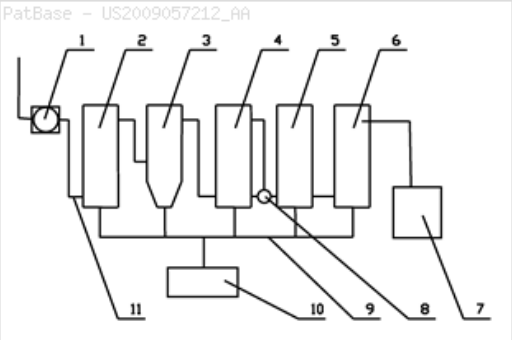
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EP2038224 A2	20090325	LSPB	+	published / reissued	
EP2038224 A2	20090325	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20081229
EP2038224 A2	20090715	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20090612
EP2038224 A2	20130626	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20130103
FR2902026 A1	20071214	LSPB	+	published / reissued	
FR2902026 A1	20080425	LSLE	-ST	NOTIFICATION OF LAPSE	EFFECTIVE DATE : 20080229
FR2902026 A1	20080627	LSRE	RN	APPLICATION FOR RESTORATION	
FR2902026 A1	20080926	LSRE	FC	FAVOURABLE DECISION OF INPI DIRECTOR GENERAL ON AN APPLICATION FOR RESTAURATION.	
FR2902026 A1	20091127	LSAS	TP	TRANSMISSION OF PROPERTY	
FR2902026 A1	20110107	LSLI	CL	CONCESSION TO GRANT LICENCES	
FR2902026 A1	20130329	LSLE	-ST	NOTIFICATION OF LAPSE	EFFECTIVE DATE : 20130228
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JP2009539597 T2	20100629	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20100610
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MX2008015796 A1	20101126	LSGT	+FG	GRANT OR REGISTRATION	
US2010307973 AA	20101209	LSPB	+	published / reissued	
WO07144491 A2	20071221	LSPB	+	published / reissued	
WO07144491 A3	20081205	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009514840 COUNTRY OF REF DOCUMENT : JP
WO07144491 A3	20081213	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO07144491 A3	20091019	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12304239 COUNTRY OF REF DOCUMENT : US
WO07144491 A3	20120904	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0712874 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 EFFECTIVE DATE : 20081209

69) Family number: 42511023 (US2009057212A)

Title: TREATMENT SYSTEM OF LOW CONCENTRATION SANITARY SEWAGE

Abstract: Source: US2009057212A This invention relates to a treatment system of low concentration sanitary sewage, mainly comprising a primary filtering device, a cyclone separator assembly and an aerobic biochemical treatment fluidized bed. The primary filtering device, cyclone separator assembly and aerobic biochemical fluidized are connected orderly. The primary filtering device is composed of several filtering modules, the cyclone separator assembly is composed of several cyclone separators, and the aerobic biological treatment fluidized bed is composed of several aerobic biochemical treatment modules. Such a system is suitable for small-scale and low-concentration sanitary sewage treatment, which has the advantages of good treatment effect, compact structure, flexible installation and small land used.

Classifications:
International (IPC 8-9): C02F1/38 C02F1/467 C02F1/78 C02F3/02 C02F9/00 C02F9/02 C02F9/14 (Advanced/Invention); C02F1/38 C02F1/467 C02F1/78 C02F3/02 (Advanced/Non-invention); C02F1/38 C02F1/461 C02F1/78 C02F3/02 C02F9/00 C02F9/02 C02F9/14 (Core/Invention)
CPC: Y02W10/15 C02F9/00 C02F1/001 C02F1/008 C02F1/385 C02F1/4606 C02F1/50 C02F1/78 C02F3/08 C02F3/085 C02F3/1242 C02F2001/007 C02F2209/02 C02F2209/08 C02F2209/22 C02F2301/08 C02F2303/04 C02F2303/24 C02F2303/26
European: C02F1/00T C02F3/08D C02F3/12N2 C02F9/00 M02F1/00D M02F1/00S M02F1/38B M02F1/46H M02F1/50 M02F1/78 M02F209/02 M02F209/08 M02F209/22 M02F3/08 M02F301/08 M02F303/04 M02F303/24 M02F303/26 M02F9/00
US: 210/101 210/101S 210/173 210/173S 210/202 210/202S 210/85 210/85S 210/87 210/87P



Family:

Publication number	Publication date	Application number	Application date
CN101239765 A	20080813	CN200710120782	20070827
US2009057212 AA	20090305	US20070963987	20071224

Priority:

CN200710120782 20070827

Probable Assignee: BEIJING NENGTUO HIGH TECHNOLOGY CO LTD

Assignee(s): (std): BEIJING NENGTUO HIGH TECH CO L ; BEIJING NENGTUO HIGH TECHNOLOG

Assignee(s): BEIJING NENGTUO HIGH TECHNOLOGY CO ; BEIJING NENGTUO HIGH TECHNOLOGY CO LTD ; BEIJING NENGTUO HIGH TECH CO LTD ; BEIJING NENGTUO HIGH TECH CO

Inventor(s): (std): LI QINGMEI ; QINGMEI LI

Agent(s): YING CHEN,CHEN YOSHIMURA LLP; YING CHEN CHEN YOSHIMURA LLP

Legal status (INPADOC)

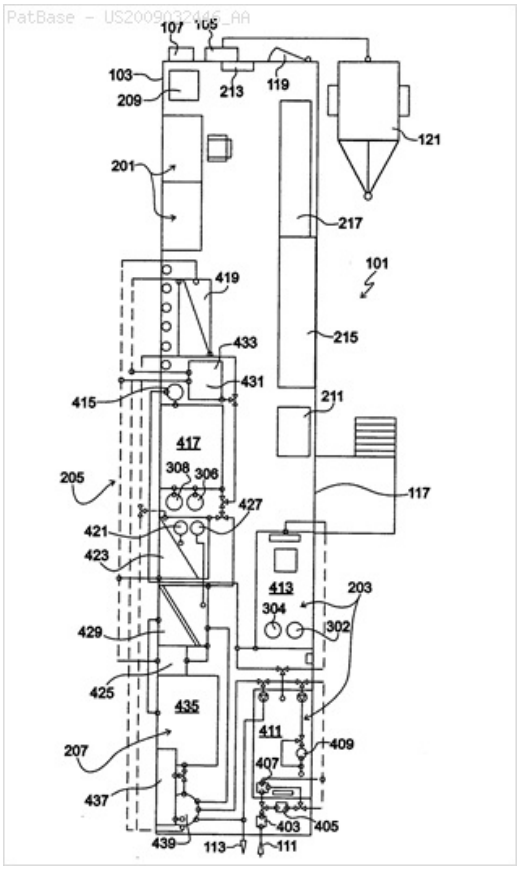
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Patent	Date recorded	Event group	Code	Event	Details
CN101239765 A	20080813	LSPB	+	published / reissued	
CN101239765 A	20080813	LSPB	+C06	PUBLICATION	
CN101239765 A	20110525	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
US2009057212 AA	20090305	LSPB	+	published / reissued	
US2009057212 AA	20071224	LSAS	AS	ASSIGNMENT	OWNER NAME : BEIJING NENGTUO HIGH TECHNOLOGY CO., LTD., CHINA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LI, QINGMEI; REEL/FRAME:020286/0415 EFFECTIVE DATE : 20071224

70) Family number: 42901434 (US2009032446A)

Title: MOBILE STATION AND METHODS FOR DIAGNOSING AND MODELING SITE SPECIFIC EFFLUENT TREATMENT FACILITY REQUIREMENTS

Abstract: Source: US2009032446A A mobile station and methods are disclosed for diagnosing and modeling site specific effluent treatment facility requirements to arrive at a treatment regimen and/or proposed commercial plant model idealized for the particular water/site requirements. The station includes a mobile platform having power intake, effluent intake and fluid outflow facilities and first and second suites of selectably actuatable effluent pre-treatment apparatus. An effluent polishing treatment array is housed at the station and includes at least one of nanofiltration, reverse osmosis and ion-exchange stages. A suite of selectively actuatable post-treatment apparatus are housed at the station. Controls are connected at the station for process control, monitoring and data accumulation. A plurality of improved water treatment technologies are also disclosed.



Classifications:

International (IPC 8-9): B01D17/06 B01D17/12 B01D19/00 B01D19/02 B01D21/24 B01D36/00 B01D61/02 B01D63/02 B01D63/16 B01D65/02 B03C5/02 B03D3/06 B23H3/04 C02F1/00 C02F1/20 C02F1/24 C02F1/28 C02F1/32 C02F1/40 C02F1/42 C02F1/44 C02F1/46 C02F1/461 C02F1/463 C02F1/469 C02F1/52 C02F1/66 C02F1/68 C02F11/00 C02F3/02 C02F3/04 C02F3/08 C02F9/00 C02F9/02 C02F9/06 C25B11/12 C25B9/00 G05B13/04 (Advanced/Invention);
B01D61/02 C02F1/00 C02F1/20 C02F1/38 C02F1/42 C02F1/44 C02F1/52 C02F1/66 C02F3/08 (Advanced/Non-invention);
B01D17/00 B01D19/00 B01D19/02 B01D36/00 B01D63/16 B01D65/00 B03C5/00 B03D3/00 B23H3/00 C02F1/00 C02F1/40 C02F1/44 C02F1/461 C02F1/463 C02F1/68 C02F11/00 C02F3/02 C02F3/04 C02F9/00 C02F9/02 C25B11/00 C25B9/00 (Core/Invention)

CPC: B01D66/02 B01D61/02 C02F2209/005 C02F1/44 C02F1/32 C02F1/28 C02F2201/4612 B01D61/022 B01D61/025 B01D61/027 C02F1/008 C02F1/20 C02F1/38 C02F1/42 C02F1/441 C02F1/442 C02F1/444 C02F1/66 C02F3/082 C02F2001/007 C02F2201/008 C02F2209/00 C02F2209/006 C02F2209/008 B01D19/0036 C02F2101/32 C02F1/465 C02F2001/46128 C02F2301/063 C02F1/24 C02F1/52 C02F9/00 Y02W10/15 C02F2201/461 C02F2103/365 B01D65/02 C02F1/463

European: B01D61/02B C02F1/00T C02F9/00 L01D61/02D L01D61/02F M02F1/00S M02F1/20 M02F1/38 M02F1/42 M02F1/44B M02F1/44C M02F1/44D M02F1/463 M02F1/52 M02F1/66 M02F201/00M M02F209/00 M02F209/00T M02F209/00T2 M02F209/00T4 M02F3/08B

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Family:

Publication number	Publication date	Application number	Application date
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US2010116737 AA	20100513	US20080452774	20080731
US2010116752 AA	20100513	US20080452773	20080731
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US2010126926 AA	20100527	US20080452785	20080731
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Priority:

US20070888512 20070801	US20080452773 20080731	US20080452776 20080731
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WO2008US09259 20080731	WO2008US09254 20080731	WO2008US09269 20080731

Probable Assignee: ROCKWATER RESOURCE LLC

Assignee(s): (std): KHALILI BARDIA B ; KOHLHEB ROBERT ; LIPOVSZKI GYORGY ; TRIWATECH LLC ; TRIWATECH L L C ; WIEMERS REGINALD A ; ZAHN PETER H ; ROCKWATER RESOURCE LLC

Assignee(s): ROCKWATER RESOURCE LLP ; ROCKWATER RESOURCE LC

Inventor(s): (std): KHALILI BARDIA B ; KOHLHEB ROBERT ; LIPOVSZKI GYORGY ; ROBERT KOHLHEB ; WIEMERS REGINALD A ; ZAHN PETER H

Inventor(s): GYORGY LIPOVSZKI ; PETER H ZAHN ; REGINALD A WIEMERS

Agent(s): SPRUSON AND FERGUSON; MACRAE AND CO; MERRIFIELD SARAH ELIZABETH; HAROLD A BURDICK; THE LAW FIRM OF HARRIS AND BURDICK,HAROLD BURDICK AND ROBERT HARRIS; LAW FIRM OF HARRIS AND BURDICK HAROLD BURDICK AND ROBERT HARRIS; HAROLD A; GREENBERG TRAURIG LLP; BURDICK HAROLD A

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 LI 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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AU2008282785 AA	20150702	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2008282785 AA	20170223	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2008282785 BB	20150305	LSGT	+	granted / extensions (spc, cpc, pte)	

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AU2008282786 AA	20150625	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
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CA2694156 AA	20130708	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130617
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CA2694170 C	20160405	LSGT	+	granted / extensions (spc, cpc, pte)	
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CA2694171 AA	20100121	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2694171 AA	20130704	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130617
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CA2694178 AA	20100121	LSPB	+	published / reissued	
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EP2173671 A1	20100414	LSPB	+	published / reissued	
EP2173671 A1	20100414	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100115
EP2173671 A1	20110914	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20110811
EP2173671 A1	20110914	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 3/02 20060101AFI20110805BHEP

EP2173671 A1	20121226	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : ROCKWATER RESOURCE LLC.
EP2173671 A1	20130918	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20130820
EP2173671 A1	20140611	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20140103
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US2009032446 AA	20070801	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHEB, ROBERT; LIPOVSZKI, GYORGY; AND OTHERS; REEL/FRAME:019702/0234 EFFECTIVE DATE : 20070801
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US2010116652 AA	20100513	LSPB	+	published / reissued	
US2010116652 AA	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C.,COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WIEMERS, REGINALD A.; REEL/FRAME:023852/0469 EFFECTIVE DATE : 20091009
US2010116652 AA	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C.,COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WIEMERS, REGINALD A.; US-ASSIGNMENT DATABASE UPDATED:20100513; REEL/FRAME:23852/469 EFFECTIVE DATE : 20091009
US2010116652 AA	20120730	LSAS	AS	ASSIGNMENT	OWNER NAME : ROCKWATER RESOURCE LLC, COLORADO DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TRIWATECH LLC; REEL/FRAME:028734/0226 EFFECTIVE DATE : 20101209
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US2010126869 AA	20120730	LSAS	AS	ASSIGNMENT	OWNER NAME : ROCKWATER RESOURCE LLC, COLORADO DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TRIWATECH LLC; REEL/FRAME:028734/0226 EFFECTIVE DATE : 20101209
US2010126926 AA	20100527	LSPB	+	published / reissued	
US2010126926 AA	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WIEMERS, REGINALD A.; REEL/FRAME:023855/0115 EFFECTIVE DATE : 20091009
US2010126926 AA	20120730	LSAS	AS	ASSIGNMENT	OWNER NAME : ROCKWATER RESOURCE LLC, COLORADO DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TRIWATECH LLC; REEL/FRAME:028734/0226

					EFFECTIVE DATE : 20101209
US2011257788 AA	20111020	LSPB	+	published / reissued	
US2011257788 AA	20110801	LSAS	AS	ASSIGNMENT	OWNER NAME : ROCKWATER RESOURCE LLP, COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHEB, ROBERT; KHALILI, BARDIA B.; AND OTHERS; SIGNING DATES FROM 20110406 TO 20110426; REEL/FRAME:026698/0126
US2013341271 AA	20131226	LSPB	+	published / reissued	
US2014014505 AA	20140116	LSPB	+	published / reissued	
US2014183058 AA	20140703	LSPB	+	published / reissued	
US2014183058 AA	20140303	LSAS	AS	ASSIGNMENT	OWNER NAME : ROCKWATER RESOURCE, LLC, COLORADO DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TRIWATECH, LLC; REEL/FRAME:032498/0319 EFFECTIVE DATE : 20101209
US2014183058 AA	20140310	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, LLC, COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHEB, ROBERT; ZAHN, PETER H.; REEL/FRAME:032498/0714 EFFECTIVE DATE : 20091009
US2014332450 AA	20141113	LSPB	+	published / reissued	
US2014366730 AA	20141218	LSPB	+	published / reissued	
US2014366730 AA	20140620	LSAS	AS	ASSIGNMENT	OWNER NAME : ROCKWATER RESOURCE, LLC, COLORADO DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TRIWATECH, LLC; REEL/FRAME:033258/0537 EFFECTIVE DATE : 20101209
US2014366730 AA	20140620	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, LLC, COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WIEMERS, REGINALD A.; REEL/FRAME:033258/0597 EFFECTIVE DATE : 20091009
US2015034495 AA	20150205	LSPB	+	published / reissued	
US2015034558 AA	20150205	LSPB	+	published / reissued	
US2015225262 AA	20150813	LSPB	+	published / reissued	
US2015225262 AA	20150126	LSAS	AS	ASSIGNMENT	OWNER NAME : ROCKWATER RESOURCE, LLC, COLORADO DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TRIWATECH, LLC; REEL/FRAME:034874/0579 EFFECTIVE DATE : 20101209
US2015225262 AA	20150126	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, LLC, COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHEB, ROBERT; REEL/FRAME:034874/0205 EFFECTIVE DATE : 20091009
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US8257592 BB	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C.,COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHEB, ROBERT; LIPOVSZKI, GYORGY; REEL/FRAME:023855/0210 EFFECTIVE DATE : 20080725

US8257592 BB	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHEB, ROBERT; LIPOVSZKI, GYORGY; REEL/FRAME:023855/0210 EFFECTIVE DATE : 20080725
US8257592 BB	20120730	LSAS	AS	ASSIGNMENT	OWNER NAME : ROCKWATER RESOURCE LLC, COLORADO DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TRIWATECH LLC; REEL/FRAME:028734/0226 EFFECTIVE DATE : 20101209
US8257592 BB	20160904	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8257592 BB	20161025	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160904
US8435391 BB	20130507	LSGT	+	granted / extensions (spc, cpc, pte)	
US8435391 BB	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C.,COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WIEMERS, REGINALD A.; REEL/FRAME:023852/0469 EFFECTIVE DATE : 20091009
US8435391 BB	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WIEMERS, REGINALD A.; REEL/FRAME:023852/0469 EFFECTIVE DATE : 20091009
US8435391 BB	20120730	LSAS	AS	ASSIGNMENT	OWNER NAME : ROCKWATER RESOURCE LLC, COLORADO DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TRIWATECH LLC; REEL/FRAME:028734/0226 EFFECTIVE DATE : 20101209
US8435391 BB	20161104	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8524082 BB	20130903	LSGT	+	granted / extensions (spc, cpc, pte)	
US8524082 BB	20100122	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRIWATECH, L.L.C.,COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHEB, ROBERT; REEL/FRAME:023855/0153 EFFECTIVE DATE : 20091009
US8524082 BB	20100122	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRIWATECH, L.L.C., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHEB, ROBERT; REEL/FRAME:023855/0153 EFFECTIVE DATE : 20091009
US8524082 BB	20120730	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROCKWATER RESOURCE LLC, COLORADO OLDPARTY : CHANGE OF NAME; ASSIGNOR:TRIWATECH LLC; REEL/FRAME:028734/0226 EFFECTIVE DATE : 20101209
US8524082 BB	20170208	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8623209 BB	20140107	LSGT	+	granted / extensions (spc, cpc, pte)	
US8623209 BB	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C., COLORADO DESCRIPTION : ASSIGNMENT OF

					ASSIGNORS INTEREST; ASSIGNOR:WIEMERS, REGINALD A.; REEL/FRAME:023855/0122 EFFECTIVE DATE : 20091009
US8623209 BB	20120730	LSAS	AS	ASSIGNMENT	OWNER NAME : ROCKWATER RESOURCE LLC, COLORADO DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TRIWATECH LLC; REEL/FRAME:028734/0226 EFFECTIVE DATE : 20101209
US8663464 BB	20140304	LSGT	+	granted / extensions (spc, cpc, pte)	
US8663464 BB	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHEB, ROBERT; ZAHN, PETER H.; REEL/FRAME:023852/0451 EFFECTIVE DATE : 20091009
US8741153 BB	20140603	LSGT	+	granted / extensions (spc, cpc, pte)	
US8741153 BB	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHED, ROBERT; REEL/FRAME:023857/0360 EFFECTIVE DATE : 20091009
US8758604 BB	20140624	LSGT	+	granted / extensions (spc, cpc, pte)	
US8758604 BB	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WIEMERS, REGINALD A.; REEL/FRAME:023855/0148 EFFECTIVE DATE : 20091009
US8790517 BB	20140729	LSGT	+	granted / extensions (spc, cpc, pte)	
US8858790 BB	20141014	LSGT	+	granted / extensions (spc, cpc, pte)	
US8858790 BB	20100122	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIWATECH, L.L.C., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WIEMERS, REGINALD A.; KOHLHEB, ROBERT; REEL/FRAME:023856/0172 EFFECTIVE DATE : 20091009
US8858791 BB	20141014	LSGT	+	granted / extensions (spc, cpc, pte)	
US8940166 BB	20150127	LSGT	+	granted / extensions (spc, cpc, pte)	
US9108160 BB	20150818	LSGT	+	granted / extensions (spc, cpc, pte)	
WO09017759 A1	20090205	LSPB	+	published / reissued	
WO09017759 A1	20100113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008282848 COUNTRY OF REF DOCUMENT : AU
WO09017759 A1	20100121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2694170 COUNTRY OF REF DOCUMENT : CA
WO09017759 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09017759 A1	20100204	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	REF DOCUMENT NUMBER : 2008282848

				IN:	COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20080731 KIND CODE OF REF DOCUMENT : A
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WO09017773 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452775 COUNTRY OF REF DOCUMENT : US
WO09017773 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09017785 A1	20090205	LSPB	+	published / reissued	
WO09017785 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452778 COUNTRY OF REF DOCUMENT : US
WO09017785 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09017785 A1	20100915	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08794917 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1
WO09017786 A1	20090205	LSPB	+	published / reissued	
WO09017786 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452779 COUNTRY OF REF DOCUMENT : US
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WO09017786 A1	20100901	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08794918 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1
WO09017787 A1	20090205	LSPB	+	published / reissued	
WO09017787 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452774 COUNTRY OF REF DOCUMENT : US
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WO09017787 A1	20100915	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08794922 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1
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WO09017788 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452776 COUNTRY OF REF DOCUMENT : US
WO09017788 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09017788 A1	20100901	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08794923 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1
WO09017789 A1	20090205	LSPB	+	published / reissued	

WO09017789 A1	20100113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008282785 COUNTRY OF REF DOCUMENT : AU
WO09017789 A1	20100121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2694156 COUNTRY OF REF DOCUMENT : CA
WO09017789 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452787 COUNTRY OF REF DOCUMENT : US
WO09017789 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09017789 A1	20100204	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2008282785 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20080731 KIND CODE OF REF DOCUMENT : A
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WO09017790 A1	20090205	LSPB	+	published / reissued	
WO09017790 A1	20100113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008282786 COUNTRY OF REF DOCUMENT : AU
WO09017790 A1	20100121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2694171 COUNTRY OF REF DOCUMENT : CA
WO09017790 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452785 COUNTRY OF REF DOCUMENT : US
WO09017790 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO09017791 A1	20090205	LSPB	+	published / reissued	
WO09017791 A1	20100113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008282787 COUNTRY OF REF DOCUMENT : AU
WO09017791 A1	20100121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2694178 COUNTRY OF REF DOCUMENT : CA
WO09017791 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452780 COUNTRY OF REF DOCUMENT : US
WO09017791 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09017791 A1	20100204	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2008282787 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20080731

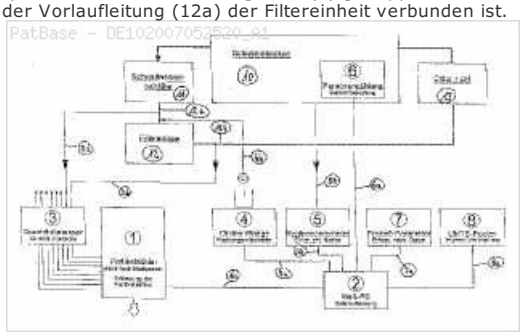
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WO09017792 A1	20090205	LSPB	+	published / reissued	
WO09017792 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452777 COUNTRY OF REF DOCUMENT : US
WO09017792 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09017792 A1	20100901	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08794927 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1
WO09017799 A1	20090205	LSPB	+	published / reissued	
WO09017799 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452786 COUNTRY OF REF DOCUMENT : US
WO09017799 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09017799 A1	20100915	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08794935 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1
WO09017801 A1	20090205	LSPB	+	published / reissued	
WO09017801 A1	20100122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12452773 COUNTRY OF REF DOCUMENT : US
WO09017801 A1	20100202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09017801 A1	20100908	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08794937 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

71) Family number: 43212496 (DE102007052520B4)

Title: Messsystem und Messverfahren zur Kontrolle und/oder Steuerung einer Wasseraufbereitung, insbesondere in einem Schwimmbad

Abstract: Source: DE102007052520B4 Messsystem zur Kontrolle und/oder Steuerung einer Wasseraufbereitung, insbesondere in einem Schwimmbad (10), mit - einem Partikelzaehlgeraet (1), das als Laserpartikelzaehlgeraet ausgebildet und an einen Wasseraufbereitungskreislauf angeschlossen ist, wobei das Partikelzaehlgeraet (1) mit einer Vorlaufleitung (12a) und/oder Ruecklaufleitung (12b) einer im Wasseraufbereitungskreislauf vorhandenen Filtereinheit (12) verbunden ist, - mit einem Personenzaehlgeraet (6) zur Erfassung der personenbedingten Belastung des aufzubereitenden Wassers und - einem Datenerfassungsgeraet (2), das mit dem Partikelzaehlgeraet (1) und dem Personenzaehlgeraet (6) gekoppelt und mit wenigstens einem Flockungsmittelmessgeraet verbunden ist, das mit der Vorlaufleitung (12a) der Filtereinheit verbunden ist.

Classifications:
International (IPC 8-9): C02F1/00 G01N15/06 G01N33/18 (Advanced/Invention);
C02F1/00 G01N15/06 G01N33/18 (Core/Invention)
CPC: C02F1/001 C02F1/008 C02F1/5209 C02F2103/42 C02F2209/008 C02F2209/04 C02F2209/06 C02F2209/105 C02F2209/11 C02F2209/29 C02F2209/40 C02F2209/44 C02F2303/16 G01N15/0205
European: C02F1/00T G01N15/02B M02F1/00D M02F1/52A M02F103/42 M02F209/00T4 M02F209/04 M02F209/06 M02F209/10B M02F209/11 M02F209/29 M02F209/40 M02F209/44 M02F303/16



Family:

Publication number	Publication date	Application number	Application date
DE102007052520 A1	20090507	DE200710052520	20071031
DE102007052520 B4	20131010	DE200710052520	20071031

Priority:

DE200710052520 20071031

Probable Assignee: INGBUERO F WASSERTECHNIK GM

Assignee(s): (std): INGBUERO F WASSERTECHNIK GM ; INGBUERO F WASSERTECHNIK GMBH ; INGBUERO FUER WASSERTECHNIK GM ; P AND W INVEST VERMOEGENSVERWALT

Assignee(s): P AND W INVEST VERMOEGENSVERWALTUNGSGESELLSCHAFT MBH ; INGENIEURBUERO F WASSERTECHNIK GMBH ; INGENIEURBUERO FUER WASSERTECHNIK GMBH

Inventor(s): (std): WILLERT GERHARD ; WILLERT GERHARD DIPL ING

Legal status (INPADOC)

View legal status timeline

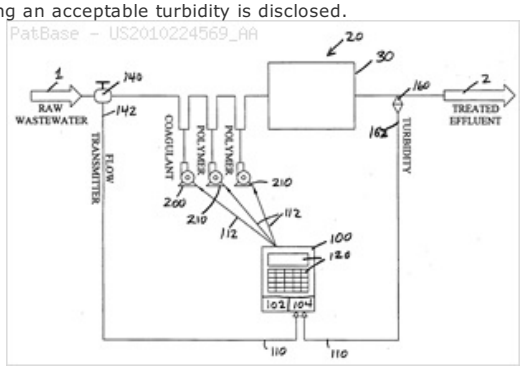
Patent	Date recorded	Event group	Code	Event	Details
DE102007052520 A1	20090507	LSPB	+	published / reissued	
DE102007052520 A1	20090827	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE102007052520 A1	20130529	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102007052520 A1	20130604	LSGT	+R018	GRANT DECISION BY EXAMINATION SECTION/EXAMINING DIVISION	
DE102007052520 A1	20140403	LSGT	+R020	PATENT GRANT NOW FINAL	EFFECTIVE DATE : 20140111
DE102007052520 A1	20140911	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OWNER NAME : P AND W INVEST VERMOEGENSVERWALTUNGSGESELLSCHAFT, AT DESCRIPTION : FORMER OWNERS: INGENIEURBUERO FUER WASSERTECHNIK GMBH, 30952 RONNENBERG, DE; P AND W INVEST VERMOEGENSVERWALTUNGSGESELLSCHAFT MBH, SALZBURG, AT EFFECTIVE DATE : 20140805
DE102007052520 A1	20140911	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OWNER NAME : P AND W INVEST VERMOEGENSVERWALTUNGSGESELLSCHAFT, AT DESCRIPTION : FORMER OWNER: INGENIEURBUERO FUER WASSERTECHNIK, P AND W INVEST VERMOEGENSVERWALTUN, , AT EFFECTIVE DATE : 20140805
DE102007052520 B4	20131010	LSGT	+	granted / extensions (spc, cpc, pte)	

72) Family number: 46802480 (US2010224569A)

Title: WASTEWATER TREATMENT SYSTEM

Abstract: Source: US2010224569A The present invention is a system and method for treating a wastewater stream to produce an effluent having an acceptable level of turbidity. The invention comprises a controller operatively coupled to at least one turbidity meter for monitoring turbidity of the effluent stream. A plurality of chemical treatment additive pumps are provided for providing a plurality of additives to the wastewater stream. Furthermore, a method of sequentially testing the amount of each additive required to produce an effluent stream having an acceptable turbidity is disclosed.

Classifications:
International (IPC 8-9): B01D21/01 B01D21/30 B01D21/32 C02F1/00 C02F1/24 C02F1/52 C02F1/56 C02F1/66 C02F1/68 C02F103/00 G01N33/18 (Advanced/Invention); C02F101/32 C02F103/00 (Advanced/Non-invention); C02F1/52 (Core/Invention)
CPC: C02F1/5209 C02F1/24 C02F1/56 C02F2101/32 C02F2101/325 C02F2209/001 C02F2209/003 C02F2209/005 C02F2209/06 C02F2209/08 C02F2209/10 C02F2209/11 C02F2209/40 C02F2303/24
European: C02F1/52A C02F1/56 M02F1/24 M02F101/32 M02F101/32E M02F209/00B M02F209/00D M02F209/00T M02F209/06 M02F209/08 M02F209/10 M02F209/11 M02F209/40 M02F303/24
US: 210/101 210/103 210/702 210/709 210/723 210/724 210/726 210/732 210/745 210/749 210/88 210/88S 210/96.1 210/96.100S



Family:

Publication number	Publication date	Application number	Application date
CA2695315 AA	20100903	CA20102695315	20100303
CA2695315 C	20140527	CA20102695315	20100303
CA2783825 AA	20130127	CA20122783825	20120726
MX2010002482 A1	20110527	MX20100002482	20100303
MX2012008760 A1	20130528	MX20120008760	20120727
US2010224569 AA	20100909	US20090397058	20090303
US2012000859 AA	20120105	US20110192133	20110727
US2013037463 AA	20130214	US20120569509	20120808
US8262914 BB	20120911	US20090397058	20090303
US9493370 BB	20161115	US20110192133	20110727

Priority:
CA20122783825 20120726 US20090397058 20090303 US20110192133 20110727 US20120569509 20120808

Probable Assignee: AUTOMATION LLC
Assignee(s): (std): FLETCHER JASSE C ; FLETCHER JESSE C ; MITZLAFF THEODORE K ; RELIANCE AUTOMATION LLC
Assignee(s): AUTOMATION LLC ; MITZLAFF THEODORE KING
Inventor(s): (std): MITZLAFF THEODORE K ; MITZLAFF THEODORE KING ; FLETCHER JASSE C ; FLETCHER JESSE C
Inventor(s): JESSE C FLETCHER ; THEODORE K MITZLAFF ; THEODORE KING MITZLAFF
Agent(s): GASTLE AND ASSOCIATES; MIDDLETON AND REUTLINGER; MIDDLETON REUTLINGER; ALEXANDER P

Legal status (INPADOC)

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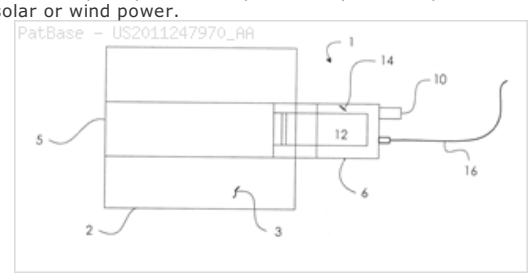
Patent	Date recorded	Event group	Code	Event	Details
CA2695315 AA	20100903	LSPB	+	published / reissued	
CA2695315 AA	20100303	LSES	+EEER	EXAMINATION REQUEST	
CA2695315 C	20140527	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2783825 AA	20130127	LSPB	+	published / reissued	
MX2010002482 A1	20110527	LSPB	+	published / reissued	
MX2010002482 A1	20101011	LSAS	GB	TRANSFER OR ASSIGNMENT	
MX2010002482 A1	20101011	LSAS	GB	TRANSFER OR ASSIGNMENT	OWNER NAME : RELIANCE AUTOMATION LLC
MX2010002482 A1	20130917	LSGT	+FG	GRANT OR REGISTRATION	
MX2012008760 A1	20130528	LSPB	+	published / reissued	
MX2012008760 A1	20170124	LSGT	+FG	GRANT OR REGISTRATION	
US2010224569 AA	20100909	LSPB	+	published / reissued	

US2010224569 AA	20100416	LSAS	AS	ASSIGNMENT	OWNER NAME : AUTOMATION LLC, ALABAMA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MITZLAFF, THEODORE KING; FLETCHER, JESSE C.; SIGNING DATESFROM 20100301 TO 20100303; REEL/FRAME:024245/0767
US2010224569 AA	20100809	LSAS	AS	ASSIGNMENT	OWNER NAME : RELIANCE AUTOMATION, LLC, ALABAMA DESCRIPTION : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE NAME PREVIOUSLY RECORDED ON REEL 024245 FRAME 0767. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNORS:MITZLAFF, THEODORE KING; FLETCHER, JESSE C.; SIGNING DATES FROM 20100301 TO 20100303; REEL/FRAME:024806/0812
US2012000859 AA	20120105	LSPB	+	published / reissued	
US2012000859 AA	20120725	LSAS	AS	ASSIGNMENT	OWNER NAME : RELIANCE AUTOMATION, LLC, ALABAMA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MITZLAFF, THEODORE KING; FLETCHER, JESSE C.; SIGNING DATESFROM 20100301 TO 20100303; REEL/FRAME:028637/0235
US2013037463 AA	20130214	LSPB	+	published / reissued	
US2013037463 AA	20120808	LSAS	AS	ASSIGNMENT	OWNER NAME : RELIANCE AUTOMATION, LLC, ALABAMA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MITZLAFF, THEODORE KING; FLETCHER, JESSE C.; SIGNING DATESFROM 20100301 TO 20100303; REEL/FRAME:028748/0796
US8262914 BB	20120911	LSGT	+	granted / extensions (spc, cpc, pte)	
US8262914 BB	20100416	LSAS	AS	ASSIGNMENT	OWNER NAME : AUTOMATION LLC, ALABAMA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MITZLAFF, THEODORE KING; FLETCHER, JESSE C.; SIGNING DATESFROM 20100301 TO 20100303; REEL/FRAME:024245/0767
US8262914 BB	20100809	LSAS	AS	ASSIGNMENT	OWNER NAME : RELIANCE AUTOMATION, LLC, ALABAMA DESCRIPTION : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE NAME PREVIOUSLY RECORDED ON REEL 024245 FRAME 0767. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNORS:MITZLAFF, THEODORE KING; FLETCHER, JESSE C.; SIGNING DATES FROM 20100301 TO 20100303; REEL/FRAME:024806/0812
US8262914 BB	20160222	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9493370 BB	20161115	LSGT	+	granted / extensions (spc, cpc, pte)	

73) Family number: 49714555 (US2011247970A)

Title: PORTABLE PUMP AND FILTER ASSEMBLY FOR USE IN POOLS, SPAS AND OPEN BODIES OF WATER

Abstract: Source: US2011247970A The present invention is directed to a portable submersible pump and filter assembly for direct filtration of a body of water without the need for intake or discharge hoses or assemblies. The present invention is further directed to a pump and filter assembly that can be positioned at any depth within the water being filtered and can be easily removed after the desired filtration is complete. The present invention is further directed to a solar powered portable pump and filter assembly that operates while floating on fluid being filtered. The present invention is further directed to a highly efficient portable pump and filter assembly that is adapted to be directly coupled to and powered by various power sources including direct current and green energy supplies such as solar or wind power.



Classifications:
International (IPC 8-9): B01D35/02 B01D35/05 B01D35/26 C02F1/00 (Advanced/Invention)
CPC: B01D29/21 B01D29/52 B01D35/02 B01D35/05 C02F1/001 C02F1/68 C02F1/76 C02F2103/007 C02F2103/42 C02F2201/006 C02F2201/008 C02F2201/009 C02F2209/008 C02F2303/04 E04H4/1654
European: B01D29/21 B01D29/52 B01D35/02 B01D35/05 C02F1/00D E04H4/16C M02F1/68 M02F1/76 M02F103/00H M02F103/42 M02F201/00D8 M02F201/00M M02F201/00P M02F209/00T4 M02F303/04
US: 210/232 210/232S 210/242.1 210/242.100S 210/251 210/251S 210/323.1 210/323.100S 210/416.1 210/416.100S 210/85 210/85P

Family:

Publication number	Publication date	Application number	Application date
US2011247970 AA	20111013	US20110080484	20110405

Priority:
US20100322280P 20100408 US20110080484 20110405

Probable Assignee: EVINGHAM MICHAEL
Assignee(s): (std)**:** EVINGHAM MICHAEL
Inventor(s): (std)**:** EVINGHAM MICHAEL

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2011247970 AA	20111013	LSPB	+	published / reissued	

74) Family number: 49768568 (EP2377820B1)

Title: REINIGUNGSEINHEIT ZUM AUFBEREITEN VON WASSER CLEANING UNIT FOR WATER TREATMENT

Abstract: Cleaning device comprises at least two cleaning devices (A, B) (35, 50), which are fluidly connected with each other via a connecting line (40). The cleaning device-A (35) comprises a particulate adsorbent material comprising a minimum purification-(Brunauer, Emmet, and Teller) BET surface area of 100 m 2>/g, preferably 300 m 2>/g, to remove organic substances, preferably halogenated hydrocarbons and amines, and a further cleaning device-B (50) comprises a chemical, particulate cleaning material inert against disinfectants to remove suspended solids.

Classifications:
International (IPC 8-9): C02F1/28 C02F1/48 C02F1/50 C02F1/52 C02F1/72 C02F1/76 C02F9/00 C02F9/04 C02F9/12 (Advanced/Invention)
CPC: C02F9/00 C02F1/001 C02F1/283 C02F1/48 C02F1/52 C02F1/76 C02F2101/36 C02F2101/38 C02F2103/42 C02F2303/04
European: C02F9/00 M02F1/00D M02F1/28D M02F1/48 M02F1/52 M02F1/76 M02F101/36 M02F101/38 M02F103/42 M02F303/04

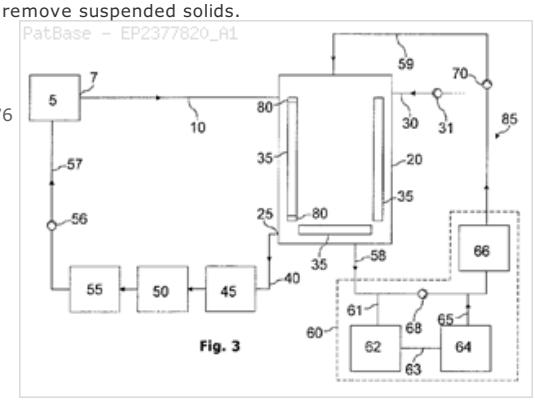


Fig. 3

Family:

Publication number	Publication date	Application number	Application date
DE102011017045 A1	20111215	DE201110017045	20110414
DE502011001351 D1	20131107	DE201150001351T	20110414
EP2377820 A1	20111019	EP20110162512	20110414
EP2377820 B1	20130918	EP20110162512	20110414
ES2442903 T3	20140214	ES20110162512T	20110414

Priority:
DE201010015089 20100415 DE201110017045 20110414 EP20110162512 20110414

Probable Assignee: SIGMUND LINDNER GMBH
Assignee(s): (std): WISTUBA EBERHARD ; WISTUBA HERR EBERHARD ; ZINK MICHAEL ; SIGMUND LINDNER GMBH
Assignee(s): WISTUBA ; ZINK ; ZINK HERR MICHAEL
Inventor(s): (std): WISTUBA EBERHARD ; ZINK MICHAEL
Agent(s): MEISSNER BOLTE AND PARTNER GBR; HAGEMANN HEINRICH; CARPINTERO MARIO
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE102011017045 A1	20111215	LSPB	+	published / reissued	
DE102011017045 A1	20160404	LSES	+R012	REQUEST FOR EXAMINATION VALIDLY FILED	
EP2377820 A1	20111019	LSPB	+	published / reissued	
EP2377820 A1	20120411	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : SIGMUND LINDNER GMBH
EP2377820 A1	20120411	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : WISTUBA, EBERHARD
EP2377820 A1	20120411	LSRE	RIN1	INVENTOR (CORRECTION)	PARTYTYPE : INVENTOR INVENTOR : ZINK, MICHAEL
EP2377820 A1	20120523	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120410
EP2377820 A1	20130206	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20130110
EP2377820 A1	20130515	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20130416
EP2377820 A1	20130918	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH

EP2377820 A1	20130930	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2377820 A1	20131009	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : LANGUAGE OF EP DOCUMENT: GERMAN
EP2377820 A1	20131015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 632664 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20131015
EP2377820 A1	20131107	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 502011001351 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20131107
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EP2377820 A1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130724
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EP2377820 A1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
EP2377820 A1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
EP2377820 A1	20140212	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20130918
EP2377820 A1	20140214	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2442903 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20140214
EP2377820 A1	20140225	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2377820 A1	20140228	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

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EP2377820 A1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : RS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
EP2377820 A1	20140228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
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EP2377820 A1	20140331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
EP2377820 A1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
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EP2377820 A1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
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EP2377820 A1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : PL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
EP2377820 A1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20140118
EP2377820 A1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
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EP2377820 A1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
EP2377820 A1	20140611	LSOP	-26	OPPOSITION FILED	PARTYTYPE : OPPONENT OPPONENT : VITROSPHERE GMBH EFFECTIVE DATE : 20140506
EP2377820 A1	20140630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20140120
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EP2377820 A1	20150430	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

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EP2377820 A1	20150430	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 5
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EP2377820 A1	20150731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : MC PAYMENT DATE : 20150424 YEAR OF FEE PAYMENT : 5
EP2377820 A1	20151216	LSRE	+27C	TERMINATION OF OPPOSITION PROCEDURE	EFFECTIVE DATE : 20150810
EP2377820 A1	20160331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
EP2377820 A1	20160428	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 6
EP2377820 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SM NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
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EP2377820 A1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130918
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EP2377820 A1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

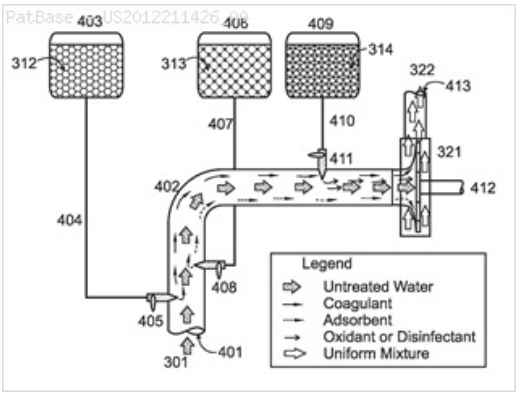
				INFORM. FROM NAT. OFFICE TO EPO	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO LAPSED DATE : 20110414
EP2377820 A1	20160729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20160426 YEAR OF FEE PAYMENT : 6
EP2377820 A1	20160729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160427 YEAR OF FEE PAYMENT : 6
EP2377820 A1	20160729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160428 YEAR OF FEE PAYMENT : 6
EP2377820 A1	20160729	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20160518 YEAR OF FEE PAYMENT : 6
EP2377820 A1	20160831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160428 YEAR OF FEE PAYMENT : 6
EP2377820 A1	20160831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160428 YEAR OF FEE PAYMENT : 6
EP2377820 A1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160414
EP2377820 B1	20130918	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2442903 T3	20140214	LSGT	+	granted / extensions (spc, cpc, pte)	

75) Family number: 51756870 (US2012211426A)

Title: METHOD AND SYSTEM FOR TREATING A CONTAMINATED FLUID

Abstract: Source: US2012211426A The present invention provides an integrated method and system for treating a contaminated fluid. The integrated system and method is configured to simultaneously perform multiple functions, for example, transportation, mixing, treatment and separation. The contaminated fluid and treating agents are pumped simultaneously into a processing tank and vigorously mixed by at least one pump-mixer. The at least one pump-mixer is configured to simultaneously perform combined functions such as fluid transportation, rapid and vigorous mixing and treatment. The rapid and vigorous mixing by at least one pump-mixer enhances the processing rates considerably. The contaminants and the disaggregated particles undergo treatment as a result of their reactions with the treating agents. The process residuals, usually in the form of sludge, are separated from the treated fluid. The separation system is also configured to simultaneously perform multiple functions.

Classifications:
International (IPC 8-9)**:** B01D21/02 B01F5/04 B01F5/16 C02F1/00 C02F1/28 C02F1/36 C02F1/52 C02F1/72 C02F9/00 (Advanced/Invention)
CPC: C02F1/48 C02F9/00 B01F5/0473 B01F5/16 B01F13/1022 C02F1/001 C02F1/008 C02F1/28 C02F1/281 C02F1/283 C02F1/36 C02F1/52 C02F1/5209 C02F1/5236 C02F1/72 C02F1/722 C02F1/725 C02F1/76 C02F1/78 C02F2001/007 C02F2301/024 C02F2301/066 C02F2303/04
European: B01F13/10B6 B01F5/04C14B B01F5/16 C02F9/00 M02F1/00D M02F1/00S M02F1/00T M02F1/28 M02F1/28B M02F1/28D M02F1/36 M02F1/52 M02F1/52A M02F1/52F M02F1/72 M02F1/72C M02F1/72K M02F1/76 M02F1/78 M02F301/02D M02F301/06D M02F303/04
US: 210/199 210/199S 210/663 210/663S 210/665 210/668 210/668S 210/721 210/721S 210/738 210/738S 210/748.02 210/748.020S 210/758 210/758S 210/808 210/808S 210/97 210/97S



Family:

Publication number	Publication date	Application number	Application date
EP2675554 A1	20131225	EP20120721904	20120131
US2012211426 AA	20120823	US20110230850	20110913
WO12110864 A1	20120823	WO2012IB00193	20120131

Priority:

US20110230850 20110913 US20110444115P 20110217 WO2012IB00193 20120131

Probable Assignee: AQUASOIL S R L

Assignee(s): (std)**:** CRAPULLI FERDINANDO ; MOGHADDAMI MOSTAFA ; PASTORE TIZIANO ; SANTORO ORONZO ; RAISEE MEHRDAD ; SANTORO DOMENICO ; AQUASOIL S R L

Assignee(s): AQUASOIL SRL

Inventor(s): (std)**:** CRAPULLI FERDINANDO ; MOGHADDAMI MOSTAFA ; PASTORE TIZIANO ; RAISEE MEHRDAD ; SANTORO DOMENICO ; SANTORO ORONZO

Agent(s): LAMBRINOS MATTHEW FRANKLIN

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 LI 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 RW 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

Legal status (INPADOC)

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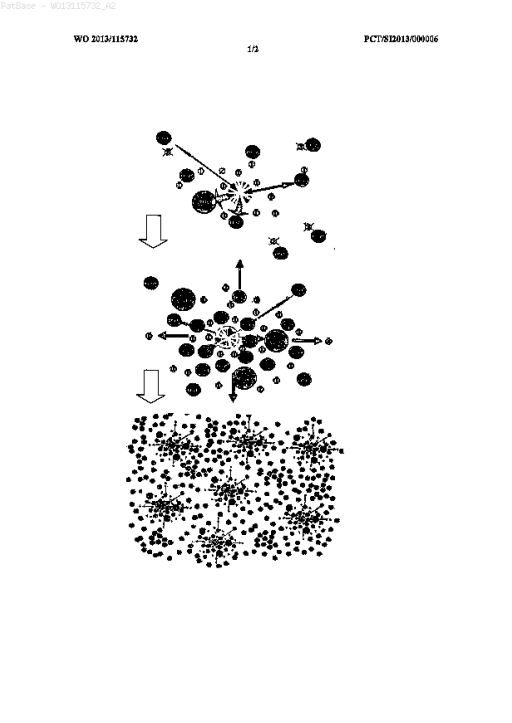
Patent	Date recorded	Event group	Code	Event	Details
EP2675554 A1	20131225	LSPB	+	published / reissued	
EP2675554 A1	20131225	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130807
EP2675554 A1	20151216	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20151117
US2012211426 AA	20120823	LSPB	+	published / reissued	
WO12110864 A1	20120823	LSPB	+	published / reissued	
WO12110864 A1	20130819	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

76) Family number: 54511948 (WO13115732A2)

Title: PROCESS AND DEVICE TO CONTROL HARMFUL CYANOBACTERIAL BLOOMS

Abstract: The process and device according to invention "Process and device to control harmful cyanobacterial blooms" solve the problem of the massive occurrence of cyanobacterial growth, which is a serious threat to human and environmental health because of the co-occurring biosynthesis of toxic, genotoxic and cancerogenic compounds. The process is based on strategic triggering of the lytic cycle of the lysogenic cyanobacteria in spatially separated parts of the population and the release of viruses to spread viral infection to weaken and destroy the entire cyanobacterial population, and on thermal destratification of the subsurface waters and hydrologic disturbance of the cyanobacteria in their habitat. The strategic triggering of the lytic cycle and water destratification are made possible by a device comprising a service docking station in the bank of the water body and a mobile working platform that floats freely and is able autonomously to cover an extensive water surface.

Classifications:
International (IPC 8-9): A01N59/00 A01N63/00 A61L2/04 C02F3/34 C12N1/06 (Advanced/Invention);
C02F1/02 C02F1/461 C02F103/00 C12R1/91 (Advanced/Non-invention);
B67D1/00 (Core/Invention)
CPC: C12N1/066 A01N63/00 C02F2001/46147 C02F2103/007 C02F2201/009 C02F1/02 C02F1/32 C02F1/36 C02F1/4672 C02F1/722 C02F1/76 C02F1/78 C02F2201/008 C02F2209/006 C02F2209/008 C02F2209/02 C02F2209/04 C02F2209/11 C02F2209/22 C02F2209/36 C02F2303/04 C02F2305/023 C02F2305/026 E02B1/003



Family:

Publication number	Publication date	Application number	Application date
SI23987 C	20130830	SI20120000026	20120201
WO13115732 A2	20130808	WO2013SI00006	20130131
WO13115732 A3	20140227	WO2013SI00006	20130131
WO13115732 A8	20130926	WO2013SI00006	20130131

Priority:
SI20120000026 20120201

Probable Assignee: ENVIT OKOLJSKE TEHNOLOGIJE IN INZENIRING D O O

Assignee(s): (std): ENVIT ENVIRONMENTAL TECHNOLOGIES AND ENGINEERING LTD ; ENVIT OKOLJSKE TEHNOLOGIJE IN INZENIRING D O O ; SEDMAK BOJAN ; LAKOVIC GORAZD ; LESTAN DOMEN

Assignee(s): LEŠTAN DOMEN ; ENVIT OKOLJSKE TEHNOLOGIJE IN INZENIRING DOO ; ENVIT ENVIRONMENTAL TECHNOLOGIES AND ENGINEERINGLTD

Inventor(s): (std): LAKOVIC GORAZD ; LESTAN DOMEN ; SEDMAK BOJAN

Inventor(s): LEŠTAN DOMEN

Agent(s): ENVIT ENVIRONMENTAL TECHNOLOGIES AND ENGINEERING LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 PA PE PG PH PL PT QA RO RS RU RW 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

Legal status (INPADOC)

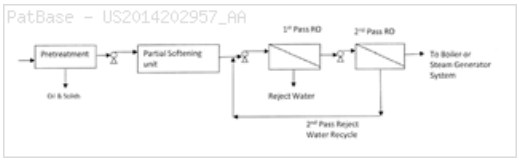
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Patent	Date recorded	Event group	Code	Event	Details
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SI23987 C	20130930	LSGT	+OO00	GRANT OF PATENT	EFFECTIVE DATE : 20130910
WO13115732 A2	20130808	LSPB	+	published / reissued	
WO13115732 A3	20150225	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 13718418 COUNTRY OF REF

77) Family number: 56964281 (US2014202957A)

Title: METHOD FOR IMPROVING THE PERCENT RECOVERY AND WATER QUALITY IN HIGH TOTAL HARDNESS WATER

Abstract: Source: US2014202957A A method is disclosed for improving the percent recovery and water quality in water with high levels of hardness. Embodiments of the method include receiving a produced water composition, partially softening the water composition, and directing the partially softened water composition through at least one reverse osmosis unit. The method may be used to purify and clarify produced water from oil and gas operations for use in boilers or once-through steam generators.



Classifications:
International (IPC 8-9): B01D61/04 C02F1/00 C02F1/20 C02F1/42 C02F1/44 C02F1/52 C02F1/66 C02F101/32 C02F103/36 C02F5/02 C02F5/06 C02F5/08 C02F9/00 (Advanced/Invention); C02F101/32 C02F103/36 (Advanced/Non-invention)
CPC: B01D2311/268 C02F1/20 C02F5/083 C02F2001/425 C02F2101/32 C02F2103/365 E21B43/40 B01D61/025 C02F1/24 C02F1/52 C02F1/44 C02F9/00 C02F2001/007 C02F2209/11 C02F2303/22 C02F2101/16 C02F2101/10 C02F2209/06 C02F2209/10 C02F1/001 C02F1/42 C02F1/66 C02F5/02 C02F5/06 C02F1/441 E21B43/16 C02F1/442 C02F1/444 C02F1/5245 C02F5/00 C02F11/14 C02F2103/10 C02F5/025 C02F2101/108 B01D61/022 B01D61/04 B01D61/58 B01D2311/25 B01D2317/025 C02F1/5236 B01D61/142
US: 210/638 210/639 210/641 210/650 210/652

Family:

Publication number	Publication date	Application number	Application date
US2014202957 AA	20140724	US20130836317	20130315
US2015360988 AA	20151217	US20150837368	20150827
US2015376033 AA	20151231	US20150838421	20150828
US2016009582 AA	20160114	US20150844221	20150903
WO14113264 A1	20140724	WO2014US10840	20140109

Priority:

US20130754399P 20130118 US20130836317 20130315 US20150837368 20150827
US20150198299P 20150729 US20150198291P 20150729 US20150838421 20150828
US20150844221 20150903

Probable Assignee: CHEVRON USA INC

Assignee(s): (std)**:** CHEVRON USA INC ; HEIMEL SANDRA ; HOBBS RONALD DAVID ; TAO FAN SHENG TEDDY

Inventor(s): (std)**:** HOBBS RONALD DAVID ; TAO FAN SHENG TEDDY ; SUBRAHMANYAN SUMITRA ; CHEN CHENG ; HEIMEL SANDRA

Agent(s): WEKSBERG TIFFANY E ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2014202957 AA	20140724	LSPB	+	published / reissued	
US2014202957 AA	20130920	LSAS	AS	ASSIGNMENT	OWNER NAME : CHEVRON U.S.A. INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TAO, FAN-SHENG TEDDY; HOBBS, RONALD DAVID; SIGNING DATES FROM 20130321 TO 20130716; REEL/FRAME:031248/0143
US2015360988 AA	20151217	LSPB	+	published / reissued	
US2015360988 AA	20150827	LSAS	AS	ASSIGNMENT	OWNER NAME : CHEVRON U.S.A. INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TAO, FAN-SHENG TEDDY; HOBBS, RONALD DAVID; REEL/FRAME:036438/0768 EFFECTIVE DATE : 20150824
US2015376033 AA	20151231	LSPB	+	published / reissued	
US2016009582 AA	20160114	LSPB	+	published / reissued	
US2016009582 AA	20150903	LSAS	AS	ASSIGNMENT	OWNER NAME : CHEVRON U.S.A. INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TAO, FAN-SHENG TEDDY; HOBBS, RONALD DAVID; HEIMEL, SANDRA; SIGNING DATES FROM 20150715 TO 20150805; REEL/FRAME:036486/0480

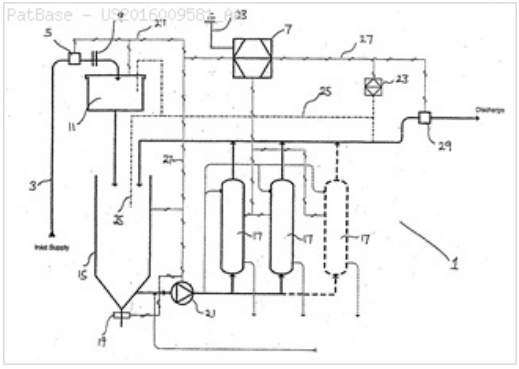
WO14113264 A1	20140724	LSPB	+	published / reissued	
WO14113264 A1	20150720	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO14113264 A1	20160210	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14703461 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

78) Family number: 57262886 (US2016009581A)

Title: WATER TREATMENT FACILITY

Abstract: Source: US2016009581A A water treatment facility for treating raw water and delivering the treated water to a plumbing network. The flow rate is measured by a flow meter. The raw water is passed through a pre-filter and is then temporarily stored in a first tank. The water level in the first tank is kept within a desired maximum and minimum level. The water from the first tank is delivered to a plurality of filter modifies. The plurality of filter modules are arranged so that the flow can be configured to flow through all the filter modules simultaneously, or any one or more filter modules exclusively. The flow path through the filter module(s) can be arranged to flow either sequentially or in parallel. A disinfectant system is included that is capable of producing and delivering a disinfectant agent into the outflow on an as needed basis.

Classifications:
International (IPC 8-9): C02F1/00 C02F1/32 C02F1/40 C02F1/44 C02F1/50 C02F1/78 C02F9/00 C02F9/04 E03B7/00 E03C1/02 (Advanced/Invention);
C02F1/00 C02F1/32 C02F1/78 (Advanced/Non-invention)
CPC: C02F2209/005 C02F2301/04 C02F2303/16 C02F1/001 C02F1/40 C02F9/00 C02F2209/40 C02F1/008 C02F11/123 C02F2001/007 C02F2209/008 C02F2209/42 C02F1/004 C02F1/32 C02F1/78
US: 210/102



Family:

Publication number	Publication date	Application number	Application date
AU2014218517 AA	20140828	AU20140218517	20140221
CA2901935 AA	20150820	CA20142901935	20140221
EP2976302 A1	20160127	EP20140754561	20140221
EP2976302 A4	20161130	EP20140754561	20140221
US2016009581 AA	20160114	US20140769107	20140221
WO14127423 A1	20140828	WO2014AU00157	20140221

Priority:
AU20130900598 20130222 AU20140218517 20140221 WO2014AU00157 20140221

Probable Assignee: ADIDEM ENTERPRISE SERVICES PTY LTD

Assignee(s): (std): ADIDEM ENTPR SERVICES PTY LTD ; GORDON MALCOLM BRUCE

Assignee(s): ADIDEM ENTERPRISE SERVICES PTY LTD

Inventor(s): (std): GORDON MALCOLM BRUCE

Agent(s): MORCOM PERNAT; BROUILLETTE AND ASSOCIES PARTNERS; BRIDLE ANDREW BARRY; ANDERSON STEPHEN JAMES ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT JP KE KG KM KN KP KR KZ LA LC LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2014218517 AA	20140828	LSPB	+	published / reissued	
CA2901935 AA	20150820	LSPB	+	published / reissued	
EP2976302 A1	20160127	LSPB	+	published / reissued	
EP2976302 A1	20160127	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150930
EP2976302 A1	20161130	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20161103
EP2976302 A1	20161130	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : E03B 7/00 20060101ALI20161027BHEP
EP2976302 A1	20161130	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/00 20060101ALN20161027BHEP
EP2976302 A1	20161130	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/78 20060101ALN20161027BHEP
EP2976302 A1	20161130	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : E03C 1/02 20060101ALI20161027BHEP

EP2976302 A1	20161130	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 9/00 20060101AFI20161027BHEP
EP2976302 A1	20161130	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/32 20060101ALN20161027BHEP
US2016009581 AA	20160114	LSPB	+	published / reissued	
US2016009581 AA	20150820	LSAS	AS	ASSIGNMENT	OWNER NAME : ADIDEM ENTERPRISE SERVICES PTY LTD, AUSTRALIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GORDON, MALCOLM BRUCE; REEL/FRAME:036374/0786 EFFECTIVE DATE : 20150820
WO14127423 A1	20140828	LSPB	+	published / reissued	
WO14127423 A1	20150820	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2901935 COUNTRY OF REF DOCUMENT : CA
WO14127423 A1	20150820	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14769107 COUNTRY OF REF DOCUMENT : US
WO14127423 A1	20150824	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO14127423 A1	20150910	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014218517 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20140221 KIND CODE OF REF DOCUMENT : A

79) Family number: 57701611 (US2014319059A)

Title: METHOD AND KIT FOR TREATING RECREATIONAL WATER

Abstract: Source: US2014319059A Provided herein is a method for reducing down-time in a recreational body of water having a water filtering system and water recirculation system after a potential release of Cryptospridium oocyst and/or Giardia cysts. Also described is a kit for practicing the method for reducing down-time in a recreational body of water that may have a potential release of Cryptospridium oocyst and/or Giardia cysts.
Classifications:
International (IPC 8-9): C02F1/00 C02F1/28 C02F1/52 C02F1/56 C02F1/76 C02F9/00 (Advanced/Invention)
CPC: C02F9/00 C02F1/004 C02F1/5245 C02F1/56 C02F1/76 C02F1/766 C02F2103/42 C02F2201/006 C02F2209/001 C02F2303/04 C02F2303/16 C02F2305/12 A61L2/00 A61L9/00
US: 210/662 210/665 210/666 210/667 210/668 210/712 424/661 424/665 424/722 424/723 514/358 514/389 514/425

Family:

Publication number	Publication date	Application number	Application date
US2014319059 AA	20141030	US20140261679	20140425

Priority:

US20130816369P 20130426 US20140261679 20140425

Probable Assignee: ARCH CHEMICALS INC
Assignee(s): (std)**:** ARCH CHEM INC
Assignee(s): ARCH CHEMICALS INC
Inventor(s): (std)**:** UNHOCH MICHAEL JOSEPH

Legal status (INPADOC)

View legal status timeline

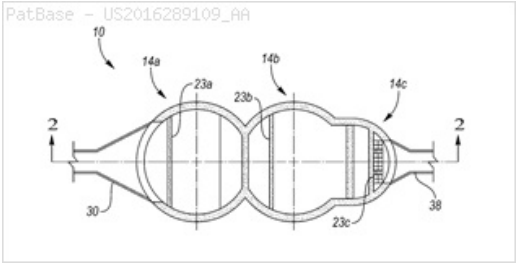
Patent	Date recorded	Event group	Code	Event	Details
US2014319059 AA	20141030	LSPB	+	published / reissued	
US2014319059 AA	20161116	LSAS	AS	ASSIGNMENT	OWNER NAME : ARCH CHEMICALS, INC., GEORGIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:UNHOCH, MICHAEL JOSEPH; REEL/FRAME:040345/0825 EFFECTIVE DATE : 20161102

80) Family number: 59354021 (US2016289109A)

Title: ENHANCED TREATMENT SHAFT

Abstract: Source: US2016289109A A wastewater treatment system for treating wastewater includes one or more containers that each include first and second portions. The treatment system further includes a first treating agent system for introducing a coagulation agent and/or flocculation agent into the wastewater, a second treating agent system for introducing a biological activity facilitating agent into the wastewater, and a third treating agent system for introducing a disinfection agent into the wastewater. Each container is configured to allow the wastewater to flow through the corresponding first and second portions. The first treating agent system is operable to introduce the coagulation agent and/or flocculation agent into the wastewater to facilitate clumping of suspended particles, the second treating agent system is operable to introduce the biological activity facilitating agent into the wastewater to enhance biological treatment of the wastewater, and the third treating agent system is operable to introduce the disinfection agent into the wastewater.

Classifications:
International (IPC 8-9): B01D21/01 C02F1/52 C02F1/56 C02F1/72 C02F1/74 C02F1/76 C02F1/78 C02F3/26 C02F9/00 (Advanced/Invention)
CPC: C02F1/32 C02F2209/08 C02F1/74 C02F3/26 B01D21/01 C02F9/00 C02F1/5245 C02F1/56 C02F1/722 C02F1/76 C02F1/78 C02F2103/001 C02F2303/04
US: 210/721



Family:

Publication number	Publication date	Application number	Application date
CA2931328 AA	20160520	CA20142931328	20141121
CN105873863 A	20160817	CN201480072261	20141121
IN201637017823 A	20160826	IN201637017823	20160524
US2016289109 AA	20161006	US20140037820	20141121
WO15077631 A1	20150528	WO2014US66930	20141121

Priority:

US20130907591P 20131122 US20140037820 20141121 WO2014US66930 20141121

Probable Assignee: GHALIB SAAD A

Assignee(s): (std): GHALIB SAAD A

Inventor(s): (std): GHALIB SAAD A

Agent(s): RIDOUT AND MAYBEE LLP; STUENKEL MARK E ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2931328 AA	20160520	LSPB	+	published / reissued	
CN105873863 A	20160817	LSPB	+	published / reissued	
CN105873863 A	20160817	LSPB	+C06	PUBLICATION	
IN201637017823 A	20160826	LSPB	+	published / reissued	
US2016289109 AA	20161006	LSPB	+	published / reissued	
WO15077631 A1	20150528	LSPB	+	published / reissued	
WO15077631 A1	20160519	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15037820 COUNTRY OF REF DOCUMENT : US
WO15077631 A1	20160520	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2931328 COUNTRY OF REF DOCUMENT : CA
WO15077631 A1	20160523	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15077631 A1	20161214	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14864450 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

81) Family number: 59778212 (US2015197434A)

Title: USE OF CELLULOSES IN WATER TREATMENT

Abstract: Source: US2015197434A Methods to improve water treatment for industrial uses are described. One method involves admixing source water, such as from a river or other flowing source or body of water, with a modified cellulose and a coagulant and/or flocculant to provide a treated water with the modified cellulose present in an effective amount to improve water treatment efficiency, such as in allowing use of reduced amounts of coagulant and/or flocculant, and/or reduced suspended solids, turbidity, and/or color clarification.

Classifications:
International (IPC 8-9): B01J20/24 B01J20/28 C02F1/52 (Advanced/Invention); C02F1/54 C02F1/56 C02F1/76 (Advanced/Non-invention)
CPC: C02F1/5263 B01J20/24 B01J20/28023 B01J2220/4825 C02F1/001 C02F1/52 C02F1/5236 C02F1/5245 C02F1/5272 C02F1/54 C02F1/56 C02F1/76 B01J20/28007 B01J2220/4831 B01J2220/485
US: 210/730

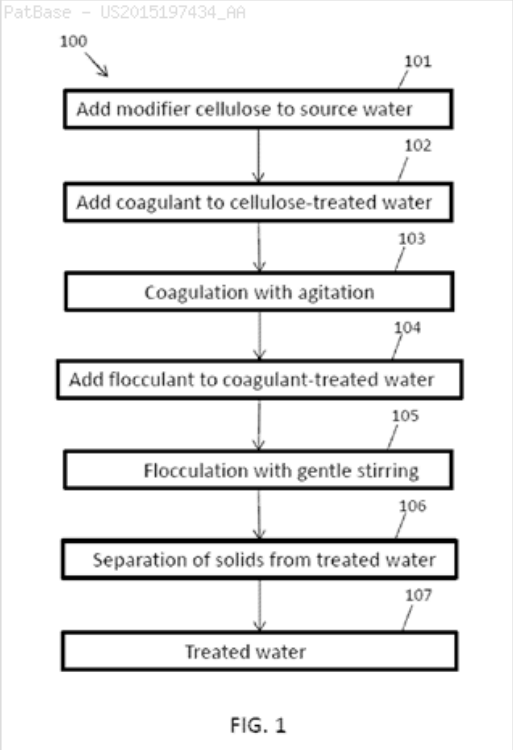


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
US2015197434 AA	20150716	US20150591939	20150108
WO15108735 A1	20150723	WO2015US10541	20150108

Priority:
US20140926984P 20140114 US20150591939 20150108

Probable Assignee: BUCKMAN LABORATORIES INT INC
Assignee(s): (std): BUCKMAN LABOR INC
Assignee(s): BUCKMAN LABORATORIES INT INC
Inventor(s): (std): HOEKSTRA PHILIP M ; ZOU YONG
Agent(s): KILYK LUKE A
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2015197434 AA	20150716	LSPB	+	published / reissued	
US2015197434 AA	20150109	LSAS	AS	ASSIGNMENT	OWNER NAME : BUCKMAN LABORATORIES INTERNATIONAL, INC., TENNESSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZOU, YONG; HOEKSTRA, PHILIP M.; REEL/FRAME:034674/0542 EFFECTIVE DATE : 20150108
WO15108735 A1	20150723	LSPB	+	published / reissued	
WO15108735 A1	20160714	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

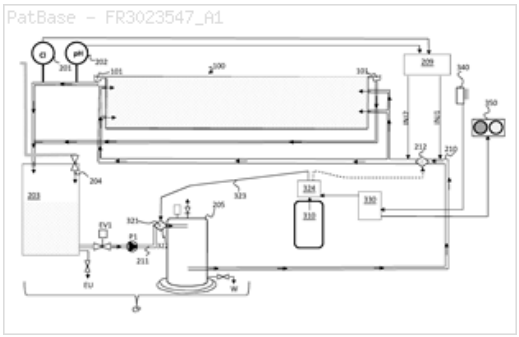
WO15108735 A1	20170208	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 15700830 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

82) Family number: 61432853 (FR3023547A)

Title: SYSTEME DE SUR-DESINFECTION DE L'EAU D'UN BASSIN AQUATIQUE SYSTEM-ON DISINFECTION WATER BASIN WATER (Machine translation)

Abstract: Source: FR3023547A L'invention porte sur un systeme de sur-desinfection de l'eau d'un bassin (100) aquatique qui se raccorde sur une installation existante (200) de traitement de l'eau du bassin. L'installation (200) de traitement de l'eau comprend au moins un filtre (205) pour filtrer des impuretes solides, et au moins deux sondes de mesures (201, 202), disposees en aval du bassin (100), pour mesurer respectivement la concentration en produit desinfectant dans l'eau et le pH de l'eau. Les sondes de mesures (201, 202) transmettent les valeurs mesurees a un dispositif de pilotage (209) qui permet de commander des injections (INJ2) en produit desinfectant en amont du bassin (100), dont la quantite est calculee en fonction des valeurs mesurees par lesdites sondes de mesure (201, 202) de sorte que la concentration en produit desinfectant dans l'eau reste toujours comprise dans une gamme de valeurs conforme a la reglementation en vigueur. Le systeme de sur-desinfection se raccorde sur l'installation (200) de traitement existante et comprend un reservoir (310) de stockage de produit desinfectant sous forme liquide, relie a un systeme d'injection dont une canne d'injection (321) est branchee sur une canalisation d'eau (211) de ladite installation (200) de traitement. Le systeme d'injection injecte, sur reception d'un signal d'activation (SA) emis par une commande a distance (340), une quantite predeterminee de produit desinfectant pendant une premiere duree (tp1) predeterminee, ladite quantite de produit et ladite premiere duree (tp1) d'injection etant predeterminees de maniere atteindre un seuil maximum predefini de concentration en produit desinfectant dans l'eau du bassin. The invention relates to an on-disinfection system of the pool water (100) Water that connects to an existing installation (200) processing the pool water. The system (200) of water treatment comprises at least one filter (205) for filtering solid impurities, and at least two probes measures (201, 202) disposed downstream of the basin (100) for measuring respectively the product concentration disinfectant in water and the pH of the water. The probes measures (201, 202) transmit the measured values to a control device (209) which can control injections (INJ2) produces disinfectant upstream basin (100), whose amount is calculated based on values measured by said measuring probes (201, 202) so that the disinfectant product concentration in water remains within a range of values conforming to the regulation in force. The on-disinfection system connects to the system (200) of existing treatment and includes a reservoir (310) disinfectant product storage in liquid form, connects to an injection system with an injection pipe (321) is connected to a water pipe (211) of said device (200) for processing. The injection system injects, upon receipt of an activation signal (SA) issued by a remote control (340), a predetermined amount of disinfectant product for a first duration (tp1) predetermined amount of said product and said first time period (tp1) injection being predetermined manner to a maximum threshold predefined product disinfectant concentration in the pool water.

Classifications:
International (IPC 8-9): C02F1/68 C02F1/72 C02F9/04 (Advanced/Invention)
CPC: C02F1/76 C02F1/004 C02F1/008 C02F1/32 C02F1/66 C02F1/78 C02F2103/42 C02F2209/003 C02F2209/006 C02F2209/008 C02F2209/06 C02F2209/29 C02F2209/44 C02F2303/04 C02F2303/16



Family:

Publication number	Publication date	Application number	Application date
FR3023547 A1	20160115	FR20140056721	20140711

Priority:
FR20140056721 20140711

Probable Assignee:	AQUA GLOBAL CONSULTING
Assignee(s): (std):	AQUA GLOBAL CONSULTING
Inventor(s): (std):	MONTEBRUN SEBASTIEN
Inventor(s):	SEBASTIEN MONTEBRUN
Agent(s):	API CONSEIL

Legal status (INPADOC)

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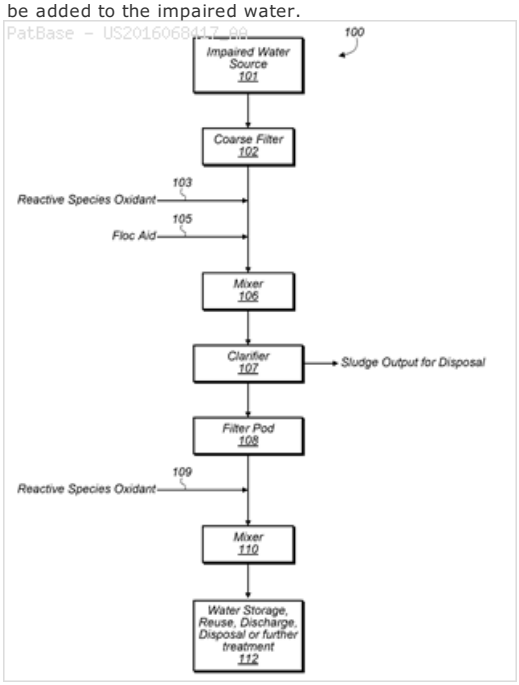
Patent	Date recorded	Event group	Code	Event	Details
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FR3023547 A1	20150625	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 2
FR3023547 A1	20160115	LSES	PLSC	SEARCH REPORT READY	EFFECTIVE DATE : 20160115
FR3023547 A1	20160622	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 3

83) Family number: 61842324 (US2016068417A)

Title: SYSTEMS AND METHOD OF WATER TREATMENT UTILIZING REACTIVE OXYGEN SPECIES AND APPLICATIONS THEREOF

Abstract: Source: US2016068417A In some embodiments, a method may include separating contaminants from impaired water. The method may include contacting impaired water with a peracetate oxidant solution. The method may include mixing said impaired water with the peracetate oxidant solution. The method may include separating the impaired water oxidant solution mixture into solids and a water phase. In some embodiments, the peracetate oxidant solution may include peracetate anions and a peracid. The peracetate oxidant solution may have a pH from about 10 to about pH 12. The peracetate oxidant solution may have a molar ratio of peracetate anions to peracid ranging from about 60:1 to about 6000:1. In some embodiments, a peracetate anion to hydrogen peroxide molar ratio is greater than about 16:1. In some embodiments, a reactive coagulant, a softener, and/or a floc aid may be added to the impaired water.

Classifications:
International (IPC 8-9): C02F1/28 C02F1/52 C02F1/56 C02F1/66 C02F1/72 C02F5/02 C02F9/00 (Advanced/Invention); C02F1/28 C02F1/52 C02F1/56 C02F101/32 C02F103/10 C02F5/02 (Advanced/Non-invention)
CPC: C02F1/72 C02F1/5227 C02F1/66 C02F5/02 C02F1/281 C02F1/56 C02F2101/32 C02F1/24 C02F1/28 C02F1/40 C02F1/5245 C02F1/722 C02F1/74 C02F9/00 C02F2001/007 C02F2101/203 C02F2103/10 C02F2103/365 C02F2209/04 C02F2209/06 C02F2303/04 C02F2303/12 C02F2303/22 C02F2305/023 C02F2305/12 Y02W10/37
US: 210/663 210/708 210/759



Family:

Publication number	Publication date	Application number	Application date
AU2015311692 AA	20160310	AU20150311692	20150904
US2016068417 AA	20160310	US20150846123	20150904
WO16037149 A1	20160310	WO2015US48722	20150904

Priority:
US20140046097P 20140904 US20150846123 20150904 WO2015US48722 20150904

Probable Assignee: CLEAN CHEMISTRY
Assignee(s): (std): CLEAN CHEMISTRY ; CLEAN CHEMISTRY INC
Inventor(s): (std): BUSCHMANN WAYNE ; BUSCHMANN WAYNE E
Agent(s): GRIFFITH HACK; MEYERTONS HOOD KIVLIN KOWERT AND GOETZEL PC
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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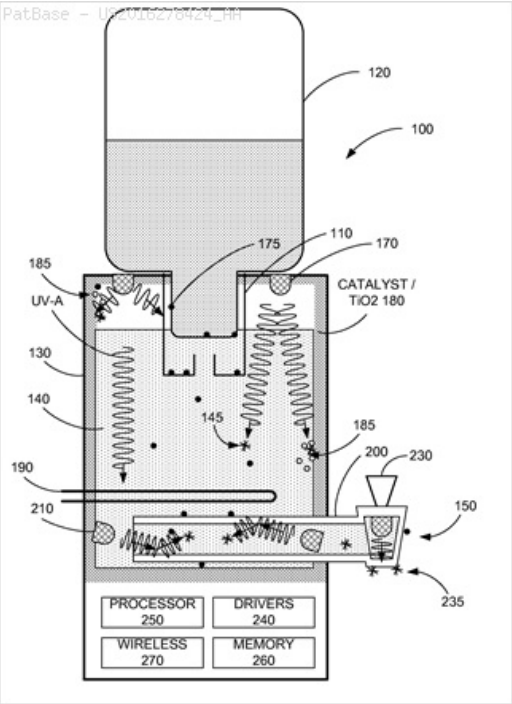
Patent	Date recorded	Event group	Code	Event	Details
AU2015311692 AA	20160310	LSPB	+	published / reissued	
US2016068417 AA	20160310	LSPB	+	published / reissued	
WO16037149 A1	20160310	LSPB	+	published / reissued	
WO16037149 A1	20170306	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO16037149 A1	20170323	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2015311692 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20150904 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

84) Family number: 63664344 (US2016278424A)

Title: SYSTEM AND METHOD FOR DISPENSING UV TREATED MATERIALS

Abstract: Source: US2016278424A A device for providing treated materials includes a storage portion comprising an enclosed region with sidewalls, an input portion and UV-LEDs, wherein the enclosed region stores material and includes a UV-responsive material, wherein the input portion receives the material, wherein the UV-LEDs provide UV-A illumination range within the enclosed region and the UV-responsive material inhibits contaminant formation upon the sidewalls in response to the UV-A illumination, and a material treatment portion having sidewalls, UV-LEDs and an output portion, wherein the sidewalls are configured to reflect UV light, wherein material treatment portion receives the material from the storage portion, wherein the UV-LEDs provide UV-B and/or UV-C illumination to treat or sanitize the material within the material treatment portion, and wherein the output portion is for providing output of the treated material.

Classifications:
International (IPC 8-9): A23L3/28 C02F1/00 C02F1/32 C02F1/72 G05B19/418 (Advanced/Invention)
CPC: A23L3/28 C02F1/325 C02F2201/3222 C02F2201/3228 C02F2201/3227 C02F1/008 C02F1/725 C02F2305/10 C02F2201/008 C02F2209/008 C02F2209/11 A23L2/50 A23V2002/00 C02F1/004 C02F2209/001 C02F2209/003 C02F2209/08 C02F2209/15 C02F2209/20 C02F2209/21 C02F1/001 C02F1/283 C02F2101/12 C02F2101/30 C02F2101/306 C02F2101/32 C02F2201/3224 C02F2209/006 C02F2209/02 C02F2209/06 C02F2307/02 C02F2307/04 C02F2307/08 C02F2307/10 Y02W10/37 B67D3/0032 B67D3/0038 B67D3/0077 B67D2210/00015
US: 210/745 210/93 426/231



Family:

Publication number	Publication date	Application number	Application date
CN106020133 A	20161012	CN201510515741	20150820
US2016278424 AA	20160929	US20150943628	20151117
US2016280562 AA	20160929	US20150672077	20150327
US2016289090 AA	20161006	US20160186342	20160617

Priority:

US20150187169P 20150630 US20150672077 20150327 US20150943628 20151117 US20160186342 20160617

Probable Assignee: RAYVIO CORP

Assignee(s): (std): RAYVIO CORP

Inventor(s): (std): COLLINS DOUG ; DE JONY THEODORE ; LIAO YITAO ; WALKER ROBERT ; WALKER ROBERT C ; ZHANG WEI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN106020133 A	20161012	LSPB	+	published / reissued	
CN106020133 A	20161012	LSPB	+C06	PUBLICATION	
US2016278424 AA	20160929	LSPB	+	published / reissued	
US2016278424 AA	20151118	LSAS	AS	ASSIGNMENT	OWNER NAME : RAYVIO CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LIAO, YITAO; WALKER, ROBERT; COLLINS, DOUG; REEL/FRAME:037077/0974 EFFECTIVE DATE : 20151025
US2016280562 AA	20160929	LSPB	+	published / reissued	
US2016289090 AA	20161006	LSPB	+	published / reissued	
US2016289090 AA	20160620	LSAS	AS	ASSIGNMENT	OWNER NAME : RAYVIO

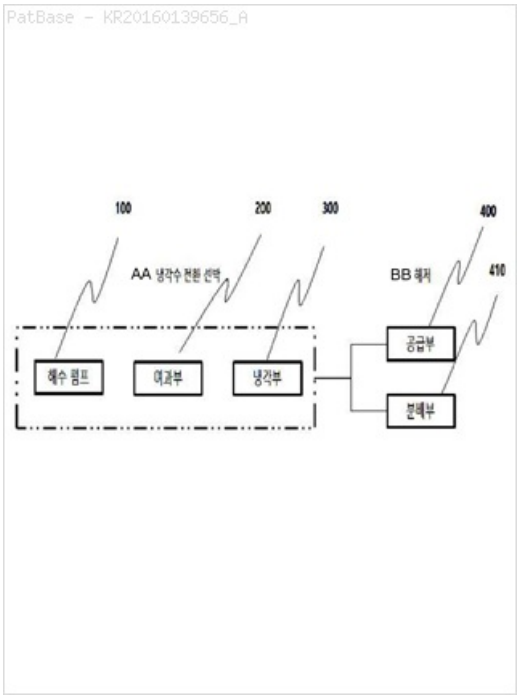
	CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LIAO, YITAO; WALKER, ROBERT C.; COLLINS, DOUG; AND OTHERS; SIGNING DATES FROM 20160614 TO 20160615; REEL/FRAME:038959/0829

85) Family number: 64271034 (KR20160139656A)

Title: SYSTEM AND METHOD FOR IMPROVING THE TURBIDITY

Abstract: Source: KR20160139656A The present invention relates to a system and a method for improving turbidity. The system for improving turbidity comprises: a filtration part which pumps seawater or river water having relatively high turbidity of water quality by comprising floating materials in water, and filtering the floating materials; a cooling part which cools the fresh water obtained by filtration of floating matters in the filtration part to a low temperature, and converting the resulting fresh water into cooling water; and a supply part which conveys the cooling water cooled in the cooling part to a random space in water by using electric power of a pump.

Classifications:
International (IPC 8-9): B01D35/02 B01D35/18 C02F1/00 C02F1/40 C02F1/52 C02F9/00 E02B15/04 (Advanced/Invention); C02F103/00 C02F103/08 (Advanced/Non-invention)
CPC: C02F1/40 B01D35/02 B01D35/18 C02F1/001 C02F1/52 C02F9/00 E02B15/04 C02F2103/007 C02F2103/08 C02F2209/11



Family:

Publication number	Publication date	Application number	Application date
KR20160139656 A	20161207	KR20150074937	20150528

Priority:
KR20150074937 20150528

Probable Assignee: CHOI SET A PRECEDENT
Assignee(s): CHOI SEON RYE ; CHOI SET A PRECEDENT
Inventor(s): CHOI SEON RYE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
KR20160139656 A	20161207	LSPB	+	published / reissued	
KR20160139656 A	20150528	LSES	A201	REQUEST FOR EXAMINATION	
KR20160139656 A	20161003	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20160139656 A	20170123	LSRV	-E601	DECISION TO REFUSE APPLICATION	

86) Family number: 32658403 (US2006043011A)

Title: BIOCIDE

Abstract: Source: US2006043011A A two part biocide composition containing metal ions and bromine donor for killing microorganisms in a body of water and a method of killing microorganisms in a body of water by placing both metal ions and a bromine in the body of water to allow use of lower concentrations of bromine than if bromine were used alone as a biocide.

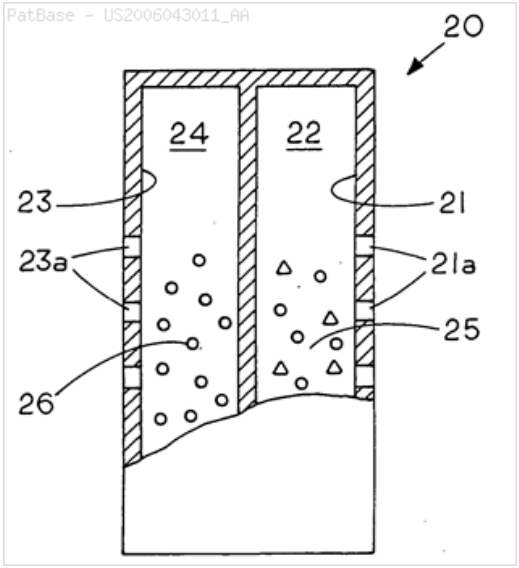
Classifications:

International (IPC 8-9): A01N25/26 A01N59/00 A01N59/16 A01P15/00 A61L2/238 B01D15/04 C02F1/00 C02F1/42 C02F1/50 C02F1/68 C02F1/76 C02F103/42 C11D3/28 C11D3/48 C11D3/60 D06L1/20 (Advanced/Invention);
C02F103/42 (Advanced/Non-invention);
A01N25/26 A01N59/00 A01N59/16 A01P15/00 C02F1/50 C02F1/68 C02F1/76 (Core/Invention)

CPC: C02F1/283 C02F9/005 C02F1/76 C02F1/4674 C02F1/683 C02F1/766 C02F2103/42 C02F2209/02 C02F2209/05 C02F2209/06 C02F2209/29 C02F2209/36 C02F1/688 C02F1/50 A61L2/238 C02F2303/04 C02F1/505 C02F1/002 C02F1/42 A01N59/00 A01N59/16 A01N25/22 A01N43/50 A01N2300/00

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Family:

Publication number	Publication date	Application number	Application date
CA2577954 AA	20070220	CA20052577954	20050823
CA2577954 C	20130723	CA20052577954	20050823
EP1797011 A2	20070620	EP20050792718	20050823
EP1797011 A4	20070926	EP20050792718	20050823
US2006043011 AA	20060302	US20040928668	20040826
US2008095862 AA	20080424	US20070999654	20071206
US2009092673 AA	20090409	US20080315285	20081202
US2010230365 AA	20100916	US20100800692	20100520
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US2012192363 AA	20120802	US20120506159	20120330
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Priority:

US20040928668 20040826 US20060648743 20061229 US20070001354 20071211
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Probable Assignee: KING TECHNOLOGY INC

Assignee(s): (std): FRANK MARLIN ; HILL JOHN ; KIING TECHNOLOGY INC ; KING JOSEPH A ; KING TECHNOLOGY INC ; WEULANDER NICOLE

Inventor(s): (std): FRANK MARLIN ; HILL JOHN ; KING JOSEPH A ; WEULANDER NICOLE

Inventor(s): KING JOSEPH

Agent(s): BATTISON WILLIAMS DUPUIS; ADE AND CO INC; JACOBSON AND JOHNSON; CARL L JOHNSON JACOBSON AND JOHNSON; JACOBSON AND JOHNSON LLC

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA2577954 AA	20070220	LSPB	+	published / reissued	
CA2577954 AA	20070220	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2577954 AA	20100610	LSES	+EEER	EXAMINATION REQUEST	
CA2577954 AA	20100802	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20100610
CA2577954 AA	20161004	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20160823
CA2577954 C	20130723	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1797011 A2	20070620	LSPB	+	published / reissued	
EP1797011 A2	20070620	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20070313
EP1797011 A2	20070926	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20070827
EP1797011 A2	20070926	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/76 20060101ALI20070817BHEP
EP1797011 A2	20070926	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/50 20060101AFI20060719BHEP
EP1797011 A2	20070926	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 103/42 20060101ALN20070817BHEP
EP1797011 A2	20071017	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : FRANK, MARLIN
EP1797011 A2	20071017	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : KING, JOSEPH, A.
EP1797011 A2	20080702	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20080530
EP1797011 A2	20160810	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20160301
US2006043011 AA	20060302	LSPB	+	published / reissued	
US2008095862 AA	20080424	LSPB	+	published / reissued	
US2009092673 AA	20090409	LSPB	+	published / reissued	
US2010230365 AA	20100916	LSPB	+	published / reissued	
US2010307976 AA	20101209	LSPB	+	published / reissued	
US2012192363 AA	20120802	LSPB	+	published / reissued	
US2012192363 AA	20151218	LSAS	AS	ASSIGNMENT	OWNER NAME : KING TECHNOLOGY, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KING, JOSEPH A.; REEL/FRAME:037393/0682 EFFECTIVE DATE : 20120320
US2014008302 AA	20140109	LSPB	+	published / reissued	
US2014021142 AA	20140123	LSPB	+	published / reissued	
US2014134267 AA	20140515	LSPB	+	published / reissued	
US2014369886 AA	20141218	LSPB	+	published / reissued	
US2014369886 AA	20140926	LSAS	AS	ASSIGNMENT	OWNER NAME : KING TECHNOLOGY, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KING, JOSEPH; HILL, JOHN; WEULANDER, NICOLE; SIGNING DATES FROM 20140614 TO 20140623; REEL/FRAME:033849/0310

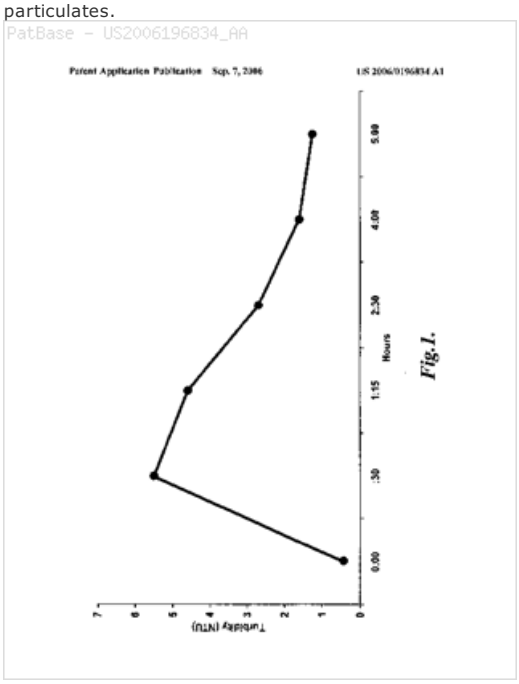
US2015151988 AA	20150604	LSPB	+	published / reissued	
US7347934 BB	20080325	LSGT	+	granted / extensions (spc, cpc, pte)	
US7347934 BB	20070501	LSAS	AS	ASSIGNMENT	OWNER NAME : KING TECHNOLOGY, INC., MINNESOTA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KING, JOSEPH A.; FRANK, MARLIN; REEL/FRAME:019248/0264 EFFECTIVE DATE : 20070413
US7347934 BB	20111121	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7347934 BB	20150629	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7501067 BB	20090310	LSGT	+	granted / extensions (spc, cpc, pte)	
US7501067 BB	20090421	LSRE	CC	CERTIFICATE OF CORRECTION	
US7501067 BB	20120820	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7501067 BB	20160801	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7875191 BB	20110125	LSGT	+	granted / extensions (spc, cpc, pte)	
US7875191 BB	20140506	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8591735 BB	20131126	LSGT	+	granted / extensions (spc, cpc, pte)	
US8591735 BB	20170227	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8591748 BB	20131126	LSGT	+	granted / extensions (spc, cpc, pte)	
US8591748 BB	20131101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KING TECHNOLOGY, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KING, JOSEPH A.; HILL, JOHN; SIGNING DATES FROM 20100505 TO 20100520; REEL/FRAME:031614/0752
US8591748 BB	20170227	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9253986 BB	20160209	LSGT	+	granted / extensions (spc, cpc, pte)	
WO06026276 A2	20060309	LSPB	+	published / reissued	
WO06026276 A3	20070220	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2577954 COUNTRY OF REF DOCUMENT : CA
WO06026276 A3	20070227	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO06026276 A3	20070313	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005792718 COUNTRY OF REF DOCUMENT : EP
WO06026276 A3	20070620	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005792718 COUNTRY OF REF DOCUMENT : EP

87) Family number: 33276951 (US2006196834A)

Title: METHOD FOR THE REMOVAL OF SUBMICRON PARTICULATES FROM CHLORINATED WATER BY SEQUENTIALLY ADDING A CATIONIC POLYMER FOLLOWED BY ADDING AN ANIONIC POLYMER

Abstract: Source: US2006196834A A method for removing submicron colloidal particulates, such as hydrocarbons, from water. The method includes first adding a soluble, cationic polymer, such as chitosan, a salt, or solution of chitosan to water containing the submicron particulates and a halogenating agent, followed by adding a soluble, anionic polymer or anionic salt to the water. The resulting flocs are filtered to remove the submicron particulates.

Classifications:
International (IPC 8-9): B01D21/01 B01D21/02 B65D85/00 C02F1/52 C02F1/54 C02F1/56 C02F103/42 (Advanced/Invention); C02F103/42 (Advanced/Non-invention); C02F1/54 (Core/Invention)
International (IPC 1-7): C02F1/56
CPC: C02F1/5245 C02F1/76 C02F1/5263 B01D21/01 C02F1/001 C02F1/56 C02F2101/32 C02F2103/42
European: B01D21/01 C02F1/52F2 C02F1/52H C02F1/56 M02F1/00D M02F1/76 M02F103/42
US: 206/524.1 206/524.100S 206/568 210/702 210/721 210/727 210/730 210/734



Family:

Publication number	Publication date	Application number	Application date
AU2006214360 AA	20060824	AU20060214360	20060215
BRPI0608211 A2	20091201	BR2006PI08211	20060215
CN101124170 A	20080213	CN200680004935	20060215
EP1855995 A1	20071121	EP20060720747	20060215
IN03138KN2007 A	20071228	IN2007KN03138	20070827
MX2007009909 A1	20080116	MX20070009909	20060215
US2006196834 AA	20060907	US20060355240	20060215
US2011006013 AA	20110113	US20100875908	20100903
US2014319069 AA	20141030	US20140266546	20140430
US7790042 BB	20100907	US20060355240	20060215
WO06088901 A1	20060824	WO2006US05234	20060215

Priority:

US20050653654 20050215 US20050653654P 20050215 US20060355240 20060215
US20100875908 20100903 WO2006US05234 20060215 US20140266546 20140430

Probable Assignee: HALOSOURCE INC

Assignee(s): (std): HALOSOURCE INC ; NICHOLS EVERETT J ; PALCZEWSKI CHRISTINE M ; SCOTT JAMES R ; VANSON HALOSOURCE INC ; WILLIAMS JEFFREY F

Inventor(s): (std): NICHOLS EVERETT J ; PALCZEWSKI CHRISTINE M ; SCOTT JAMES R ; WILLIAMS JEFFREY F

Inventor(s): WILLIAMS JEFFREY ; SCOTT JAMES ; PALCZEWSKI CHRISTINE ; CHRISTINE M PALCZEWSKI ; EVERETT J NICHOLS ; JAMES R SCOTT ; JEFFREY F WILLIAMS ; NICHOLS EVERETT

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; HERBERT SMITH FREEHILLS; FPA PATENT ATTORNEYS PTY LTD; CHRISTENSEN O'CONNOR JOHNSON KINDNESS PLLC; CHRISTENSEN OCONNOR JOHNSON KINDNESS PLLC

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2006214360 AA	20060824	LSPB	+	published / reissued	
AU2006214360 AA	20120913	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE	

				APPLICATION	
BRPI0608211 A2	20091201	LSPB	+	published / reissued	
BRPI0608211 A2	20110104	LSRV	-B11A	DISMISSAL ACC. ART.33 OF IPL - EXAMINATION NOT REQUESTED WITHIN 36 MONTHS OF FILING	
BRPI0608211 A2	20110705	LSRV	-B11Y	DEFINITIVE DISMISSAL ACC. ARTICLE 33 OF IPL - EXTENSION OF TIME LIMIT FOR REQUEST OF EXAMINATION EXPIRED	
CN101124170 A	20080213	LSPB	+	published / reissued	
CN101124170 A	20080213	LSPB	+C06	PUBLICATION	
CN101124170 A	20120201	LSRV	-C12	REJECTION OF A PATENT APPLICATION AFTER ITS PUBLICATION	
EP1855995 A1	20071121	LSPB	+	published / reissued	
EP1855995 A1	20071121	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20070802
EP1855995 A1	20080123	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : NICHOLS, EVERETT, J.
EP1855995 A1	20080123	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : WILLIAMS, JEFFREY, F.
EP1855995 A1	20080123	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : SCOTT, JAMES, R.
EP1855995 A1	20080123	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : PALCZEWSKI, CHRISTINE, M.
EP1855995 A1	20100407	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20091001
IN03138KN2007 A	20071228	LSPB	+	published / reissued	
MX2007009909 A1	20080116	LSPB	+	published / reissued	
US2006196834 AA	20060907	LSPB	+	published / reissued	
US2006196834 AA	20060515	LSAS	AS	ASSIGNMENT	OWNER NAME : VANSON HALOSOURCE, INC., WASHINGTON DESCRIPTION : NUNC PRO TUNC ASSIGNMENT; ASSIGNORS:NICHOLS, EVERETT J.; WILLIAMS, JEFFREY F.; SCOTT, JAMES R.; AND OTHERS; REEL/FRAME:017615/0767; SIGNING DATES FROM 20060410 TO 20060419
US2006196834 AA	20100304	LSAS	AS	ASSIGNMENT	OWNER NAME : HALOSOURCE, INC.,WASHINGTON DESCRIPTION : CHANGE OF NAME; ASSIGNOR:VANSON HALOSOURCE, INC.; US-ASSIGNMENT DATABASE UPDATED:20100305; REEL/FRAME:24031/693 EFFECTIVE DATE : 20060414
US2011006013 AA	20110113	LSPB	+	published / reissued	
US2011006013 AA	20101004	LSAS	AS	ASSIGNMENT	OWNER NAME : HALOSOURCE, INC., WASHINGTON DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NICHOLS, EVERETT J.; WILLIAMS, JEFFREY F.; SCOTT, JAMES R.; AND OTHERS; SIGNING DATES FROM 20100915 TO 20100920; REEL/FRAME:025086/0581
US2014319069 AA	20141030	LSPB	+	published / reissued	
US7790042 BB	20100907	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
US7790042 BB	20060515	LSAS	AS	ASSIGNMENT	OWNER NAME : VANSON HALOSOURCE, INC., WASHINGTON DESCRIPTION : NUNC PRO TUNC ASSIGNMENT; ASSIGNORS:NICHOLS, EVERETT J.; WILLIAMS, JEFFREY F.; SCOTT, JAMES R.; AND OTHERS; SIGNING DATES FROM 20060410 TO 20060419; REEL/FRAME:017615/0767
US7790042 BB	20060515	LSAS	AS	ASSIGNMENT	OWNER NAME : VANSON HALOSOURCE, INC., WASHINGTON DESCRIPTION : NUNC PRO TUNC ASSIGNMENT; ASSIGNORS:NICHOLS, EVERETT J.; WILLIAMS, JEFFREY F.; SCOTT, JAMES R.; AND OTHERS; REEL/FRAME:017615/0767; SIGNING DATES FROM 20060410 TO 20060419
US7790042 BB	20100304	LSAS	AS	ASSIGNMENT	OWNER NAME : HALOSOURCE, INC., WASHINGTON DESCRIPTION : CHANGE OF NAME; ASSIGNOR:VANSON HALOSOURCE, INC.; REEL/FRAME:024031/0693 EFFECTIVE DATE : 20060414
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US7790042 BB	20140102	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7790042 BB	20160620	LSAS	AS	ASSIGNMENT	OWNER NAME : NC BRANDS L.P., CONNECTICUT DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HALOSOURCE, INC.; REEL/FRAME:038957/0255 EFFECTIVE DATE : 20160531
WO06088901 A1	20060824	LSPB	+	published / reissued	
WO06088901 A1	20070731	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006214360 COUNTRY OF REF DOCUMENT : AU
WO06088901 A1	20070815	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2007/009909 COUNTRY OF REF DOCUMENT : MX
WO06088901 A1	20070816	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO06088901 A1	20070823	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2006214360 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20060215 KIND CODE OF REF DOCUMENT : A
WO06088901 A1	20091201	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0608211 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2

88) Family number: 41696394 (US2010025626A)

Title: TWO-LAYER COMPACTED SOLID PRODUCT FOR WATER POTABILIZATION AND PREPARATION METHOD

Abstract: Source: US2010025626A The present invention relates to a compacted solid product for water purification comprising:-at least a first layer comprising at least a coagulant/flocculant system comprising at least one polyvalent inorganic salt, at least one water-soluble cationic polymer and at least one high-molecular-weight anionic polymer,-at least a second layer comprising at least one disinfectant that releases active chlorine on contact with water, characterized in that said coagulant/flocculant system moreover comprises a sodium alginate. The invention also relates to the method for preparing such a product.

Classifications:
International (IPC 8-9): B01D21/01 C02F1/50 C02F1/52 C02F1/56 C02F1/68 C02F1/76 C02F5/08 C02F5/10 C02F9/04 (Advanced/Invention);
B01D21/01 C02F1/50 C02F1/52 C02F1/54 C02F1/68 C02F1/76 C02F9/00 (Core/Invention);
C02F (Subclass/Invention)
International (IPC 1-7): C02F1/56 C02F1/76
CPC: C02F1/5245 C02F1/56 C02F1/76 C02F2303/04 C02F2305/12 C02F2305/14
European: C02F1/52F2 C02F1/56 C02F1/76 M02F303/04 M02F305/12 M02F305/14
US: 156/288 210/223 210/667 210/706 210/721 210/723 210/728 210/730 210/731 210/732 210/733 210/756 252/175 252/175P 252/176 252/181 510/224 510/228 510/230 510/231 510/233 510/375 510/378 510/402

Family:

Publication number	Publication date	Application number	Application date
AT502902 E	20110415	AT20070848317T	20071004
BRPI0717807 A2	20140506	BR2007PI17807	20071004
CN101516789 A	20090826	CN200780035220	20071004
CN101516789 B	20120328	CN200780035220	20071004
DE602007013444 D1	20110505	DE200760013444T	20071004
DK2084109 T3	20110711	DK20070848317T	20071004
EP2084109 A2	20090805	EP20070848317	20071004
EP2084109 B1	20110323	EP20070848317	20071004
ES2362454 T3	20110705	ES20070848317T	20071004
FR2906801 A1	20080411	FR20060008751	20061005
FR2906801 B1	20081212	FR20060008751	20061005
IN01149KN2009 A	20090522	IN2009KN01149	20090325
IN266590 B	20150522	IN2009KN01149	20090325
MX2009003166 A1	20090403	MX20090003166	20071004
US2010025626 AA	20100204	US20070444541	20071004
US8361342 BB	20130129	US20070444541	20071004
WO08040884 A2	20080410	WO2007FR01621	20071004
WO08040884 A3	20080522	WO2007FR01621	20071004
ZA200901877 A	20100331	ZA20090001877	20090317

Priority:
FR20060008751 20061005 WO2007FR01621 20071004

Probable Assignee: EUROTAB

Assignee(s): (std): BRANLARD PAUL ; EUROTAB ; EUROTAB SA ; RUBINSTENN GILLES

Assignee(s): EUROTAB SOCIETE ANONYME

Inventor(s): (std): BRANLARD PAUL ; GILLES RUBINSTENN ; PAUL BRANLARD ; RUBINSTENN GILLES

Agent(s): MAUREAU PHILIPPE; CABINET GERMAIN ET MAUREAU; CANTOR COLBURN LLP; CABINET GERMAIN AND MAUREAU

Designated states: AE AG AL AM 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 LI 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 SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT502902 E	20110415	LSGT	+	granted / extensions (spc, cpc, pte)	
AT502902 E	20110915	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
BRPI0717807 A2	20140506	LSPB	+	published / reissued	
CN101516789 A	20090826	LSPB	+	published / reissued	
CN101516789 A	20090826	LSPB	+C06	PUBLICATION	
CN101516789 A	20120328	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101516789 B	20120328	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
DK2084109 T3	20110711	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2084109 A2	20090805	LSPB	+	published / reissued	
EP2084109 A2	20090805	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20090429
EP2084109 A2	20091202	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20091103
EP2084109 A2	20110323	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP2084109 A2	20110331	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2084109 A2	20110413	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2084109 A2	20110505	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602007013444 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20110505
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EP2084109 A2	20110705	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2362454 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20110705
EP2084109 A2	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110624
EP2084109 A2	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110323
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EP2084109 A2	20110825	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20110323
EP2084109 A2	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20110323

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EP2084109 A2	20120419	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602007013444 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20111227
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ES2362454 T3	20110705	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2906801 A1	20080411	LSPB	+	published / reissued	
FR2906801 A1	20130726	LSLE	-ST	NOTIFICATION OF LAPSE	EFFECTIVE DATE : 20130628
FR2906801 B1	20081212	LSGT	+	granted / extensions (spc, cpc, pte)	
IN01149KN2009 A	20090522	LSPB	+	published / reissued	
IN266590 B	20150522	LSGT	+	granted / extensions (spc, cpc, pte)	
MX2009003166 A1	20090403	LSPB	+	published / reissued	
MX2009003166 A1	20100910	LSGT	+FG	GRANT OR REGISTRATION	
US2010025626 AA	20100204	LSPB	+	published / reissued	
US2010025626 AA	20090819	LSAS	AS	ASSIGNMENT	OWNER NAME : EUROTAB,FRANCE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRANLARD, PAUL; RUBINSTENN, GILLES; SIGNED BETWEEN 20090715 AND 20090721; US-ASSIGNMENT DATABASE UPDATED:20100204;

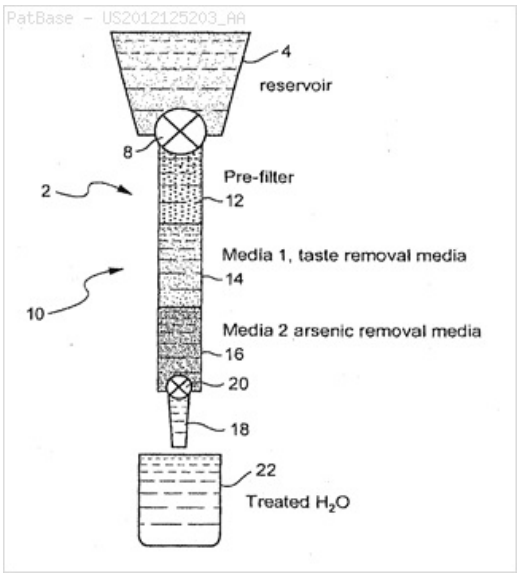
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US8361342 BB	20130129	LSGT	+	granted / extensions (spc, cpc, pte)	
US8361342 BB	20090819	LSAS	AS	ASSIGNMENT	OWNER NAME : EUROTAB,FRANCE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRANLARD, PAUL; RUBINSTENN, GILLES; SIGNING DATES FROM 20090715 TO 20090721; REEL/FRAME:023118/0236
US8361342 BB	20090819	LSAS	AS	ASSIGNMENT	OWNER NAME : EUROTAB, FRANCE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRANLARD, PAUL; RUBINSTENN, GILLES; SIGNING DATES FROM 20090715 TO 20090721; REEL/FRAME:023118/0236
US8361342 BB	20160713	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
WO08040884 A2	20080410	LSPB	+	published / reissued	
WO08040884 A3	20090407	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO08040884 A3	20090819	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12444541 COUNTRY OF REF DOCUMENT : US
WO08040884 A3	20131022	LSNP	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : BR REF LEGAL EVENT CODE : B01E REF DOCUMENT NUMBER : PI0717807 COUNTRY OF REF DOCUMENT : BR DESCRIPTION : ESCLARECA O DEPOSITANTE, A DIVERGENCIA ENTRE OS TITULOS APRESENTADOS NA PETICAO INICIAL DE ENTRADA NA FASE NACIONAL E A PETICAO SUBSEQUENTE.
WO08040884 A3	20140506	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0717807 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 EFFECTIVE DATE : 20090406
ZA200901877 A	20100331	LSGT	+	granted / extensions (spc, cpc, pte)	

89) Family number: 46628887 (US2012125203A)

Title: WATER PURIFICATION AND ENHANCEMENT SYSTEMS

Abstract: Source: US2012125203A Water purification system comprising filtration media sized with respect to each other to allow a first contaminant in the water to saturate the first medium with a delay prior to saturation of the second medium with a second contaminant.

Classifications:
International (IPC 8-9): A01D A47J31/44 B01D24/10 B01D27/14 B01D29/56 B01D35/00 B01D35/04 B01D35/143 B01D35/28 B01D36/02 B01D61/00 B01D63/00 B01J20/06 B01J20/08 B01J20/20 C02F C02F1/00 C02F1/28 C02F1/44 C02F1/50 C02F1/58 C02F1/68 C02F1/76 C02F101/12 C02F101/20 C02F103/02 C02F9/00 C02F9/02 C02F9/04 G01N33/18 (Advanced/Invention);
C02F1/28 C02F1/68 C02F101/10 C02F101/12 C02F101/20 C02F103/02 (Advanced/Non-invention);
B01D35/00 C02F1/28 (Core/Invention);
B01D C02F (Subclass/Invention)
CPC: C02F1/444 C02F2305/14 B01D29/56 B01D63/00 C02F2303/185 C02F1/001 C02F2303/04 C02F9/005 C02F2101/12 B01D27/146 C02F1/003 C02F2101/103 C02F1/008 C02F1/68 C02F9/00 C02F1/76 B01D35/143 C02F1/004 C02F1/281 C02F1/283 C02F1/44 C02F1/50 C02F1/688 C02F2307/10 B01D35/00 C02F1/28
European: C02F1/00D C02F1/00D6 M02F1/00T M02F1/28B M02F1/28D M02F1/68 M02F1/68P6 M02F101/10B
US: 1/1 210/139 210/139S 210/198.1 210/198.100S 210/201 210/251 210/251S 210/252 210/252S 210/257.1 210/257.100S 210/259 210/259S 210/263 210/263S 210/321.6 210/321.600S 210/335 210/739 210/739S 210/749 210/749S 210/764 210/806 210/806S 210/85 210/85S 422/261 99/290 99/290P 99/298 99/298S



Family:

Publication number	Publication date	Application number	Application date
AU2010216068 AA	20100826	AU20100216068	20100218
AU2010216068 BB	20160310	AU20100216068	20100218
BR112014004179 A2	20170314	BR20141104179	20120822
BRPI1008398 A2	20161101	BR2010PI08398	20100218
CA2753144 AA	20100826	CA20102753144	20100218
CA2846105 AA	20140221	CA20122846105	20120822
CL2014000425 A1	20141205	CL20140000425	20140221
CN102438719 A	20120502	CN201080008752	20100218
CN102438719 B	20151014	CN201080008752	20100218
CN103930378 A	20140716	CN201280041245	20120822
CN105152376 A	20151216	CN201510571553	20100218
CO6970582 A2	20140613	CO20140058120	20140318
EP2398572 A2	20111228	EP20100744279	20100218
EP2398572 A4	20130515	EP20100744279	20100218
EP2748112 A1	20140702	EP20120825531	20120822
EP2748112 A4	20150729	EP20120825531	20120822
IL214707 A0	20111130	IL20100214707	20100218
IL231062 A0	20140331	IL20120231062	20120822
IN01375DN2014 A	20150130	IN2014DN01375	20140224
IN06577DN2011 A	20130927	IN2011DN06577	20110829
JP2012518530 T2	20120816	JP20110551206T	20100218
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KR20110136816 A	20111221	KR20117021822	20100218
KR20140054323 A	20140508	KR20147007500	20120822
MX2011008730 A1	20120112	MX20110008730	20100218
MX2014002148 A1	20140327	MX20140002148	20120822
PE11062012 A1	20120907	PE20110001526	20100218
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RU2011138381 A	20130327	RU20110138381	20100218
RU2528989 C2	20140920	RU20110138381	20100218
US2012125203 AA	20120524	US20110137507	20110822
US2015166382 AA	20150618	US20140335478	20140718
US2016023144 AA	20160128	US20150635694	20150302
US9206058 BB	20151208	US20110137507	20110822
WO10096521 A2	20100826	WO2010US24531	20100218
WO10096521 A3	20101209	WO2010US24531	20100218
WO13028750 A1	20130228	WO2012US51847	20120822
ZA201106077 A	20130529	ZA20110006077	20110818

Priority:

CN201080008752 20100218 US20090154070P 20090220 WO2010US24531 20100218
US20110137507 20110822 US20140335478 20140718 US20150635694 20150302
WO2012US51847 20120822

Probable Assignee: WATER INITATIVE LLC

Assignee(s): (std): FITZGERALD EUGENE A ; FOLEY BRIAN T ; LANGDO THOMAS ; WATER INITIATIVE ; THOMPSON CARL V ; RENJILIAN RICHARD ; WATER INITIATIVE LLC ; UOTER INISHETIV EHLEHLSI ; WATER INITATIVE LLC ; XIE YA HONG

Assignee(s): CREL OAC LLC ; DZE UOTER INISHETIV EHLEHLSI ; MCGOVERN KEVIN M ; MULDOON MICHAEL J ; THE

WATER INITIATIVE LLC ; THE WATER INITIATIVE

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Inventor(s): FOLEY BRIAN ; BRIAN T FOLEY ; FITZGERALD EUGENE ; THOMPSON CARL

Agent(s): MADDERNS PATENT AND TRADE MARK ATTORNEYS; MCCARTHY TETRAULT LLP; JOHANSSON AND LANGLOIS LTDA; MARGARITA CASTELLANOS ABONDANO; RICKARD TIMOTHY MARK ADRIAN; KING ALEX; HARAKENZO WORLD PATENT AND TRADEMARK; NIXON AND VANDERHYE PC; MITCHARD LEONARD C

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 LI 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 RW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2010216068 AA	20100826	LSPB	+	published / reissued	
AU2010216068 AA	20160707	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2010216068 BB	20160310	LSGT	+	granted / extensions (spc, cpc, pte)	
BR112014004179 A2	20170314	LSPB	+	published / reissued	
BRPI1008398 A2	20161101	LSPB	+	published / reissued	
CA2753144 AA	20100826	LSPB	+	published / reissued	
CA2753144 AA	20150303	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20150212
CA2846105 AA	20140221	LSPB	+	published / reissued	
CL2014000425 A1	20141205	LSPB	+	published / reissued	
CN102438719 A	20120502	LSPB	+	published / reissued	
CN102438719 A	20120502	LSPB	+C06	PUBLICATION	
CN102438719 A	20151014	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102438719 B	20151014	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103930378 A	20140716	LSPB	+	published / reissued	
CN103930378 A	20140716	LSPB	+C06	PUBLICATION	
CN105152376 A	20151216	LSPB	+	published / reissued	
CN105152376 A	20151216	LSPB	+C06	PUBLICATION	
CO6970582 A2	20140613	LSPB	+	published / reissued	
EP2398572 A2	20111228	LSPB	+	published / reissued	
EP2398572 A2	20111228	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20110817
EP2398572 A2	20130515	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20130411
EP2398572 A2	20130515	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : B01D 35/00 20060101AFI20130405BHEP
EP2398572 A2	20130515	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 103/02 20060101ALI20130405BHEP
EP2398572 A2	20130515	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/28 20060101ALI20130405BHEP

EP2398572 A2	20160127	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20151223
EP2748112 A1	20140702	LSPB	+	published / reissued	
EP2748112 A1	20140702	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140225
EP2748112 A1	20140709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : THOMPSON, CARL, V.
EP2748112 A1	20140709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : FITZGERALD, EUGENE, A.
EP2748112 A1	20140709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : LANGDO, THOMAS
EP2748112 A1	20140709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : RENJILIAN, RICHARD
EP2748112 A1	20140709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : XIE, YA-HONG
EP2748112 A1	20150429	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/44 20060101AFI20150323BHEP
EP2748112 A1	20150429	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/50 20060101ALI20150323BHEP
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EP2748112 A1	20150729	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/68 20060101ALI20150623BHEP
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EP2748112 A1	20150729	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/50 20060101ALI20150623BHEP
EP2748112 A1	20150729	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/28 20060101ALI20150623BHEP
IN01375DN2014 A	20150130	LSPB	+	published / reissued	
IN06577DN2011 A	20130927	LSPB	+	published / reissued	
JP2012518530 T2	20120816	LSPB	+	published / reissued	
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JP2012518530 T2	20130821	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130820
JP2012518530 T2	20131220	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20131219
JP2012518530 T2	20140820	LSES	-A131	NOTIFICATION OF REASONS	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131

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JP2012518530 T2	20150508	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20150507
JP2014529497 T2	20141113	LSPB	+	published / reissued	
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JP2014529497 T2	20151224	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20151222
JP2014529497 T2	20160520	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160520
JP2014529497 T2	20161018	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20161018
KR20110136816 A	20111221	LSPB	+	published / reissued	
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KR20140054323 A	20140508	LSPB	+	published / reissued	
MX2011008730 A1	20120112	LSPB	+	published / reissued	
MX2014002148 A1	20140327	LSPB	+	published / reissued	
PE11062012 A1	20120907	LSPB	+	published / reissued	
PE13862014 A1	20141104	LSPB	+	published / reissued	
RU2011138381 A	20130327	LSPB	+	published / reissued	
RU2528989 C2	20140920	LSGT	+	granted / extensions (spc, cpc, pte)	
US2012125203 AA	20120524	LSPB	+	published / reissued	
US2012125203 AA	20120208	LSAS	AS	ASSIGNMENT	OWNER NAME : THE WATER INITIATIVE, LLC, FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FITZGERALD, EUGENE A.; XIE, YA-HONG; LANGDO, THOMAS; AND OTHERS; REEL/FRAME:027669/0586 EFFECTIVE DATE : 20120207
US2012125203 AA	20141103	LSAS	AS	ASSIGNMENT	OWNER NAME : CREL/OAC L.L.C., NEW YORK DESCRIPTION : SECURITY INTEREST; ASSIGNOR:THE WATER INITIATIVE LLC; REEL/FRAME:034150/0368 EFFECTIVE DATE : 20141028
US2015166382 AA	20150618	LSPB	+	published / reissued	
US2016023144 AA	20160128	LSPB	+	published / reissued	
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US9206058 BB	20151216	LSAS	AS	ASSIGNMENT	OWNER NAME : MCGOVERN, KEVIN M., FLORIDA DESCRIPTION : SECURITY INTEREST; ASSIGNOR:THE WATER INITIATIVE, LLC; REEL/FRAME:037307/0126 EFFECTIVE DATE : 20121226

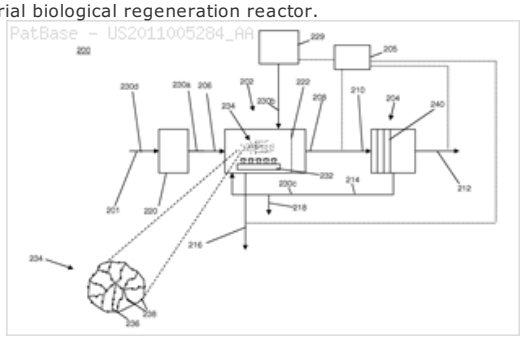
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WO10096521 A2	20110920	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2011138381 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A
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WO10096521 A3	20110819	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2753144 COUNTRY OF REF DOCUMENT : CA
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WO10096521 A3	20110901	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010216068 COUNTRY OF REF DOCUMENT : AU
WO10096521 A3	20110919	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20117021822 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A
WO10096521 A3	20110920	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2011138381 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A
WO10096521 A3	20110920	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2011138381 COUNTRY OF REF DOCUMENT : RU
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WO13028750 A1	20140220	LSNP	+WWE	WIPO	REF DOCUMENT NUMBER :

				INFORMATION: ENTRY INTO NATIONAL PHASE	231062 COUNTRY OF REF DOCUMENT : IL
WO13028750 A1	20140221	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2846105 COUNTRY OF REF DOCUMENT : CA
WO13028750 A1	20140221	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014527258 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO13028750 A1	20140223	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : P162/2014 COUNTRY OF REF DOCUMENT : AE
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WO13028750 A1	20170314	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112014004179 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20140221
ZA201106077 A	20130529	LSGT	+	granted / extensions (spc, cpc, pte)	

90) Family number: 48148075 (US2011005284A)

Title: WASTEWATER TREATMENT SYSTEM AND PROCESS INCLUDING IRRADIATION OF PRIMARY SOLIDS

Abstract: Source: US2011005284A The present invention provides a system and method for treating wastewater in which the majority of solids and biological oxygen demand compounds are separated from the wastewater feed using a primary separation process, to produce a solids phase and a water phase. The solids phase is irradiated to reduce the level of pathogens such that it is safe to use as a soil substitute and/or additive so that the solids can thus be disposed of in an environmentally-friendly manner. In additional embodiments, the solids that have been disinfected by radiation are mixed with a suitable inert filler material to produce a soil substitute, fertilizer, compost, or other soil additive. The liquid phase is treated in a substantially smaller system than would be required for treating the full-strength wastewater that can include a suspended media biological regeneration reactor system. The liquid treatment system can include a high flux adsorbent material treatment system integrated with a low flux adsorbent material biological regeneration reactor.



Classifications:
International (IPC 8-9): A61L11/00 A61L2/08 B01D21/02 B01D21/26 B01D24/00 B01J20/02 B01J20/16 B01J20/20 B01J20/26 B01J20/34 C02F1/28 C02F1/30 C02F1/32 C02F1/44 C02F11/00 C02F3/00 C02F3/12 C02F9/00 C02F9/14 C05F17/00
C05F3/00 (Advanced/Invention);
C02F1/00 C02F1/28 C02F3/00 C02F3/02 C02F3/28 (Advanced/Non-invention);
C02F C05F (Subclass/Invention)
CPC: C02F3/1221 C02F3/1226 C02F3/121 C02F1/307 C02F1/305 B01D21/262 B01D21/267 B01D21/02 C02F2003/003 C02F3/1268 C02F2001/007 C02F9/00 C02F1/281 C02F1/283 C02F1/288 C02F3/006 C02F3/02 C02F3/2853 C02F3/286 C02F11/00 C02F2003/001 C02F2209/001 C02F2209/003 C02F2209/08 C02F2209/11 C02F2303/04 C02F2303/24 C05F17/009 Y02P20/145 Y02W10/15 Y02W30/43
European: C02F9/00 C05F17/00V M02F1/00S M02F1/28B M02F1/28D M02F1/28L M02F209/00B M02F209/00D M02F209/08 M02F209/11 M02F3/00B M02F3/00R M02F3/02 M02F3/12N9 M02F3/28P M02F3/28S M02F303/24
US: 1/1 210/173 210/189 210/195.2 210/195.3 210/195.300S 210/197 210/243 210/243S 210/265 210/269 210/275 210/616 210/631 210/631S 210/748.01 210/768 210/800 71/12 71/12P

Family:

Publication number	Publication date	Application number	Application date
AU2010271392 AA	20110113	AU20100271392	20100708
AU2010271392 BB	20160218	AU20100271392	20100708
AU2010271392 CA	20160630	AU20100271392	20100708
CA2767823 AA	20110113	CA20102767823	20100708
CN102548912 A	20120704	CN201080030782	20100708
CN102548912 B	20150617	CN201080030782	20100708
CN104276731 A	20150114	CN201410558132	20100708
EA025602 B1	20170130	EA20120000103	20100708
EA201200103 A1	20120629	EA20120000103	20100708
EP2451749 A1	20120516	EP20100797828	20100708
EP2451749 A4	20131225	EP20100797828	20100708
EP2711344 A2	20140326	EP20130194211	20100708
EP2711344 A3	20140416	EP20130194211	20100708
GC3104 A	20140819	GC2010P016278	20100710
HK1172313 A1	20160520	HK20120113076	20121218
HK1205997 A1	20151231	HK20150106580	20150710
IN10377DN2011 A	20121026	IN2011DN10377	20111228
JP2012532748 T2	20121220	JP20120519716T	20100708
JP2014240073 A2	20141225	JP20140162166	20140808
JP5620485 B2	20141105	JP20120519716T	20100708
JP5918317 B2	20160518	JP20140162166	20140808
KR20120089632 A	20120813	KR20127003333	20100708
US2011005284 AA	20110113	US20100832723	20100708
US2013220921 AA	20130829	US20130863745	20130416
US2014224719 AA	20140814	US20140257402	20140421
US2014224730 AA	20140814	US20140257426	20140421
US8440074 BB	20130514	US20100832723	20100708
US8721889 BB	20140513	US20130863745	20130416
US9290399 BB	20160322	US20140257426	20140421
US9340441 BB	20160517	US20140257402	20140421
WO11005928 A1	20110113	WO2010US41322	20100708

Priority:

CN201080030782 20100708 EP20100797828 20100708 US200902240l6P 20090708
US20100832723 20100708 JP20120519716 20100708 JP20120519716T 20100708
WO2010US41322 20100708 US20130863745 20130416 US20140257402 20140421
US20140257426 20140421

Probable Assignee: SIEMENS ENERGY INC

Assignee(s): (std): CONNER WILLIAM G ; FAGEEHA OSAMA I ; SAUDI ARABIAN OIL CO ; SCHULTZ THOMAS E ; SIEMENS IND INC ; SIEMENS INDUSTRY INC ; SIEMENS ENERGY INC ; SIEMANS ENERGY INC ; SIEMENS WATER TECH CORP

Assignee(s): SIEMENS WATER TECHNOLOGIES HOLDING CORP ; SIEMENS WATER TECHNOLOGIES CORP ; SAUDI ARABIAN OIL COMPANY

Inventor(s): (std): CONNER WILLIAM G ; FAGEEHA OSAMA I ; OSAMA I FAGEEHA ; SCHULTZ THOMAS E ; THOMAS E SCHULTZ ; WILLIAM G CONNER

Inventor(s): CONNER WILLIAM ; SCHULTZ THOMAS ; FAGEEHA OSAMA

Agent(s): AHEARN FOX; SMART AND BIGGAR; GERVASI GEMMA; PALLADINO SAVERIO MASSIMO; SULEIMAN I AL AMMAR LAW OFFICE; MIZUNO KATSUFUMI; KISHIDA MASAYUKI; ABELMAN FRAYNE AND SCHWAB; CRISPINO RALPH J

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 LI 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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2010271392 AA	20110113	LSPB	+	published / reissued	
AU2010271392 AA	20160407	LSRE	DA2	APPLICATIONS FOR AMENDMENT SECTION 104	DESCRIPTION : THE NATURE OF THE AMENDMENT IS AS SHOWN IN THE STATEMENT(S) FILED 18 FEB 2016 .
AU2010271392 AA	20160630	LSRE	DA3	AMENDMENTS MADE SECTION 104	DESCRIPTION : THE NATURE OF THE AMENDMENT IS AS SHOWN IN THE STATEMENT(S) FILED 18 FEB 2016
AU2010271392 AA	20160630	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2010271392 BB	20160218	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2767823 AA	20110113	LSPB	+	published / reissued	
CA2767823 AA	20150720	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20150708
CN102548912 A	20120704	LSPB	+	published / reissued	
CN102548912 A	20120704	LSPB	+C06	PUBLICATION	
CN102548912 A	20150617	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102548912 A	20160520	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1172313 COUNTRY OF REF DOCUMENT : HK
CN102548912 B	20150617	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104276731 A	20150114	LSPB	+	published / reissued	
CN104276731 A	20150114	LSPB	+C06	PUBLICATION	
EA025602 B1	20170130	LSGT	+	granted / extensions (spc, cpc, pte)	
EA201200103 A1	20120629	LSPB	+	published / reissued	
EP2451749 A1	20120516	LSPB	+	published / reissued	
EP2451749 A1	20120516	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120206
EP2451749 A1	20131225	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20131122
EP2451749 A1	20131225	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 11/00 20060101ALI20131118BHEP
EP2451749 A1	20131225	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 3/12 20060101AFI20131118BHEP
EP2451749 A1	20141015	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20140916
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				(CORRECTION)	CLASSIFICATIONSYMBOL : C02F 3/12 20060101AFI20140307BHEP
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EP2711344 A2	20150729	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20150624
EP2711344 A2	20160518	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : SIEMENS INDUSTRY, INC.
EP2711344 A2	20160518	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : SAUDI ARABIAN OIL COMPANY
EP2711344 A2	20170329	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 11/00 20060101ALI20170221BHEP
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EP2711344 A2	20170329	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 1/28 20060101ALN20170221BHEP
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EP2711344 A2	20170405	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 3/12 20060101AFI20170224BHEP
EP2711344 A2	20170405	LSRE	RIC1	CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : C02F 11/00 20060101ALI20170224BHEP
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HK1172313 A1	20160520	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1205997 A1	20151231	LSGT	+	granted / extensions (spc, cpc, pte)	
IN10377DN2011 A	20121026	LSPB	+	published / reissued	
JP2012532748 T2	20121220	LSPB	+	published / reissued	
JP2012532748 T2	20130206	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20130205
JP2012532748 T2	20140514	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140513
JP2012532748 T2	20140818	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140808
JP2012532748 T2	20140905	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012532748 T2	20140910	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140909

JP2012532748 T2	20140925	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20140918
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JP2014240073 A2	20150916	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150915
JP2014240073 A2	20160215	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160215
JP2014240073 A2	20160302	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014240073 A2	20160309	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20160308
JP2014240073 A2	20160414	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20160407
JP5620485 B2	20141105	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5918317 B2	20160518	LSGT	+	granted / extensions (spc, cpc, pte)	
KR20120089632 A	20120813	LSPB	+	published / reissued	
KR20120089632 A	20150706	LSES	A201	REQUEST FOR EXAMINATION	
KR20120089632 A	20161019	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
US2011005284 AA	20110113	LSPB	+	published / reissued	
US2011005284 AA	20100913	LSAS	AS	ASSIGNMENT	OWNER NAME : SAUDI ARABIAN OIL COMPANY, SAUDI ARABIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CONNER, WILLIAM G.; FAGEEHA, OSAMA I.; REEL/FRAME:024975/0302 EFFECTIVE DATE : 20100804
US2011005284 AA	20100913	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS WATER TECHNOLOGIES CORP., PENNSYLVANIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SCHULTZ, THOMAS E.; REEL/FRAME:024975/0389 EFFECTIVE DATE : 20100818
US2011005284 AA	20120604	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS WATER TECHNOLOGIES HOLDING CORP., PENNSYLV DESCRIPTION : MERGER; ASSIGNOR:SIEMENS WATER TECHNOLOGIES CORP.; REEL/FRAME:028310/0218 EFFECTIVE DATE : 20110401
US2011005284 AA	20120608	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS INDUSTRY, INC., GEORGIA DESCRIPTION : MERGER; ASSIGNOR:SIEMENS WATER TECHNOLOGIES HOLDING CORP.; REEL/FRAME:028346/0683 EFFECTIVE DATE : 20110401
US2011005284 AA	20120718	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS ENERGY, INC., FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SIEMENS INDUSTRY, INC.; REEL/FRAME:028574/0913 EFFECTIVE DATE : 20120718
US2013220921 AA	20130829	LSPB	+	published / reissued	
US2013220921 AA	20130507	LSAS	AS	ASSIGNMENT	OWNER NAME : SAUDI ARABIAN OIL COMPANY, SAUDI ARABIA

					DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CONNER, WILLIAM G.; FAGEEHA, OSAMA I.; REEL/FRAME:030362/0145 EFFECTIVE DATE : 20100804
US2013220921 AA	20131023	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS ENERGY, INC., FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SIEMENS INDUSTRY, INC.; REEL/FRAME:031458/0087 EFFECTIVE DATE : 20120718
US2013220921 AA	20131023	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS INDUSTRY, INC., GEORGIA DESCRIPTION : MERGER; ASSIGNOR:SIEMENS WATER TECHNOLOGIES HOLDING CORP.; REEL/FRAME:031458/0076 EFFECTIVE DATE : 20110315
US2013220921 AA	20131023	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS WATER TECHNOLOGIES CORP., PENNSYLVANIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SCHULTZ, THOMAS E.; REEL/FRAME:031458/0053 EFFECTIVE DATE : 20100818
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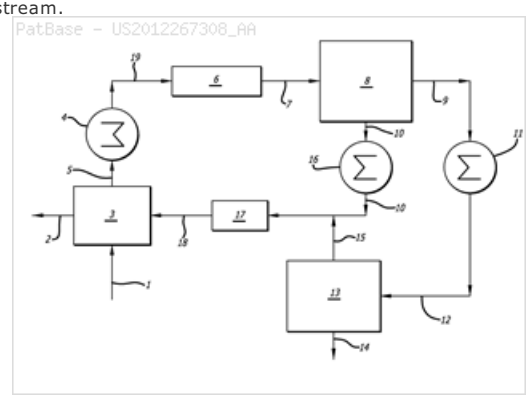
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US8440074 BB	20100913	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS WATER TECHNOLOGIES CORP., PENNSYLVANIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SCHULTZ, THOMAS E.; REEL/FRAME:024975/0389 EFFECTIVE DATE : 20100818
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US8440074 BB	20120608	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS INDUSTRY, INC., GEORGIA DESCRIPTION : MERGER; ASSIGNOR:SIEMENS WATER TECHNOLOGIES HOLDING CORP.; REEL/FRAME:028346/0683 EFFECTIVE DATE : 20110401
US8440074 BB	20120718	LSAS	AS	ASSIGNMENT	OWNER NAME : SIEMENS ENERGY, INC., FLORIDA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SIEMENS INDUSTRY, INC.; REEL/FRAME:028574/0913 EFFECTIVE DATE : 20120718
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US8721889 BB	20140513	LSGT	+	granted / extensions (spc, cpc, pte)	
US9290399 BB	20160322	LSGT	+	granted / extensions (spc, cpc, pte)	
US9340441 BB	20160517	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
WO11005928 A1	20110113	LSPB	+	published / reissued	
WO11005928 A1	20111219	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010271392 COUNTRY OF REF DOCUMENT : AU
WO11005928 A1	20120106	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2767823 COUNTRY OF REF DOCUMENT : CA
WO11005928 A1	20120106	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2012519716 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
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WO11005928 A1	20120106	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012519716 COUNTRY OF REF DOCUMENT : JP
WO11005928 A1	20120109	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO11005928 A1	20120207	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20127003333 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A

91) Family number: 52171832 (US2012267308A)

Title: RECOVERY OF RETROGRADE SOLUBLE SOLUTE FOR FORWARD OSMOSIS WATER TREATMENT

Abstract: Source: US2012267308A Improved systems and processes for forward osmosis water purification or desalination are herein disclosed. According to one embodiment a process for purifying contaminated water is provided wherein a contaminated feed solution stream comprising water and with a first osmotic pressure is passed through a semipermeable membrane to a draw side having a draw solution stream with a second osmotic pressure on a draw side of the semipermeable membrane. The diluted draw solution stream is heated, agglomerated and cooled to produce a cooled single phase water rich stream that is purified to produce a water product stream.



Classifications:
International (IPC 8-9): B01D B01D11/00 B01D17/04 B01D21/00 B01D21/26 B01D21/34 B01D37/00 B01D37/03 B01D61/00 B01D61/02 B01D61/08 B01D61/10 B01D61/12 B01D61/14 B01D61/58 C02F1/00 C02F1/02 C02F1/28 C02F1/32 C02F1/38 C02F1/40 C02F1/44 C02F1/50 C02F1/52 C02F9/00 C02F9/08 (Advanced/Invention);
B01D21/00 B01D21/34 B01D61/14 C02F1/02 C02F1/28 C02F1/32 C02F1/38 C02F1/52 C02F103/08 (Advanced/Non-invention);
B01D11/00 C02F1/28 (Core/Invention);
B01D C02F (Subclass/Invention)
CPC: C02F1/445 B01D21/009 B01D21/34 B01D61/002 B01D61/007 B01D61/027 B01D61/145 B01D61/58 B01D2311/103 B01D2311/106 B01D2311/14 B01D2311/2642 C02F1/02 C02F1/28 C02F1/32 C02F1/442 C02F1/444 C02F1/52 C02F2001/007 C02F2103/08 C02F2303/10 C02F2303/16 Y02W10/30 Y02W10/37 C02F1/40 C02F1/325 C02F1/50 B01D21/262 B01D21/267 C02F2303/04 B01D61/025 C02F1/38 C02F1/441 B01D37/03 B01D61/10 C02F9/00
European: B01D61/00B B01D61/00D B01D61/58 C02F1/44F C02F9/00 L01D311/10B L01D311/10D L01D311/14 L01D311/26L L01D61/00B L01D61/02D L01D61/02F L01D61/14D M02F1/00S M02F1/02 M02F1/28 M02F1/32 M02F1/38 M02F1/38B M02F1/44B M02F1/44C M02F1/44D M02F1/44F M02F1/50 M02F1/52 M02F103/08 M02F303/10 M02F303/16
US: 1/1 210/177 210/181 210/182 210/644

Family:

Publication number	Publication date	Application number	Application date
AU2012249944 AA	20121101	AU20120249944	20120423
AU2012249944 BB	20151008	AU20120249944	20120423
AU2015282372 AA	20160128	AU20150282372	20151230
CA2830390 AA	20130913	CA20122830390	20120423
CL2013002899 A1	20140411	CL20130002899	20131010
CN103492038 A	20140101	CN201280017645	20120423
CN103492038 B	20160120	CN201280017645	20120423
CN105712436 A	20160629	CN201510852070	20120423
EP2686081 A1	20140122	EP20120776835	20120423
EP2686081 A4	20141210	EP20120776835	20120423
IL228533 A0	20131231	IL20120228533	20120423
IL228533 A1	20160731	IL20120228533	20120423
IN08230DN2013 A	20141219	IN2013DN08230	20130920
JP2014512951 T2	20140529	JP20140508472T	20120423
JP2017018952 A2	20170126	JP20160152332	20160802
JP5985609 B2	20160906	JP20140508472T	20120423
KR101591318 B1	20160218	KR20137026251	20120423
KR20130137022 A	20131213	KR20137026251	20120423
KR20160014791 A	20160211	KR20167002377	20120423
MX2013011840 A1	20140227	MX20130011840	20120423
MX336171 B	20160111	MX20130011840	20120423
RU2013145560 A	20150527	RU20130145560	20120423
RU2556662 C2	20150710	RU20130145560	20120423
SG10201603184W A1	20160629	SG20161003184	20120423
SG194156 A1	20131129	SG20130075403	20120423
TH135924 A	20140818	TH20131005802	20120423
US2012267308 AA	20121025	US20120454062	20120423
US2016039685 AA	20160211	US20150923198	20151026
US9216917 BB	20151222	US20120454062	20120423
WO12148864 A1	20121101	WO2012US34723	20120423
ZA201306937 A	20150325	ZA20130006937	20130912

Priority:

AU20120249944 20120423
CN201280017645 20120423
US20110572394P 20110715
US20150923198 20151026
AU20150282372 20151230
JP20140508472T 20120423
US20120454062 20120423
US20110517687P 20110425
JP20160152332 20160802
WO2012US34723 20120423

Probable Assignee: TREVI SYSTEMS INC

Assignee(s): (std): CARMIGNANI GARY ; SITKIEWITZ STEVE ; TREVI SYSTEMS INC ; WEBLEY JOHN WILFRED ; TREVI SISTEMZ INK

Inventor(s): (std): CARMIGNANI GARY ; SITKIEWITZ STEVE ; STKIEWITZ STEVEN ; WEBLEY JOHN WILFRED ; UEHBLI DZHON UILFRED ; SITKIEVITTS STIV ; KARMIN JANI GEHRI

Inventor(s): STEVE SITKIEWITZ ; GARY CARMIGNANI ; JOHN WILFRED WEBLEY

Agent(s): CULLENS PATENT AND TRADE MARK ATTORNEYS; CULLENS PTY LTD; RICHES MCKENZIE AND HERBERT LLP; DE PROFECIONALES ALBAGLI ZALIASNIK LIMITADA SOC; BARTON RUSSELL GLEN; DR SHLOMO COHEN AND CO; KONISHI TOMIMASA; DREW AND NAPIER LLC; NOVAK DRUCE CONNOLLY BOVE AND QUIGG LLP; MCKNIGHT BRIAN

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 LI 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 RW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2012249944 AA	20121101	LSPB	+	published / reissued	
AU2012249944 AA	20160204	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012249944 BB	20151008	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2015282372 AA	20160128	LSPB	+	published / reissued	
CA2830390 AA	20130913	LSPB	+	published / reissued	
CA2830390 AA	20131027	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130913
CL2013002899 A1	20140411	LSPB	+	published / reissued	
CN103492038 A	20140101	LSPB	+	published / reissued	
CN103492038 A	20140101	LSPB	+C06	PUBLICATION	
CN103492038 A	20160120	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103492038 B	20160120	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105712436 A	20160629	LSPB	+	published / reissued	
CN105712436 A	20160629	LSPB	+C06	PUBLICATION	
EP2686081 A1	20140122	LSPB	+	published / reissued	
EP2686081 A1	20140122	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130930
EP2686081 A1	20141210	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20141107
EP2686081 A1	20141210	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/52 20060101ALN20141103BHEP
EP2686081 A1	20141210	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : B01D 61/14 20060101AFI20141103BHEP
EP2686081 A1	20141210	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/44 20060101ALI20141103BHEP
EP2686081 A1	20141210	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/32 20060101ALN20141103BHEP
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EP2686081 A1	20141210	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : B01D 21/34 20060101ALI20141103BHEP
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EP2686081 A1	20141210	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/02 20060101ALN20141103BHEP
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EP2686081 A1	20141210	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : B01D 61/58 20060101ALI20141103BHEP
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EP2686081 A1	20161019	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20160914
IL228533 A0	20161130	LSGT	+FF	PATENT GRANTED	
IL228533 A1	20160731	LSPB	+	published / reissued	
IN08230DN2013 A	20141219	LSPB	+	published / reissued	
JP2014512951 T2	20140529	LSPB	+	published / reissued	
JP2014512951 T2	20141018	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20141017
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JP2014512951 T2	20150930	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150929
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JP2014512951 T2	20160705	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20160705
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KR101591318 B1	20160218	LSGT	+	granted / extensions (spc, cpc, pte)	
KR20130137022 A	20131213	LSPB	+	published / reissued	
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KR20130137022 A	20150226	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20130137022 A	20150826	LSRV	-E601	DECISION TO REFUSE APPLICATION	
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KR20130137022 A	20151027	LSGT	+X701	DECISION TO GRANT (AFTER RE-EXAMINATION)	
KR20160014791 A	20160211	LSPB	+	published / reissued	
MX2013011840 A1	20140227	LSPB	+	published / reissued	
MX336171 B	20160111	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2013145560 A	20150527	LSPB	+	published / reissued	
RU2556662 C2	20150710	LSGT	+	granted / extensions (spc, cpc, pte)	
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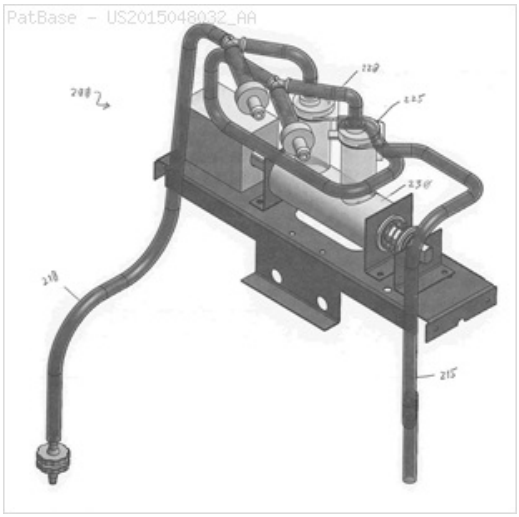
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US2012267308 AA	20121025	LSPB	+	published / reissued	
US2012267308 AA	20120423	LSAS	AS	ASSIGNMENT	OWNER NAME : TREVI SYSTEMS INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CARMIGNANI, GARY; SITKIEWITZ, STEVE; WEBLEY, JOHN WILFRED; REEL/FRAME:028092/0786 EFFECTIVE DATE : 20120423
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US2016039685 AA	20160229	LSAS	AS	ASSIGNMENT	OWNER NAME : TREVI SYSTEMS INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CARMIGNANI, GARY; SITKIEWITZ, STEVE; WEBLEY, JOHN WILFRED; SIGNING DATES FROM 20160128 TO 20160205; REEL/FRAME:037853/0269
US9216917 BB	20151222	LSGT	+	granted / extensions (spc, cpc, pte)	
WO12148864 A1	20121101	LSPB	+	published / reissued	
WO12148864 A1	20130913	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2830390 COUNTRY OF REF DOCUMENT : CA
WO12148864 A1	20130925	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014508472 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
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WO12148864 A1	20131125	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2013145560 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A
ZA201306937 A	20150325	LSGT	+	granted / extensions (spc, cpc, pte)	

92) Family number: 58505684 (US2015048032A)

Title: SYSTEM AND METHOD FOR CONTROLLING THE CHEMICAL PROPERTIES OF A BODY OF LIQUID

Abstract: Source: US2015048032A An apparatus for controlling chemical properties of a body of water, the apparatus comprising: a housing, said housing comprising: a water sample collecting subassembly; chemical reagent dispensing subassembly; a water diagnostic subassembly; and a control module, said control module disposed on the housing, said control module comprising: a means for inputting desired functional parameters and water chemical properties into the apparatus; a means for measuring the actual physical conditions of the water; a means for comparing the actual physical conditions of the water to the desired physical conditions of the water; and a means for instructing the system to dispense chemical reagents to the water at a rate and dosage necessary to cause the water to generally achieve the desired physical conditions within a desired period of time and for a desired time period; and a means for displaying the apparatus parameters and water chemical properties in human readable form.

Classifications:
International (IPC 8-9)**:** C02F1/00 C02F1/66 C02F1/76 (Advanced/Invention)
CPC: C02F1/008 C02F1/688 C02F2103/42 C02F2201/008 C02F2209/008 C02F2209/055 C02F2209/06 C02F2209/07 C02F2209/18 C02F2209/23 C02F2209/29
US: 210/739 210/96.1



Family:

Publication number	Publication date	Application number	Application date
US2015048032 AA	20150219	US20130969232	20130816

Priority:
US20130969232 20130816

Probable Assignee: RODRIGUEZ HUMBERTO
Assignee(s): (std)**:** RODRIGUEZ HUMBERTO
Inventor(s): (std)**:** RODRIGUEZ HUMBERTO

Legal status (INPADOC)

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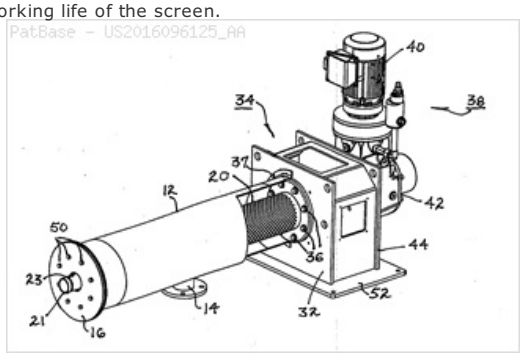
Patent	Date recorded	Event group	Code	Event	Details
US2015048032 AA	20150219	LSPB	+	published / reissued	

93) Family number: 62043529 (US2016096125A)

Title: SLUDGE CLASSIFICATION PRESS HAVING A ROTATIONALLY ADJUSTABLE SEPARATION SCREEN

Abstract: Source: US2016096125A An improved sludge classifying press for isolating biologically-digestible materials from sludge. The press comprises a tubular shell containing a cylindrical separation screen and a tapered auger driven within the separation screen by a motor and transmission. The SCP assists in fracturing the protective casings of resistant seeds and passing the resulting comminuted solid materials in a liquid stream of BOD materials. The separation screen may be repositioned with respect to the tubular shell by rotation to distribute wear by grit impingement that occurs during use preponderantly at the bottom of the screen, thereby extending the working life of the screen.

Classifications:
International (IPC 8-9): B01D29/96 B01D35/30 C02F1/00 C02F1/52 C02F11/00 C02F11/02 C02F11/04 C02F11/12 C02F11/14 C02F3/00 C02F9/00 E03F5/14 (Advanced/Invention)
CPC: B01D29/96 B01D35/30 C02F2209/10 C02F2209/11 C02F2209/02 C02F2209/08 C02F2303/06 C02F2209/06 C02F2209/285 C02F2209/245 C02F2209/005 C02F1/008 C02F11/122 C02F11/125 C02F11/14 B01D29/23 B01D29/6476 C02F2303/24 C02F1/56 C02F11/02 C02F11/04 C02F2209/40 C02F11/121 Y02W10/27 Y02E50/343 Y02W10/23
US: 210/143 210/359 210/614 210/620 210/631 210/702 210/728



Family:

Publication number	Publication date	Application number	Application date
CA2905370 AA	20160401	CA20152905370	20150923
EP3002261 A1	20160406	EP20150188005	20151001
US2016096125 AA	20160407	US20150754924	20150630
US2016096756 AA	20160407	US20150791289	20150703
US2016096759 AA	20160407	US20140503494	20141001
US2016096760 AA	20160407	US20140503526	20141001

Priority:

US20140503494 20141001 US20140503526 20141001 US20150754924 20150630 US20150791289 20150703

Probable Assignee: CLEARCOVE SYSTEMS INC
Assignee(s): (std): CLEARCOVE SYSTEMS INC
Assignee(s): WRIGHT TERRY
Inventor(s): (std): WRIGHT TERRY
Agent(s): GOWLING WLG CANADA LLP; CARSTENS DIRK WILHELM
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2905370 AA	20160401	LSPB	+	published / reissued	
EP3002261 A1	20160406	LSPB	+	published / reissued	
EP3002261 A1	20161116	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20161006
US2016096125 AA	20160407	LSPB	+	published / reissued	
US2016096125 AA	20150721	LSAS	AS	ASSIGNMENT	OWNER NAME : CLEARCOVE SYSTEMS, INC., NEW YORK DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WRIGHT, TERRY; REEL/FRAME:036140/0640 EFFECTIVE DATE : 20150707
US2016096756 AA	20160407	LSPB	+	published / reissued	
US2016096756 AA	20150721	LSAS	AS	ASSIGNMENT	OWNER NAME : CLEARCOVE SYSTEMS, INC., NEW YORK DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WRIGHT, TERRY; REEL/FRAME:036142/0126 EFFECTIVE DATE : 20150708
US2016096759 AA	20160407	LSPB	+	published / reissued	
US2016096759 AA	20141022	LSAS	AS	ASSIGNMENT	OWNER NAME : CLEARCOVE SYSTEMS,

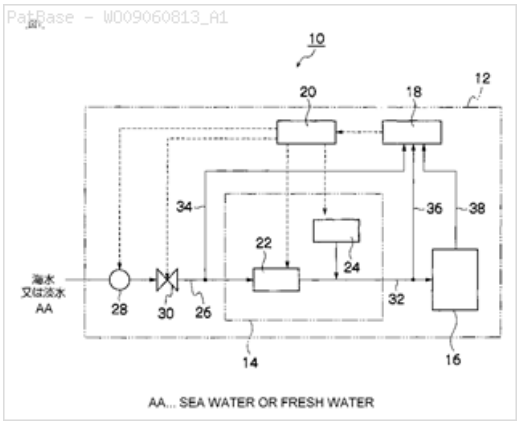
					INC., NEW YORK DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WRIGHT, TERRY; REEL/FRAME:034001/0923 EFFECTIVE DATE : 20141007
US2016096760 AA	20160407	LSPB	+	published / reissued	
US2016096760 AA	20141022	LSAS	AS	ASSIGNMENT	OWNER NAME : CLEARCOVE SYSTEMS, INC., NEW YORK DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WRIGHT, TERRY; REEL/FRAME:034003/0116 EFFECTIVE DATE : 20141007

94) Family number: 43231369 (WO09060813A1)

Title: BALLAST WATER TREATMENT SYSTEM

Abstract: According to a ballast water treatment system in one embodiment of the present invention, the quality of a ballast water is monitored, and the operating conditions of a water treatment apparatus are controlled based on the results of the monitoring. By virtue of the above constitution, even when the quality of the ballast water significantly varies depending upon water intake conditions, the ballast water can be treated to always have a constant quality. Further, since water treatment is carried out according to the quality of the ballast water, excess injection of a liquid chemical used in the water treatment and a lack in the amount of the liquid chemical injected can be prevented. For example, when a water treatment apparatus of a sterilization system is used, excess injection of a sterilizing agent and a lack in the amount of the sterilizing agent injected can be prevented, and thus, the application of a load by the sterilizing agent on a coating in the ballast tank and an environment can be prevented.

Classifications:
International (IPC 8-9): B01D21/00 B01D21/30 B01D35/00 B01D36/00 B03C1/00 B63B13/00 B63J4/00 C02F1/00 C02F1/32 C02F1/50 C02F1/52 C02F1/56 C02F1/72 C02F1/76 C02F1/78 (Advanced/Invention);
B01D21/30 B03C1/00 B63B13/00 C02F1/52 C02F103/00 (Advanced/Non-invention);
B01D21/00 B01D21/30 B03C1/00 B63B13/00 C02F1/52 (Core/Invention)
International (IPC 1-7): B03C1/00 C02F1/52
CPC: B63J4/004 C02F1/001 C02F1/008 C02F1/48 C02F1/50 C02F1/5236 C02F2103/008 B63J4/002 B01D35/00 B03C1/00 B63B13/00 C02F1/5209 C02F1/52 B01D21/30 C02F1/32 C02F1/722 C02F1/76 C02F1/78 C02F2209/11
European: B63J4/00S M02F1/00D M02F1/00T M02F1/48 M02F1/50 M02F1/52F M02F103/00S



Family:

Publication number	Publication date	Application number	Application date
CN101855178 A	20101006	CN200880115312	20081104
CN101855178 B	20130213	CN200880115312	20081104
CN102673768 A	20120919	CN201210107005	20081104
CN102673768 B	20150610	CN201210107005	20081104
IN01618KN2010 A	20100917	IN2010KN01618	20100506
IN274560 B	20160729	IN2010KN01618	20100506
JP2009112978 A2	20090528	JP20070290955	20071108
JP2013166544 A2	20130829	JP20130034745	20130225
JP2015051764 A2	20150319	JP20140208229	20141009
JP5238968 B2	20130717	JP20070290955	20071108
JP5701325 B2	20150415	JP20130034745	20130225
JP5945309 B2	20160705	JP20140208229	20141009
KR101707066 B1	20170215	KR20157018564	20081104
KR101712331 B1	20170303	KR20167001925	20081104
KR20100077012 A	20100706	KR20107010080	20081104
KR20150086559 A	20150728	KR20157018564	20081104
KR20160014115 A	20160205	KR20167001925	20081104
KR20170023221 A	20170302	KR20177005251	20081104
KR20170024151 A	20170306	KR20177005252	20081104
SG10201602094R A1	20160428	SG20161002094	20081104
SG185974 A1	20121228	SG20120082558	20081104
WO09060813 A1	20090514	WO2008JP70011	20081104

Priority:

CN200880115312 20081104 JP20070290955 20071108 WO2008JP70011 20081104
JP20130034745 20130225 JP20140208229 20141009 JP20130034745 20071108

Probable Assignee: HITACHI PLANT TECHNOLOGIES LTD

Assignee(s): (std): KOSAKO OSAO ; MORIMOTO SHINSUKE ; TAKEMURA KIYOKAZU ; SHINOMURA TOMOKO ; OKUDA KOICHI ; MOCHIZUKI AKIRA ; TERUI SHIGEKI ; MORITA MINORU ; HITACHI LTD ; HITACHI PLANT TECHNOLOGIES LTD ; MITSUBISHI HEAVY IND LTD

Assignee(s): HITACHI SEISAKUSHO KK ; MITSUBISHI HEAVY INDUSTRIES LTD

Inventor(s): (std): AKIRA MOCHIZUKI ; KIYOKAZU TAKEMURA ; KOICHI OKUDA ; MINORU MORITA ; OSAKO SHUJI ; OSAO KOSAKO ; SHIGEKI TERUI ; SHINSUKE MORIMOTO ; TOMOKO SHINOMURA ; TERUI SHIGEKI ; TAKEMURA KIYOKAZU ; SHINOMURA TOMOKO ; OKUDA KOICHI ; MORITA MINORU ; MORIMOTO SHINSUKE ; MOCHIZUKI AKIRA ; KOSAKO OSAO ; KOSAKA SHIYUUJI

Agent(s): DONALDSON AND BURKINSHAW LLP; DONALDSON AND BURKINSHAW; MATSUURA KENZO

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 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN101855178 A	20101006	LSPB	+	published / reissued	

CN101855178 A	20101006	LSPB	+C06	PUBLICATION	
CN101855178 A	20130213	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101855178 A	20140326	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	OWNER NAME : HITACHI,LTD. DESCRIPTION : FORMER OWNER: HITACHI PLANT TECHNOLOGIES LTD. EFFECTIVE DATE : 20140305
CN101855178 B	20130213	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102673768 A	20120919	LSPB	+	published / reissued	
CN102673768 A	20120919	LSPB	+C06	PUBLICATION	
CN102673768 A	20140226	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	OWNER NAME : HITACHI,LTD. DESCRIPTION : FORMER OWNER: HITACHI PLANT TECHNOLOGIES LTD. EFFECTIVE DATE : 20140126
CN102673768 A	20140226	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN102673768 A	20150610	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102673768 B	20150610	LSGT	+	granted / extensions (spc, cpc, pte)	
IN01618KN2010 A	20100917	LSPB	+	published / reissued	
IN274560 B	20160729	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2009112978 A2	20090528	LSPB	+	published / reissued	
JP2013166544 A2	20130829	LSPB	+	published / reissued	
JP2013166544 A2	20130529	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A712 EFFECTIVE DATE : 20130528
JP2013166544 A2	20140204	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140203
JP2013166544 A2	20140404	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140403
JP2013166544 A2	20140813	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140812
JP2013166544 A2	20141010	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20141009
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JP2013166544 A2	20150129	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20150128
JP2013166544 A2	20150226	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20150217

JP2015051764 A2	20150319	LSPB	+	published / reissued	
JP2015051764 A2	20150731	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150730
JP2015051764 A2	20150924	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150924
JP2015051764 A2	20151112	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20151111
JP2015051764 A2	20151221	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151221
JP2015051764 A2	20160502	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
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JP2015051764 A2	20160602	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20160527
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JP5238968 B2	20100303	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20100302
JP5238968 B2	20110804	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110803
JP5238968 B2	20110824	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110823
JP5238968 B2	20121108	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20121107
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JP5238968 B2	20130125	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP5238968 B2	20130130	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130129
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JP5238968 B2	20130309	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20130220
JP5238968 B2	20130412	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
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JP5238968 B2	20130624	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	TEXT : JAPANESE INTERMEDIATE CODE: R313115
JP5238968 B2	20130702	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	TEXT : JAPANESE INTERMEDIATE CODE: R350
JP5238968 B2	20160412	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5238968 B2	20170314	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
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JP5945309 B2	20160705	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101707066 B1	20170215	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101712331 B1	20170303	LSGT	+	granted / extensions (spc, cpc, pte)	
KR20100077012 A	20100706	LSPB	+	published / reissued	
KR20100077012 A	20131015	LSES	A201	REQUEST FOR EXAMINATION	
KR20100077012 A	20150513	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20100077012 A	20151125	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20100077012 A	20170201	LSWD	-WITB	WRITTEN WITHDRAWAL OF APPLICATION	
KR20150086559 A	20150728	LSPB	+	published / reissued	
KR20150086559 A	20150710	LSES	A201	REQUEST FOR EXAMINATION	
KR20150086559 A	20160425	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
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KR20160014115 A	20160205	LSPB	+	published / reissued	
KR20160014115 A	20160122	LSES	A201	REQUEST FOR EXAMINATION	
KR20160014115 A	20160307	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20160014115 A	20160929	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20160014115 A	20161219	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20160014115 A	20170224	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20170023221 A	20170302	LSPB	+	published / reissued	
KR20170023221 A	20170223	LSES	A201	REQUEST FOR EXAMINATION	
KR20170024151 A	20170306	LSPB	+	published / reissued	
KR20170024151 A	20170223	LSES	A201	REQUEST FOR EXAMINATION	

SG10201602094R A1	20160428	LSPB	+	published / reissued	
SG185974 A1	20121228	LSPB	+	published / reissued	
WO09060813 A1	20090514	LSPB	+	published / reissued	
WO09060813 A1	20100507	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20107010080 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A
WO09060813 A1	20100511	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09060813 A1	20101215	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08847516 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

95) Family number: 47634095 (US2010292844A)

Title: SELF-CONTAINED PORTABLE MULTI-MODE WATER TREATMENT SYSTEM AND METHODS

Abstract: Source: US2010292844A An automated water treatment system and methods for treating raw water to produce potable water are disclosed. The system is a self-contained portable water treatment system having several selectable treatment subsystems and a controller which automatically selects and controls the mode of operation from a transient, normal or backwashing mode, automatically controls the flow of water through a treatment path based upon the selected mode of operation and the measured water quality characteristics of the water at selected locations, automatically determines, based upon the selected mode of operation and the water quality parameter measurements, which of the plurality of the selectable subsystems is needed to produce potable water at the output; and automatically direct the flow of water through a treatment path through the system to bypass the water treatment subsystems and elements that are not needed to produce potable water. The system is configured to fit inside a standard-sized commercial shipping container for transport and during operation.

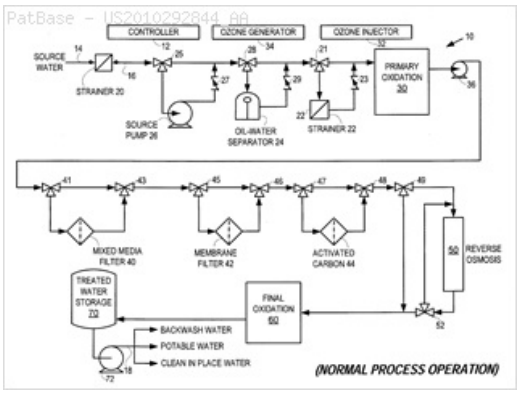
Classifications:

International (IPC 8-9): B01D21/30 B01D61/02 B01D61/14 B01D61/38 B01D61/58 B01D65/02 C02F1/28 C02F1/32 C02F1/44 C02F1/72 C02F1/78 C02F3/06 C02F3/10 C02F9/00 C02F9/02 C02F9/04 C02F9/06 C02F9/08 C02F9/12 G05B19/00 G05B21/00 (Advanced/Invention)

CPC: C02F1/001 C02F1/283 C02F1/32 C02F1/441 C02F1/444 C02F1/78 C02F9/00 C02F2201/008 C02F2209/005 C02F2209/03 C02F2209/04 C02F2209/05 C02F2209/06 C02F2209/10 C02F2209/11 C02F2209/20 C02F2209/40 C02F2209/42 C02F2301/043 C02F9/005 C02F1/42 C02F1/008 C02F1/52 C02F1/5209 C02F3/108 C02F2301/024 C02F2301/046 Y02W10/15

European: C02F9/00 M02F1/00D M02F1/28D M02F1/32 M02F1/44B M02F1/44D M02F1/78 M02F201/00M M02F209/00T M02F209/03 M02F209/04 M02F209/05 M02F209/06 M02F209/10 M02F209/11 M02F209/20 M02F209/40 M02F209/42 M02F301/04B

US: 210/143 210/241 210/259 210/638 210/741 210/746 210/748.1 210/748.11 210/748.19 210/806 700/271 700/271P



Family:

Publication number	Publication date	Application number	Application date
CA2760807 AA	20101118	CA20102760807	20100514
EP2467336 A1	20120627	EP20100719714	20100514
JP2012526657 T2	20121101	JP20120511062T	20100514
JP5726176 B2	20150527	JP20120511062T	20100514
MX2011011660 A1	20111118	MX20110011660	20100514
US2010292844 AA	20101118	US20100780837	20100514
US2013313191 AA	20131128	US20130838676	20130315
US8486275 BB	20130716	US20100780837	20100514
WO10132859 A1	20101118	WO2010US35036	20100514
WO14152176 A2	20140925	WO2014US27038	20140314
WO14152176 A3	20141224	WO2014US27038	20140314

Priority:

US20090216165P 20090514 US20100780837 20100514 WO2010US35036 20100514 US20130838676 20130315

Probable Assignee: OMNI WATER SOLUTIONS LLC

Assignee(s): (std): OMNI WATER SOLUTIONS INC ; OMNI WATER SOLUTIONS LLC ; WOLF WAYNE ALLAN

Assignee(s): COMERICA BANK

Inventor(s): (std): ROBERTS BILLY ; WOLF WAYNE ; WOLF WAYNE ALLAN

Inventor(s): WAYNE ALLAN WOLF

Agent(s): KIRBY EADES GALE BAKER; HANNA PETER WILLIAM DEREK; MATHESON KEYS GARSSON AND KORDZIK PLLC; ROBERT L; KEYS JERRY M; VILLHARD ROBERT L

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT JP KE KG KM KN KP KR KZ LA LC LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2760807 AA	20101118	LSPB	+	published / reissued	
CA2760807 AA	20150610	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20150428
EP2467336 A1	20120627	LSPB	+	published / reissued	
EP2467336 A1	20120627	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120320
EP2467336 A1	20141105	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20141007
JP2012526657 T2	20121101	LSPB	+	published / reissued	
JP2012526657 T2	20130417	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130416

JP2012526657 T2	20130417	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20130416
JP2012526657 T2	20140930	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140929
JP2012526657 T2	20150128	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150128
JP2012526657 T2	20150226	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012526657 T2	20150303	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20150302
JP2012526657 T2	20150409	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20150331
JP5726176 B2	20150527	LSGT	+	granted / extensions (spc, cpc, pte)	
MX2011011660 A1	20111118	LSPB	+	published / reissued	
MX2011011660 A1	20140103	LSGT	+FG	GRANT OR REGISTRATION	
US2010292844 AA	20101118	LSPB	+	published / reissued	
US2013313191 AA	20131128	LSPB	+	published / reissued	
US2013313191 AA	20130331	LSAS	AS	ASSIGNMENT	OWNER NAME : OMNI WATER SOLUTIONS, INC., TEXAS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WOLF, WAYNE; ROBERTS, BILLY; REEL/FRAME:030119/0879 EFFECTIVE DATE : 20130314
US2013313191 AA	20140211	LSAS	AS	ASSIGNMENT	OWNER NAME : COMERICA BANK, MICHIGAN DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:OMNI WATER SOLUTIONS, INC.; REEL/FRAME:032239/0680 EFFECTIVE DATE : 20121108
US8486275 BB	20130716	LSGT	+	granted / extensions (spc, cpc, pte)	
US8486275 BB	20100514	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : OMNI WATER SOLUTIONS LLC, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WOLF, WAYNE ALLAN; REEL/FRAME:024389/0737 EFFECTIVE DATE : 20100513
US8486275 BB	20121126	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : COMERICA BANK, MICHIGAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:OMNI WATER SOLUTIONS, INC.; REEL/FRAME:029349/0340 EFFECTIVE DATE : 20121108
WO10132859 A1	20101118	LSPB	+	published / reissued	
WO10132859 A1	20111102	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2760807 COUNTRY OF REF DOCUMENT : CA
WO10132859 A1	20111114	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2012511062 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A
WO10132859 A1	20111114	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO10132859 A1	20111114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012511062 COUNTRY OF REF DOCUMENT : JP

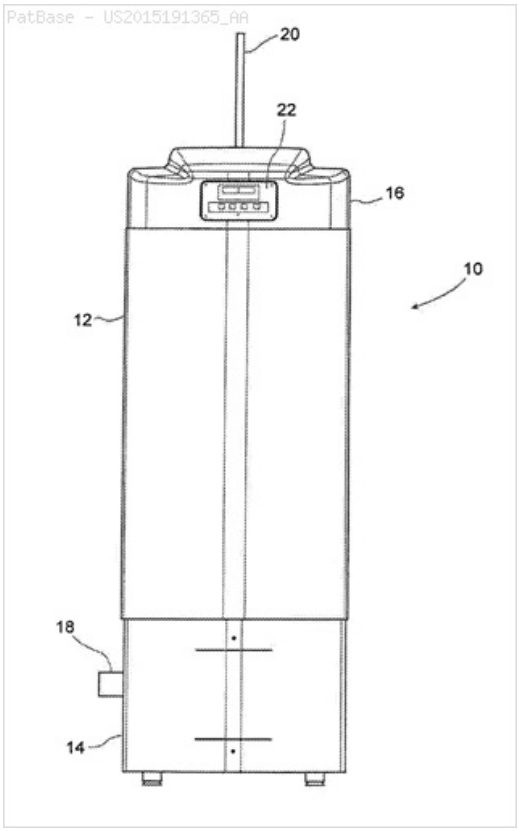
WO14152176 A2	20140925	LSPB	+	published / reissued	
WO14152176 A3	20160413	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14770329 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2

96) Family number: 55321071 (US2015191365A)

Title: SYSTEM AND METHOD OF GREYWATER RECOVERY AND REUSE

Abstract: Source: US2015191365A A greywater recovery and reuse system is shown, including a body for collecting, conditioning and discharging greywater. The body has an inlet connection to a source of greywater; a filter for filtering the greywater; a tank for receiving the filtered greywater; a disinfector for disinfecting the filtered greywater; a pump for discharging the conditioned greywater from said tank to a toilet that needs flushing water; a discharge connection to a sanitary sewer system; a fresh water connection and a control system for controlling the operation of the greywater recovery and reuse system. The system includes a controller for operating the system and dealing with certain alarm and status conditions. Methods of operating the system are also comprehended.

Classifications:
International (IPC 8-9): B01D21/24 B01D29/60 B01D29/90 B01D36/04 C02F1/00 C02F1/50 C02F1/76 C02F9/04 E03C1/12 (Advanced/Invention)
CPC: C02F1/68 C02F1/686 C02F2209/006 C02F2301/046 C02F2303/16 E03C2201/40 C02F1/008 B01D29/904 B01D29/603 B01D29/605 B01D29/606 B01D36/04 B01D21/245 C02F2001/007 C02F1/001 C02F1/76 C02F9/005 C02F2103/002 C02F2103/005 C02F2209/03 C02F2209/40 C02F2209/42 C02F2209/44 C02F2303/02 C02F2303/04 E03C1/12 E03C1/1222 E03C1/126
US: 210/104 210/106 210/138 210/142 210/202 210/206 210/741 210/87 210/93



Family:

Publication number	Publication date	Application number	Application date
AU2013271326 AA	20131212	AU20130271326	20130605
CA2779705 AA	20131206	CA20122779705	20120606
CN104395245 A	20150304	CN201380030232	20130605
EP2858953 A1	20150415	EP20130800469	20130605
EP2858953 A4	20151202	EP20130800469	20130605
IN10698DN2014 A	20150828	IN2014DN10698	20141215
MX2014015011 A1	20150305	MX20140015011	20130605
RU2014151764 A	20160727	RU20140151764	20130605
US2015191365 AA	20150709	US20130406033	20130605
WO13181747 A1	20131212	WO2013CA00551	20130605

Priority:

CA20122779705 20120606 WO2013CA00551 20130605

Probable Assignee: CANPLAS IND LTD

Assignee(s): (std): CANPLAS IND LTD

Assignee(s): GAY STACEY CHARLEEN ; MANTYLA JAMES BRIAN ; POUPORE TIMOTHY JAMES HENDRIE ; ROBB CARL L ; VAN KAMPEN LEO PETER ; WILSON MICHEAL F ; RECOVER WATER TECH INC ; BALDWIN N SCOTT

Inventor(s): (std): BALDWIN N SCOTT ; BALDWIN SCOTT N ; GAY STACEY CHARLEEN ; KAMPEN LEO PETER VAN ; MANTYLA JAMES BRIAN ; POUPORE TIMOTHY JAMES HENDRIE ; ROBB CARL L ; VAN KAMPEN LEO ; VAN KAMPEN LEO PETER ; WILSON MICHAEL F ; WILSON MICHEAL F

Inventor(s): SCOTT N BALDWIN ; STACEY CHARLEEN GAY ; TIMOTHY JAMES HENDRIE POUPORE ; MICHAEL F WILSON ; LEO PETER VAN KAMPEN ; JAMES BRIAN MANTYLA ; CARL L ROBB

Agent(s): BALDWINS INTELLECTUAL PROPERTY; PIASETZKI NENNIGER KVAS LLP; BEATTIE ALEX THOMAS STEWART; NENNIGER JAMES T

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 LI 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 PA PE PG PH PL PT QA RO RS RU RW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2013271326 AA	20131212	LSPB	+	published / reissued	
AU2013271326 AA	20160526	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	OWNER NAME : RECOVER WATER TECH INC. DESCRIPTION : FORMER APPLICANT(S): CANPLAS INDUSTRIES LTD.
CA2779705 AA	20131206	LSPB	+	published / reissued	
CN104395245 A	20150304	LSPB	+	published / reissued	
CN104395245 A	20150304	LSPB	+C06	PUBLICATION	
CN104395245 A	20160615	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
EP2858953 A1	20150415	LSPB	+	published / reissued	
EP2858953 A1	20150415	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20141218
EP2858953 A1	20150624	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : BALDWIN, N. SCOTT
EP2858953 A1	20150624	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : VAN KAMPEN, LEO PETER
EP2858953 A1	20150624	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : POUPORE, TIMOTHY JAMES HENDRIE
EP2858953 A1	20150624	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : ROBB, CARL L.
EP2858953 A1	20150624	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : WILSON, MICHAEL F.
EP2858953 A1	20150624	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : GAY, STACEY CHARLEEN
EP2858953 A1	20150624	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : MANTYLA, JAMES BRIAN
EP2858953 A1	20151202	LSES	+RA4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20151029
EP2858953 A1	20151202	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 9/04 20060101AFI20151023BHEP
EP2858953 A1	20151202	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/50 20060101ALI20151023BHEP
EP2858953 A1	20151202	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/00 20060101ALI20151023BHEP
EP2858953 A1	20151202	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : E03C 1/12 20060101ALI20151023BHEP
EP2858953 A1	20160803	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : RECOVER WATER TECH INC.
EP2858953 A1	20161012	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20160909
IN10698DN2014 A	20150828	LSPB	+	published / reissued	
MX2014015011 A1	20150305	LSPB	+	published / reissued	
RU2014151764 A	20160727	LSPB	+	published / reissued	
US2015191365 AA	20150709	LSPB	+	published / reissued	
US2015191365 AA	20141205	LSAS	AS	ASSIGNMENT	OWNER NAME : CANPLAS INDUSTRIES LTD., CANADA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:WILSON, MICHAEL F.;

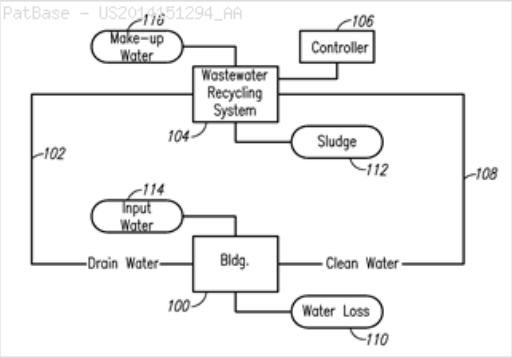
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US2015191365 AA	20141205	LSAS	AS	ASSIGNMENT	OWNER NAME : CANPLAS INDUSTRIES LTD., CANADA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GAY, STACEY CHARLEEN; POUPORE, TIMOTHY JAMES HENDRIE; OVE INDUSTRIAL DESIGN LTD.; REEL/FRAME:034394/0619 EFFECTIVE DATE : 20120613
US2015191365 AA	20141205	LSAS	AS	ASSIGNMENT	OWNER NAME : CANPLAS INDUSTRIES LTD., CANADA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROBB, CARL L.; BALDWIN, N. SCOTT; MANTYLA, JAMES BRIAN; SIGNING DATES FROM 20120731 TO 20120813; REEL/FRAME:034393/0707
US2015191365 AA	20141205	LSAS	AS	ASSIGNMENT	OWNER NAME : CANPLAS INDUSTRIES LTD., CANADA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:VAN KAMPEN, LEO; WATERLOO CONTROLS INC.; REEL/FRAME:034394/0782 EFFECTIVE DATE : 20120808
WO13181747 A1	20131212	LSPB	+	published / reissued	
WO13181747 A1	20141205	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14406033 COUNTRY OF REF DOCUMENT : US
WO13181747 A1	20141208	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13181747 A1	20141230	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : A201413846 COUNTRY OF REF DOCUMENT : UA
WO13181747 A1	20150112	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014151764 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A
WO13181747 A1	20150122	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2013271326 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20130605 KIND CODE OF REF DOCUMENT : A

97) Family number: 56591749 (US2014151294A)

Title: METHOD AND APPARATUS FOR RESIDENTIAL WATER RECYCLING

Abstract: Source: US2014151294A A wastewater recycling system includes a biological reactor having anaerobic, anoxic, and aerobic chambers. A lift station including a pump is operatively connected to the biological reactor. The lift station receives biologically treated liquid from the biological reactor and pumps the liquid from the lift station. A filtration subsystem is operatively connected to the lift station. The filtration subsystem receives and filters the liquid pumped by the lift station. The filtration subsystem includes a salt-rejecting membrane filter comprising a concentrate recirculation conduit operatively connected to recirculate salt-rejecting membrane filter concentrate to a point along the wastewater recycling system upstream of the salt-rejecting membrane filter, thereby forming a salt concentration loop between said point along the wastewater recycling system and the salt-rejecting membrane filter. A post-filtration subsystem is operatively connected to receive salt-rejecting membrane filter permeate, and comprises a water disinfection system that disinfects the permeate thereby generating potable water.

Classifications:
International (IPC 8-9): B01D61/04 B01D61/14 B01D65/06 C02F1/44 C02F103/04 C02F3/02 C02F3/12 C02F3/30 C02F9/14 (Advanced/Invention);
C02F1/00 C02F1/02 C02F1/28 C02F1/32 C02F1/46 C02F1/469 C02F1/76 C02F1/78 C02F103/00 C02F103/04 C02F3/22 C02F9/00 (Advanced/Non-invention)
CPC: C02F1/008 C02F1/02 C02F1/28 C02F1/283 C02F1/32 C02F1/442 C02F1/46 C02F1/4695 C02F1/76 C02F1/78 C02F3/1242 C02F3/223 C02F3/302 C02F2103/002 C02F2103/005 C02F2209/008 C02F2209/03 C02F2209/11 C02F2209/29 C02F2209/40 C02F2209/42 C02F2303/16 C02F9/00 Y02W10/15 C02F1/441
US: 210/151 210/605



Family:

Publication number	Publication date	Application number	Application date
EP2925680 A1	20151007	EP20130858065	20131127
EP2925680 A4	20160525	EP20130858065	20131127
US2014151294 AA	20140605	US20120690320	20121130
WO14085553 A1	20140605	WO2013US72183	20131127

Priority:
US20120690320 20121130 WO2013US72183 20131127

Probable Assignee: TANGENT CO LLC

Assignee(s): (std): TANGENT CO LLC

Inventor(s): (std): ARNOLD ADAM ; BOLTON JAMES E ; ELLIOT KEVIN J ; ELLIOTT KEVIN J ; GRAFF GLENN ; KIRMAN LYLE E ; PRIOR WILLIAM C ; RATH DAVID F

Agent(s): ANGLESEA CHRISTINE RUTH; SPENCER BRAD C ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 IR IS IT JP KE KG KM KN KP KR KZ LA LC LI 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 PA PE PG PH PL PT QA RO RS RU RW SA 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP2925680 A1	20151007	LSPB	+	published / reissued	
EP2925680 A1	20151007	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150626
EP2925680 A1	20160525	LSES	+RA4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20160425
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : B01D 61/14 20060101ALI20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/76 20060101ALN20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/02 20060101ALN20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : B01D 65/06 20060101ALI20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 103/00 20060101ALN20160419BHEP
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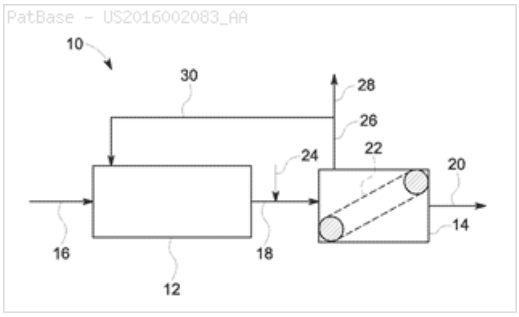
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EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/00 20060101ALN20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : B01D 61/04 20060101ALI20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/46 20060101ALN20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 9/00 20060101ALN20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/78 20060101ALN20160419BHEP
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EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 3/22 20060101ALN20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/28 20060101ALN20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 3/12 20060101ALI20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 3/02 20060101ALI20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 103/04 20060101ALI20160419BHEP
EP2925680 A1	20160525	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : C02F 1/32 20060101ALN20160419BHEP
US2014151294 AA	20140605	LSPB	+	published / reissued	
US2014151294 AA	20121130	LSAS	AS	ASSIGNMENT	OWNER NAME : TANGENT COMPANY LLC, OHIO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PRIOR, WILLIAM C.; BOLTON, JAMES E.; KIRMAN, LYLE E.; AND OTHERS; SIGNING DATES FROM 20121126 TO 20121128; REEL/FRAME:029382/0701
WO14085553 A1	20140605	LSPB	+	published / reissued	
WO14085553 A1	20150601	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

98) Family number: 57268108 (US2016002083A)

Title: MICRO-SIEVE SEPARATION AND COD DIVERSION IN WASTEWATER TREATMENT

Abstract: Source: US2016002083A A wastewater treatment device is described in this specification having an aeration tank upstream of a micro-sieve. A process for treating wastewater comprises a step of treating wastewater by way of aeration with a hydraulic retention time of 6 hours or less, a solids retention time of 6 days or less, or both, to produce a first effluent. The first effluent is treated by way of a micro-sieve to produce a second effluent and a sludge. A portion of the sludge may be recycled to the aeration tank step. A portion of the sludge may be further treated in an anaerobic digester. The second effluent may be further treated, for example by way of one or more additional digestion steps or a further solid liquid separation step or both.

Classifications:
International (IPC 8-9): B01D33/044 B01D33/06 B01D33/15 B01D33/76 C02F1/00 C02F1/44 C02F1/52 C02F1/56 C02F3/02 C02F3/12 C02F3/30 C02F9/00 (Advanced/Invention); C02F1/52 C02F1/56 (Advanced/Non-invention)
CPC: C02F1/5245 C02F1/56 C02F3/12 C02F2209/08 C02F2209/10 C02F2209/44 C02F9/00 C02F3/02 B01D33/044 B01D33/15 B01D33/06 B01D33/76 C02F3/30 C02F1/52 C02F1/44 C02F1/004 C02F1/444 Y02W10/15
US: 210/202 210/259 210/620 210/621 210/630



Family:

Publication number	Publication date	Application number	Application date
AU2013378839 AA	20140828	AU20130378839	20130222
CA2901828 AA	20150819	CA20132901828	20130222
CN105073648 A	20151118	CN201380073639	20130222
EP2958859 A1	20151230	EP20130708040	20130222
KR20150124970 A	20151106	KR20157026206	20130222
US2016002083 AA	20160107	US20130769367	20130222
WO14130041 A1	20140828	WO2013US27403	20130222

Priority:
US20130769367 20130222 WO2013US27403 20130222

Probable Assignee: GENERAL ELECTRIC CO
Assignee(s): (std): GEN ELECTRIC
Assignee(s): GENERAL ELECTRIC CO ; COTE PIERRE LUCIEN
Inventor(s): (std): COTE PIERRE LUCIEN
Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; BORDEN LADNER GERVAIS LLP; LEE BRENDA; PUNDSACK SCOTT R
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN 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 LI 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 PA PE PG PH PL PT QA RO RS RU RW 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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2013378839 AA	20140828	LSPB	+	published / reissued	
AU2013378839 AA	20161208	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
CA2901828 AA	20150819	LSPB	+	published / reissued	
CN105073648 A	20151118	LSPB	+	published / reissued	
CN105073648 A	20151118	LSPB	+C06	PUBLICATION	
EP2958859 A1	20151230	LSPB	+	published / reissued	
EP2958859 A1	20151230	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150922
EP2958859 A1	20170208	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20160901
KR20150124970 A	20151106	LSPB	+	published / reissued	
US2016002083 AA	20160107	LSPB	+	published / reissued	
US2016002083 AA	20150820	LSAS	AS	ASSIGNMENT	OWNER NAME : GENERAL ELECTRIC COMPANY, NEW YORK DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:COTE, PIERRE LUCIEN; REEL/FRAME:036386/0879 EFFECTIVE DATE : 20130320

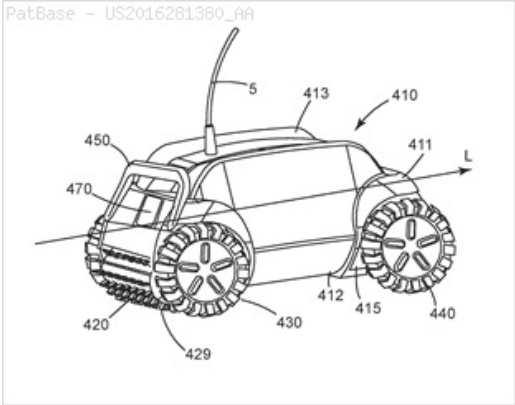
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WO14130041 A1	20150922	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20157026206 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A

99) Family number: 63665248 (US2016281380A)

Title: METHOD AND APPARATUS FOR COMMUNICATING OVER A TWO-WIRE POWER CABLE BETWEEN AN EXTERNAL POWER SUPPLY AND A SELF-PROPELLED ROBOTIC SWIMMING POOL CLEANER

Abstract: Source: US2016281380A A robotic pool cleaner includes a housing with an interior chamber. A filter within the interior chamber filters water drawn through a water inlet provided in a bottom portion of the housing. Filtered water is discharged through a discharge port provided in a upper portion of the housing. Rotatably-mounted supports attached to the housing support and guide the cleaner on the pool surface. An electric motor mounted in the chamber is configured to move the cleaner on a pool surface. A pool cleaner controller electrically connected to the electric motor controls movement of the cleaner and receives communication signals transmitted by a remote power supply over a two-wire electric cable having first and second conductors. The pool cleaner controller is configured to provide uninterrupted electric power to the electric motor while the pool cleaner controller also receives pulsed communication signal from the remote power supply over the two-wire cable.

Classifications:
International (IPC 8-9): B25J11/00 C02F1/00 E04H4/16 G05D1/00 G05D1/02 H02P7/292 (Advanced/Invention)
CPC: E04H4/1654 C02F1/001 C02F1/008 C02F2103/42 C02F2201/006 C02F2201/008 C02F2209/006 C02F2209/008 C02F2209/44 H02P7/28
US: 134/6



Family:

Publication number	Publication date	Application number	Application date
US2016281380 AA	20160929	US20160079401	20160324

Priority:
US20150138771P 20150326 US20160079401 20160324

Probable Assignee: AQUA PRODUCTS INC
Assignee(s): (std)**:** AQUA PRODUCTS INC
Inventor(s): (std)**:** DURVASULA KAMESHWAR ; SPHILMAN MARK

Legal status (INPADOC)

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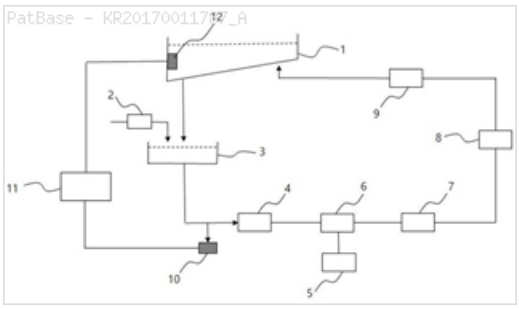
Patent	Date recorded	Event group	Code	Event	Details
US2016281380 AA	20160929	LSPB	+	published / reissued	
US2016281380 AA	20160607	LSAS	AS	ASSIGNMENT	OWNER NAME : AQUA PRODUCTS, INC., NEW JERSEY DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DURVASULA, KAMESHWAR; SPHILMAN, MARK; REEL/FRAME:038905/0213 EFFECTIVE DATE : 20160330

100) Family number: 64817743 (KR20170011787A)

Title: MANAGEMENT SYSTEM AND METHOD FOR A SWIMMING POOL

Abstract: Source: KR20170011787A This invention is related to how the pool management system and management, swimming pool water is used in water supply neomcigeona from the tank drained the pool above; the water and above water supply inlet of water supplied by the balancing tank is fed into the pool above the water; the heat to the heat exchanger is supplied into the above pool water; to inject a chemical disinfectant machine; water residual chlorine concentration, pH and turbidity to measure water quality for measuring the temperature of water in the tank above the pool sensor; for measuring temperature sensor measures water quality sensors, and temperature measurement above; the sensor from sensing data contrast with the standard passing and Above, if the data that is out of the standard above the sensing of the aforementioned watering devices, heat exchangers and medications at the same time at least one of the riders put on water quality and the water temperature to be maintained within the scope of the standard controls, including controls;.

Classifications:
International (IPC 8-9): C02F1/00 C02F1/02 C02F1/50 C02F1/52 C02F1/78 G06Q50/10 (Advanced/Invention); C02F103/42 (Advanced/Non-invention)
CPC: C02F1/008 C02F1/02 C02F1/50 C02F1/52 C02F1/78 G06Q50/10 C02F2103/42 C02F2209/008 C02F2209/02 C02F2209/06 C02F2209/11



Family:

Publication number	Publication date	Application number	Application date
KR20170011787 A	20170202	KR20150105053	20150724

Priority:
KR20150105053 20150724

Probable Assignee: BAKCHANGHUN
Assignee(s): BAKCHANGHUN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
KR20170011787 A	20170202	LSPB	+	published / reissued	
KR20170011787 A	20150724	LSES	A201	REQUEST FOR EXAMINATION	