

Search history

Search 1: FT=(DOME~ AND STORMWATER~ AND CHAMBER~) (Results 41)

Title: ANTI-ROTATION STOP FOR **CHAMBER**

Abstract: A thermoplastic **chamber** for leaching wastewater or other use, which is designed so that when jointed to a like **chamber** the horizontal plane angle between the **chambers** can be adjusted, has one or more stops which can be selectively used to prevent rotation, for instance, to make the joined-together **chambers** lie along a straight line. Preferably, the stop is integral part of the **chamber** base flange; and it hinges and bends upwardly when moved to its working position, so the stop engages and limits movement of the end of the mating **chamber**.

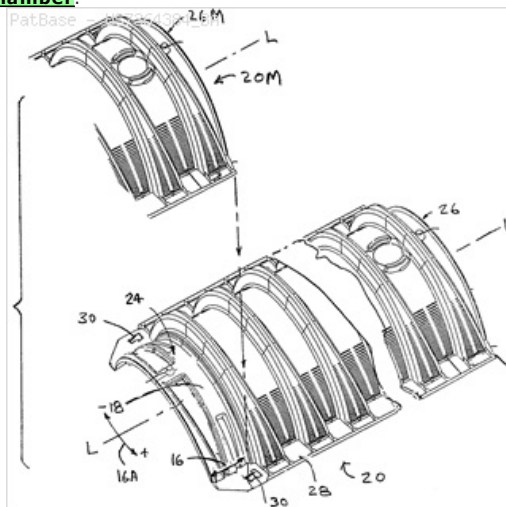
Classifications:

International (IPC 8-9): E02B11/00 E02B13/00 (Advanced/Invention)

CPC: E03F1/003

European: E03F1/00B2

US: 405/43 405/44 405/45 405/46 405/49



Family:

Publication number	Publication date	Application number	Application date
US7364384 BA	20080429	US20050190456	20050727

Priority:

US20050190456 20050727

Probable Assignee: INFILTRATOR WATER TECHNOLOGIES LLC

Assignee(s): (std): INFILTRATOR SYSTEMS INC

Assignee(s): MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH ; INFILTRATOR SYSTEMS INC WAS KNOWN AS WATER SYSTEMS ACQUISITION CORP.. ; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC ADMINISTRATIVE AGENT AS ; INFILTRATOR WATER TECHNOLOGIES LLC ; ISI POLYETHYLENE SOLUTIONS LLC ; AMERICAN CAPITAL FINANCIAL SERVICES INC ; BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS ; DEUTSCHE BANK NEW YORK BRANCH AG ; EZFLOW LP ; EZFLOW LP WAS KNOWN AS RING INDUSTRIAL GROUP LP..

Inventor(s): (std): SWISTAK DANIEL J

Agent(s): NESSLER C; MCHUGH S; C; S

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US7364384 BA	20080429	LSGT	+	granted / extensions (spc, cpc, pte)	
US7364384 BA	20050822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SWISTAK, DANIEL J.; REEL/FRAME:016909/0364 EFFECTIVE DATE : 20050801
US7364384 BA	20051005	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:016621/0275 EFFECTIVE DATE : 20050929
US7364384 BA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US7364384 BA	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT;

					ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US7364384 BA	20080409	LSGT	PAT1	Patented Case	
US7364384 BA	20080409	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7364384 BA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7364384 BA	20120426	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7364384 BA	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7364384 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7364384 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
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US7364384 BA	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7364384 BA	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7364384 BA	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7364384 BA	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR

					SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US7364384 BA	20160429	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7364384 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7364384 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7364384 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7364384 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7364384 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7364384 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7364384 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7364384 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7364384 BA	20191216	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7364384 BA	20200310	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : 11.5 YR SURCHARGE- LATE PMT W/IN 6 MO, LARGE ENTITY (ORIGINAL EVENT CODE: M1556); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7364384 BA	20200310	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7364384 BA	20250812	PEXP		Calculated Patent Term Expiry (PTA)	

Title: Combination shaft for drainage of water has drainage channel at bottom for dirty water and has lateral rainwater channel with baffle to regulate flow

Abstract: A horizontal rainwater channel (2) flows in a curve round the edge of a vertical shaft (1). There is a lip (4) at the bottom of a doorway (11) in the wall of the curved passage. There is a sloping roof (9) over the passage. The central axis of the rainwater channel (19) is curved away from the center of the shaft. Water may fall down the shaft to a drainage channel at the bottom.

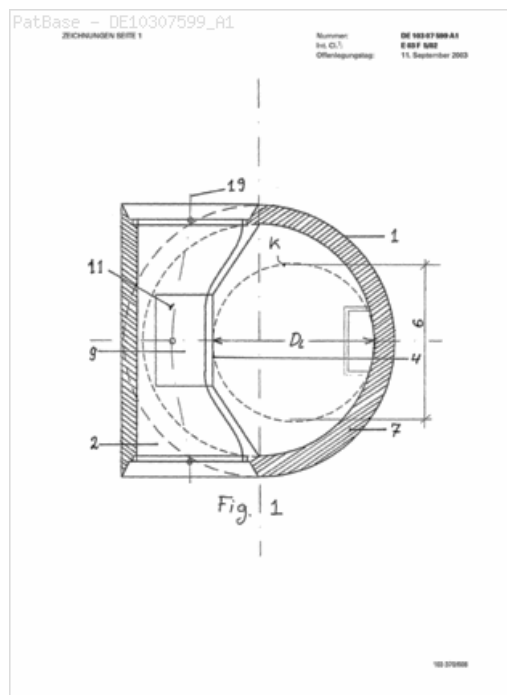
Classifications:

International (IPC 8-9): E03F5/02 (Advanced/Invention)

International (IPC 1-7): E03F5/02

CPC: E03F5/02 E03F5/022

European: E03F5/02 E03F5/02C



Family:

Publication number	Publication date	Application number	Application date
DE10307599 A1	20030911	DE20031007599	20030222
DE10307599 B4	20141211	DE20031007599	20030222

Priority:

DE20022003149U 20020228 DE20022003795U 20020308 DE20031007599 20030222

Probable Assignee: BIOPLAN INGENIEURGESELLSCHAFT

Assignee(s): (std): BIOPLAN INGENIEURGESELLSCHAFT ; BIOPLAN INGENIEURGESELLSCHAFT F PLANEN U BAUEN IN DER WASSER U ABFALLWIRTSCHAFT MBH

Assignee(s): BIOPLAN INGENIEURGESELLSCHAFT FUER PLANEN UND BAUE ; BIOPLAN INGENIEURGESELLSCHAFT FUER PLANEN UND BAUEN IN DER WASSER UND ABFALLWIRTSCHAFT MBH

Inventor(s): (std): ZECH HERBERT DIPL ING ; ZECH HERBERT

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE10307599 A1	20030911	LSPB	+	published / reissued	
DE10307599 A1	20080515	LSSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE10307599 A1	20111214	LSSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE10307599 A1	20140819	LSGT	+R018	GRANT DECISION BY EXAMINATION SECTION/EXAMINING DIVISION	
DE10307599 A1	20150912	LSGT	+R020	PATENT GRANT NOW FINAL	
DE10307599 A1	20170901	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
DE10307599 B4	20141211	LSGT	+	granted / extensions (spc, cpc, pte)	
DE10307599 B4	20230222	PEXP		Calculated Patent Term Expiry	

Title: LEACHING **CHAMBERS** JOINED TOGETHER WITH SWIVEL CONNECTIONS

Abstract: Arch shape cross-section leaching and **stormwater chambers** are connected together so that swiveled angling is obtained at the joint. Angling is accomplished by means of an integral or detachable **dome** end comprising a conical section. A like **chamber** with an ordinary end mates by overlapping the **dome**. Or a like **chamber** may have an opposing and overlapping end, which also comprises a **dome**. A coupling for connecting two ordinary end **chambers** is comprised of two spaced apart conical **domes** spaced apart by a connector. The connector between the **domes** is optionally straight or angled. The couplings enable **chambers** to be connected at diverse angles to each other, as well as to be connected parallel with offset, i.e., with zigzag path.

Classifications:

International (IPC 8-9): E02B11/00 E03F1/00 (Advanced/Invention); E02B11/00 (Core/Invention)

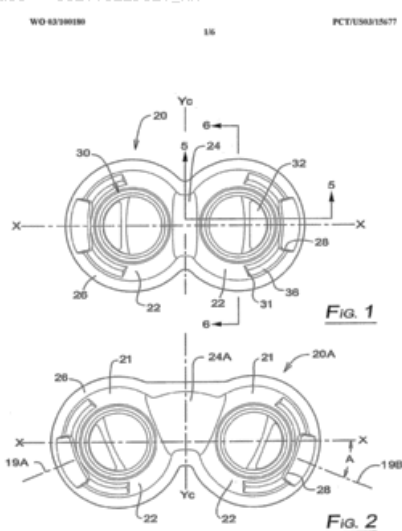
International (IPC 1-7): B65F5/00 E02B11/00 E02B13/00 E03F

CPC: E03F1/003 E02B11/005

European: E02B11/00B E03F1/00B2

US: 405/129.85 405/129.850S 405/39 405/39P 405/46 405/47 405/47S 405/48 405/48P 405/49

PatBase - US2003219310_AA



Family:

Publication number	Publication date	Application number	Application date
US2003219310 AA	20031127	US20030442810	20030520
US2008124177 AA	20080529	US20080012396	20080131
US7351006 BB	20080401	US20030442810	20030520
US7374365 BA	20080520	US20040018148	20041220
US7419332 BA	20080902	US20040018148	20041220
US7611306 BA	20091103	US20040018201	20041220
US8337119 BB	20121225	US20080012396	20080131
WO03100180 A2	20031204	WO2003US15677	20030520
WO03100180 A3	20041125	WO2003US15677	20030520

Priority:

US20020382144P 20020520 US20030442810 20030520 US20040018148 20041220
US20040018201 20041220 US20080012396 20080131

Probable Assignee: INFILTRATOR WATER TECHNOLOGIES LLC

Assignee(s): (std): BROCHU RONALD ; BROCHU RONALD P ; BURNES JAMES J ; COPPES BRYAN A ; CRESCENZI DONALD ; INFILTRATOR SYSTEMS INC ; INFILTRATOR SYSTEMS ; AMBROSINO MICHAEL J

Assignee(s): AMERICAN CAPITAL FINANCIAL SERVICES INC ; BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS ; GE BUSINESS FINANCIAL SERVICES INC ; GE BUSINESS FINANCIAL SERVICES INC WAS MERRILL LYN ; GENERAL ELECTRIC CAPITAL CORP ; INFILTRATOR SYSTEMS INC WAS KNOWN AS WATER SYSTEMS ACQUISITION CORP.. ; EZFLOW LP ; GE BUSINESS FINANCIAL SERVICES INC WAS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC AS ADMINISTRATIVE AGENT.. ; EZFLOW LP WAS KNOWN AS RING INDUSTRIAL GROUP LP.. ; DEUTSCHE BANK NEW YORK BRANCH AG ; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH ; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC ADMINISTRATIVE AGENT AS ; ISI POLYETHYLENE SOLUTIONS LLC ; INFILTRATOR WATER TECHNOLOGIES LLC

Inventor(s): (std): AMBROSINO MICHAEL J ; BROCHU RONALD ; BURNES JAMES J ; COPPES BRYAN A ; BURNES JAMES ; BROCHU RONALD P ; CRESCENZI DONALD ; HALLAHAN DENNIS F

Agent(s): LAW OFFICES OF STEVEN MCHUGH LLC ; NESSLER C ; MCHUGH S ; C ; S ; NESSLER C G ; C G ; STEVEN ; CHARLES ; STEVEN M

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

Legal status (INPADOC)

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Patent Date recorded Event group Code Event Details

US2003219310 AA	20031127	LSPB	+	published / reissued
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US2003219310 AA	20051005	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:016621/0275 EFFECTIVE DATE : 20050929
US2003219310 AA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US2003219310 AA	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US2003219310 AA	20080312	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2008124177 AA	20080529	LSPB	+	published / reissued	
US2008124177 AA	20111011	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION, ILLINOIS OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:027046/0088 EFFECTIVE DATE : 20111011
US2008124177 AA	20121205	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7351006 BB	20080401	LSGT	+	granted / extensions (spc, cpc, pte)	
US7351006 BB	20030714	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BURNS, JAMES; BROCHU, RONALD; COPPER, BRYAN A.; AND OTHERS; REEL/FRAME:014267/0888; SIGNING DATES FROM 20030520 TO 20030706
US7351006 BB	20080312	LSGT	PAT1	Patented Case	
US7351006 BB	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7351006 BB	20120327	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7351006 BB	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7351006 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE

					BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
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US7351006 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7351006 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7351006 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7351006 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7351006 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US7351006 BB	20150924	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7351006 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
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					REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
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US7351006 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
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US7351006 BB	20191118	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7351006 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7351006 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7351006 BB	20200310	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : 11.5 YR SURCHARGE- LATE PMT W/IN 6 MO, LARGE ENTITY (ORIGINAL EVENT CODE: M1556); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7351006 BB	20200310	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7351006 BB	20230520	PEXP		Calculated Patent Term Expiry	
US7374365 BA	20080520	LSGT	+	granted / extensions (spc, cpc, pte)	
US7374365 BA	20241220	PEXP		Calculated Patent Term Expiry	

US7419332 BA	20080902	LSGT	+	granted / extensions (spc, cpc, pte)	
US7419332 BA	20060215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROCHU, RONALD P.; BURNES, JAMES J.; REEL/FRAME:017617/0524; SIGNING DATES FROM 20050221 TO 20050222
US7419332 BA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018454/0896 EFFECTIVE DATE : 20061031
US7419332 BA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US7419332 BA	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US7419332 BA	20080813	LSGT	PAT1	Patented Case	
US7419332 BA	20080813	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7419332 BA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7419332 BA	20120830	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7419332 BA	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7419332 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7419332 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837

					EFFECTIVE DATE : 20150528
US7419332 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7419332 BA	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7419332 BA	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7419332 BA	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US7419332 BA	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7419332 BA	20160926	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20160930
US7419332 BA	20160930	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7419332 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7419332 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7419332 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217

US7419332 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7419332 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7419332 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7419332 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7419332 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7419332 BA	20200420	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7419332 BA	20241220	PEXP		Calculated Patent Term Expiry	
US7611306 BA	20091103	LSGT	+	granted / extensions (spc, cpc, pte)	
US7611306 BA	20081029	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY MERR OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021754/0187 EFFECTIVE DATE : 20081029
US7611306 BA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7611306 BA	20110928	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR

					SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HALLAHAN, DENNIS F.; BROCHU, RONALD P.; BURNES, JAMES J.; SIGNING DATES FROM 20050506 TO 20050511; REEL/FRAME:026979/0590
US7611306 BA	20131103	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7611306 BA	20131202	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7611306 BA	20131202	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7611306 BA	20131224	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20131103
US7611306 BA	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7611306 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7611306 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7611306 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7611306 BA	20241220	PEXP		Calculated Patent Term Expiry	
US8337119 BB	20121225	LSGT	+	granted / extensions (spc, cpc, pte)	
US8337119 BB	20121205	LSGT	PAT1	Patented Case	
US8337119 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8337119 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC

					CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8337119 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8337119 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US8337119 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US8337119 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US8337119 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US8337119 BB	20161031	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8337119 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8337119 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8337119 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8337119 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF

					036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8337119 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8337119 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8337119 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US8337119 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US8337119 BB	20290109	PEXP		Calculated Patent Term Expiry (PTA 344 days)	
WO03100180 A2	20031204	LSPB	+	published / reissued	
WO03100180 A3	20050713	LSNE	-122	EP: PCT APPLICATION NON- ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO

Title: Fire service emergency water drain filter insert has water holding **chamber** above filter insert minimising escape of impurities

Abstract: A transportable fire service water filter is inserted as a hanging enclosed cylindrical unit into a drain, pipe or culvert inlet, capturing substances which escape with the water used to extinguish fires. The filter cylindrical wall forms a water (9) temporary holding **chamber** between the inlet and the filter medium (10). The water filter is supported by the drain surround and rests on a collar (3) around a water inlet (16) to a cylinder with watertight walls holding a filter medium (10). The length of the water holding **chamber** is longer than the length of cylinder holding the filter medium. The filter water inlet is protected by a **domed** grid (11).

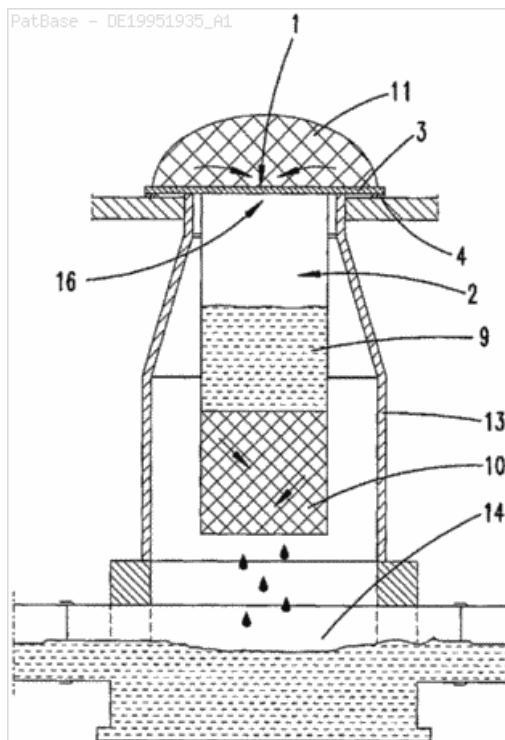
Classifications:

International (IPC 8-9): B01D17/02 E03F1/00 (Advanced/Invention)

International (IPC 1-7): C02F1/00

CPC: B01D17/0202 C02F2103/001 E03F1/00 E03F5/0404

European: B01D17/02B E03F1/00 E03F5/04C4 M02F103/00B



Family:

Publication number	Publication date	Application number	Application date
DE19951935 A1	20010510	DE19991051935	19991028

Priority:

DE19991051935 19991028

Probable Assignee:

BOLLE FRIEDRICH WILHELM

Assignee(s): (std):

BOLLE FRIEDRICH WILHELM

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE19951935 A1	20010510	LSPB	+	published / reissued	
DE19951935 A1	20010510	LSSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE19951935 A1	20050818	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	

Title: **STORMWATER** CONTAINMENT ASSEMBLY AND ASSOCIATED END SECTION

Abstract: An end section or cap for a **stormwater** containment assembly includes a substantially half-**dome**-shaped body member and a connector disposed on the body member along a periphery or perimeter thereof, for coupling the body member to a **stormwater chamber** wall. The body member has a smooth convex outer surface with an absence of reinforcement ribs and also has a smooth concave inner surface with an absence of reinforcement ribs.

Classifications:

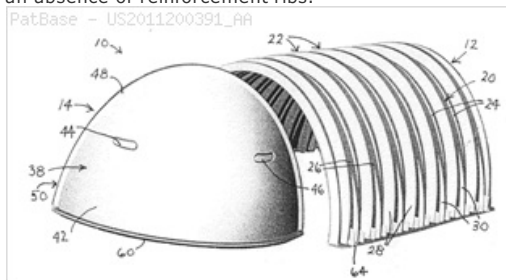
International (IPC 8-9): E02B11/00 E02B13/02 E03B3/02

E03F1/00 (Advanced/Invention)

CPC: E03F1/003

European: E03F1/00B2

US: 405/42 405/42P



Family:

Publication number	Publication date	Application number	Application date
CA2695311 AA	20110816	CA20102695311	20100303
US2011200391 AA	20110818	US20100658896	20100216

Priority:

US20100658896 20100216 CA20102695311 20100303

Probable Assignee: ADVANCED DRAINAGE SYSTEMS INC

Assignee(s): (std): ADVANCED DRAINAGE SYST

Assignee(s): ADVANCED DRAINAGE SYSTEMS INC ; KURDZIEL JOHN M ; MAILHOT DAVID J

Inventor(s): (std): MAILHOT DAVID J ; KURDZIEL JOHN M

Agent(s): CASSAN MACLEAN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2695311 AA	20110816	LSPB	+	published / reissued	
CA2695311 AA	20130429	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20130304
US2011200391 AA	20110818	LSPB	+	published / reissued	
US2011200391 AA	20100519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ADVANCED DRAINAGE SYSTEMS, INC., OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MAILHOT, DAVID J.; KURDZIEL, JOHN M.; REEL/FRAME:024413/0345 EFFECTIVE DATE : 20100224
US2011200391 AA	20130326	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	

Title: Air supported shelter

Abstract: ABSTRACT OF THE DISCLOSURE

The invention relates to an air supported shelter for sheltering a large ground area from the elements. The shelter may be permanent, for covering a city for example, or temporary, for covering an exhibition ground or sports arena. The shelter consists of a reinforced flexible, translucent, membrane spanning the area and supported by internal air pressure. Air outlets are provided at the tops of the **domed** membrane sections, and fresh air is drawn or pumped into the enclosed space from its periphery, this air generally rising and passing into the atmosphere via the outlets.

Classifications:

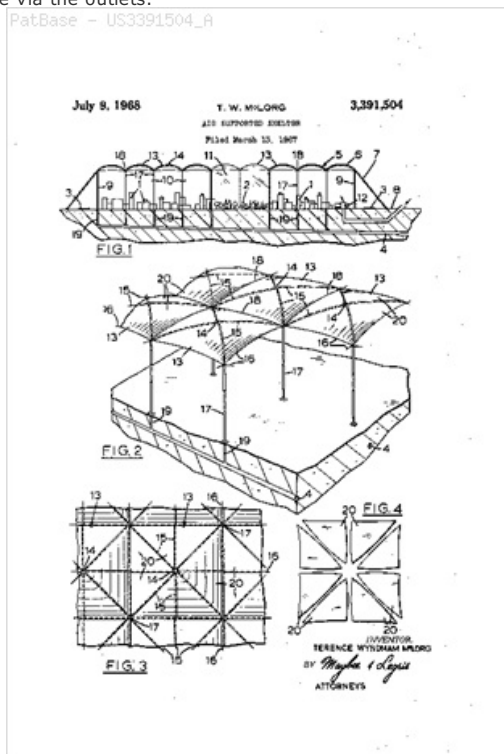
International (IPC 8-9): E04H15/22 (Advanced/Invention);
E04H15/20 (Core/Invention)

International (IPC 1-7): E04B1/345

CPC: E04H15/22

European: E04H15/22

US: 52/2 52/2.17



Family:

Publication number	Publication date	Application number	Application date
GB1164989 A	19690924	GB19680009331	19680227
US3391504 A	19680709	US19670622708	19670313

Priority:

US19670622708 19670313

Probable Assignee: TERENCE W MCLORG

Assignee(s): (std): MCLORG TERENCE WYNDHAM ; TERENCE W MCLORG

Assignee(s): TERENCE WYNDHAM MCLORG

Inventor(s): (std): MCLORG TERENCE W ; MCLORG TERENCE WYNDHAM

Inventor(s): TERENCE WYNDHAM MCLORG

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
GB1164989 A	19690924	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1164989 A	19700204	LSGT	+PS	PATENT SEALED	
GB1164989 A	19770921	LSLE	-PLNP	PATENT LAPSED THROUGH NONPAYMENT OF RENEWAL FEES	
GB1164989 A	19880227	PEXP		Calculated Patent Term Expiry	
US3391504 A	19680709	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: Device for downpipes

Abstract: In order to separate leaves and other foreign bodies out of rainwater in a convenient and simple manner, a housing is inserted in the course of a downpipe. This housing contains a screening device, so that separated-out leaves can be removed from the housing at regular intervals. A second screening device in the form of an inclined screening plate makes it additionally possible to carry off clean rainwater separately, e.g. for the purpose of collection. The screening plate divides the housing interior into two **chambers**, each of which has a lower water outlet opening. One water outlet opening connects the housing to the further course of the downpipe and the other makes it possible to remove clean rainwater.

Classifications:

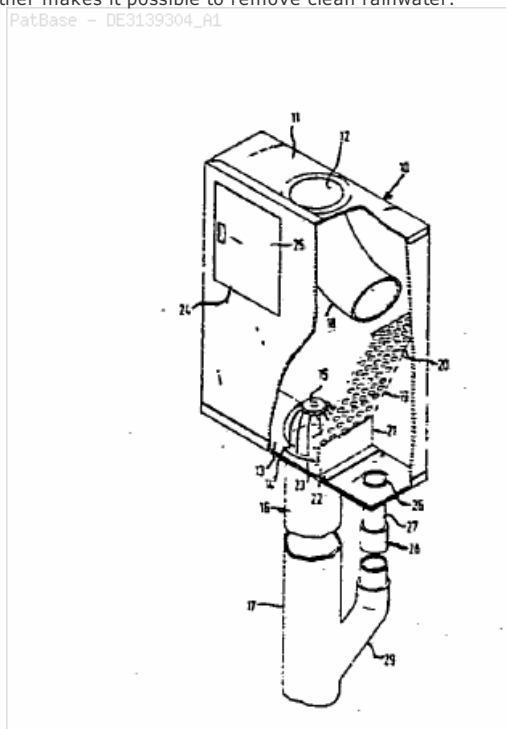
International (IPC 8-9): E04D13/08 (Advanced/Invention);
E04D13/04 (Core/Invention)

International (IPC 1-7): E04D13/08

CPC: E04D13/08 E04D2013/082 E04D2013/086 E04D2013/0866

European: E04D13/08 P04D13/08C P04D13/08M P04D13/08N

PatBase - DE3139304_R1



Family:

Publication number	Publication date	Application number	Application date
DE3139304 A1	19830421	DE19813139304	19811002

Priority:

DE19813139304 19811002

Probable Assignee:

KULLMANN HUBERT

Assignee(s): (std):

KULLMANN HUBERT

Inventor(s): (std):

KULLMANN HUBERT

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE3139304 A1	19830421	LSPB	+	published / reissued	
DE3139304 A1	19830421	LSSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE3139304 A1	19860515	LSWD	-8130	WITHDRAWAL	

Title: HEAT-BONDED POROUS STRUCTURES FROM RECYCLED PLASTICS AND METHODS FOR MAKING

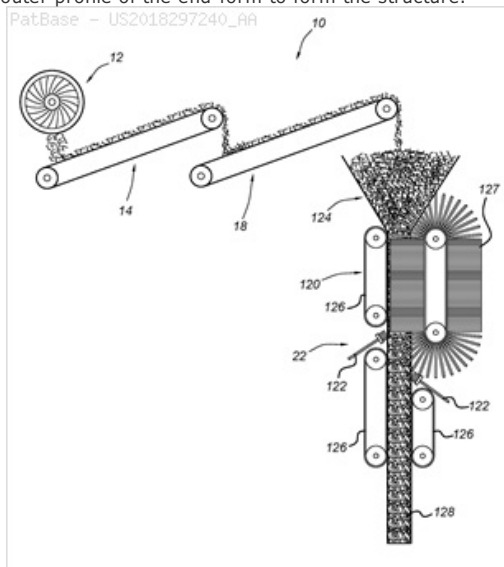
Abstract: A method of forming end-form structures from recycled plastics includes i) providing molten agglomerated plastics in noodle form; ii) delivering the molten agglomerated plastics to a shaper; iii) forming an end-form of agglomerated plastics in the shaper by controlling movement and/or position of the shaper, the end-form comprising the agglomerated plastics welded together with voids therebetween; and iv) cooling at least an outer profile of the end-form to form the structure.

Classifications:

International (IPC 8-9): B29B17/00 B29C44/00 B29C67/02 B29C69/02 C08J9/24 E02B11/00 E02D31/02 (Advanced/Invention); B29K105/04 B29K105/26 B29L7/00 (Advanced/Non-invention)

CPC: B29B17/0042 B29K2105/04 B29K2105/26 B29L2007/002 E02D31/02 Y02W30/62 B29B17/0026 B29B17/0036 E02B11/00 E02D2300/0006

US: 1/1 428/131



Family:

Publication number	Publication date	Application number	Application date
AU2016338281 AA	20180510	AU20160338281	20161013
CA3002145 AA	20180413	CA20163002145	20161013
CN108368683 A	20180803	CN201680072822	20161013
DE602016025694 D1	20191224	DE201660025694T	20161013
DK3362604 T3	20200224	DK20160788575T	20161013
EP3362604 A1	20180822	EP20160788575	20161013
EP3362604 B1	20191204	EP20160788575	20161013
GB201518066 A0	20151125	GB20150018066	20151013
GB2543282 A1	20170419	GB20150018066	20151013
JP2019501231 T2	20190117	JP20180519466T	20161013
KR20180067639 A	20180620	KR20187013504	20161013
TR202002635 T4	20200323	TR20200002635T	20161013
US2018297240 AA	20181018	US20160768026	20161013
US10639817 BB	20200505	US20160768026	20161013
WO17065607 A1	20170420	WO2016NL50704	20161013

Priority:

GB20150018066 20151013 EP20160788575 20161013 WO2016NL50704 20161013

Probable Assignee: TEN CATE THIOLON BV

Assignee(s): (std): TEN CATE THIOLON BV

Assignee(s): CRAVEN ROBIN JOHN ; GRINDROD JOHN

Inventor(s): (std): ROBIN JOHN CRAVEN ; JOHN GRINDROD ; CRAVEN ROBIN JOHN ; GRINDROD JOHN

Agent(s): AJ PARKER; GOWLING WLG CANADA LLP; NEDERLANDSCH OCTROOIBUREAU; TOLGA CAYLAK; NEDERLANDSCH OCTROOIBUREAU NV; SHULTZ CATHERINE A; BERNIER KATELYN J

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 DJ 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 KW 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
AU2016338281 AA	20180510	LSPB	+	published / reissued	
CA3002145 AA	20180413	LSPB	+	published / reissued	
CN108368683 A	20180803	LSPB	+	published / reissued	
CN108368683 A	20180803	LSPB	PB01	PUBLICATION	
DK3362604 T3	20200224	LSGT	+	granted / extensions (spc, cpc, pte)	

DK3362604 T3	20361013	PEXP		Calculated Patent Term Expiry	
EP3362604 A1	20180822	LSPB	+	published / reissued	
EP3362604 A1	20180822	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20180509
EP3362604 A1	20190710	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190613
EP3362604 B1	20191204	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP3362604 B1	20191213	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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JP2019501231 T2	20190117	LSPB	+	published / reissued	
JP2019501231 T2	20180727	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180614
JP2019501231 T2	20191011	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20191011
KR20180067639 A	20180620	LSPB	+	published / reissued	
TR202002635 T4	20200323	LSGT	+	granted / extensions (spc, cpc, pte)	
TR202002635 T4	20361013	PEXP		Calculated Patent Term Expiry	
US10639817 BB	20200505	LSGT	+	granted / extensions (spc, cpc, pte)	
US10639817 BB	20361013	PEXP		Calculated Patent Term Expiry	
US2018297240 AA	20181018	LSPB	+	published / reissued	
US2018297240 AA	20181113	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TEN CATE THIOLON B.V., NETHERLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: CRAVEN, ROBIN JOHN, MR; GRINDROD, JOHN, MR; REEL/FRAME: 047482/0372 EFFECTIVE DATE : 20180904
US2018297240 AA	20190521	LSES	NFA1	Non Final Action Mailed	

US2018297240 AA	20190815	LSES	NFA1	Non Final Action Mailed	
US2018297240 AA	20200108	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018297240 AA	20200415	LSGT	PAT1	Patented Case	
US2018297240 AA	20200415	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
WO17065607 A1	20170420	LSPB	+	published / reissued	
WO17065607 A1	20180413	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 3002145 COUNTRY OF REF DOCUMENT : CA
WO17065607 A1	20180413	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018519466 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17065607 A1	20180413	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15768026 COUNTRY OF REF DOCUMENT : US
WO17065607 A1	20180413	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2018519466 COUNTRY OF REF DOCUMENT : JP
WO17065607 A1	20180414	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17065607 A1	20180510	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2016338281 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20161013 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17065607 A1	20180511	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20187013504 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17065607 A1	20180514	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016788575 COUNTRY OF REF DOCUMENT : EP

Title: FILTER UNIT FOR RAINWATER TANK

Abstract: The filter unit is built into the **dome** shaft of a rainwater tank. The unit has a tubular filter **chamber** (14) with an inlet (16) and an outlet (17). A filter is recessed inside the filter **chamber**. A tubular pump **chamber** (15), to contain a pump (21), is connected to an overflow (19) arranged over the filter. The filter **chamber** may extend into the pump **chamber** or vice versa. The filter is inclined towards the overflow. The top face of the pump **chamber** may be open. The filter unit includes fastenings for attaching it inside the rainwater tank.

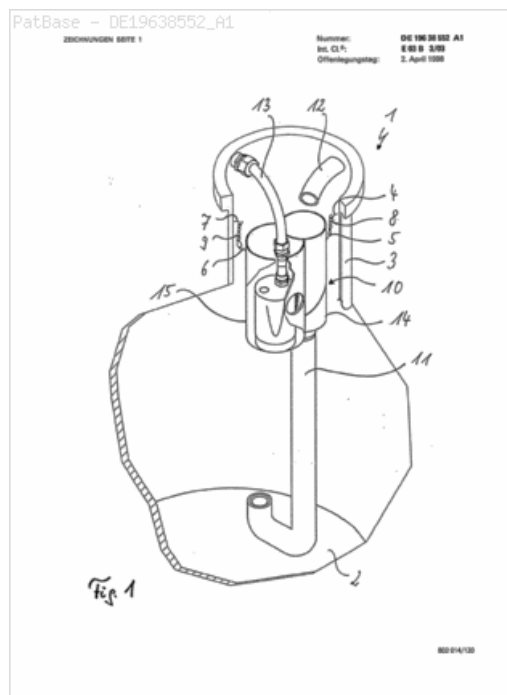
Classifications:

International (IPC 8-9): E03B3/03 E03F5/14 (Advanced/Invention); E03B3/00 E03F5/14 (Core/Invention)

International (IPC 1-7): E03B3/03

CPC: Y02A20/106 Y02A20/108 E03F5/14 E03B3/03

European: E03B3/03 E03F5/14



Family:

Publication number	Publication date	Application number	Application date
DE19638552 A1	19980402	DE19961038552	19960920

Priority:

DE19961038552 19960920

Probable Assignee:

WEYERSTRAS TONI

Assignee(s): (std):

WEYERSTRAS TONI

Assignee(s):

WEYERSTRAS TONI 52351 DUEREN DE

Inventor(s): (std):

WEYERSTRAS TONI

Inventor(s):

WEYERSTRAS TONI 52351 DUEREN DE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE19638552 A1	19980402	LSPB	+	published / reissued	
DE19638552 A1	19980402	LSSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE19638552 A1	20020926	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	

Title: SURFACE TREATMENT SYSTEM AND COATING DEVICE WHICH CAN BE USED IN IT

Abstract: The invention describes a system for treating or coating substrate surfaces in an in-line process, in particular for coating substrates with a three-dimensional surface. The invention also relates to a coating device which can transport a number of substrates simultaneously between corresponding treatment stations. Corresponding methods for coating substrate surfaces are also described. The invention makes efficient, low-cost surface coating of substrates possible.

Classifications:

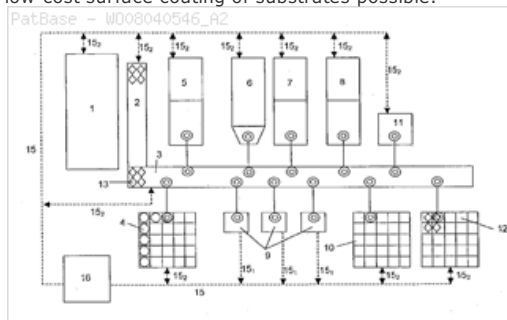
International (IPC 8-9): B05B13/02 B05D1/00

B23Q7/04 (Advanced/Invention);

B05B13/02 B05D1/00 B23Q7/04 (Core/Invention)

CPC: B05B12/20 B05B16/20 B05B13/0242

European: B05B15/04



Family:

Publication number	Publication date	Application number	Application date
DE102006046968 A1	20080410	DE200610046968	20061004
WO08040546 A2	20080410	WO2007EP08623	20071004
WO08040546 A3	20080918	WO2007EP08623	20071004

Priority:

DE200610046968 20061004

Probable Assignee: SINGULUS TECHNOLOGIES AG

Assignee(s): (std): BOERGER MARCUS ; NOVAK MANFRED ; RUETH EDGAR ; RUNKEL STEFFEN ; SCHRAMM HOLGER ; SINGULUS TECHNOLOGIES AG

Inventor(s): (std): BOERGER MARCUS ; RUETH EDGAR ; NOVAK MANFRED ; RUNKEL STEFFEN ; SCHRAMM HOLGER

Agent(s): VOSSIUS AND PARTNER

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 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
DE102006046968 A1	20080410	LSPB	+	published / reissued	
DE102006046968 A1	20080410	LSSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE102006046968 A1	20100527	LSRV	-8131	REJECTION	
WO08040546 A2	20080410	LSPB	+	published / reissued	
WO08040546 A3	20090407	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO08040546 A3	20090728	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2009128734 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO08040546 A3	20091028	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 07818702 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :

Title: GROUNDWATER STORAGE AND DISTRIBUTION SYSTEM HAVING A GALLERY WITH A FILTERING MEANS

Abstract: A system for filtering, storing, and distributing groundwater, which includes a gallery having an elongated main body portion with an arch-shaped configuration with an enlarged inner **chamber**, having end walls covering each end thereof with an inlet opening for receiving the liquid to the enlarged inner enclosure, having side walls with laterally extending outer ribs and inner corrugations within the elongated body portion. The system also includes a collapsible filter having a hinged frame with a filtering material and a side portion for sliding into the inner corrugations of the gallery.

Classifications:

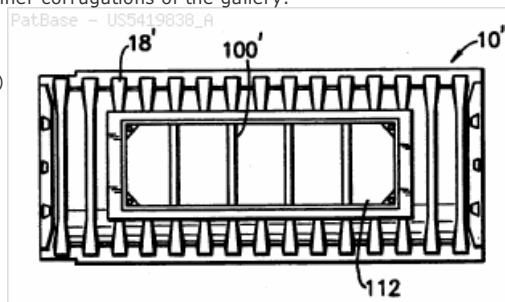
International (IPC 8-9): E03B11/14 E03F1/00 G02B6/44 H02G15/10 H02G9/10 (Advanced/Invention); E03B11/00 E03F1/00 G02B6/44 H02G15/10 H02G9/00 (Core/Invention)

International (IPC 1-7): B01D35/02 H02G9/00

CPC: Y02A20/104 E03B11/14 E03F1/003 G02B6/4457 H02G9/10 H02G15/10

European: E03B11/14 E03F1/00B2 G02B6/44C8B H02G15/10 H02G9/10

US: 174/37 210/155 210/162 210/170 210/170.03 210/236 210/451 210/747 210/747.3 210/791 52/79.1



Family:

Publication number	Publication date	Application number	Application date
US5419838 A	19950530	US19940236409	19940502
US5773756 A	19980630	US19950450613	19950525

Priority:

US19940236409 19940502 US19950450613 19950525

Probable Assignee:

CULTEC INC

Assignee(s): (std):

CULTEC INC

Inventor(s): (std):

DITULLIO ROBERT J

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US5419838 A	19950530	LSGT	+	granted / extensions (spc, cpc, pte)	
US5419838 A	19940502	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CULTEC, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DITULLIO, ROBERT J.; REEL/FRAME:006985/0823 EFFECTIVE DATE : 19940425
US5419838 A	19950519	LSGT	PAT1	Patented Case	
US5419838 A	19950519	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5419838 A	19950822	LSRE	CC	CERTIFICATE OF CORRECTION	
US5419838 A	19981007	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5419838 A	20021210	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5419838 A	20070502	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5419838 A	20140502	PEXP		Calculated Patent Term Expiry	
US5773756 A	19980630	LSGT	+	granted / extensions (spc, cpc, pte)	
US5773756 A	19950525	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CULTEC, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DITULLIO, ROBERT J.; REEL/FRAME:007528/0348 EFFECTIVE DATE : 19950525
US5773756 A	19980618	LSGT	PAT1	Patented Case	
US5773756 A	19980618	LSGT	STCF	INFORMATION ON STATUS:	TEXT : PATENTED CASE

US5773756 A	19981229	LSRE	CC	PATENT GRANT		
				CERTIFICATE OF CORRECTION		
US5773756 A	20011219	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US5773756 A	20060621	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8	
US5773756 A	20090911	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12	
US5773756 A	20150630	PEXP			Calculated Patent Term Expiry	

Title: FOR MODIFYING OF WATER WAY INSPECTION DEVICE

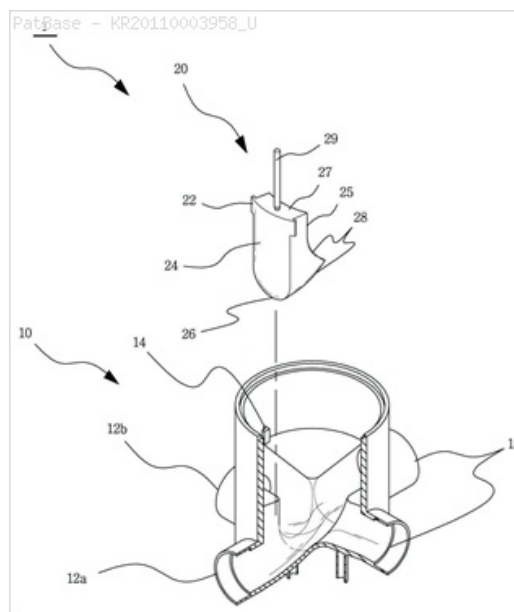
Abstract: Source: KR200459921Y **Machine translation:** Present invention relates to the access port to change channels, and more particularly to collect household sewage and **stormwater** can be discharged equipped with a hollow structure, a large number of sewage and **stormwater** that flows from the inlet and the inlet sewage and solid to exhaust outlet **chamber** formed body part in a five and excellent, excellent five and outlet sides of the inner **chamber**, the guide body portion is formed in addition to the combined square plate inserted into the guide on both sides of the wings and the outlet side is formed mating surface and the lower surface of the other side of the **dome** is formed in the top surface to the top of the handle is formed protruding devices, including changing channels takes place. The access door to change the number to change the channel to accommodate five devices and excellent outlet **chamber** in the same manner as the bottom of the channel to change the curvature of the lower surface of the device and at the same time forming a **domed** rubber on the outside and a rubber sealing element installed inside the five and excellent Bay the bottom, which has the effect baechulgugwa watertight access door and change the number of the channel to change, regardless of the depth that is buried channel changes in the upper part of the device to change channels using the handle, and also the inlet of the high five and excellent outlet **chamber** is formed at a low level sewage and solid inner **chamber** body part has an effect on the accumulation of debris.

Classifications:

International (IPC 8-9): E02D29/12 E03F5/02

E03F5/10 (Advanced/Invention)

CPC: E03F5/021 E03F5/041 E03F5/101 E03F5/106



Family:

Publication number	Publication date	Application number	Application date
KR200459921 Y1	20120420	KR20090013445U	20091015
KR20110003958 U	20110421	KR20090013445U	20091015

Priority:

KR20090013445U 20091015

Probable Assignee:

LTD PEURAKO

Assignee(s):

LTD PEURAKO

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
KR200459921 Y1	20120420	LSGT	+	granted / extensions (spc, cpc, pte)	
KR200459921 Y1	20150413	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR200459921 Y1	20191015	PEXP		Calculated Patent Term Expiry	
KR20110003958 U	20110421	LSPB	+	published / reissued	
KR20110003958 U	20091015	LSSES	A201	REQUEST FOR EXAMINATION	
KR20110003958 U	20120330	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	

Title: TREATMENT OF WASTEWATER AND SLUDGES

Abstract: A system for wastewater and sludge treatment utilizes an anaerobic reactor to modify the wastewater and generate sludge and liquid effluent. The sludge is transferred to a conditioner wherein anaerobic, aerobic and chemical means may be utilized to cultivate the required strains of organisms and break down various pollutants. Various chemicals may be solubilized, or precipitated, or adsorbed to remove them from the waste stream. Aerobic conditioning may be used to increase the volume of sludge, and to increase the temperature of the sludge. A shell having multiple compartments can provide for the entire process by utilizing the upper portion for anaerobic reaction and the lower portion for conditioning. An aerobic reactor can be disposed centrally of the conditioning compartments. Pipes and pumps can be used to transfer components from one compartment to another, and to discharge the cleaned effluent. The sludge is further subjected to aerobic reaction and bioheating. Some chemicals may be added to assist in removal of heavy metals and other toxic substances. Finally, the sludge and water are separated, and the sludge is dried.

Classifications:

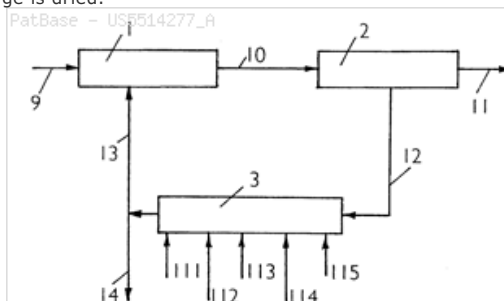
International (IPC 8-9): C02F11/04 C02F11/12 C02F3/00 C02F3/12 C02F3/28 C02F3/30 (Advanced/Invention); C02F3/00 C02F3/12 C02F3/28 C02F3/30 (Core/Invention)

International (IPC 1-7): C02F11/04 C02F11/12 C02F3/12 C02F3/28 C02F3/30

CPC: Y02E50/343 C02F3/302 C02F2307/08 Y02W10/15 C02F3/1221 C02F3/006 C02F3/28 C02F3/2806 C02F3/30 C02F3/308 C02F2209/02 C02F2209/06 C02F2209/08 C02F2209/20 C02F2209/22 C02F2209/245 C02F2209/28 C02F2209/38 C02F2209/40

European: C02F3/00R C02F3/12A6 C02F3/28 C02F3/28C C02F3/30 C02F3/30D C02F3/30F M02F209/02 M02F209/06 M02F209/08 M02F209/20 M02F209/22 M02F209/24G M02F209/28 M02F209/38 M02F209/40 M02F3/30 M02F307/08

US: 210/151 210/195.1 210/218 210/262 210/603 210/605 210/607 210/623 210/624 210/625 210/629 210/630 210/631 210/747 210/747.1

**Family:**

Publication number	Publication date	Application number	Application date
AU199466212 A1	19941108	AU19940066212	19940328
AU199515623 A1	19950801	AU19950015623	19950109
BRPI9405922 A	19951212	BR1994PI05922	19940328
BRPI9505641 A	19960109	BR1995PI05641	19950109
CA2160373 AA	19951011	CA19942160373	19940328
US5514277 A	19960507	US19930102618	19930805
US5514278 A	19960507	US19940181387	19940113
US5616241 A	19970401	US19950532606	19951012
US5846424 A	19981208	US19960602085	19960215
US6015496 A	20000118	US19970824608	19970326
WO9424056 A1	19941027	WO1994US03374	19940328
WO9519322 A1	19950720	WO1995US00317	19950109

Priority:

US19930046788	19930412	US19930102618	19930805	US19940181387	19940113
WO1994US03374	19940328	WO1995US00317	19950109	US19950532606	19951012
US19960602085	19960215	US19970824608	19970326		

Probable Assignee: KHUDENKO ENGINEERING INC

Assignee(s): (std): BORIS M KHUDENKO ; KHUDENKO BORIS M ; KHUDENKO ENGINEERING INC

Assignee(s): KHUDENKO BORIS MIKHAILOVICH

Inventor(s): (std): KHUDENKO BORIS M ; KHUDENKO BORIS MIKHAILOVICH

Inventor(s): BORIS M KHUDENKO

Agent(s): FINLAYSON AND SINGLEHURST

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199466212 A1	19941108	LSPB	+	published / reissued	
AU199515623 A1	19950801	LSPB	+	published / reissued	
BRPI9405922 A	19951212	LSPB	+	published / reissued	
BRPI9405922 A	20010417	LSGT	+FF	DECISION: INTENTION TO GRANT	
BRPI9405922 A	20010710	LSGT	+FG9A	PATENT OR CERTIFICATE OF ADDITION GRANTED	
BRPI9405922 A	20100810	LSFE	B24C	PATENT ANNUAL FEE: REQUEST FOR RESTORATION	TEXT : REFERENTE A 8A, 9A, 10A, 11A, 12A, 13A, 14A, 15A, 16A ANUIDADE(S).

BRPI9405922 A	20130924	LSLE	-B21F	LAPSE ACC. ART. 78, ITEM IV - ON NON-PAYMENT OF THE ANNUAL FEES IN TIME	TEXT : REFERENTE AO DESPACHO 24.3 NA RPI 2066 DE 10/08/2010, E COMPROVAR O RECOLHIMENTO DA 17A,18A E 19A ANUIDADES.
BRPI9505641 A	19960109	LSPB	+	published / reissued	
BRPI9505641 A	20010911	LSRV	-FA8	DISMISSAL: DISMISSAL - ARTICLE 36, PAR. 1 OF INDUSTRIAL PROPERTY LAW	
CA2160373 AA	19951011	LSPB	+	published / reissued	
CA2160373 AA	20020328	LSLE	-FZDE	DEAD	
US5514277 A	19960507	LSGT	+	granted / extensions (spc, cpc, pte)	
US5514277 A	19970502	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KHUDENKO, BORIS M., GEORGIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KHUDENKO, BORIS M.; REEL/FRAME:008478/0310 EFFECTIVE DATE : 19970410
US5514277 A	19970630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KHUDENKO ENGINEERING, INC., GEORGIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KHUDENKO, BORIS M.; REEL/FRAME:008660/0980 EFFECTIVE DATE : 19970410
US5514277 A	19990709	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5514277 A	20030705	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5514277 A	20080507	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US5514277 A	20080624	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20080507
US5514277 A	20080714	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5514277 A	20080818	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20080820
US5514277 A	20080820	LSGT	PAT1	Patented Case	
US5514277 A	20080820	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5514277 A	20130805	PEXP		Calculated Patent Term Expiry	
US5514278 A	19960507	LSGT	+	granted / extensions (spc, cpc, pte)	
US5514278 A	19970502	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KHUDENKO, BORIS M., GEORGIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KHUDENKO, BORIS M.; REEL/FRAME:008478/0313 EFFECTIVE DATE : 19970410
US5514278 A	19970630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KHUDENKO ENGINEERING, INC., GEORGIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KHUDENKO, BORIS M.; REEL/FRAME:008660/0994 EFFECTIVE DATE : 19970410
US5514278 A	19990709	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5514278 A	20030902	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8

US5514278 A	20080507	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US5514278 A	20080624	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20080507
US5514278 A	20080711	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5514278 A	20080915	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20080919
US5514278 A	20080919	LSGT	PAT1	Patented Case	
US5514278 A	20080919	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5514278 A	20140113	PEXP		Calculated Patent Term Expiry	
US5616241 A	19970401	LSGT	+	granted / extensions (spc, cpc, pte)	
US5616241 A	19970321	LSGT	PAT1	Patented Case	
US5616241 A	19970321	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5616241 A	19970502	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KHUDENKO, BORIS M., GEORGIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KHUDENKO, BORIS M.; REEL/FRAME:008478/0302 EFFECTIVE DATE : 19970410
US5616241 A	19970630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KHUDENKO ENGINEERING, INC., GEORGIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KHUDENKO, BORIS M.; REEL/FRAME:008660/0984 EFFECTIVE DATE : 19970410
US5616241 A	19980811	LSRE	CC	CERTIFICATE OF CORRECTION	
US5616241 A	20000929	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5616241 A	20040730	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5616241 A	20080909	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5616241 A	20151012	PEXP		Calculated Patent Term Expiry	
US5846424 A	19981208	LSGT	+	granted / extensions (spc, cpc, pte)	
US5846424 A	19971112	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KHUDENKO ENGINEERING, INC., GEORGIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KHUDENKO, BORIS M.; REEL/FRAME:008816/0855 EFFECTIVE DATE : 19971107
US5846424 A	20021209	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US5846424 A	20030204	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20021208
US5846424 A	20040315	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5846424 A	20040517	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20040519

US5846424 A	20040519	LSGT	PAT1	Patented Case	
US5846424 A	20040519	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5846424 A	20060717	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5846424 A	20100903	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5846424 A	20160215	PEXP		Calculated Patent Term Expiry	
US6015496 A	20000118	LSGT	+	granted / extensions (spc, cpc, pte)	
US6015496 A	20030210	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6015496 A	20070412	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6015496 A	20120118	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6015496 A	20120213	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6015496 A	20120213	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6015496 A	20120306	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20120118
US6015496 A	20170326	PEXP		Calculated Patent Term Expiry	
WO9424056 A1	19941027	LSPB	+	published / reissued	
WO9424056 A1	19951011	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2160373 COUNTRY OF REF DOCUMENT : CA
WO9424056 A1	19951012	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 08532606 COUNTRY OF REF DOCUMENT : US
WO9424056 A1	19960724	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO9519322 A1	19950720	LSPB	+	published / reissued	
WO9519322 A1	19961009	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO9519322 A1	19961113	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA

Title: EIN-UND MEHRKAMMER-RINGSILO A AND MULTI-**CHAMBER** RING SILO (Machine translation)

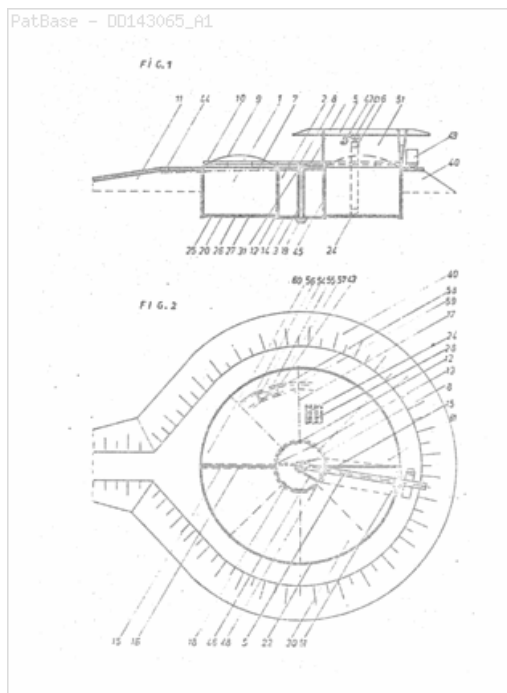
Abstract: Source: DD143065A [DE] [Source: Claim 1] 1 Ein- und Mehrkammer-Ringsilo (I), als Vorrichtung, dadurch gekennzeichnet, dass dieser aus dem Funktionsraum (2), dem Sam- melschacht (13) und Pumpensumpf (4), der Krananlage (5) mit Beschickungs-, Verteil- und Verdichtungs- vorrichtung (6), der Sickersaftleitung (7), der Siloabdeckung (9), der Schutzvor- richtung (10), der Anfahrt (1 1), der Ringdraenage (12) mit Sam- melleitung (14) und Absperrvorrichtung (13), der Trennwand oder - waenden (15) mit Zugang (16), an Spannvorrichtung (iS) an- geschlossenen Spannseilen (1 7), der Unterwasseraotorpumpe der Zwischendecke (21), den Flaechen-Bauelementen (23) auf Sicker- schicht (25) der Bichtungsschicht (26) und Verteilschicht (2?) bzw. ivabenplatten (24) mit Sickerstoff (28) als Entwaesserungs- Bodenplatte (20), den Silokammern (30), dem Zweiwegeschieber (31), den Schieber (32), der Er da nb oe s chun g (40), an der Au- betaenwand des Ringsilos (1), den Leitplanken (44), dem Saeurere- sistenfussboden (47) und Einstieg (50) besteht, der Beschik- kungs-, Verteil- und Verdichtungs- vorrichtung (6), ein Verdich- tungsgeraet (43), eine Kabine (42) und eine Laufkatze (41), der Kranvorrichtung (5), eine Drehscheibe (8) mit Elektroschleif- ringkoerper (39) und Drehscheibenverbindungstraeger (46), Innen- Kurvenfahrwerk (48) und Aussenkurvenfahrwerk (29) zugeordnet ist, als Variante eine Dosiereinrichtung (33), eine Foerderein- richtung (34) im Foerdergang (35), ein Zuteilband (37) und Schur re (j8) sowie eine Entnahmesteile (36) angeordnet wird, die Funktionsraumwand (4p) gegenueber den Silokammern (30) dicht ab- schliesst und Mobil-Ladewa gen (49) dem Ringsilo zugeordnet sind und die Krananlage (5) mit Kran-Umhue llung (51) versehen ist. Punkt **Machine translation:** [Source: claim 1] 1- and multi-**Chamber** ring silo (I), features this-as a device, that this melschacht from the function room (2), the SAM (13) and sump pump (4), (5) crane installation with feeding, distribution and compaction device (6), the seeping juice line (7), the silo cover (9), the protection against direction (10), the directions (1 1), the ring drainage (12) with Sam melleitung (14) and shut-off device (13), of the partition wall or walls (15) with access (16), tensioning rope tensioner (iS) connected (1 7), the Unterwasseraotorpumpe of false ceiling (21), the surface construction elements (23) on sicker-layer (25)# of Bichtungsschicht (26) and distribution layer (2?) or ivabenplatten (24) with seepage fabric (28) as a deslime base plate (20), the silo **Chambers** (30), the two way valve (31), the slide (32), which he as nb oe s chun g (40), on the AU betaenwand of the ring silo (1), is the guard rails (44), the Saeurere - sistenfussboden (47), and entry (50), of the Beschik-kungs-, distribution and compaction equipment (6), a compressor tungsgeraet (43), a cabin (42) and is associated as a Variant a trolley (41), the crane device (5), a turntable (8) with Elektroschleif-ring body (39) and Drehscheibenverbindungstraeger (46), internal curves chassis (48) and wider landing gear (29) a dosage device (33), a Foerderein-direction (34) in the support (35), an allocation band (37) and Virgin is placed re (j8), as well as a collection of parts (36), close-closes the function room wall (4 p) opposite the silo **Chambers** (30) and mobile Ladewa are associated with the ring silo gen (49) and the crane system (5) with crane serving (51) is provided. Point

Classifications:

International (IPC 8-9): B65G3/04 (Advanced/Invention);

B65G3/00 (Core/Invention)

International (IPC 1-7): B65G3/04



Family:

Publication number	Publication date	Application number	Application date
DD143065 A1	19800730	DD19790212347	19790420

Priority:

DD19790212347 19790420

Probable Assignee: JAHR WILLI

Assignee(s): (std): FREITAG HEINZ ; JAHR WILLI ; PINTERNAGEL ERNST KARL ; GUENTHER WALDEMAR ; POETKE WILLFRIED ; GEGNER MANFRED ; BACHMANN KARL ; BLEICH HANS JOACHIM ; ELSNER EGON

Assignee(s): ELSNER EGON DD ; BLEICH HANS JOACHIM DD ; BACHMANN KARL DD ; GEGNER MANFRED DD ; POETKE WILLFRIED DD ; PINTERNAGEL ERNST KARL DD ; GUENTHER WALDEMAR DD ; FREITAG HEINZ DD ; JAHR WILLI DD

Inventor(s): (std): BACHMANN KARL ; BLEICH HANS JOACHIM ; ELSNER EGON ; FREITAG HEINZ ; GEGNER MANFRED ; GUENTHER WALDEMAR ; JAHR WILLI ; PINTERNAGEL ERNST KARL ; POETKE WILLFRIED

Inventor(s): POETKE WILLFRIED DD ; PINTERNAGEL ERNST KARL DD ; JAHR WILLI DD ; GUENTHER WALDEMAR DD ; GEGNER MANFRED DD ; FREITAG HEINZ DD ; ELSNER EGON DD ; BLEICH HANS JOACHIM DD ; BACHMANN KARL DD

Legal status (INPADOC)

[View legal status timeline](#)

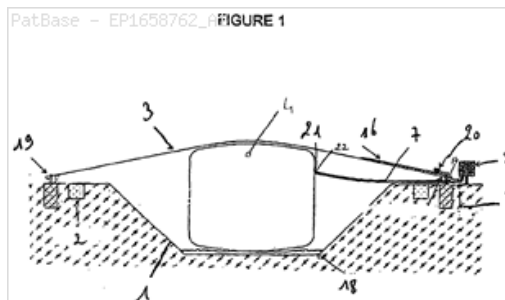
Patent	Date recorded	Event group	Code	Event	Details
DD143065 A1	19800730	LSPB	+	published / reissued	
DD143065 A1	19970130	LSLE	-ENJ	CEASED DUE TO NON-PAYMENT OF RENEWAL FEE	

Title: VORRICHTUNG ZUR ABDECKUNG VON FLUESSIGKEITBEHALTERN UND DAFUER GEEIGNETE GEBLAESEANORDNUNG

Abstract: The device has a sensor (10) for detecting the lower position of a **dome** to trigger the functioning of an air generator device (5), at an activated state, during a preset period for inflating an air **chamber** of a pusher unit. A sensor (11) detects the upper position of the **dome** to control stopping of the device (5) at the activated state for deflating the **chamber**. The shape of the **dome** results from changes in the level in a reservoir. An independent claim is also included for an air generator device.

Classifications:

International (IPC 8-9): A01C3/02 B65D88/34 E04H15/20 E04H4/10 (Advanced/Invention);
A01C3/00 B65D88/00 E04H15/20 E04H4/00 (Core/Invention)
CPC: A01C3/028 E04H4/103 E04H4/106
European: A01C3/02 A01C3/02F E04H4/10B E04H4/10D



Family:

Publication number	Publication date	Application number	Application date
AT361660 E	20070615	AT20050292392T	20051110
DE602005001106 D1	20070621	DE200560001106T	20051110
EP1658762 A1	20060524	EP20050292392	20051110
EP1658762 B1	20070509	EP20050292392	20051110
FR2877963 A1	20060519	FR20040012188	20041117
FR2877963 B1	20080627	FR20040012188	20041117
FR2877964 A1	20060519	FR20040012189	20041117
FR2877964 B1	20080606	FR20040012189	20041117

Priority:

FR20040012188 20041117 FR20040012189 20041117 FR20040412188 20041117
FR20040412189 20041117

Probable Assignee: CHAUVEAU JACQUELINE

Assignee(s): (std): CHAUVEAU ANDRE ; CHAUVEAU JACQUELINE ; CHAUVEAU JACQUELINE

Assignee(s): JACQUELINE CHAUVEAU ; ANDRE CHAUVEAU

Inventor(s): (std): CHAUVEAU ANDRE ; CHAUVEAU JACQUELINE

Inventor(s): ANDRE CHAUVEAU

Agent(s): BREMA LOYER; IPSILON

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT361660 E	20070615	LSGT	+	granted / extensions (spc, cpc, pte)	
AT361660 E	20071115	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT361660 E	20251110	PEXP		Calculated Patent Term Expiry	
DE602005001106 D1	20080410	LSWD	-8332	NO LEGAL EFFECT FOR DE	
EP1658762 A1	20060524	LSPB	+	published / reissued	
EP1658762 A1	20060531	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060405
EP1658762 A1	20070131	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : BG COUNTRY OF REF DOCUMENT : CH COUNTRY OF REF DOCUMENT : CY COUNTRY OF REF DOCUMENT : CZ COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : EE COUNTRY OF REF DOCUMENT : ES

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EP1658762 B1	20070509	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1658762 B1	20070509	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070509
EP1658762 B1	20070509	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP1658762 B1	20070531	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1658762 B1	20070613	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : LANGUAGE OF EP DOCUMENT: FRENCH
EP1658762 B1	20070809	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070809
EP1658762 B1	20070820	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070820
EP1658762 B1	20070909	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070909
EP1658762 B1	20071101	LSLE	-NLV1	NL: LAPSED OR	REF COUNTRY CODE : EP

				ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	
EP1658762 B1	20071124	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070509
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EP1658762 B1	20071205	LSWD	-GBV	GB: EP PATENT (UK) TREATED AS ALWAYS HAVING BEEN VOID IN ACCORDANCE WITH GB SECTION 77(7)/1977	REF COUNTRY CODE : EP EFFECTIVE DATE : 20070509
EP1658762 B1	20071221	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FD4D
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EP1658762 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070509
EP1658762 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070509
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EP1658762 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20071009
EP1658762 B1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING	COUNTRY OF REF DOCUMENT : SI

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070509
EP1658762 B1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20070509
EP1658762 B1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20070509
EP1658762 B1	20080229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20070509
EP1658762 B1	20080416	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080212
EP1658762 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070810
EP1658762 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070509
EP1658762 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20070810
EP1658762 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20070509
EP1658762 B1	20080530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20070509
EP1658762 B1	20080531	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : CHAUVEAU, ANDRE EFFECTIVE DATE : 20071130
EP1658762 B1	20080531	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : CHAUVEAU,

					JAEQUINE EFFECTIVE DATE : 20071130
EP1658762 B1	20080630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20071130
EP1658762 B1	20080930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20071130
EP1658762 B1	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070509
EP1658762 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070509
EP1658762 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20071110
EP1658762 B1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20071110
EP1658762 B1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070509
EP1658762 B1	20100630	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
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EP1658762 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20091130
EP1658762 B1	20160531	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 11
EP1658762 B1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160531 YEAR OF FEE PAYMENT : 11
EP1658762 B1	20170825	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20170731

EP1658762 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20161130
EP1658762 B1	20251110	PEXP		Calculated Patent Term Expiry	
FR2877963 A1	20060519	LSPB	+	published / reissued	
FR2877963 B1	20080627	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2877963 B1	20081031	LSFE	PLFP	Fee Payment (FEE PAYMENT)	PAYMENT DATE : 20081031 YEAR OF FEE PAYMENT : 5
FR2877963 B1	20091130	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2877963 B1	20100827	LSLE	-ST	NOTIFICATION OF LAPSE	EFFECTIVE DATE : 20100730
FR2877963 B1	20241117	PEXP		Calculated Patent Term Expiry	
FR2877964 A1	20060519	LSPB	+	published / reissued	
FR2877964 B1	20080606	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2877964 B1	20081031	LSFE	PLFP	Fee Payment (FEE PAYMENT)	PAYMENT DATE : 20081031 YEAR OF FEE PAYMENT : 5
FR2877964 B1	20091130	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2877964 B1	20100827	LSLE	-ST	NOTIFICATION OF LAPSE	EFFECTIVE DATE : 20100730
FR2877964 B1	20241117	PEXP		Calculated Patent Term Expiry	

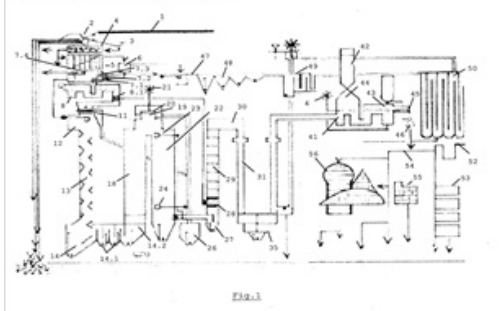
Title: INTEGRATED MODULAR SYSTEM FOR TREATING AND USING WATER FROM SURFACE RUNOFF

Abstract: The invention relates to an integrated modular system for providing roads and motorways with a system suitable for the treatment of runoff water originating from rainfall. To this end, the system is based on a set of modules where operations are carried out for the separation of pollutants, contained in two treatment circuits. The system comprises a special filter for the elimination of large pollutants, a meshed tiered filter, a flow deflector, a decanting filter, a sedimentation module, a module for separating oils and hydrocarbons, a module for separating gases, and filtration systems which can optionally contain silica sand, charcoal, activated carbon or plants. The water obtained as a result of the treatment thereof by said system can be used both in byproducts of interest or simply returned to natural channels.

Classifications:

International (IPC 8-9): C02F1/40 E03F5/00 (Advanced/Invention)
CPC: C02F1/001 C02F2103/001 C02F2201/007 C02F1/004 C02F1/20 C02F1/283 C02F1/469 C02F2001/007 C02F2101/20 C02F2101/32 C02F2201/009 C02F2301/026 C02F2303/24 C02F1/40 E03F5/0404 Y02A20/156 Y02A20/212

PatBase - WO15063350_A1



Family:

Publication number	Publication date	Application number	Application date
ES2444298 AA	20140224	ES20130031582	20131029
ES2444298 BA	20141008	ES20130031582	20131029
WO15063350 A1	20150507	WO2014ES00189	20141028

Priority:

ES20130031582 20131029

Probable Assignee: CANDIL PEREZ MARIA

Assignee(s): (std): CANDIL PEREZ MARIA

Assignee(s): MARIA CANDIL PEREZ

Inventor(s): (std): LLADO SENAN JOAN ; VALERO VALDELVIRA JUAN ; VALERO VALDEVIRA JUAN

Inventor(s): JOAN LLADO SENAN ; JUAN VALERO VALDELVIRA

Agent(s): TOLEDO EVA

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
ES2444298 AA	20140224	LSPB	+	published / reissued	
ES2444298 BA	20141008	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2444298 BA	20141008	LSGT	+FG2A	DEFINITIVE PROTECTION	REF DOCUMENT NUMBER : 2444298 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : B1 DESIGNATED STATE(S) : EFFECTIVE DATE : 20141008
ES2444298 BA	20331029	PEXP		Calculated Patent Term Expiry	
WO15063350 A1	20150507	LSPB	+	published / reissued	
WO15063350 A1	20160429	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15063350 A1	20161123	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14858427 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

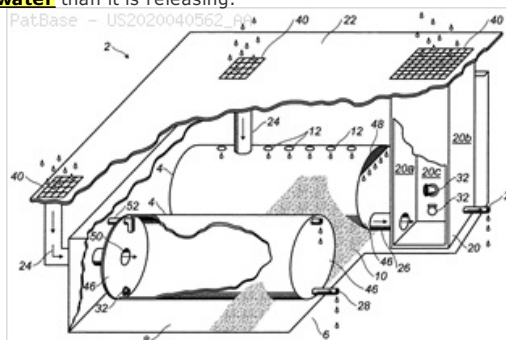
Title: UNDERGROUND **STORMWATER** STORAGE SYSTEM

Abstract: A system and method for an underground **stormwater** storage system which may comprise a pit, a structure, and a liner. The structure may be disposed within the center of the pit and surround by the porous backfill and wherein outlets are disposed on the crown of the structure. A liner may form the outer layer of the pit. A method for releasing **stormwater** may comprise capturing **stormwater** from a surface, containing the **stormwater** within a structure, releasing a volume of the **stormwater** from the structure and draining an additional volume of the **stormwater** from the crown of the structure from an outlet when the structure is capturing more **stormwater** than it is releasing.

Classifications:

International (IPC 8-9): C02F1/00 E03F1/00 (Advanced/Invention)

CPC: E03F1/002 C02F2103/001 C02F1/004 E03B11/14 E03F5/10 C02F1/001



Family:

Publication number	Publication date	Application number	Application date
US2020040562 AA	20200206	US20190516072	20190718

Priority:

US20180714475P 20180803 US20190852862P 20190524 US20190516072 20190718

Probable Assignee: CIV CON PRODUCTS AND SOLUTIONS LLC

Assignee(s): (std): CASHATT JUDD CLAYTON

Assignee(s): CIV CON PRODUCTS AND SOLUTIONS LLC

Inventor(s): (std): CASHATT JUDD CLAYTON

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2020040562 AA	20200206	LSPB	+	published / reissued	
US2020040562 AA	20200313	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CIV-CON PRODUCTS & SOLUTIONS, LLC, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CASHATT, JUDD CLAYTON; REEL/FRAME:052105/0317 EFFECTIVE DATE : 20200310

Title: END CAP HAVING INTEGRAL PIPE STUB FOR USE WITH **STORMWATER CHAMBER**

Abstract: A detachable end cap for a molded plastic storm water **chamber** has an integrally welded pipe stub. The stub cantilevers outwardly from the exterior surface of the end cap, which is preferably **dome** shaped, to enable connection to a line which carries water to or from the **chamber**. A polyethylene cap with stub and is used in combination with a polypropylene **chamber**.

Classifications:

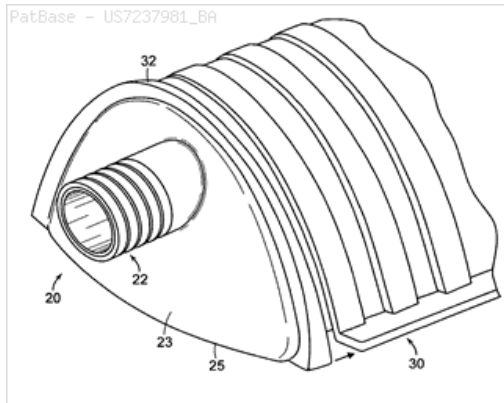
International (IPC 8-9): E02B11/00 E02B13/02 (Advanced/Invention)

CPC: E03F1/003

European: E03F1/00B2

US: 210/170.03 210/747 405/40 405/42 405/49 D23/260

PatBase - US7237981_BA



Family:

Publication number	Publication date	Application number	Application date
US7237981 BA	20070703	US20050031281	20050107

Priority:

US20040534955P 20040108 US20050031281 20050107

Probable Assignee: STORMTECH LLC

Assignee(s): (std): STORMTECH LLC

Assignee(s): BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS

Inventor(s): (std): VITARELLI RONALD R

Agent(s): C

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US7237981 BA	20070703	LSGT	+	granted / extensions (spc, cpc, pte)	
US7237981 BA	20050107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STORMTECH LLC, CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VITARELLI, RONALD R.; REEL/FRAME:016161/0765 EFFECTIVE DATE : 20050107
US7237981 BA	20070613	LSGT	PAT1	Patented Case	
US7237981 BA	20070613	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7237981 BA	20101203	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7237981 BA	20150105	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7237981 BA	20190103	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7237981 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213
US7237981 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213

US7237981 BA 20250107	PEXP	Calculated Patent Term Expiry
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Title: WASTE DISPOSAL APPARATUS AND METHOD

Abstract: There is provided waste treatment apparatus generally indicated as 10 and comprising a moulded plastic tank portion 11 forming an electrolysis **chamber** 13 and a holding **chamber** 14 separated by a bulkhead 15. The tanks are mutually closed at their tops by tank top 16 which closes over the bulkhead 15 to form substantially isolated spaces in the respective tanks. The electrolysis **chamber** 13 receives waste entrained in sea water from a macerating marine toilet (not shown) via a waste inlet 17 disposed at the upper portion of the electrolysis **chamber** 13. A displacement tube 20 picks up waste from the bottom of the electrolysis **chamber** 13 and discharges to the top of the holding **chamber** 14. A series of ruthenium/iridium oxide coated titanium electrode pairs 21 are disposed generally vertically to encourage vertical column circulation in the electrolysis **chamber** by virtue of the action of outgassed electrolysis products. A float transducer 23 provides holding **chamber** level data to the controller 22 which controls the operation of a discharge pump 26 adapted to selectively empty the holding **chamber** 14.

Classifications:**International (IPC 8-9):** C02F1/00 C02F1/461

C02F1/467 (Advanced/Invention);

C02F1/56 C02F9/00 (Advanced/Non-invention);

C02F1/00 C02F1/461 (Core/Invention);

C02F1/54 C02F9/00 (Core/Non-invention)

International (IPC 1-7): C02F1/461 C02F1/467 C25D17/00**CPC:** C02F1/4674 C02F1/46109 C02F1/001 C02F1/008 C02F1/56

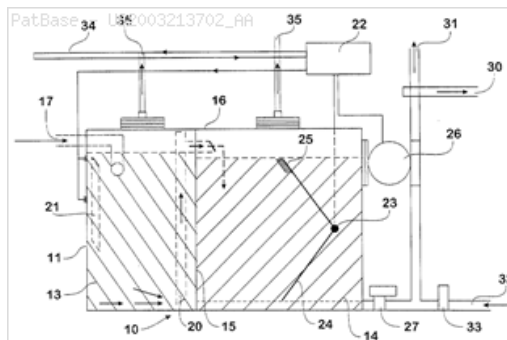
C02F9/00 C02F2001/46138 C02F2103/005 C02F2103/008

C02F2201/001 C02F2201/008 C02F2201/4612 C02F2201/4613

C02F2209/42 C02F2301/024

European: C02F1/00T C02F1/461B2**US:** 204/242 204/242S 204/275.1 204/275.100S 205/556 205/701

205/701S 205/742 205/742S

**Family:**

Publication number	Publication date	Application number	Application date
AU2001005046 A0	20010607	AU2001PR05046	20010516
AU200240673 A1	20021121	AU20020040673	20020516
AU200240673 A5	20021121	AU20020040673D	20020516
AU504601 A0	20010607	AU2001PR05046	20010516
US2003213702 AA	20031120	US20020233040	20020830

Priority:

AU2001PR05046 20010516 AU20020040673 20020516

Probable Assignee: ZAMVIEW PTY LTD ACN 010 805 731**Assignee(s):** (std): ZAMVIEW PTY LTD ; ZAMVIEW PTY LTD ACN 010 805 73 ; ENVIRO TREAT SYSTEMS PTY LTD**Assignee(s):** ENVIRO TREATMENT SYSTEMS PTY LTD ; ZAMVIEW PTY LTD ACN 010 805 731**Inventor(s):** (std): MANN LANCE**Inventor(s):** LANCE MANN**Agent(s):** PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; PIZZEYS**Legal status (INPADOC)**

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Patent	Date recorded	Event group	Code	Event	Details
AU2001005046 A0	20020307	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	PARTYTYPE : OWNER OWNER : ZAMVIEW PTY LTD OLDPARTY : THE FORMER OWNER WAS: ENVIRO TREATMENT SYSTEMS PTY LTD
AU200240673 A1	20021121	LSPB	+	published / reissued	
US2003213702 AA	20031120	LSPB	+	published / reissued	
US2003213702 AA	20020830	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ZAMVIEW PTY LTD ACN 010 805 731, AUSTRALIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MANN, LANCE; REEL/FRAME:013255/0523 EFFECTIVE DATE : 20020827
US2003213702 AA	20051031	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	

Title: MODULAR UNDERGROUND WATER MANAGEMENT SYSTEMS

Abstract: The invention provides modular units, associated component parts, and assemblies of the modular units and component parts, including filtration systems, that are useful for making and using underground water management systems.

Classifications:

International (IPC 8-9): E01F5/00 E02B13/00

E03F1/00 (Advanced/Invention);

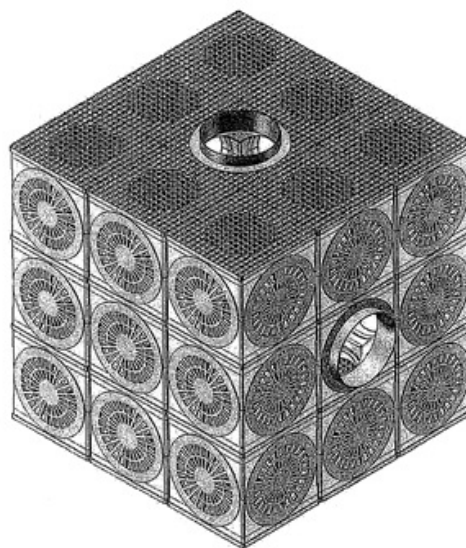
E01F5/00 E02B13/00 E03F1/00 (Core/Invention)

CPC: E03F1/005

European: E03F1/00B4

US: 405/126 405/126S 405/39 405/39P 405/45 405/45S

PatBase - US2009279953_AA



Family:

Publication number	Publication date	Application number	Application date
US2009279953 AA	20091112	US20090464791	20090512
WO09140295 A1	20091119	WO2009US43657	20090512

Priority:

US20080052574P 20080512 US20090464791 20090512

Probable Assignee: CUDO STORMWATER PRODUCTS INC

Assignee(s): (std): ALLARD DOUGLAS PAUL ; CUDO STORMWATER PRODUCTS INC ; DURAPAU RICK ; DVORCHEK JOSEPH

Inventor(s): (std): ALLARD DOUGLAS PAUL ; DURAPAU RICK ; DVORCHEK JOSEPH

Agent(s): HOWREY LLP-CA; HOWREY LLP CA; FAN HEATHER H

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2009279953 AA	20091112	LSPB	+	published / reissued	
US2009279953 AA	20090527	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CUDO STORMWATER PRODUCTS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ALLARD, DOUGLAS PAUL; DURAPAU, RICK; DVORCHEK, JOSEPH; REEL/FRAME:022743/0188; SIGNING DATES FROM 20090508 TO 20090511
US2009279953 AA	20120104	LSWD	-ABD3	Abandoned - - Failure to Respond to an Office Action	
WO09140295 A1	20091119	LSPB	+	published / reissued	
WO09140295 A1	20101113	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09140295 A1	20110810	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN	REF DOCUMENT NUMBER : 09747379 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

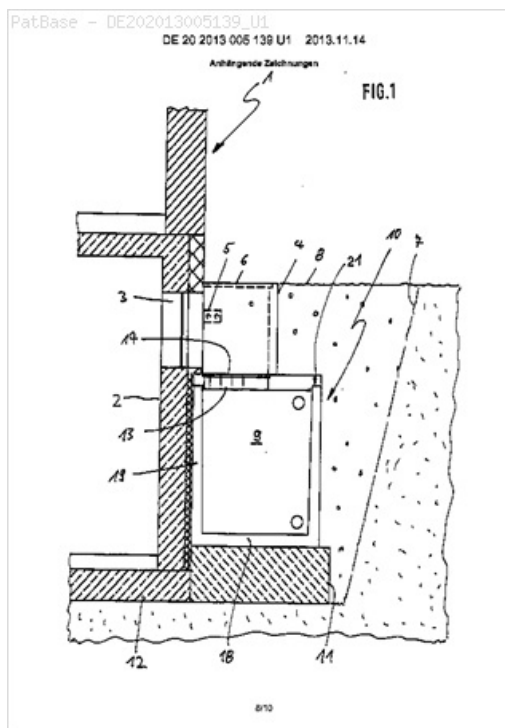
Title: VORRICHTUNG ZUR BUNKERUNG VON BRAUCHMATERIAL DEVICE FOR bunkering OF DOMESTIC MATERIAL (Machine translation)

Abstract: Source: DE202013005139U1 [DE] Vorrichtung zur Bunkerung von Brauchmaterial von Gebaeude, insbesondere Wasserzisterne, mit wenigstens einem vorzugsweise als Betonkoerper ausgebildeten einen Bunkerraum (9) enthaltenden Behaelter (10), der mit einer oberen, durch einen Deckel (14) verschliessbaren Revisionsoeffnung (13) versehen und in einer Grube (7) versenkt ist, dadurch gekennzeichnet, dass wenigstens ein der Aussenseite einer Kellerwand (2) eines Gebaeudes benachbart angeordneter Behaelter (10) vorgesehen ist, der mit seiner Oberseite an die Unterseite eines gebaeudeseitig vorgesehenen, nach unten offenen Lichtschachts (4) anschliesst, wobei sich die Revisionsoeffnung (13) innerhalb des vom Lichtschacht (4) umfassten Bereichs befindet. **Machine translation:** Provided Behaelter containing device for bunkering of hot material from buildings, especially water cistern, with at least one preferably formed as Betonkoerper a bunker room (9) (10), which can be closed with a top by a cover (14) Revisionsoeffnung (13) and is recessed in a pit (7), characterized in that at least the outside of a cellar wall (2) adjacent of a building arranged container (10) is provided, which with its top side to the underside of a gebaeudeseitig provided, open at the bottom light shaft (4), wherein the Revisionsoeffnung (13) within the by the light shaft (4) portion is comprised.

Classifications:

International (IPC 8-9): E03B3/03 E04F17/06 (Advanced/Invention)

CPC: E03B2001/045 E03F11/00 E03B1/041 E04B1/0007 E04F17/06



Family:

Publication number	Publication date	Application number	Application date
DE202013005139 U1	20131114	DE201320005139U	20130606

Priority:

DE201320005139U 20130606

Probable Assignee:

HIEBER ALEXANDER

Assignee(s): (std):

HIEBER ALEXANDER

Assignee(s):

HIEBER

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
DE202013005139 U1	20131114	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202013005139 U1	20131114	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20131114
DE202013005139 U1	20160712	LSGT	+R150	UTILITY MODEL MAINTAINED AFTER PAYMENT OF FIRST MAINTENANCE FEE AFTER THREE YEARS	
DE202013005139 U1	20200101	LSLE	-R157	LAPSE OF IP RIGHT AFTER 6 YEARS	
DE202013005139 U1	20230606	PEXP		Calculated Patent Term Expiry	

Title: CORRUGATED **STORMWATER CHAMBER** HAVING SUB-CORRUGATIONS

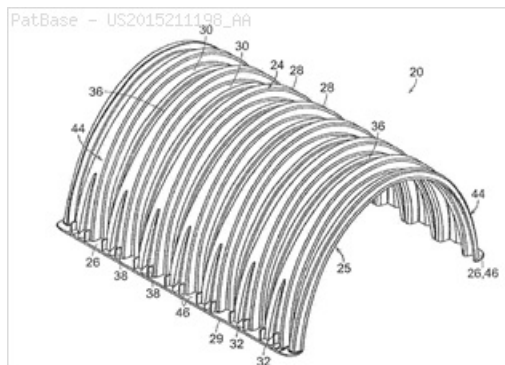
Abstract: A plastic arch-shape cross section corrugated **stormwater chamber** has a multiplicity of crest corrugations and valley corrugations which run transverse to its length. Sub-corrugations run along part or all of the arch-curve lengths of either crest corrugations or valley corrugations, or along both of them. A sub-corrugations are smaller in dimension than an associated crest corrugation or valley corrugation. Sub-corrugations may taper in width and depth and may taper to nothingness. A compound convex shape end cap, useful for closing off the ends of **stormwater chambers**, has substantially vertical corrugations with analogous sub-corrugations.

Classifications:

International (IPC 8-9): E02B11/00 E03F1/00 (Advanced/Invention)

CPC: E02B11/005 E02B11/00 E03F1/003

US: 1/1 405/42 405/43 405/46 405/49



Family:

Publication number	Publication date	Application number	Application date
US2015211198 AA	20150730	US20140165503	20140127
US2015225916 AA	20150813	US20140175477	20140207
US2016083921 A9	20160324	US20140175477	20140207
US2017002557 AA	20170105	US20160017509	20160205
US2017089054 AA	20170330	US20160373830	20161209
US2018010325 AA	20180111	US20170497341	20170426
US2020056360 AA	20200220	US20190352316	20190313
US8672583 BA	20140318	US20100802483	20100607
US9255394 BB	20160209	US20140165503	20140127
US9556576 BB	20170131	US20140175477	20140207
US9637907 BB	20170502	US20160017509	20160205
US9885171 BB	20180206	US20160373830	20161209
US10253490 BB	20190409	US20170497341	20170426

Priority:

US20090217905P	20090605	US20100802483	20100607	US20140165503	20140127
US20140175477	20140207	US20160017509	20160205	US20160373830	20161209
US20170497341	20170426	US20190352316	20190313		

Probable Assignee: STORMTECH LLC

Assignee(s): (std): STORM TECH LLC ; STORMTECH LLC ; MCGRATH TIMOTHY J ; MAILHOT DAVID J ; GANDHI NIMISH ; GANDHI NIMESH

Assignee(s): BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS

Inventor(s): (std): MCGRATH TIMOTHY J ; MAILHOT DAVID J ; GANDHI NIMISH ; GANDHI NIMESH

Agent(s): FINNEGAN HENDERSON FARABOW GARRETT AND DUNNER LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10253490 BB	20190409	LSGT	+	granted / extensions (spc, cpc, pte)	
US10253490 BB	20190320	LSGT	PAT1	Patented Case	
US10253490 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213
US10253490 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213
US10253490 BB	20370426	PEXP		Calculated Patent Term Expiry (a terminal)	

				disclaimer has been filed)	
US2015211198 AA	20150730	LSPB	+	published / reissued	
US2015211198 AA	20151028	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STORMTECH LLC, CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MAILHOT, DAVID J.; GANDHI, NIMISH; MCGRATH, TIMOTHY J.; SIGNING DATES FROM 20100715 TO 20100719; REEL/FRAME:036903/0143
US2015211198 AA	20160120	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015225916 AA	20150813	LSPB	+	published / reissued	
US2015225916 AA	20151028	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STORMTECH LLC, CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MAILHOT, DAVID J.; GANDHI, NIMISH; MCGRATH, TIMOTHY J.; SIGNING DATES FROM 20100715 TO 20100719; REEL/FRAME:036903/0322
US2016083921 A9	20170111	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017002557 AA	20170105	LSPB	+	published / reissued	
US2017002557 AA	20170412	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017089054 AA	20170330	LSPB	+	published / reissued	
US2017089054 AA	20170110	LSES	NFA1	Non Final Action Mailed	
US2017089054 AA	20170922	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017089054 AA	20171227	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017089054 AA	20180117	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2018010325 AA	20180111	LSPB	+	published / reissued	
US2018010325 AA	20180324	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2018010325 AA	20180329	LSES	NFA1	Non Final Action Mailed	
US2018010325 AA	20181123	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018010325 AA	20190228	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2018010325 AA	20190320	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2020056360 AA	20200220	LSPB	+	published / reissued	
US2020056360 AA	20191121	LSES	NFA1	Non Final Action Mailed	
US2020056360 AA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC;

US8672583 BA	20140318	LSGT	+	granted / extensions (spc, cpc, pte)	
US8672583 BA	20100806	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STORMTECH LLC, CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MAILHO, DAVID J; GANDHI, NIMISH; MCGRATH, TIMOTHY J; SIGNING DATES FROM 20100715 TO 20100719; REEL/FRAME:024802/0653
US8672583 BA	20140226	LSGT	PAT1	Patented Case	
US8672583 BA	20140226	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8672583 BA	20140812	LSRE	CC	CERTIFICATE OF CORRECTION	
US8672583 BA	20170307	LSOP	IPR	AIA TRIAL PROCEEDING FILED BEFORE THE PATENT AND APPEAL BOARD: INTER PARTES REVIEW	PARTYTYPE : OPPONENT OPPONENT : CULTEC, INC. OLDPARTY : TRIAL NO: IPR2017-00526 EFFECTIVE DATE : 20170106
US8672583 BA	20170918	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8672583 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213
US8672583 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213
US8672583 BA	20310827	PEXP		Calculated Patent Term Expiry (PTA 446 days)	
US9255394 BB	20160209	LSGT	+	granted / extensions (spc, cpc, pte)	
US9255394 BB	20151217	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9255394 BB	20160120	LSGT	PAT1	Patented Case	
US9255394 BB	20170321	LSOP	IPR	AIA TRIAL PROCEEDING FILED BEFORE THE PATENT AND APPEAL BOARD: INTER PARTES REVIEW	PARTYTYPE : OPPONENT OPPONENT : CULTEC, INC. OLDPARTY : TRIAL NO: IPR2017-00777 EFFECTIVE DATE : 20170127
US9255394 BB	20190809	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9255394 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213
US9255394 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213

US9255394 BB	20340127	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)
US9556576 BB	20170131	LSGT	+	granted / extensions (spc, cpc, pte)
US9556576 BB	20150915	LSSES	NFA1	Non Final Action Mailed
US9556576 BB	20170111	LSGT	PAT1	Patented Case
US9556576 BB	20191213	LSAS	AS	ASSIGNMENT PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213
US9556576 BB	20191213	LSAS	AS	ASSIGNMENT PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213
US9556576 BB	20340224	PEXP		Calculated Patent Term Expiry (PTA 17 days and a terminal disclaimer has been filed)
US9637907 BB	20170502	LSGT	+	granted / extensions (spc, cpc, pte)
US9637907 BB	20170412	LSGT	PAT1	Patented Case
US9637907 BB	20170711	LSRE	CC	CERTIFICATE OF CORRECTION
US9637907 BB	20191213	LSAS	AS	ASSIGNMENT PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213
US9637907 BB	20191213	LSAS	AS	ASSIGNMENT PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:STORMTECH LLC; REEL/FRAME:051282/0496 EFFECTIVE DATE : 20191213
US9637907 BB	20360205	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)
US9885171 BB	20180206	LSGT	+	granted / extensions (spc, cpc, pte)
US9885171 BB	20180117	LSGT	PAT1	Patented Case
US9885171 BB	20191213	LSAS	AS	ASSIGNMENT PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:ADVANCED DRAINAGE SYSTEMS, INC.; REEL/FRAME:051287/0273 EFFECTIVE DATE : 20191213
US9885171 BB	20191213	LSAS	AS	ASSIGNMENT PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:ADVANCED DRAINAGE SYSTEMS, INC.; REEL/FRAME:051287/0273 EFFECTIVE DATE : 20191213
US9885171 BB	20361209	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has

Title: SOLIDS SEPARATOR

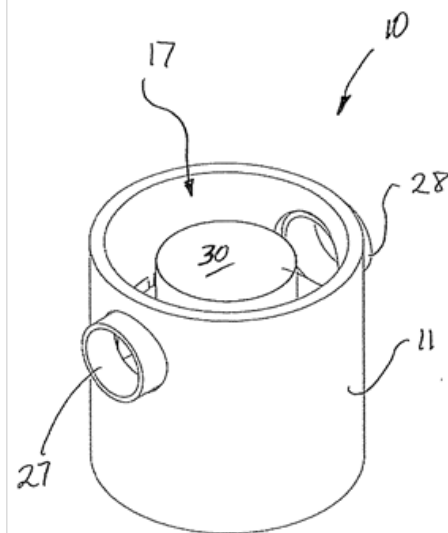
Abstract: A solids separator comprising: a separator tank having an inlet and an outlet through which water entrained with solids can flow; an inflow passage from the inlet to a separation **chamber** in the tank, and an outflow passage from the separation **chamber** to the outlet with a solids filter located therein; a bypass passage accessed over a bypass weir that allows water to flow from the inlet to the outlet bypassing the separation **chamber**; and an internal wall in the separator tank that partitions an inflow **chamber** from the bypass passage wherein the internal wall has an opening located near the separator's inlet, and the inflow **chamber** and opening are located in the inflow passage.

Classifications:**International (IPC 8-9):** B01D21/00 E03F1/00

E03F5/14 (Advanced/Invention)

CPC: E03F5/14 B01D21/2427 B01D2221/12 B01D21/0012

PatBase - WO14146178_A1

**FIGURE 2****Family:**

Publication number	Publication date	Application number	Application date
AU2014234965 AA	20151105	AU20140234965	20140318
WO14146178 A1	20140925	WO2014AU50005	20140318

Priority:

AU20130900948 20130318 AU20140234965 20140318 WO2014AU50005 20140318

Probable Assignee: WATER SOLUTIONS AUST PTY LTD**Assignee(s):** (std): WATER SOLUTIONS AUST PTY LTD**Inventor(s):** (std): PHILLIPS DONALD IAN**Agent(s):** GRIFFITH HACK; BYRON BOWMAN

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
AU2014234965 AA	20151105	LSPB	+	published / reissued	
AU2014234965 AA	20170105	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
WO14146178 A1	20140925	LSPB	+	published / reissued	
WO14146178 A1	20150918	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO14146178 A1	20151105	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014234965 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20140318 KIND CODE OF

					REF DOCUMENT : A DESIGNATED STATE(S) :
WO14146178 A1	20160413	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14768684 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: **STORMWATER** MANAGEMENT SYSTEM

Abstract: Disclosed is a fluid, namely **stormwater**, management system employing a **chamber** having an overall substantially constant curve cross-sectional geometry, with an a-semicircular constant curve cross-sectional geometry preferred. This **chamber**, which preferably follows both AASHTO standard specifications for Highway Bridges, Section 18, and Corrugated Polyethylene Pipe Association (CCPA) specifications, can further comprise corrugations, support members and/or connecting elements to further add structural integrity.

Classifications:

International (IPC 8-9): E01F5/00 E02B11/00

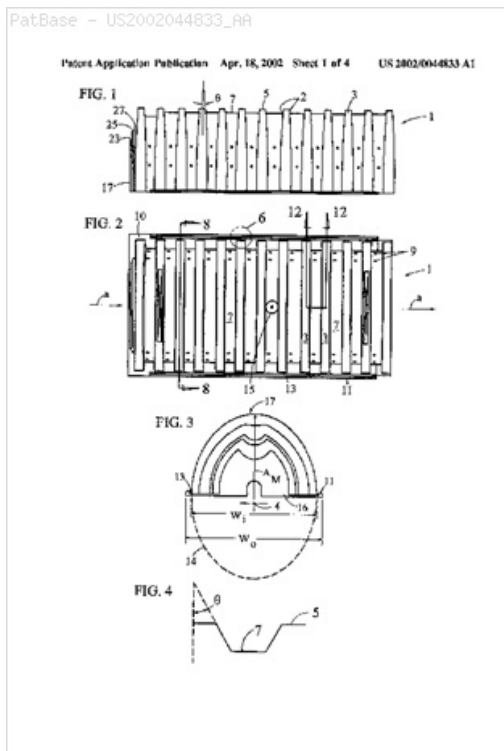
E03F1/00 (Advanced/Invention)

International (IPC 1-7): E02B11/00 E02B13/00 E03F1/00

CPC: E03F1/003

European: E03F1/00B2

US: 210/170.01 405/125 405/126 405/36 405/36S 405/39 405/40 405/42 405/43 405/43P 405/46 405/46S 405/49 405/49P



Family:

Publication number	Publication date	Application number	Application date
AT381646 E	20080115	AT20010933036T	20010504
DE60131966 D1	20080131	DE20016031966	20010504
DE60131966 D1	20080131	DE20016031966T	20010504
DE60131966 T2	20081204	DE20016031966T	20010504
EP1285140 A1	20030226	EP20010933036	20010504
EP1285140 B1	20071219	EP20010933036	20010504
ES2296751 T3	20080501	ES20010933036T	20010504
PT1285140 T	20080324	PT20010933036T	20010504
US2002044833 AA	20020418	US20010849768	20010504
US2005238434 AA	20051027	US20050158562	20050622
US7052209 BA	20060530	US20030402414	20030328
US7118306 BB	20061010	US20010849768	20010504
US7306399 BA	20071211	US20060441664	20060526
US7491015 BB	20090217	US20050158562	20050622
WO0188288 A1	20011122	WO2001US14502	20010504
WO0188288 C2	20021107	WO2001US14502	20010504

Priority:

US20000202255P 20000505	US20010849768 20010504	WO2001US14502 20010504
US20010849768 20010524	US20020368764P 20020329	US20030402414 20030328
US20050158562 20050622	US20060441664 20060526	

Probable Assignee: INFILTRATOR WATER TECHNOLOGIES LLC

Assignee(s): (std): COPPES BRYAN A ; INFILTRATOR SYSTEMS INC ; SMITH JONATHAN F ; STORMTECH INC

Assignee(s): STORMTECH INC NOW KNOWN STI INC AS ; AMERICAN CAPITAL FINANCIAL SERVICES INC ; BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS ; CONNORS RAYMOND ; INFILTRATOR SYSTEMS INC WAS KNOWN AS WATER SYSTEMS ACQUISITION CORP.. ; INFILTRATOR WATER TECHNOLOGIES LLC ; ISI POLYETHYLENE SOLUTIONS LLC ; KRUGER KURT J ; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH ; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC ADMINISTRATIVE AGENT AS ; DEUTSCHE BANK NEW YORK BRANCH AG ; EZFLOW LP ; EZFLOW LP WAS KNOWN AS RING INDUSTRIAL GROUP LP.. ; GE BUSINESS FINANCIAL SERVICES INC ; GE BUSINESS FINANCIAL SERVICES INC WAS MERRILL LYN ; GE BUSINESS FINANCIAL SERVICES INC WAS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC AS ADMINISTRATIVE AGENT.. ; INFILTRATOR SYSTEMS INC

Inventor(s): (std): CONNORS RAYMOND ; COPPES BRYAN A ; KRUGER KURT J ; SMITH JONATHAN F ; SMITH JONATHAN E ; SMITH JONATHAN ; KRUGER KURT ; COPPES BRYAN ; COPPES BRYAN F

Inventor(s): BRYAN A COPPES ; JONATHAN F SMITH ; RAYMOND CONNORS ; KURT J KRUGER

Agent(s): CHARLES G NESSLER; C; CANTOR COLBURN LLP; S; NESSLER CHARLES; MCHUGH STEVEN; CHARLES; STEVEN

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

Legal status (INPADOC)
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Patent	Date recorded	Event group	Code	Event	Details
AT381646 E	20080115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT381646 E	20080415	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	REF DOCUMENT NUMBER : 1285140 COUNTRY OF REF DOCUMENT : EP
AT381646 E	20090815	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT381646 E	20210504	PEXP		Calculated Patent Term Expiry	
DE60131966 D1	20090108	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60131966 D1	20090108	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60131966 T2	20081204	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60131966 T2	20090108	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60131966 T2	20210504	PEXP		Calculated Patent Term Expiry	
EP1285140 A1	20030226	LSPB	+	published / reissued	
EP1285140 A1	20030226	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20021205
EP1285140 A1	20050713	LSES	+17Q	FIRST EXAMINATION REPORT DESPACHED	EFFECTIVE DATE : 20050527
EP1285140 A1	20060830	LSES	+17Q	FIRST EXAMINATION REPORT DESPACHED	EFFECTIVE DATE : 20050527
EP1285140 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160525 YEAR OF FEE PAYMENT : 16
EP1285140 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160511 YEAR OF FEE PAYMENT : 16
EP1285140 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20160506 YEAR OF FEE PAYMENT : 16
EP1285140 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160523 YEAR OF FEE PAYMENT : 16
EP1285140 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160524 YEAR OF FEE PAYMENT : 16
EP1285140 B1	20071219	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1285140 B1	20071219	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1285140 B1	20080109	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D

EP1285140 B1	20080115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1285140 B1	20080501	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2296751 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP1285140 B1	20080530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20071219
EP1285140 B1	20081031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20071219
EP1285140 B1	20081126	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080922
EP1285140 B1	20081130	LSLE	-BERE	BE: LAPSED	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : STORMTECH INC. EFFECTIVE DATE : 20080531
EP1285140 B1	20081231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080531
EP1285140 B1	20081231	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1285140 B1	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080531
EP1285140 B1	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20080320
EP1285140 B1	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080531
EP1285140 B1	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20081201
EP1285140 B1	20090213	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : PT REF LEGAL EVENT CODE : MM4A TEXT : LAPSE DUE TO NON-PAYMENT OF FEES EFFECTIVE DATE : 20090204
EP1285140 B1	20090331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080531
EP1285140 B1	20090529	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090204
EP1285140 B1	20090728	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20080505
EP1285140 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20071219
EP1285140 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080504
EP1285140 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080505
EP1285140 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080504
EP1285140 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20080505
EP1285140 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20071219
EP1285140 B1	20160523	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 16
EP1285140 B1	20170531	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 17
EP1285140 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170621 YEAR OF FEE PAYMENT : 17
EP1285140 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170531 YEAR OF FEE PAYMENT : 17
EP1285140 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170531 YEAR OF FEE PAYMENT : 17
EP1285140 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20170531 YEAR OF FEE PAYMENT : 17
EP1285140 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170622 YEAR OF FEE PAYMENT : 17

					NATIONAL OFFICE TO EPO]
EP1285140 B1	20180529	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18
EP1285140 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20180525 YEAR OF FEE PAYMENT : 18
EP1285140 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180625 YEAR OF FEE PAYMENT : 18
EP1285140 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180529 YEAR OF FEE PAYMENT : 18
EP1285140 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180622 YEAR OF FEE PAYMENT : 18
EP1285140 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180529 YEAR OF FEE PAYMENT : 18
EP1285140 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20190530 YEAR OF FEE PAYMENT : 19
EP1285140 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190619 YEAR OF FEE PAYMENT : 19
EP1285140 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190625 YEAR OF FEE PAYMENT : 19
EP1285140 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190529 YEAR OF FEE PAYMENT : 19
EP1285140 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190624 YEAR OF FEE PAYMENT : 19
EP1285140 B1	20210504	PEXP		Calculated Patent Term Expiry	
ES2296751 T3	20080501	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2296751 T3	20210504	PEXP		Calculated Patent Term Expiry	
PT1285140 T	20080324	LSGT	+	granted / extensions (spc, cpc, pte)	
PT1285140 T	20210504	PEXP		Calculated Patent Term Expiry	
US2002044833 AA	20020418	LSPB	+	published / reissued	
US2002044833 AA	20060803	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILLTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:STORMTECH, INC; REEL/FRAME:018143/0951 EFFECTIVE DATE : 20030701

US2005238434 AA	20051027	LSPB	+	published / reissued	
US2005238434 AA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018454/0896 EFFECTIVE DATE : 20061031
US2005238434 AA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US2005238434 AA	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US2005238434 AA	20081029	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY MERR OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021754/0187 EFFECTIVE DATE : 20081029
US2005238434 AA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US2005238434 AA	20090128	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7052209 BA	20060530	LSGT	+	granted / extensions (spc, cpc, pte)	
US7052209 BA	20030915	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:COPPES, BRYAN A.; KRUEGER, KURT J.; SMITH, JONATHAN E.; AND OTHERS; REEL/FRAME:014496/0482; SIGNING DATES FROM 20030331 TO 20030618
US7052209 BA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018454/0896 EFFECTIVE DATE : 20061031
US7052209 BA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US7052209 BA	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

					OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US7052209 BA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7052209 BA	20100530	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7052209 BA	20100530	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US7052209 BA	20100720	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20100530
US7052209 BA	20110822	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20110823
US7052209 BA	20110823	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7052209 BA	20110823	LSGT	PAT1	Patented Case	
US7052209 BA	20140527	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7052209 BA	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7052209 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7052209 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7052209 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7052209 BA	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK

					OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7052209 BA	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7052209 BA	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7052209 BA	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US7052209 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7052209 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7052209 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7052209 BA	20180108	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7052209 BA	20180625	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7052209 BA	20180625	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7052209 BA	20180717	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20180530
US7052209 BA	20190128	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20190131

US7052209 BA	20190131	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE, PETITION TO ACCEPT PYMT AFTER EXP, UNINTENTIONAL (ORIGINAL EVENT CODE: M1558); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7052209 BA	20190131	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PMFG); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7052209 BA	20190131	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : PETITION RELATED TO MAINTENANCE FEES FILED (ORIGINAL EVENT CODE: PMFP); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7052209 BA	20190131	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7052209 BA	20190131	LSGT	PAT1	Patented Case	
US7052209 BA	20190131	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7052209 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7052209 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7052209 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7052209 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7052209 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7052209 BA	20230328	PEXP		Calculated Patent Term Expiry	
US7118306 BB	20061010	LSGT	+	granted / extensions (spc, cpc, pte)	
US7118306 BB	20010723	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STORMTECH, INC., CONNECTICUT

					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KRUGER, KURT J.; COPPES, BRYAN A.; SMITH, JONATHAN F.; AND OTHERS; REEL/FRAME:012009/0849; SIGNING DATES FROM 20010613 TO 20010705
US7118306 BB	20060920	LSGT	PAT1	Patented Case	
US7118306 BB	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018454/0896 EFFECTIVE DATE : 20061031
US7118306 BB	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US7118306 BB	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US7118306 BB	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7118306 BB	20101012	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7118306 BB	20110329	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : STORMTECH, INC. NOW KNOWN AS STI INCORPORATED, CON OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CONNORS, RAYMOND; REEL/FRAME:026037/0440 EFFECTIVE DATE : 20110329
US7118306 BB	20110329	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:STI INCORPORATED FORMERLY KNOWN AS STORMTECH INC.; REEL/FRAME:026037/0556 EFFECTIVE DATE : 20110329
US7118306 BB	20140410	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7118306 BB	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7118306 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A

DIVISION OF MERRILL LYNCH
BUSINESS FINANCIAL SERVICES,
INC.); REEL/FRA:035745/0166
EFFECTIVE DATE : 20150528

US7118306 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRA:035797/0837 EFFECTIVE DATE : 20150528
US7118306 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRA:035797/0837 EFFECTIVE DATE : 20150528
US7118306 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036044/0627 EFFECTIVE DATE : 20150527
US7118306 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036044/0562 EFFECTIVE DATE : 20150527
US7118306 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036387/0540 EFFECTIVE DATE : 20150527
US7118306 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036387/0435 EFFECTIVE DATE : 20150527
US7118306 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRA:041777/0638 EFFECTIVE DATE : 20170217
US7118306 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRA:041777/0638 EFFECTIVE DATE : 20170217
US7118306 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE

					SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7118306 BB	20180521	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7118306 BB	20181112	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7118306 BB	20181112	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7118306 BB	20181204	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20181010
US7118306 BB	20190128	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20190131
US7118306 BB	20190131	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : PETITION RELATED TO MAINTENANCE FEES FILED (ORIGINAL EVENT CODE: PMFP); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7118306 BB	20190131	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PMFG); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7118306 BB	20190131	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE, PETITION TO ACCEPT PYMT AFTER EXP, UNINTENTIONAL (ORIGINAL EVENT CODE: M1558); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7118306 BB	20190131	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7118306 BB	20190131	LSGT	PAT1	Patented Case	
US7118306 BB	20190131	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7118306 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7118306 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7118306 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT;

					REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7118306 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7118306 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7118306 BB	20230320	PEXP		Calculated Patent Term Expiry (PTA 685 days)	
US7306399 BA	20071211	LSGT	+	granted / extensions (spc, cpc, pte)	
US7306399 BA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018454/0896 EFFECTIVE DATE : 20061031
US7306399 BA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US7306399 BA	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US7306399 BA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7306399 BA	20111211	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7306399 BA	20120109	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7306399 BA	20120109	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7306399 BA	20120131	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20111211
US7306399 BA	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL,

LTD.; REEL/FRAME:035749/0405
EFFECTIVE DATE : 20150511

US7306399 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7306399 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7306399 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7306399 BA	20260908	PEXP		Calculated Patent Term Expiry (PTA 105 days)	
US7491015 BB	20090217	LSGT	+	granted / extensions (spc, cpc, pte)	
US7491015 BB	20090128	LSGT	PAT1	Patented Case	
US7491015 BB	20120814	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7491015 BB	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7491015 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7491015 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7491015 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS

					FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7491015 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7491015 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7491015 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US7491015 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7491015 BB	20170217	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7491015 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7491015 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7491015 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7491015 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7491015 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER

					TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7491015 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7491015 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7491015 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7491015 BB	20250622	PEXP		Calculated Patent Term Expiry	
WO0188288 A1	20011122	LSPB	+	published / reissued	
WO0188288 C2	20021205	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001933036 COUNTRY OF REF DOCUMENT : EP
WO0188288 C2	20030226	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001933036 COUNTRY OF REF DOCUMENT : EP
WO0188288 C2	20050404	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO0188288 C2	20071219	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001933036 COUNTRY OF REF DOCUMENT : EP

Title: FACETED END CAP FOR LEACHING **CHAMBER**

Abstract: A molded thermoplastic **domed** end cap, for attachment to the end of an arch shape cross section leaching **chamber** or **stormwater chamber**, has a multiplicity of buttresses, to provide facet surfaces where pipe connections may be made. The essentially planar surface portions have tear out or cut out regions, for pipe openings. The buttresses face in different directions, relative to the longitudinal axis of the end cap, to conveniently accommodate pipes running in different angular directions. Pipes, which pass through openings in the surfaces of the buttresses, are supported by molded in step-saddles of the buttresses. Molded in stops limit inward motion of pipes.

Classifications:

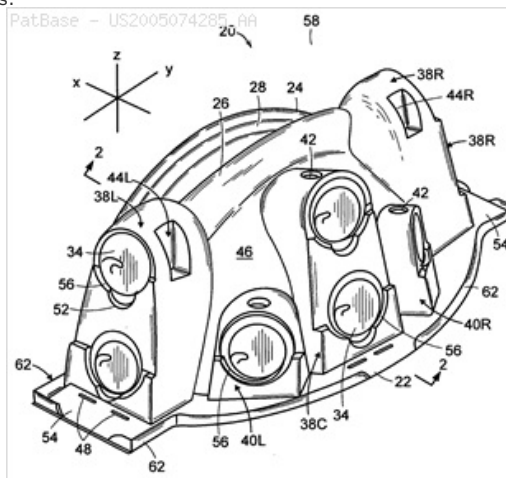
International (IPC 8-9): E02B11/00 E03F1/00 (Advanced/Invention); E03F1/00 (Core/Invention)

International (IPC 1-7): E02B11/00

CPC: E03F1/003

European: E03F1/00B2

US: 210/17 210/170 210/170.03 210/170.030S 210/170.08 210/170.080S 405/43 405/43P 405/46 405/48 405/48S 405/49 405/49S



Family:

Publication number	Publication date	Application number	Application date
CA2535015 AA	20060208	CA20042535015	20040930
CA2535015 C	20090127	CA20042535015	20040930
US2005074285 AA	20050407	US20030677771	20031001
US7008138 BB	20060307	US20030677771	20031001
WO05033421 A1	20050414	WO2004US32163	20040930

Priority:

US20030677771 20031001 WO2004US32163 20040930

Probable Assignee: INFILTRATOR WATER TECHNOLOGIES LLC

Assignee(s): (std): INFILTRATOR SYSTEMS INC

Assignee(s): MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH ; INFILTRATOR SYSTEMS INC WAS KNOWN AS WATER SYSTEMS ACQUISITION CORP.; EZFLOW LP WAS KNOWN AS RING INDUSTRIAL GROUP LP.; INFILTRATOR WATER TECHNOLOGIES LLC ; DEUTSCHE BANK NEW YORK BRANCH AG ; EZFLOW LP ; ISI POLYETHYLENE SOLUTIONS LLC ; NICHOLS JAMES M ; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC ADMINISTRATIVE AGENT AS ; AMERICAN CAPITAL FINANCIAL SERVICES INC ; BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS ; BROCHU RONALD P ; BROCHU RONALD P ; BURNES JAMES J

Inventor(s): (std): BURNES JAMES J ; BROCHU RONALD P ; NICHOLS JAMES M ; BROCHU RONALD P

Inventor(s): BROCHU RONALD ; BURNES JAMES ; NICHOLS JAMES

Agent(s): RICHES MCKENZIE AND HERBERT LLP; CHARLES G NESSLER; C

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 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 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
CA2535015 AA	20060208	LSPB	+	published / reissued	
CA2535015 AA	20060713	LSES	+EEER	EXAMINATION REQUEST	
CA2535015 C	20090127	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2535015 C	20240930	PEXP		Calculated Patent Term Expiry	
US2005074285 AA	20050407	LSPB	+	published / reissued	
US2005074285 AA	20051005	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT;

					ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:016621/0275 EFFECTIVE DATE : 20050929
US2005074285 AA	20060215	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7008138 BB	20060307	LSGT	+	granted / extensions (spc, cpc, pte)	
US7008138 BB	20031001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BURNES, JAMES J.; NICHOLS, JAMES M.; BROCHU, RONALD P.; REEL/FRAME:014586/0875 EFFECTIVE DATE : 20030930
US7008138 BB	20060215	LSGT	PAT1	Patented Case	
US7008138 BB	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US7008138 BB	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US7008138 BB	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7008138 BB	20090821	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7008138 BB	20140306	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7008138 BB	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7008138 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7008138 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7008138 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528

US7008138 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7008138 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7008138 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US7008138 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7008138 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7008138 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7008138 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7008138 BB	20170930	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : 11.5 YR SURCHARGE- LATE PMT W/IN 6 MO, LARGE ENTITY (ORIGINAL EVENT CODE: M1556)
US7008138 BB	20170930	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7008138 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7008138 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7008138 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS

					COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7008138 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7008138 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7008138 BB	20231001	PEXP		Calculated Patent Term Expiry	
WO05033421 A1	20050414	LSPB	+	published / reissued	
WO05033421 A1	20060208	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2535015 COUNTRY OF REF DOCUMENT : CA
WO05033421 A1	20070207	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO

Title: LEACHING **CHAMBER** WITH INWARD FLARING SIDEWALL PERFORATIONS

Abstract: A leaching **chamber** has sidewall perforations which flare inwardly, so that the smallest perforation dimension is on the exterior surface of the sidewall. The basic axes of the perforations run downwardly toward the **chamber** base, as the axes run from the inside to outside of the **chamber**. Mold cores having inwardly retracting slides, and which move in complex ways, are used to form the **chamber**. Thus, perforations are present down near the base flange of the sidewall, even though the base flange has an upwardly extending fin.

Classifications:

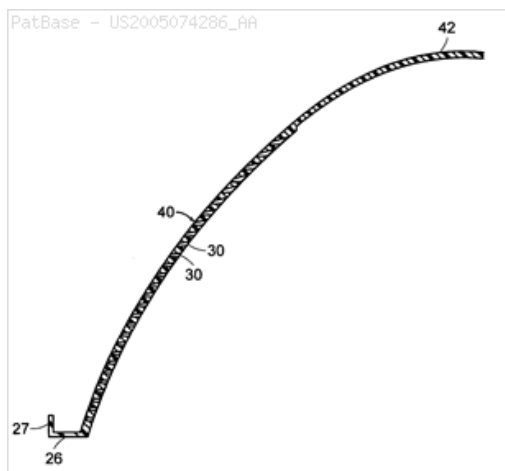
International (IPC 8-9): B29C45/26 B29C45/33 B29C45/38 B29C45/44 E02B11/00 E03F1/00 F16L9/12 (Advanced/Invention); B29C45/26 B29C45/33 B29C45/38 B29C45/44 E02B11/00 E03F1/00 F16L9/00 (Core/Invention)

International (IPC 1-7): E02B11/00 E03F F16L9/00

CPC: B29C45/2628 B29C45/33 B29C45/4435 E03F1/003 Y10S425/058

European: B29C45/26K B29C45/33 B29C45/44D E03F1/00B2

US: 138/105 138/173 138/173S 210/17 210/170 210/170.08 210/170.080S 264/318 264/328.1 264/328.100P 264/334 405/43 405/43P 405/46 405/48 405/48S 405/49 425/438 425/577 425/577S 425/DIG.58



Family:

Publication number	Publication date	Application number	Application date
CA2535016 AA	20060208	CA20042535016	20040930
CA2535016 C	20100126	CA20042535016	20040930
EP1682728 A2	20060726	EP20040789346	20040930
EP1682728 A4	20100407	EP20040789346	20040930
US2005074286 AA	20050407	US20030677772	20031001
US2006076714 AA	20060413	US20050288904	20051129
US7585130 BB	20090908	US20030677772	20031001
US7632447 BB	20091215	US20050288904	20051129
WO05033425 A2	20050414	WO2004US32162	20040930
WO05033425 A3	20050728	WO2004US32162	20040930

Priority:

US20030677772 20031001 WO2004US32162 20040930 US20050288904 20051129

Probable Assignee: INFILTRATOR SYSTEMS INC

Assignee(s): (std): SWISTAK DANIEL J ; PHILLIPS TODD E ; INFILTRATOR SYSTEMS INC ; BURNES JAMES J ; CHURCHILL DAVID J

Assignee(s): EZFLOW LP WAS KNOWN AS RING INDUSTRIAL GROUP LP.. ; AMERICAN CAPITAL FINANCIAL SERVICES INC ; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH ; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC ADMINISTRATIVE AGENT AS ; INFILTRATOR SYSTEMS INC WAS KNOWN AS WATER SYSTEMS ACQUISITION CORP..

Inventor(s): (std): CHURCHILL DAVID J ; PHILLIPS TODD E ; BURNES JAMES J ; SWISTAK DANIEL J

Inventor(s): PHILLIPS TODD ; CHURCHILL DAVID ; SWISTAK DANIEL ; BURNES JAMES

Agent(s): RICHES MCKENZIE AND HERBERT LLP; CHARLES G NESSLER; C

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 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
CA2535016 AA	20060208	LSPB	+	published / reissued	
CA2535016 AA	20060713	LSSES	+EEER	EXAMINATION REQUEST	
CA2535016 C	20100126	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2535016 C	20151111	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20150930
CA2535016 C	20240930	PEXP		Calculated Patent Term Expiry	
EP1682728 A2	20060726	LSPB	+	published / reissued	

EP1682728 A2	20060726	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060502
EP1682728 A4	20100407	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20100309
EP1682728 A4	20100929	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20100331
US2005074286 AA	20050407	LSPB	+	published / reissued	
US2005074286 AA	20051005	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:016621/0275 EFFECTIVE DATE : 20050929
US2005074286 AA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US2005074286 AA	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US2005074286 AA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US2006076714 AA	20060413	LSPB	+	published / reissued	
US2006076714 AA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018454/0896 EFFECTIVE DATE : 20061031
US2006076714 AA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US2006076714 AA	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US2006076714 AA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT;

ASSIGNOR:INFILTRATOR
SYSTEMS, INC.;
REEL/FRAME:021773/0179
EFFECTIVE DATE : 20081031

US7585130 BB	20090908	LSGT	+	granted / extensions (spc, cpc, pte)	
US7585130 BB	20031001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SWISTAK, DANIEL J.; PHILLIPS, TODD E.; CHURCHILL, DAVID J.; AND OTHERS; REEL/FRAME:014586/0817; SIGNING DATES FROM 20030926 TO 20030929
US7585130 BB	20130908	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7585130 BB	20131007	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7585130 BB	20131007	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7585130 BB	20131029	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20130908
US7585130 BB	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7585130 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7585130 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7585130 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7585130 BB	20231001	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US7632447 BB	20091215	LSGT	+	granted / extensions (spc, cpc, pte)	
US7632447 BB	20131215	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	

US7632447 BB	20140113	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7632447 BB	20140113	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7632447 BB	20140204	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20131215
US7632447 BB	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7632447 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7632447 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7632447 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7632447 BB	20270918	PEXP		Calculated Patent Term Expiry (PTA 658 days)	
WO05033425 A2	20050414	LSPB	+	published / reissued	
WO05033425 A2	20050621	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2747/DELNP/2005 COUNTRY OF REF DOCUMENT : IN
WO05033425 A3	20060208	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2535016 COUNTRY OF REF DOCUMENT : CA
WO05033425 A3	20060421	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2004789346 COUNTRY OF REF DOCUMENT : EP
WO05033425 A3	20060726	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2004789346 COUNTRY OF REF DOCUMENT : EP

Title: CORRUGATED LEACHING **CHAMBER**

Abstract: A continuous curve arch shape cross section leaching **chamber** made of molded thermoplastic has closely spaced corrugations and sidewalls which are perforated with slots which slope downwardly, running from interior to exterior of the **chamber**. The slot height and or wall thickness vary with slot elevation from the base, to achieve a desired minimum Soil Threshold Angle in the slots, where said Angle parameter relates to resistance to entry of surrounding soil. Slotted wall thickness is less than about two times the thickness of the basic **chamber** wall thickness elsewhere. The **chamber** has properties and performance approximating prior art **chambers**, but has substantially less normalized weight and total weight.

Classifications:

International (IPC 8-9): B01D35/02 E01C11/02 E02B11/00

E02B13/00 E03F1/00 E21F17/02 F16L3/00

F16L9/12 (Advanced/Invention);

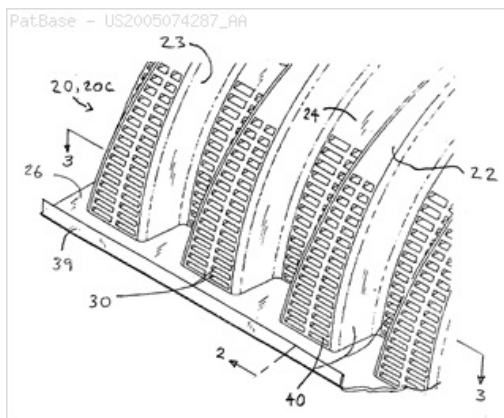
E02B11/00 E02B13/00 E03F1/00 (Core/Invention)

International (IPC 1-7): E01C11/02 E02B11/00 E03F

CPC: E03F1/003

European: E03F1/00B2

US: 138/105 138/173 248/58 405/43 405/43P 405/45 405/46 405/48 405/48S 405/49 405/49P



Family:

Publication number	Publication date	Application number	Application date
CA2535017 AA	20060208	CA20042535017	20040930
CA2535017 C	20100727	CA20042535017	20040930
CA2634311 AA	20050414	CA20042634311	20040930
CA2634311 C	20110222	CA20042634311	20040930
EP1680556 A2	20060719	EP20040789535	20040930
EP1680556 A4	20070516	EP20040789535	20040930
US2005074287 AA	20050407	US20030677938	20031001
US2007154261 AA	20070705	US20070717513	20070312
US2007172314 AA	20070726	US20070717551	20070312
US2007231071 AA	20071004	US20070717547	20070312
US2009067929 AA	20090312	US20080283169	20080909
US7189027 BB	20070313	US20030677938	20031001
US7306400 BA	20071211	US20040018200	20041220
US7396188 BB	20080708	US20070717551	20070312
US7419331 BB	20080902	US20070717513	20070312
US7465122 BB	20081216	US20070717547	20070312
US7500805 BA	20090310	US20040018198	20041220
US8297880 BB	20121030	US20080283169	20080909
WO05033426 A2	20050414	WO2004US33039	20040930
WO05033426 A3	20060126	WO2004US33039	20040930

Priority:

US20030677938	20031001	CA20042535017	20040930	CA20042634311	20040930
WO2004US33039	20040930	US20040018198	20041220	US20040018200	20041220
US20070717513	20070312	US20070717551	20070312	US20070717547	20070312
US20080283169	20080909				

Probable Assignee: INFILTRATOR WATER TECHNOLOGIES LLC

Assignee(s): (std): BATTYE JOHN ; BATTYE JOHN R ; BROCHU RONALD P ; BURNES JAMES J ; COPPES BRYAN A ; INFILTRATOR SYSTEMS INC ; SWISTAK DANIEL T ; MOORE JR ROY E ; INFILTRATION SYSTEM INC ; MOORE ROY E JR

Assignee(s): AMERICAN CAPITAL FINANCIAL SERVICES INC ; BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS ; GENERAL ELECTRIC CAPITAL CO ; GE BUSINESS FINANCIAL SERVICES INC WAS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC AS ADMINISTRATIVE AGENT.. ; GE BUSINESS FINANCIAL SERVICES INC WAS MERRILL LYN ; GE BUSINESS FINANCIAL SERVICES INC ; EZFLOW LP ; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC ADMINISTRATIVE AGENT AS ; ISI POLYETHYLENE SOLUTIONS LLC ; INFILTRATOR WATER TECHNOLOGIES LLC ; INFILTRATOR SYSTEMS INC WAS KNOWN AS WATER SYSTEMS ACQUISITION CORP.. ; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH ; MOORE ROY E ; DEUTSCHE BANK NEW YORK BRANCH AG ; EZFLOW LP WAS KNOWN AS RING INDUSTRIAL GROUP LP.. ; GENERAL ELECTRIC CAPITAL CORP

Inventor(s): (std): BATTYE JOHN ; BATTYE JOHN R ; BROCHU RONALD P ; BURNES JAMES J ; COPPES BRYAN A ; MOORE ROY E ; MOORE ROY E JR ; MOORE JR ROY E ; SWISTAK DANIEL T

Inventor(s): MOORE ROY ; COPPES BRYAN ; BURNES JAMES ; BROCHU RONALD ; MOORE ; JR ROY E ; MOORE ROY EJR

Agent(s): RICHES MCKENZIE AND HERBERT LLP ; CHARLES G NESSLER ; THE LAW OFFICES OF STEVEN MCHUGH LLC ; LAW OFFICES OF STEVEN MCHUGH LLC ; C ; STEVEN M ; NESSLER C ; MCHUGH STEVEN ; NESSLER CHARLES G ; CHARLES G ; STEVEN

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 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
CA2535017 AA	20060208	LSPB	+	published / reissued	
CA2535017 AA	20060713	LSSES	+EEER	EXAMINATION REQUEST	
CA2535017 C	20100727	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2535017 C	20240930	PEXP		Calculated Patent Term Expiry	
CA2634311 AA	20050414	LSPB	+	published / reissued	
CA2634311 AA	20080710	LSSES	+EEER	EXAMINATION REQUEST	
CA2634311 C	20110222	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2634311 C	20240930	PEXP		Calculated Patent Term Expiry	
EP1680556 A2	20060719	LSPB	+	published / reissued	
EP1680556 A2	20060906	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060726
EP1680556 A2	20061122	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC.
EP1680556 A4	20070516	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20070416
EP1680556 A4	20110629	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20110530
EP1680556 A4	20120530	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20111011
US2005074287 AA	20050407	LSPB	+	published / reissued	
US2005074287 AA	20051005	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:016621/0275 EFFECTIVE DATE : 20050929
US2005074287 AA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US2005074287 AA	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US2005074287 AA	20070221	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2007154261 AA	20070705	LSPB	+	published / reissued	
US2007154261 AA	20080813	LSGT	STCF	INFORMATION ON STATUS: PATENT	TEXT : PATENTED CASE

GRANT					
US2007172314 AA	20070726	LSPB	+	published / reissued	
US2007231071 AA	20071004	LSPB	+	published / reissued	
US2007231071 AA	20081029	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY MERR OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021754/0187 EFFECTIVE DATE : 20081029
US2007231071 AA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US2007231071 AA	20081125	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009067929 AA	20090312	LSPB	+	published / reissued	
US2009067929 AA	20110324	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROCHU, RONALD P; BATTYE, JOHN R; MOORE, ROY E, JR; AND OTHERS; SIGNING DATES FROM 20110120 TO 20110314; REEL/FRAME:026012/0671
US2009067929 AA	20111011	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION, ILLINOIS OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:027046/0088 EFFECTIVE DATE : 20111011
US2009067929 AA	20121010	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7189027 BB	20070313	LSGT	+	granted / extensions (spc, cpc, pte)	
US7189027 BB	20040722	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROCHU, RONALD P.; BURNES, JAMES J.; BATTYE, JOHN R.; AND OTHERS; REEL/FRAME:016304/0591; SIGNING DATES FROM 20031015 TO 20031017
US7189027 BB	20070221	LSGT	PAT1	Patented Case	
US7189027 BB	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7189027 BB	20101025	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7189027 BB	20110324	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROCHU, RONALD P; BATTYE, JOHN R; MOORE,

ROY E, JR; AND OTHERS;
SIGNING DATES FROM 20110120
TO 20110314;
REEL/FRA:026012/0671

US7189027 BB	20150224	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7189027 BB	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRA:035749/0405 EFFECTIVE DATE : 20150511
US7189027 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRA:035745/0166 EFFECTIVE DATE : 20150528
US7189027 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRA:035797/0837 EFFECTIVE DATE : 20150528
US7189027 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRA:035797/0837 EFFECTIVE DATE : 20150528
US7189027 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036044/0562 EFFECTIVE DATE : 20150527
US7189027 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036044/0627 EFFECTIVE DATE : 20150527
US7189027 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036387/0435 EFFECTIVE DATE : 20150527
US7189027 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC;

					REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7189027 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7189027 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7189027 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7189027 BB	20181029	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7189027 BB	20190228	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : 11.5 YR SURCHARGE- LATE PMT W/IN 6 MO, LARGE ENTITY (ORIGINAL EVENT CODE: M1556); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7189027 BB	20190228	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7189027 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7189027 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7189027 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7189027 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213

US7189027 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7189027 BB	20231001	PEXP		Calculated Patent Term Expiry	
US7306400 BA	20071211	LSGT	+	granted / extensions (spc, cpc, pte)	
US7306400 BA	20060215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROCHU, RONALD P.; BURNES, JAMES J.; REEL/FRAME:017617/0524; SIGNING DATES FROM 20050221 TO 20050222
US7306400 BA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018454/0896 EFFECTIVE DATE : 20061031
US7306400 BA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US7306400 BA	20061102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US7306400 BA	20071121	LSGT	PAT1	Patented Case	
US7306400 BA	20071121	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7306400 BA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7306400 BA	20110823	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7306400 BA	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7306400 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS

					MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRA:035745/0166 EFFECTIVE DATE : 20150528
US7306400 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRA:035797/0837 EFFECTIVE DATE : 20150528
US7306400 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRA:035797/0837 EFFECTIVE DATE : 20150528
US7306400 BA	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036044/0562 EFFECTIVE DATE : 20150527
US7306400 BA	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036044/0627 EFFECTIVE DATE : 20150527
US7306400 BA	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036387/0435 EFFECTIVE DATE : 20150527
US7306400 BA	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036387/0540 EFFECTIVE DATE : 20150527
US7306400 BA	20151201	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7306400 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRA:041777/0638 EFFECTIVE DATE : 20170217
US7306400 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRA:041777/0638 EFFECTIVE DATE : 20170217

US7306400 BA	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7306400 BA	20190729	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7306400 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7306400 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7306400 BA	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7306400 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7306400 BA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7306400 BA	20191216	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : 11.5 YR SURCHARGE-LATE PMT W/IN 6 MO, LARGE ENTITY (ORIGINAL EVENT CODE: M1556); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7306400 BA	20191216	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7306400 BA	20241220	PEXP		Calculated Patent Term Expiry	
US7396188 BB	20080708	LSGT	+	granted / extensions (spc, cpc, pte)	
US7396188 BB	20080618	LSGT	PAT1	Patented Case	
US7396188 BB	20080930	LSRE	CC	CERTIFICATE OF CORRECTION	

US7396188 BB	20081029	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY MERR OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021754/0187 EFFECTIVE DATE : 20081029
US7396188 BB	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7396188 BB	20110324	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROCHU, RONALD P; BATTYE, JOHN R; MOORE, ROY E, JR; AND OTHERS; SIGNING DATES FROM 20110120 TO 20110314; REEL/FRAME:026012/0671
US7396188 BB	20120705	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7396188 BB	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7396188 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7396188 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7396188 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7396188 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7396188 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND

					CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036387/0540 EFFECTIVE DATE : 20150527
US7396188 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRA:036387/0435 EFFECTIVE DATE : 20150527
US7396188 BB	20160708	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7396188 BB	20160708	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US7396188 BB	20160830	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160708
US7396188 BB	20160926	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20160930
US7396188 BB	20160930	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7396188 BB	20160930	LSGT	PAT1	Patented Case	
US7396188 BB	20160930	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7396188 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRA:041777/0638 EFFECTIVE DATE : 20170217
US7396188 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRA:041777/0638 EFFECTIVE DATE : 20170217
US7396188 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRA:041777/0638 EFFECTIVE DATE : 20170217
US7396188 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRA:049942/0332 EFFECTIVE DATE : 20190731
US7396188 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG

					NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7396188 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7396188 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7396188 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7396188 BB	20200224	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7396188 BB	20270312	PEXP		Calculated Patent Term Expiry	
US7419331 BB	20080902	LSGT	+	granted / extensions (spc, cpc, pte)	
US7419331 BB	20080813	LSGT	PAT1	Patented Case	
US7419331 BB	20081029	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY MERR OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021754/0187 EFFECTIVE DATE : 20081029
US7419331 BB	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7419331 BB	20110324	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROCHU, RONALD P; BATTYE, JOHN R; MOORE, ROY E, JR; AND OTHERS; SIGNING DATES FROM 20110120 TO 20110314; REEL/FRAME:026012/0671
US7419331 BB	20120830	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7419331 BB	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511

US7419331 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7419331 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7419331 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7419331 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7419331 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US7419331 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7419331 BB	20160816	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7419331 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7419331 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7419331 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT

					OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7419331 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7419331 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7419331 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7419331 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7419331 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7419331 BB	20200420	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7419331 BB	20270322	PEXP		Calculated Patent Term Expiry (PTA 10 days and a terminal disclaimer has been filed)	
US7465122 BB	20081216	LSGT	+	granted / extensions (spc, cpc, pte)	
US7465122 BB	20081125	LSGT	PAT1	Patented Case	
US7465122 BB	20110324	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROCHU, RONALD P; BATTYE, JOHN R; MOORE, ROY E, JR; AND OTHERS; SIGNING DATES FROM 20110120 TO 20110314; REEL/FRAME:026012/0671
US7465122 BB	20121025	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

US7465122 BB	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7465122 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7465122 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7465122 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7465122 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7465122 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US7465122 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7465122 BB	20161031	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7465122 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7465122 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY

					SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7465122 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7465122 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7465122 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7465122 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7465122 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7465122 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7465122 BB	20270312	PEXP		Calculated Patent Term Expiry	
US7500805 BA	20090310	LSGT	+	granted / extensions (spc, cpc, pte)	
US7500805 BA	20051005	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:016621/0275 EFFECTIVE DATE : 20050929
US7500805 BA	20061101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH

					OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US7500805 BA	20081029	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY MERR OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021754/0187 EFFECTIVE DATE : 20081029
US7500805 BA	20081103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7500805 BA	20110927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BROCHU, RONALD P.; BURNES, JAMES J.; MOORE, ROY E., JR.; AND OTHERS; SIGNING DATES FROM 20050405 TO 20050409; REEL/FRAME:026975/0133
US7500805 BA	20130310	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7500805 BA	20130408	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7500805 BA	20130408	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7500805 BA	20130430	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20130310
US7500805 BA	20150521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7500805 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7500805 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7500805 BA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE

BUSINESS FINANCIAL SERVICES
INC. (FORMERLY KNOWN AS
MERRILL LYNCH BUSINESS
FINANCIAL SERVICES INC.);
REEL/FRAME:035797/0837
EFFECTIVE DATE : 20150528

US7500805 BA	20241220	PEXP		Calculated Patent Term Expiry	
US8297880 BB	20121030	LSGT	+	granted / extensions (spc, cpc, pte)	
US8297880 BB	20121010	LSGT	PAT1	Patented Case	
US8297880 BB	20121221	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL COMPANY, ILLINOIS OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:029531/0560 EFFECTIVE DATE : 20121220
US8297880 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8297880 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8297880 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8297880 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US8297880 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US8297880 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US8297880 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435

EFFECTIVE DATE : 20150527

US8297880 BB	20160502	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8297880 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8297880 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8297880 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8297880 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8297880 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8297880 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8297880 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US8297880 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US8297880 BB	20280909	PEXP		Calculated Patent	

				Term Expiry	
WO05033426 A2	20050414	LSPB	+	published / reissued	
WO05033426 A3	20060208	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2535017 COUNTRY OF REF DOCUMENT : CA
WO05033426 A3	20060421	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2004789535 COUNTRY OF REF DOCUMENT : EP
WO05033426 A3	20060719	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2004789535 COUNTRY OF REF DOCUMENT : EP

Title: MARINE HABITAT SYSTEMS

Abstract: A family of man-made marine habitat systems and methods are disclosed for placement in various waterways to restore the natural marine environments that have been previously destroyed by commercial development as well as mitigate the damage caused by future development of coastal waters. The inventive marine habitat systems include individual habitat units having different configurations, more specifically, different sizes and arrangements of vertical and horizontal members, which are strategically placed in a restorative area in a body of water to serve as shelter for a variety of aquatic animals, including but not limited to, fish and a variety of bio-fouling organisms, including but not limited to oysters, mussels, and sea squirts. Novel anti-chafe devices and anchoring systems for use with the inventive marine habitat systems are also disclosed.

Classifications:

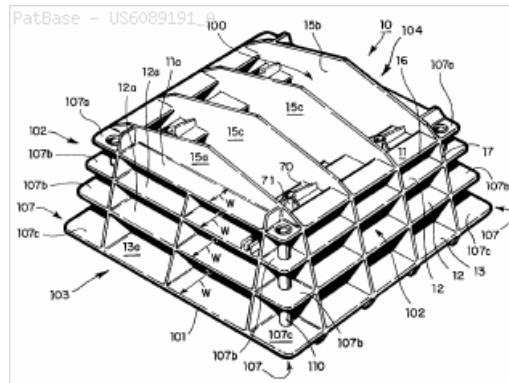
International (IPC 8-9): A01K61/00 (Advanced/Invention); A01K61/00 (Core/Invention)

International (IPC 1-7): A01K61/00

CPC: A01K61/70 Y02A40/83

European: A01K61/00E

US: 119/208 119/221 119/223 119/238 119/239



Family:

Publication number	Publication date	Application number	Application date
US6089191 A	20000718	US19970937635	19970925

Priority:

US19970937635 19970925

Probable Assignee: SECOND CHANCE FOUNDATION LLC

Assignee(s): (std): CONLEY BRUCE

Assignee(s): CONLEY BRUCE TRUSTEE FOR SECOND CHANCE FOUNDATION ; MARINE HABITAT FOUNDATION INC ; SECOND CHANCE FOUNDATION LLC

Inventor(s): (std): GALE BRADLEY D ; CALINSKI MICHAEL D

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
US6089191 A	20000718	LSGT	+	granted / extensions (spc, cpc, pte)	
US6089191 A	19980416	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MARINE HABITAT FOUNDATION, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CALINSKI, MICHAEL D.; GALE, BRADLEY G.; REEL/FRAME:009100/0433; SIGNING DATES FROM 19980406 TO 19980408
US6089191 A	19991012	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CONLEY, BRUCE, FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MARINE HABITAT FOUNDATION, INC.; REEL/FRAME:010298/0983 EFFECTIVE DATE : 19991006
US6089191 A	20011225	LSRE	CC	CERTIFICATE OF CORRECTION	
US6089191 A	20040628	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6089191 A	20060706	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CONLEY, BRUCE TRUSTEE FOR SECOND CHANCE FOUNDATION OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CONLEY, BRUCE; REEL/FRAME:017882/0831 EFFECTIVE DATE : 20060517
US6089191 A	20060706	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SECOND CHANCE FOUNDATION LLC, FLORIDA OLDPARTY : ASSIGNMENT OF

					ASSIGNORS INTEREST; ASSIGNOR:CONLEY, BRUCE, TRUSTEE FOR THE SECOND CHANCE FOUNDATION; REEL/FRAME:017897/0304 EFFECTIVE DATE : 20060518
US6089191 A	20080109	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6089191 A	20120718	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6089191 A	20120813	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6089191 A	20120813	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6089191 A	20120904	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20120718
US6089191 A	20170925	PEXP		Calculated Patent Term Expiry	

Title: STATION D'EPURATION POUR LE TRAITEMENT D'EAUX USEES

Abstract: Source: FR2952632B [FR] L'invention concerne une station d'epuration (10) pour le traitement d'eaux usees, comprenant une paroi externe (12) fermee sur elle-meme et s'etendant verticalement, une paroi interne (13) definissant un volume d'accès (14) au moins partiellement contenu dans le volume delimite par la paroi externe (12), et une pluralite de plateformes horizontales (151, 152b, 152c, 153) disposees dans le volume intermediaire (40) defini entre la paroi interne (13) et la paroi externe (12) et definissant au moins un premier niveau (41) et un deuxieme niveau (42) situe au-dessus du premier niveau (41). Dans cette station d'epuration, une partie de la paroi externe (12) s'etendant au moins jusqu'a l'extremite superieure du deuxieme niveau (42) est enfouie dans le sol, et une pluralite d'espaces fonctionnels destines a recevoir des installations de traitement des eaux usees est repartie sur le premier et le deuxieme niveau (41, 42).

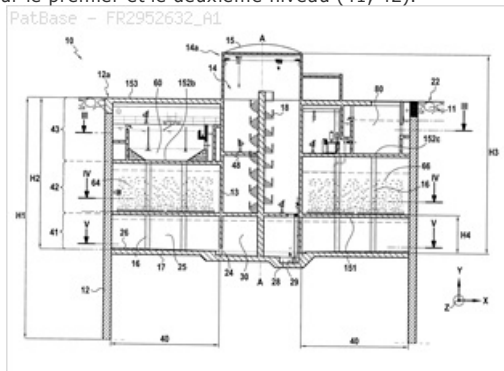
Classifications:

International (IPC 8-9): C02F3/04 C02F3/06

C02F3/10 (Advanced/Invention)

CPC: Y02W10/15 C02F3/1268 E04H5/02

European: C02F3/12N9 E04H5/02



Family:

Publication number	Publication date	Application number	Application date
FR2952632 A1	20110520	FR20090058015	20091113
FR2952632 B1	20120525	FR20090058015	20091113

Priority:

FR20090058015 20091113

Probable Assignee:

SOLETANCHE FREYSSINET

Assignee(s): (std):

SOLETANCHE FREYSSINET

Inventor(s): (std):

VERROUIL DIDIER ; MONLEAU STEPHANE

Inventor(s):

DIDIER VERROUIL ; STEPHANE MONLEAU

Agent(s):

CABINET BEAU DE LOMENIE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
FR2952632 A1	20110520	LSPB	+	published / reissued	
FR2952632 B1	20120525	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2952632 B1	20151023	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 7
FR2952632 B1	20161024	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
FR2952632 B1	20171020	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 9
FR2952632 B1	20181024	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 10
FR2952632 B1	20191022	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 11
FR2952632 B1	20291113	PEXP		Calculated Patent Term Expiry	

Title: DOMSCHACHT FUER UNTERIRDISCHE BEHAELTER MIT DOPPELMANTEL, INSBESONDERE UNTERIRDISCHE TANKS FUER BRENNBARE FLUESSIGKEITEN WIE BENZIN O.DGL. Manhole PIT FOR UNDERGROUND TANK WITH JACKET, IN PARTICULAR UNDERGROUND TANKS FOR FLAMMABLE LIQUIDS SUCH AS GASOLINE OR THE dgl. (Machine translation)

Abstract: Source: DE9404076U1 [DE] (Claim 1) 1. Domschacht (1) fuer unterirdische Behaelter (2) mit Doppelmantel, insbesondere unterirdische Tanks fuer brennbare Fluessigkeiten wie Benzin oder dergleichen, bestehend aus einem an den unterirdischen Behaelter (2) oberseitig angeschlossenen Dom, welcher in einen Domhals (3) mit Domkragen (4) muendet, aus einem mit dem Domkragen (4) verbundenen Domflansch (5) mit Domdeckel (6) zum oberseitigen Verschiessen des Domhalses (3), ferner aus zumindest einer an den Domdeckel (6) oberseitig angeschlossenen Rohrleitung (7) zum Befuellen des unterirdischen Behaelters (2), weiter aus Leckanschluesen (8), welche mit dem Hohlraum zwischen dem Doppelmantel des unterirdischen Behaelters (2) verbunden sind und neben dem Domhals (3) im wesentlichen in einer Ebene mit dem Domhals (3) angeordnet sind, und aus einer den Domdeckel (6) und die Leckanschluesse (8) ueberdeckenden Schachtkammer (9) mit Rohrdurchfuehrung (10) fuer die an den Domdeckel (6) angeschlossene Rohrleitung (7), wobei die Schachtkammer (9) oberseitig eine Schachtabdeckung (11) aufweist und unterseitig mit einer den Domdeckel (6) und die Leckanschluesse (8) aufnehmenden oeffnung auf den Dom aufgesetzt ist, d a d u r c h g e k e n n z e i c h n e t, dass die Schachtkammer (9) unterseitig eine die oeffnung einfassende Auflagerflaeche (12) mit hochkragender Kante (13) aufweist, und dass der Bereich zwischen der Kante (13) der Auflagerflaeche (12) und dem Domkragen (4) durch eine Z-foermige Manschette (14) abgedichtet ist, welche mit einem Schenkel (14a) die Kante (13) uebergreift und mit dem anderen Schenkel (14b) mit Dichtwirkung am Domkragen (4) anliegt und welche Durchfuehrungen (15) fuer die Leckanschluesse (8) aufweist.

Machine translation: (Claim 1) 1 **Dome** shaft (1) for underground container (2) with a double wall, in particular underground tanks for flammable liquids such as gasoline or the like, consisting of an underground in the container (2) top side connected Cathedral, which in one Domhals (3) with Domkragen (4) empties from a company affiliated with the Domkragen (4) Domflansch (5) with **dome** lid (6) to the upper-side closure of the Domhalses (3), further comprising at least one of the manhole cover (6) top side connected pipe (7) for the filling of underground tanks (2), further from Leckanschluesen (8), which are connected to the cavity between the double wall of the underground tank (2) connected and are in addition to the Domhals (3) disposed substantially coplanar with the Domhals (3), and from a the manhole cover (6) and the Leckanschluesse (8) over wide slot **chamber** (9) with Rohrdurchfuehrung (10) for which the manhole cover (6) connected pipe (7), wherein the shaft **chamber** (9) top side has a manhole cover (11) and at the bottom Place one of the manhole cover (6) and the Leckanschluesse (8) receiving opening of the cathedral, d a d u r c h g e k e n n z e i c h n e t, that the manhole **chamber** (9) under each one the opening enclosing bearing surface (12) which with hochkragender edge (13), and that the area between the edge (13) of the bearing surface (12) and the Domkragen (4) by a Z-shaped collar (14) is sealed, which overlaps with one leg (14a) the edge (13) and with the other leg (14b) with a sealing effect on Domkragen (4) is applied and what Bushings (15) for the Leckanschluesse (8).

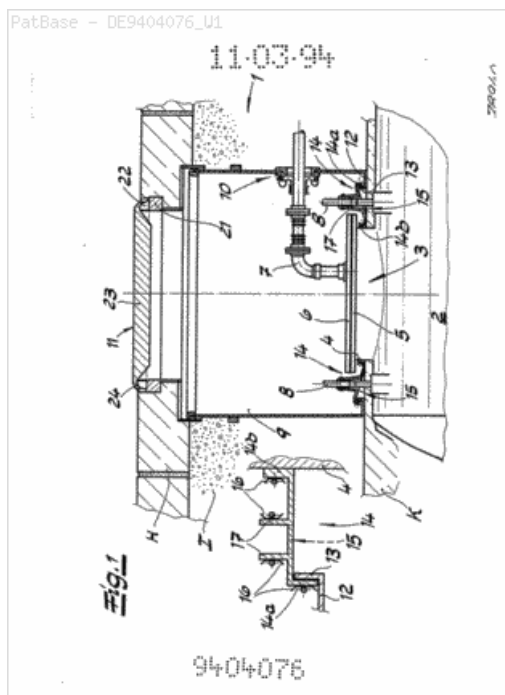
Classifications:

International (IPC 8-9): B65D90/10 (Advanced/Invention); B65D90/00 (Core/Invention)

International (IPC 1-7): B65D88/76 B65D90/10

CPC: B65D90/105

European: B65D90/10A



Family:

Publication number	Publication date	Application number	Application date
DE9404076 U1	19940707	DE19940004076U	19940311

Priority:

DE19940004076U 19940311

Probable Assignee: FRANZ GOEHLER GMBH AND CO KG

Assignee(s): (std): FRANZ GOEHLER GMBH AND CO KG

Assignee(s): FRANZ GOEHLER GMBH AND CO KG 63768 HOESBACH ; FRANZ GOEHLER GMBH AND CO 63768 HOESBACH KG

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE9404076 U1	19940707	LSGT	+	granted / extensions (spc, cpc, pte)	
DE9404076 U1	20040311	PEXP		Calculated Patent Term Expiry	

Title: LATCH FOR LEACHING **CHAMBER**

Abstract: Two identical arch shape cross section **chambers** are joined together so that a **dome** shape part of one end of the **chamber** is overlapped by the opposing plain end of the second **chamber**. Thus, one **chamber** may pivot in the horizontal plane, for adjustment during installation. A latch at the top of the joint between the **chamber** pair inhibits vertical motion and separation of the overlapping **chamber**, while permitting horizontal plane pivoting. A latch comprises a tang which cantilevers outwardly from the top of the **dome** end, to engage a catch which is a flared portion of lip on the overlapping plain end.

Classifications:

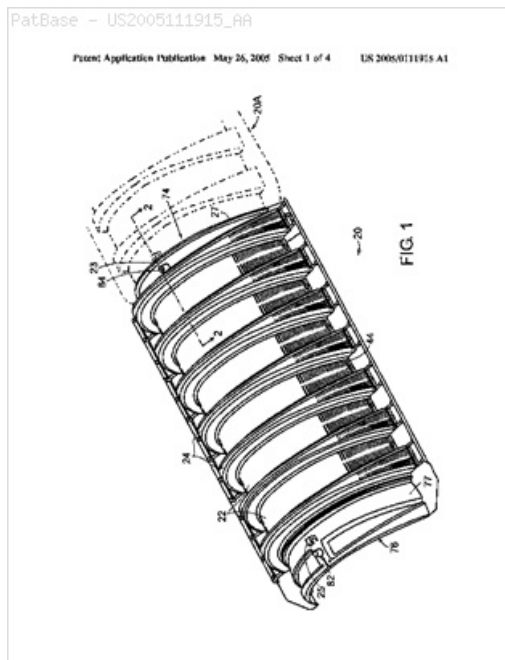
International (IPC 8-9): E02B11/00 E02B13/00 E03F1/00 E03F3/04 (Advanced/Invention)

International (IPC 1-7): E02B11/00 E02B13/00 E03F3/04

CPC: E03F1/003

European: E03F1/00B2

US: 405/43 405/43S 405/46 405/46P 405/49 405/49S



Family:

Publication number	Publication date	Application number	Application date
CA2488070 AA	20050520	CA20042488070	20041119
CA2488070 C	20081014	CA20042488070	20041119
US2005111915 AA	20050526	US20040992917	20041119
US7217063 BB	20070515	US20040992917	20041119

Priority:

US20030523553P 20031120 CA20042488070 20041119 US20040992917 20041119

Probable Assignee: INFILTRATOR WATER TECHNOLOGIES LLC

Assignee(s): (std): INFILTRATOR SYSTEMS INC

Assignee(s): INFILTRATOR SYSTEMS INC WAS KNOWN AS WATER SYSTEMS ACQUISITION CORP.; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC ADMINISTRATIVE AGENT AS; INFILTRATOR WATER TECHNOLOGIES LLC; ISI POLYETHYLENE SOLUTIONS LLC; MOORE ROY EJ R; MERRILL LYNCH CAPITAL A DIVISION OF MERRILL LYNCH; MOORE ROY E JR; AMERICAN CAPITAL FINANCIAL SERVICES INC; BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS; BROCHU RONALD P; DEUTSCHE BANK NEW YORK BRANCH AG; EZFLOW LP; EZFLOW LP WAS KNOWN AS RING INDUSTRIAL GROUP LP..

Inventor(s): (std): MOORE ROY E JR; BROCHU RONALD P; MOORE JR ROY E; MOORE ROY E

Inventor(s): BROCHU RONALD; MOORE ROY; MOORE ROY EJ R; MOORE; JR ROY E

Agent(s): RICHES MCKENZIE AND HERBERT LLP; CHARLES G NESSLER; CHARLES G; STEVEN M

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Patent	Date recorded	Event group	Code	Event	Details
CA2488070 AA	20050520	LSPB	+	published / reissued	
CA2488070 AA	20050407	LSSES	+EEER	EXAMINATION REQUEST	
CA2488070 C	20081014	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2488070 C	20241119	PEXP		Calculated Patent Term Expiry	
US2005111915 AA	20050526	LSPB	+	published / reissued	
US2005111915 AA	20051005	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A

						DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:016621/0275 EFFECTIVE DATE : 20050929
US2005111915 AA	20061101	LSAS	AS	ASSIGNMENT		PARTYTYPE : OWNER OWNER : MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:018463/0060 EFFECTIVE DATE : 20061031
US2005111915 AA	20061102	LSAS	AS	ASSIGNMENT		PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC; REEL/FRAME:018463/0693 EFFECTIVE DATE : 20061031
US2005111915 AA	20070425	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT		TEXT : PATENTED CASE
US7217063 BB	20070515	LSGT	+	granted / extensions (spc, cpc, pte)		
US7217063 BB	20041119	LSAS	AS	ASSIGNMENT		PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOORE, ROY E., JR.; BROCHU, RONALD P.; REEL/FRAME:016019/0555 EFFECTIVE DATE : 20041118
US7217063 BB	20070425	LSGT	PAT1	Patented Case		
US7217063 BB	20081103	LSAS	AS	ASSIGNMENT		PARTYTYPE : OWNER OWNER : AMERICAN CAPITAL FINANCIAL SERVICES, INC., MARYLAN OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:021773/0179 EFFECTIVE DATE : 20081031
US7217063 BB	20101012	LSFE	+FPAY	FEE PAYMENT		YEAR OF FEE PAYMENT : 4
US7217063 BB	20141111	LSFE	+FPAY	FEE PAYMENT		YEAR OF FEE PAYMENT : 8
US7217063 BB	20150521	LSAS	AS	ASSIGNMENT		PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:AMERICAN CAPITAL, LTD.; REEL/FRAME:035749/0405 EFFECTIVE DATE : 20150511
US7217063 BB	20150529	LSAS	AS	ASSIGNMENT		PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES, INC. (FORMERLY KNOWN AS MERRILL LYNCH CAPITAL, A DIVISION OF MERRILL LYNCH BUSINESS FINANCIAL SERVICES, INC.); REEL/FRAME:035745/0166 EFFECTIVE DATE : 20150528
US7217063 BB	20150529	LSAS	AS	ASSIGNMENT		PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC. (FORMERLY KNOWN AS WATER OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528
US7217063 BB	20150529	LSAS	AS	ASSIGNMENT		PARTYTYPE : OWNER OWNER : EZFLOW, L.P. (FORMERLY KNOWN AS RING INDUSTRIAL GR OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GE BUSINESS FINANCIAL SERVICES INC. (FORMERLY KNOWN AS MERRILL LYNCH BUSINESS FINANCIAL SERVICES INC.); REEL/FRAME:035797/0837 EFFECTIVE DATE : 20150528

US7217063 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7217063 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7217063 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US7217063 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7217063 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7217063 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7217063 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7217063 BB	20181231	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7217063 BB	20190520	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20190523
US7217063 BB	20190523	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PMFG); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7217063 BB	20190523	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : PETITION RELATED TO MAINTENANCE FEES FILED (ORIGINAL EVENT CODE: PMFP); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7217063 BB	20190523	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE, PETITION TO ACCEPT PYMT AFTER EXP, UNINTENTIONAL (ORIGINAL EVENT CODE: M1558); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7217063 BB	20190523	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12

US7217063 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7217063 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7217063 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7217063 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7217063 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7217063 BB	20241119	PEXP		Calculated Patent Term Expiry	

Title: INFILTRATION BLOCK

Abstract: The French drain module has a base body (G) in the form of a cube. Its six outer walls (1, 4, 5, 6, 7, 8) each have an insertion aperture (14) leading to an inner **chamber** (19) with the aperture taking up 30-60 percent of the wall surface. The **chamber** contains no supporting posts or ties. There are insertion plates for selective insertion.

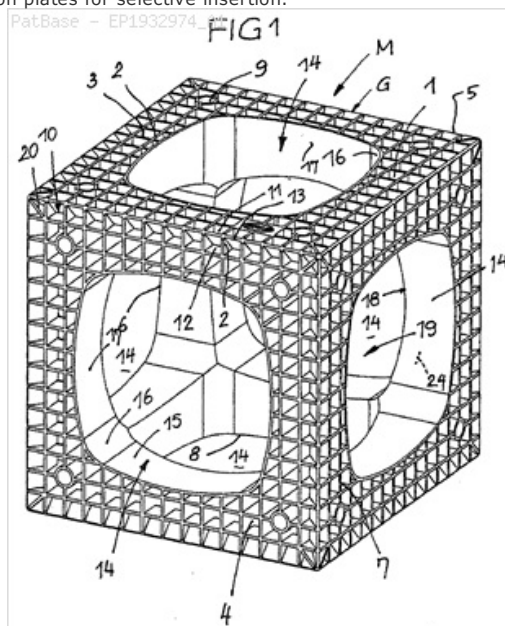
Classifications:

International (IPC 8-9): E03F1/00 (Advanced/Invention);

E03F1/00 (Core/Invention)

CPC: B29C45/33 E03F1/005 Y02A10/33 Y02A20/408

European: E03F1/00B4 L29C45/33

**Family:**

Publication number	Publication date	Application number	Application date
AT423878 E	20090315	AT20060026074T	20061215
DE502006002975 D1	20090409	DE200650002975T	20061215
DK1932974 T3	20090602	DK20060026074T	20061215
EP1932974 A1	20080618	EP20060026074	20061215
EP1932974 B1	20090225	EP20060026074	20061215
PL1932974 T3	20090731	PL20060026074T	20061215

Priority:

EP20060026074 20061215

Probable Assignee: GRAF PLASTICS GMBH

Assignee(s): (std): GRAF PLASTICS GMBH

Inventor(s): (std): GRAF OTTO P

Agent(s): GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAUESSER ANWALTSSOZIELT

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 NL PL PT RO RS SE SI SK TR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT423878 E	20090315	LSGT	+	granted / extensions (spc, cpc, pte)	
AT423878 E	20261215	PEXP		Calculated Patent Term Expiry	
DE502006002975 D1	20100325	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DK1932974 T3	20090602	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1932974 T3	20261215	PEXP		Calculated Patent Term Expiry	
EP1932974 A1	20080618	LSPB	+	published / reissued	
EP1932974 A1	20080618	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20070628
EP1932974 B1	20090225	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1932974 B1	20090225	LSGT	REG	REFERENCE TO A	REF COUNTRY CODE : GB

				NATIONAL CODE	REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP1932974 B1	20090227	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1932974 B1	20090401	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : LANGUAGE OF EP DOCUMENT: GERMAN
EP1932974 B1	20090520	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : RO REF LEGAL EVENT CODE : EPE
EP1932974 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1932974 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20090225
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EP1932974 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090526
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EP1932974 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20091215
EP1932974 B1	20110531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20101231 YEAR OF FEE PAYMENT : 5
EP1932974 B1	20110630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090826
EP1932974 B1	20110630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20101223 YEAR OF FEE PAYMENT : 5
EP1932974 B1	20110729	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1932974 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1932974 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
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EP1932974 B1	20120630	LSLE	-BERE	BE: LAPSED	PARTY TYPE : OWNER REF COUNTRY CODE : EP OWNER : GRAF PLASTICS G.M.B.H. EFFECTIVE DATE : 20111231
EP1932974 B1	20120711	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : V1 EFFECTIVE DATE : 20120701

EP1932974 B1	20120723	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP
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EP1932974 B1	20120829	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20111215
EP1932974 B1	20120907	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20120831
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EP1932974 B1	20121215	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MM01 REF DOCUMENT NUMBER : 423878 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20111215
EP1932974 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20111215
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EP1932974 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120701
EP1932974 B1	20130329	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : PL REF LEGAL EVENT CODE : LAPE
EP1932974 B1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120102
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EP1932974 B1	20131024	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 502006002975 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130702
EP1932974 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20130702
EP1932974 B1	20261215	PEXP		Calculated Patent Term Expiry	
PL1932974 T3	20090731	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: DOME STORMWATER CHAMBER

Abstract: This disclosure relates generally to stormwater management and, more particularly, to a stormwater chamber with a continuous curvature. The stormwater chamber may comprise a chamber body with a chamber wall, an apex, a base, and a first and second opening. The chamber wall may include a continuous curvature from the apex of the chamber body to the first and second openings and a continuous curvature from the apex of the chamber body to the base.

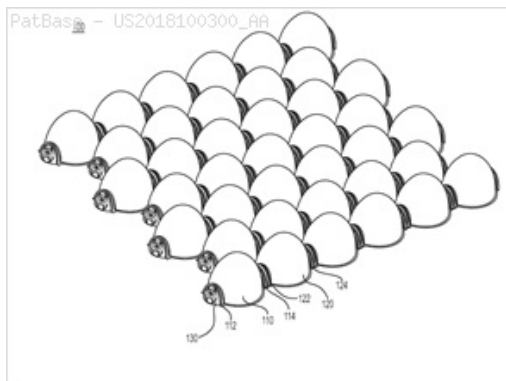
Classifications:

International (IPC 8-9): E01F5/00 E02B11/00
E03F1/00 (Advanced/Invention)

International (IPC 1-7): E03F1/00

CPC: E03F1/003 E01F5/00 E02B11/00

US: 1/1 405/52

**Family:**

Publication number	Publication date	Application number	Application date
AR109942 AA	20190206	AR2017P102856	20171012
AU2017342282 AA	20190523	AU20170342282	20171011
BR112019007277 A2	20190709	BR20191107277	20171011
CA3039926 AA	20190409	CA20173039926	20171011
CL2019000940 A1	20190823	CL20190000940	20190408
CO20190004557 A2	20190510	CO20190004557	20190503
CR20190222 A	20190820	CR20190000222	20171011
EP3526414 A1	20190821	EP20170788062	20171011
MX2019004194 A1	20190821	MX20190004194	20171011
PE20190826 A1	20190617	PE20190000793	20171011
US2018100300 AA	20180412	US20160292074	20161012
US2018238039 AA	20180823	US20180962746	20180425
US9982425 BB	20180529	US20160292074	20161012
US10570603 BB	20200225	US20180962746	20180425
WO18071574 A1	20180419	WO2017US56190	20171011

Priority:

US20160292074 20161012 WO2017US56190 20171011 US20180962746 20180425
CL20190000940 20190408

Probable Assignee: ADVANCED DRAINAGE SYSTEMS INC

Assignee(s): (std): ADVANCED DRAINAGE SYSEMS INC ; ADVANCED DRAINAGE SYST ; ADVANCED DRAINAGE SYSTEMS INC

Assignee(s): BARCLAYS BANK PLC ADMINISTRATIVE AGENT AS ; VITARELLI RONALD R ; KUEHN MICHAEL ; KURDZIEL JOHN ; MAILHOT DAVID

Inventor(s): (std): MAILHOT DAVID ; VITARELLI RONALD R ; KUEHN MICHAEL ; KURDZIEL JOHN ; RONALD R VITARELLI ; MICHAEL KUEHN ; JOHN KURDZIEL ; DAVID MAILHOT

Agent(s): PHILLIPS ORMONDE FITZPATRICK; SMART AND BIGGAR; ESTUDIO VILLASECA Y CIA; FINNEGAN EUROPE LLP; FINNEGAN HENDERSON FARABOW GARRETT AND DUNNER LLP; CHAPMAN ERNEST F 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 DJ 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 JO JP KE KG KH KM KN KP KR KW 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

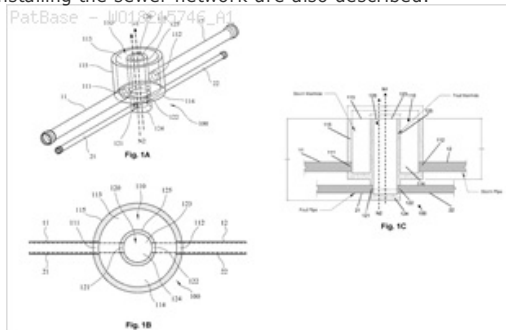
Patent	Date recorded	Event group	Code	Event	Details
AR109942 AA	20190206	LSPB	+	published / reissued	
AU2017342282 AA	20190523	LSPB	+	published / reissued	
CA3039926 AA	20190409	LSPB	+	published / reissued	
CL2019000940 A1	20190823	LSPB	+	published / reissued	
CO20190004557 A2	20190510	LSPB	+	published / reissued	
CR20190222 A	20190820	LSPB	+	published /	

EP3526414 A1	20190821	LSPB	+	reissued published / reissued	
EP3526414 A1	20190821	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190513
MX2019004194 A1	20190821	LSPB	+	published / reissued	
PE20190826 A1	20190617	LSPB	+	published / reissued	
US10570603 BB	20200225	LSGT	+	granted / extensions (spc, cpc, pte)	
US10570603 BB	20180425	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ADVANCED DRAINAGE SYSTEMS, INC., OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:VITARELLI, RONALD R.; KUEHN, MICHAEL; KURDZIEL, JOHN; AND OTHERS; SIGNING DATES FROM 20161003 TO 20161013; REEL/FRAME:045636/0414
US10570603 BB	20180425	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US10570603 BB	20380425	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US2018100300 AA	20180412	LSPB	+	published / reissued	
US2018100300 AA	20180124	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018100300 AA	20180427	LSFE	+PPV1	Publications - - Issue Fee Payment Verified	
US2018100300 AA	20180509	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2018238039 AA	20180823	LSPB	+	published / reissued	
US2018238039 AA	20181030	LSES	NFA1	Non Final Action Mailed	
US2018238039 AA	20191015	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018238039 AA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:ADVANCED DRAINAGE SYSTEMS, INC.; REEL/FRAME:051287/0273 EFFECTIVE DATE : 20191213
US2018238039 AA	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:ADVANCED DRAINAGE SYSTEMS, INC.; REEL/FRAME:051287/0273 EFFECTIVE DATE : 20191213
US2018238039 AA	20200117	LSFE	+PPV1	Publications - - Issue Fee Payment Verified	
US2018238039 AA	20200205	LSGT	PAT1	Patented Case	

US2018238039 AA	20200205	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9982425 BB	20180529	LSGT	+	granted / extensions (spc, cpc, pte)	
US9982425 BB	20161028	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ADVANCED DRAINAGE SYSTEMS, INC., OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:VITARELLI, RONALD R.; KUEHN, MICHAEL; KURDZIEL, JOHN; AND OTHERS; SIGNING DATES FROM 20161003 TO 20161013; REEL/FRAME:040161/0436
US9982425 BB	20180509	LSGT	PAT1	Patented Case	
US9982425 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:ADVANCED DRAINAGE SYSTEMS, INC.; REEL/FRAME:051287/0273 EFFECTIVE DATE : 20191213
US9982425 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:ADVANCED DRAINAGE SYSTEMS, INC.; REEL/FRAME:051287/0273 EFFECTIVE DATE : 20191213
US9982425 BB	20361012	PEXP		Calculated Patent Term Expiry	
WO18071574 A1	20180419	LSPB	+	published / reissued	
WO18071574 A1	20190409	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 3039926 COUNTRY OF REF DOCUMENT : CA
WO18071574 A1	20190413	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18071574 A1	20190517	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017788062 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190513
WO18071574 A1	20190523	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017342282 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20171011 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO18071574 A1	20190709	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112019007277 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20190410

Title: MANHOLE AND SEWER NETWORK

Abstract: A manhole (100) for subterranean installation is described. The manhole (100) comprises a first **chamber** (110) arranged to receive storm water and a second **chamber** (120) arranged to receive sewage water. The first **chamber** (110) comprises a first inlet (111) and a first outlet (112). The second **chamber** (120) comprises a second inlet (121) and a second outlet (122). The first **chamber** (110) comprises a first access port (113) opposed to a first base (114) and a first wall (115) arranged therebetween. The second **chamber** (120) comprises a second access port (123) opposed to a second base (124) and a second wall (125) arranged therebetween. A first normal N1 to the first base (114) extends through the first base (114) and the second base (124). A sewer network 1000 and a method of installing the sewer network are also described.

Classifications:**International (IPC 8-9):** E03F3/06 E03F5/02 (Advanced/Invention)**CPC:** E03F5/022 E03F3/06**Family:**

Publication number	Publication date	Application number	Application date
EP3631104 A1	20200408	EP20180727404	20180522
GB201708254 A0	20170705	GB20170008254	20170523
WO18215746 A1	20181129	WO2018GB51375	20180522

Priority:

GB20170008254 20170523 WO2018GB51375 20180522

Probable Assignee: LIVERPOOL JOHN MOORES UNIV**Assignee(s):** (std): LIVERPOOL JOHN MOORES UNIV**Inventor(s):** (std): ABBAS ALAA HENOU ; AL KHADDAR RAFID ; RUDDOCK FELICITE ; ABBAS ALAA**Agent(s):** APPELYARD LEES IP LLP

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 DJ 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 JO JP KE KG KH KM KN KP KR KW 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
EP3631104 A1	20200408	LSPB	+	published / reissued	
EP3631104 A1	20200408	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20191219
GB201708254 A0	20181226	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
WO18215746 A1	20181129	LSPB	+	published / reissued	
WO18215746 A1	20191126	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18215746 A1	20200117	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018727404 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20200102

Title: ANTI-BACKFLOW DRAINAGE SYSTEM

Abstract: ABSTRACT OF THE DISCLOSURE

A drain on the floor of a cellar or the like has a screen overlying an overflow compartment of a container which opens into a **chamber** with a relatively elevated inlet, closable from within by a first floating ball valve, and with a relatively depressed outlet normally closed from without by a second valve floating on a pool of liquid formed in an adjoining discharge pipe.

Classifications:

International (IPC 8-9): E03F5/042 (Advanced/Invention);

E03F5/04 (Core/Invention)

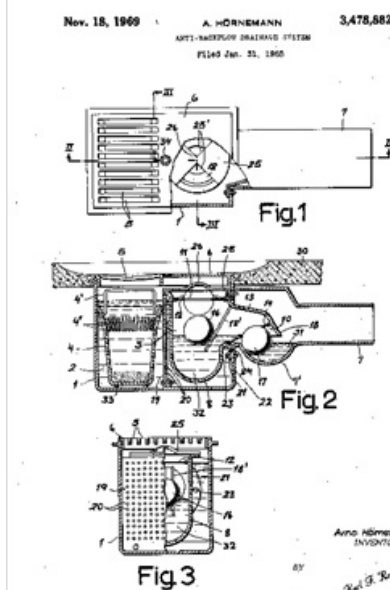
International (IPC 1-7): B01D33/38 C02C E03C1/288 E03F5/04 E03F5/042

CPC: E03F5/042

European: E03F5/042

US: 210/104 210/119

PatBase - US3478882_A



Family:

Publication number	Publication date	Application number	Application date
AT299830 B	19720710	AT19680000908	19680130
BE710130 A	19680530		19680131
CH474637 A	19690630	CH19680000618	19680116
DE1658198 B1	19700730	DE19671658198	19670131
ES349760 A1	19690401	ES19680349760	19680125
FR1554150 A	19690117		19680131
GB1215873 A	19701216	GB19680005014	19680131
LU55262 A	19680328		19680112
NL6800886 A	19680801	NL19680000886	19680119
SE329817 B	19701019	SE19680001233	19680130
US3478882 A	19691118	US19680701978	19680131

Priority:

DE1967H061706 19670131

Probable Assignee: HORNEMANN

Assignee(s): (std): ARNO HORNEMANN ; HOERNEMANN A ; HOERNEMANN ARNO ; HORNEMANN

Assignee(s): ARNO HOERNEMANN

Inventor(s): (std): HOERNEMANN ARNO ; HOERNEMANN A ; HORNEMANN ARNO ; ARNO HOERNEMANN

Inventor(s): ARNO HORNEMANN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT299830 B	19720710	LSGT	+	granted / extensions (spc, cpc, pte)	
AT299830 B	19730715	LSLE	-ELJ	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT299830 B	19880130	PEXP		Calculated Patent Term Expiry	
BE710130 A	19680530	LSPB	+	published / reissued	
BE710130 A	19880131	PEXP		Calculated Patent Term Expiry	
CH474637 A	19690630	LSGT	+	granted / extensions (spc, cpc, pte)	
CH474637 A	19730831	LSLE	-PL	PATENT CEASED	
CH474637 A	19880116	PEXP		Calculated Patent Term Expiry	

DE1658198 B1	19700730	LSPB	+	published / reissued
ES349760 A1	19690401	LSGT	+	granted / extensions (spc, cpc, pte)
FR1554150 A	19690117	LSGT	+	granted / extensions (spc, cpc, pte)
FR1554150 A	19880131	PEXP		Calculated Patent Term Expiry
GB1215873 A	19701216	LSGT	+	granted / extensions (spc, cpc, pte)
GB1215873 A	19710519	LSGT	+PS	PATENT SEALED
GB1215873 A	19730822	LSLE	-PLNP	PATENT LAPSED THROUGH NONPAYMENT OF RENEWAL FEES
GB1215873 A	19880131	PEXP		Calculated Patent Term Expiry
LU55262 A	19680328	LSGT	+	granted / extensions (spc, cpc, pte)
LU55262 A	19880113	PEXP		Calculated Patent Term Expiry
NL6800886 A	19680801	LSPB	+	published / reissued
SE329817 B	19701019	LSPB	+	published / reissued
US3478882 A	19691118	LSGT	+	granted / extensions (spc, cpc, pte)

Title: ALUMINUM ALLOYS, ALUMINUM ALLOY PRODUCTS AND METHODS FOR MAKING THE SAME

Abstract: Decorative shape cast products and methods, systems, compositions and apparatus for producing the same are described. In one embodiment, the decorative shape cast products are produced from an Al-Ni or Al-Ni-Mn alloy, with a tailored microstructure to facilitate production of anodized decorative shape cast product having the appropriate finish and mechanical properties.

Classifications:

International (IPC 8-9): A21D13/00 A23P1/00 A47J37/06 B22D17/00

B22D17/08 B22D17/20 B22D21/00 B22D25/00 B32B15/04

C22C21/00 C22C21/08 C25D11/02 C25D11/04 C25D11/16

C25D11/18 C25D5/02 C25D9/06 E02B11/00 E02B13/00

E03F1/00 (Advanced/Invention);

B22D17/00 B22D25/00 B32B15/04 C22C21/00 C22C21/06

C25D11/04 (Core/Invention)

CPC: A21D13/32 A21D13/47 B22D17/00 C22C21/00 C25D11/04

C25D11/18 Y10T428/12736 Y10T428/26 B22D17/20 B22D21/007

B22D25/00 C25D5/02 C25D9/06 C25D11/022 C25D11/16 E03F1/003

European: A21D13/00D4 A21D13/00H12 B22D17/00 C22C21/00

C25D11/04 C25D11/18 E03F1/00B2

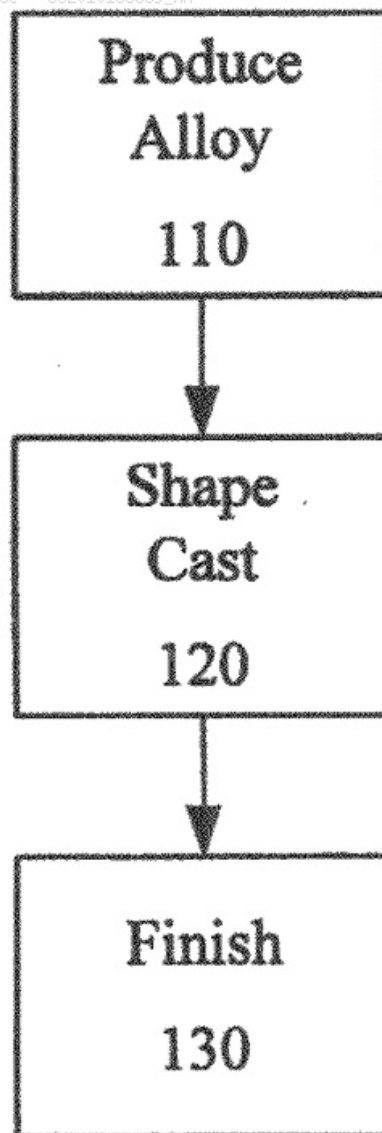
US: 164/113 164/113S 164/69.1 164/76.1 164/76.100S 205/121

210/170.08 405/43 405/43P 405/43S 405/45 405/46 405/49 405/49P

420/544 420/544S 420/548 420/548S 420/553 420/553S 426/383

426/383P 428/332 428/332P 428/472.2 428/472.200S 428/650

PatBase - US2010183869_AA



Family:

Publication number	Publication date	Application number	Application date
CA2765648 AA	20110106	CA20102765648	20100629
CA2765648 C	20140603	CA20102765648	20100629
CN102333897 A	20120125	CN201080009542	20100113
CN102333897 B	20131120	CN201080009542	20100113
EP2382334 A2	20111102	EP20100700362	20100113
EP2382334 B1	20160921	EP20100700362	20100113
EP2449179 A1	20120509	EP20100794486	20100629
EP2449179 A4	20180228	EP20100794486	20100629
EP3305924 A1	20180411	EP20160189707	20100113
KR20110111486 A	20111011	KR20117019046	20100113
TW201031761 A	20100901	TW20100101143	20100115
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US2010183869 AA	20100722	US20100657099	20100112
US2010329787 AA	20101230	US20100823896	20100625
US2010329788 AA	20101230	US20100824162	20100626
US2010329789 AA	20101230	US20100824192	20100627
US2011020065 AA	20110127	US20100803549	20100628
US2011287153 AA	20111124	US20110068785	20110520
US2011293370 AA	20111201	US20110070905	20110324
US2011293371 AA	20111201	US20110073953	20110328
US2013160963 AA	20130627	US20120694457	20121203
US2015122660 AA	20150507	US20150592297	20150108

 US7914230 BB	20110329	US20100823896	20100625
 US8322948 BB	20121204	US20110073953	20110328
 US8349462 BB	20130108	US20100657099	20100112
 US8801326 BB	20140812	US20100824192	20100627
 US8950465 BB	20150210	US20120694457	20121203
 WO10083245 A2	20100722	WO2010US20937	20100113
 WO10083245 A3	20100910	WO2010US20937	20100113
 WO11002500 A1	20110106	WO2010US01853	20100629
 WO11149519 A1	20111201	WO2011US00916	20110523

Priority:

US20090145416P 20090116	US20090160631P 20090316	US20090187183P 20090615
US20090269660P 20090626	US20090269880P 20090629	US20090221943P 20090630
US20100657099 20100112	EP20100700362 20100113	WO2010US20937 20100113
US20100396254P 20100524	US20100396524P 20100528	US20100823896 20100625
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WO2010US01853 20100629	US20110070905 20110324	US20110073953 20110328
US20110068785 20110520	US20120694457 20121203	US20150592297 20150108

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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
CA2765648 AA	20110106	LSPB	+	published / reissued	
CA2765648 AA	20111215	LSSES	+EEER	EXAMINATION REQUEST	
CA2765648 C	20140603	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2765648 C	20300629	PEXP		Calculated Patent Term Expiry	
CN102333897 A	20120125	LSPB	+	published / reissued	
CN102333897 A	20120125	LSPB	+C06	PUBLICATION	
CN102333897 A	20131120	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102333897 A	20170728	LSAS	TR01	TRANSFER OF PATENT RIGHT	
CN102333897 B	20131120	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102333897 B	20300113	PEXP		Calculated Patent Term Expiry	
EP2382334 A2	20111102	LSPB	+	published / reissued	
EP2382334 A2	20111102	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20110729
EP2382334 A2	20120620	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20120523
EP2382334 A2	20160302	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160202
EP2382334 A2	20160831	LSGT	+INTG	INTENTION TO GRANT	EFFECTIVE DATE : 20160804

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EP2382334 B1	20160921	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2382334 B1	20160921	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2382334 B1	20160930	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2382334 B1	20161015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 831112 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20161015
EP2382334 B1	20161019	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2382334 B1	20161103	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602010036551 COUNTRY OF REF DOCUMENT : DE
EP2382334 B1	20170125	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2382334 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160921
EP2382334 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160921
EP2382334 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160921
EP2382334 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161221
EP2382334 B1	20170215	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 831112 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160921
EP2382334 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160921
EP2382334 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160921
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				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20160921
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EP2382334 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20160921
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EP2382334 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20160921
EP2382334 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20160921
EP2382334 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20170123
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EP2382334 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20160921
EP2382334 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT LAPSED DATE : 20160921
EP2382334 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20170121

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EP2382334 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20160921
EP2382334 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20161221
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EP2382334 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL 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 : 20160921
EP2382334 B1	20170801	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602010036551 COUNTRY OF REF DOCUMENT : DE
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EP2382334 B1	20170831	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2382334 B1	20170927	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20170113
EP2382334 B1	20170929	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160921
EP2382334 B1	20171027	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20170929
EP2382334 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170131
EP2382334 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170131

EP2382334 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170131
EP2382334 B1	20171101	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2382334 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170801
EP2382334 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160921
EP2382334 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170113
EP2382334 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170113
EP2382334 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170113
EP2382334 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170113
EP2382334 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO LAPSED DATE : 20100113
EP2382334 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160921
EP2382334 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MK NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160921
EP2382334 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160921
EP2382334 B1	20300113	PEXP		Calculated Patent	

					Term Expiry	
EP2449179 A1	20120509	LSPB	+	published / reissued		
EP2449179 A1	20120509	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120130	
EP2449179 A4	20180228	LSSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20180129	
EP2449179 A4	20190410	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20190306	
EP3305924 A1	20180411	LSPB	+	published / reissued		
EP3305924 A1	20180801	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : ALCOA USA CORP.	
EP3305924 A1	20190501	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20181012	
KR20110111486 A	20111011	LSPB	+	published / reissued		
KR20110111486 A	20150112	LSSES	A201	REQUEST FOR EXAMINATION		
KR20110111486 A	20160329	LSSES	-E902	NOTIFICATION OF REASON FOR REFUSAL		
KR20110111486 A	20160610	LSSES	-E902	NOTIFICATION OF REASON FOR REFUSAL		
KR20110111486 A	20161221	LSRV	-E90F	NOTIFICATION OF REASON FOR FINAL REFUSAL		
KR20110111486 A	20170411	LSRV	-E601	DECISION TO REFUSE APPLICATION		
TW201031761 A	20100901	LSPB	+	published / reissued		
TWI467025 B	20150101	LSGT	+	granted / extensions (spc, cpc, pte)		
TWI467025 B	20300115	PEXP		Calculated Patent Term Expiry		
US2010183869 AA	20100722	LSPB	+	published / reissued		
US2010183869 AA	20121218	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE	
US2010329787 AA	20101230	LSPB	+	published / reissued		
US2010329787 AA	20110309	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE	
US2010329788 AA	20101230	LSPB	+	published / reissued		
US2010329788 AA	20100826	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MOORE, ROY E., JR.; REEL/FRAME:024898/0470 EFFECTIVE DATE : 20100623	
US2010329788 AA	20111011	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION, ILLINOIS OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:027046/0088 EFFECTIVE DATE : 20111011	
US2010329788 AA	20130701	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action		
US2010329788 AA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED	

					PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US2010329788 AA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US2010329788 AA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US2010329789 AA	20101230	LSPB	+	published / reissued	
US2010329789 AA	20111011	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION, ILLINOIS OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:027046/0088 EFFECTIVE DATE : 20111011
US2010329789 AA	20140723	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011020065 AA	20110127	LSPB	+	published / reissued	
US2011020065 AA	20100826	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MORRE, ROY E., JR; COPPES, BRYAN A.; HALLAHAN, DENNIS F.; AND OTHERS; SIGNING DATES FROM 20100702 TO 20100712; REEL/FRAME:024898/0179
US2011020065 AA	20110215	LSWD	-EAB1	Expressly Abandoned -- During Examination	
US2011287153 AA	20111124	LSPB	+	published / reissued	
US2011287153 AA	20130225	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011293370 AA	20111201	LSPB	+	published / reissued	
US2011293370 AA	20111011	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION, ILLINOIS OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:027046/0088 EFFECTIVE DATE : 20111011
US2011293370 AA	20120802	LSWD	-ABD2	Abandoned -- Failure to Pay Issue Fee	
US2011293370 AA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US2011293370 AA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528

US2011293370 AA	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US2011293371 AA	20111201	LSPB	+	published / reissued	
US2011293371 AA	20121114	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013160963 AA	20130627	LSPB	+	published / reissued	
US2013160963 AA	20150121	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015122660 AA	20150507	LSPB	+	published / reissued	
US2015122660 AA	20150108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ALCOA INC., PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LIN, JEN C.; FIELDS, JAMES R.; ASKIN, ALBERT L.; AND OTHERS; SIGNING DATES FROM 20100330 TO 20100401; REEL/FRAME:034667/0229
US2015122660 AA	20161103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ALCOA USA CORP., PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ALCOA INC.; REEL/FRAME:040556/0141 EFFECTIVE DATE : 20161025
US2015122660 AA	20170127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ALCOA USA CORP.; REEL/FRAME:041521/0521 EFFECTIVE DATE : 20161101
US2015122660 AA	20170410	LSSES	NFA1	Non Final Action Mailed	
US2015122660 AA	20170922	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US7914230 BB	20110329	LSGT	+	granted / extensions (spc, cpc, pte)	
US7914230 BB	20100920	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:COPPE, BRYAN A.; MOORE, JR., ROY E.; HALLAHAN, DENNIS F.; AND OTHERS; SIGNING DATES FROM 20100622 TO 20100623; REEL/FRAME:025016/0805
US7914230 BB	20110309	LSGT	PAT1	Patented Case	
US7914230 BB	20111011	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION, ILLINOIS OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:027046/0088 EFFECTIVE DATE : 20111011
US7914230 BB	20150325	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7914230 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528

US7914230 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US7914230 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US7914230 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US7914230 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US7914230 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US7914230 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US7914230 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7914230 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7914230 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US7914230 BB	20181119	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7914230 BB	20190301	LSFE	FEPP	FEE PAYMENT	TEXT : 7.5 YR SURCHARGE - LATE

				PROCEDURE	PMT W/IN 6 MO, LARGE ENTITY (ORIGINAL EVENT CODE: M1555); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7914230 BB	20190301	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7914230 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7914230 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7914230 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US7914230 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7914230 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US7914230 BB	20300625	PEXP		Calculated Patent Term Expiry	
US8322948 BB	20121204	LSGT	+	granted / extensions (spc, cpc, pte)	
US8322948 BB	20111011	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENERAL ELECTRIC CAPITAL CORPORATION, ILLINOIS OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:INFILTRATOR SYSTEMS, INC.; REEL/FRAME:027046/0088 EFFECTIVE DATE : 20111011
US8322948 BB	20121114	LSGT	PAT1	Patented Case	
US8322948 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8322948 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528

US8322948 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8322948 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US8322948 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US8322948 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US8322948 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US8322948 BB	20160816	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8322948 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8322948 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8322948 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8322948 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8322948 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

					OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8322948 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8322948 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US8322948 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US8322948 BB	20310328	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8349462 BB	20130108	LSGT	+	granted / extensions (spc, cpc, pte)	
US8349462 BB	20100401	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ALCOA INC., PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LIN, JEN C.; FIELDS, JAMES R.; ASKIN, ALBERT L.; AND OTHERS; SIGNING DATES FROM 20100330 TO 20100401; REEL/FRAME:024174/0177
US8349462 BB	20121218	LSGT	PAT1	Patented Case	
US8349462 BB	20160628	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8349462 BB	20161103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ALCOA USA CORP., PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ALCOA INC.; REEL/FRAME:040556/0141 EFFECTIVE DATE : 20161025
US8349462 BB	20170127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ALCOA USA CORP.; REEL/FRAME:041521/0521 EFFECTIVE DATE : 20161101
US8349462 BB	20301011	PEXP		Calculated Patent Term Expiry (PTA 272 days)	
US8801326 BB	20140812	LSGT	+	granted / extensions (spc, cpc, pte)	
US8801326 BB	20100826	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOORE, JR., ROY E.; COPPES, BRYAN A.; REEL/FRAME:024898/0481

EFFECTIVE DATE : 20100623

US8801326 BB	20140723	LSGT	PAT1	Patented Case	
US8801326 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8801326 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8801326 BB	20150529	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR SYSTEMS, INC., CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION; REEL/FRAME:035745/0534 EFFECTIVE DATE : 20150528
US8801326 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0562 EFFECTIVE DATE : 20150527
US8801326 BB	20150701	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEUTSCHE BANK AG NEW YORK BRANCH, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:ISI POLYETHYLENE SOLUTIONS, LLC; EZFLOW, L.P.; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036044/0627 EFFECTIVE DATE : 20150527
US8801326 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0435 EFFECTIVE DATE : 20150527
US8801326 BB	20150818	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : MERGER AND CHANGE OF NAME; ASSIGNORS:INFILTRATOR SYSTEMS, INC; INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:036387/0540 EFFECTIVE DATE : 20150527
US8801326 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8801326 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8801326 BB	20170222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P.,

					CONNECTICUT OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:DEUTSCHE BANK AG NEW YORK; REEL/FRAME:041777/0638 EFFECTIVE DATE : 20170217
US8801326 BB	20180326	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8801326 BB	20180827	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20180829
US8801326 BB	20180829	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PMFG); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8801326 BB	20180829	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : PETITION RELATED TO MAINTENANCE FEES FILED (ORIGINAL EVENT CODE: PMFP); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8801326 BB	20180829	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE, PETITION TO ACCEPT PYMT AFTER EXP, UNINTENTIONAL (ORIGINAL EVENT CODE: M1558); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8801326 BB	20180829	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8801326 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISI POLYETHYLENE SOLUTIONS, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8801326 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INFILTRATOR WATER TECHNOLOGIES, LLC, CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8801326 BB	20190801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EZFLOW, L.P., CONNECTICUT OLDPARTY : RELEASE OF SECURITY INTERESTS IN PATENTS (RELEASES RF 036044/0562); ASSIGNOR:DEUTSCHE BANK AG NEW YORK BRANCH, AS COLLATERAL AGENT; REEL/FRAME:049942/0332 EFFECTIVE DATE : 20190731
US8801326 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YO OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US8801326 BB	20191213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS ADMINISTRATIVE AGENT, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNOR:INFILTRATOR WATER TECHNOLOGIES, LLC; REEL/FRAME:051287/0286 EFFECTIVE DATE : 20191213
US8801326 BB	20310725	PEXP		Calculated Patent Term Expiry (PTA 393 days)	

US8950465 BB	20150210	LSGT	+	granted / extensions (spc, cpc, pte)	
US8950465 BB	20121203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ALCOA INC., PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LIN, JEN C.; FIELDS, JAMES R.; ASKIN, ALBERT L.; AND OTHERS; SIGNING DATES FROM 20100330 TO 20100401; REEL/FRAME:029571/0134
US8950465 BB	20150121	LSGT	PAT1	Patented Case	
US8950465 BB	20161103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ALCOA USA CORP., PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ALCOA INC.; REEL/FRAME:040556/0141 EFFECTIVE DATE : 20161025
US8950465 BB	20170127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ALCOA USA CORP.; REEL/FRAME:041521/0521 EFFECTIVE DATE : 20161101
US8950465 BB	20180730	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8950465 BB	20321203	PEXP		Calculated Patent Term Expiry	
WO10083245 A2	20100722	LSPB	+	published / reissued	
WO10083245 A2	20100113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201080009542.5 COUNTRY OF REF DOCUMENT : CN
WO10083245 A3	20110718	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO10083245 A3	20110729	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010700362 COUNTRY OF REF DOCUMENT : EP
WO10083245 A3	20110816	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20117019046 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO11002500 A1	20110106	LSPB	+	published / reissued	
WO11002500 A1	20111215	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2765648 COUNTRY OF REF DOCUMENT : CA
WO11002500 A1	20111229	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11002500 A1	20120127	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010794486 COUNTRY OF REF DOCUMENT : EP
WO11149519 A1	20111201	LSPB	+	published / reissued	
WO11149519 A1	20121126	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11149519 A1	20130612	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 11787017 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: MODULAR CONSTRUCTION CONDUIT UNIT

Abstract: A modular conduit unit system and method for exemplary uses in routing utility lines and storage management of fluids. The modular conduit units may include independent **dome**-shaped structures including four orthogonally oriented openings and internal **chambers**. On connection of many conduit units, multiple passageways are created for routing utility lines through the modular structure. Closure panels may be selectively installed to close off the conduit units and passageways for underground storage of fluids or other materials. The modular units are capable of being encased by materials including concrete for underground and concrete floors and walls of commercial buildings.

Classifications:

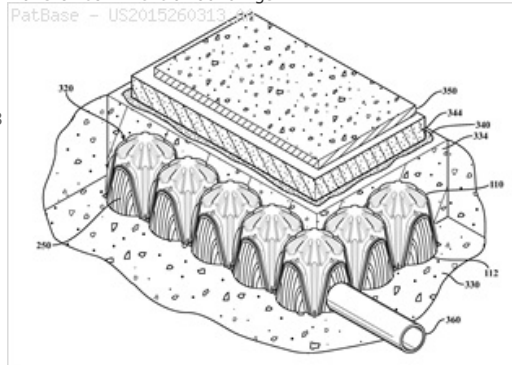
International (IPC 8-9): B23P19/00 E02B11/00 E03F1/00 E03F5/10 E04B5/16 E04B5/32 E04B5/36 E04F15/024 E04F15/12 F16L1/11

F16L57/06 (Advanced/Invention);

E04B5/32 E04B5/36 E04B5/48 E04F15/12 (Advanced/Non-invention)

CPC: E03F1/002 E03F1/005 E03F5/10 E04B5/326 E04B5/36 E04B5/48 E04F15/123 Y10T29/49826 E02B11/005 E03F1/003

US: 1/1 29/428 405/157 405/36 405/43

**Family:**

Publication number	Publication date	Application number	Application date
AU2017275411 AA	20190117	AU20170275411	20170524
CA171693 S	20170906	CA20160171693F	20161118
CA3064722 AA	20191122	CA20173064722	20170524
CN109563701 A	20190402	CN201780045568	20170524
EP3464740 A1	20190410	EP20170728965	20170524
US2015260313 AA	20150917	US20150643118	20150310
US2016281347 AA	20160929	US20160172691	20160603
US2017328051 AA	20171116	US20170663990	20170731
US9371938 BB	20160621	US20150643118	20150310
US9739046 BB	20170822	US20160172691	20160603
US10597861 BB	20200324	US20170663990	20170731
WO15138427 A1	20150917	WO2015US19668	20150310
WO17210054 A1	20171207	WO2017US34199	20170524
WO19027791 A1	20190207	WO2018US43857	20180726

Priority:

US20140951771P 20140312 US20150643118 20150310 US20160172691 20160603
 US20160577070F 20160909 WO2017US34199 20170524 US20170663990 20170731

Probable Assignee: JM SALES ASSOCIATES INC

Assignee(s): (std): J M SALES ASS INC ; J M SALES ASSOCIATES INC ; JOSEPH STEVE MISKOVICH ; MISKOVICH JOSEPH S

Assignee(s): JM SALES ASSOCIATES INC

Inventor(s): (std): MISKOVICH JOSEPH S

Agent(s): GRIFFITH HACK; PERRY AND CURRIER; NOTARO GIANCARLO; YOUNG BASILE HANLON AND MACFARLANE PC; GARASCIA CHRISTIAN J; GARASCIA CHRISTIAN J 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 DJ 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 JO JP KE KG KH KM KN KP KR KW 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
AU2017275411 AA	20190117	LSPB	+	published / reissued	
CA171693 S	20170906	LSGT	+	granted / extensions (spc, cpc, pte)	
CA171693 S	20270906	PEXP		Calculated Patent Term Expiry	
CA3064722 AA	20191122	LSPB	+	published / reissued	
CA3064722 AA	20191218	LSSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20191122
CN109563701 A	20190402	LSPB	+	published / reissued	
CN109563701 A	20190402	LSPB	PB01	PUBLICATION	

EP3464740 A1	20190410	LSPB	+	published / reissued	
EP3464740 A1	20190410	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20181212
EP3464740 A1	20191113	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20191014
US10597861 BB	20200324	LSGT	+	granted / extensions (spc, cpc, pte)	
US10597861 BB	20200304	LSGT	PAT1	Patented Case	
US10597861 BB	20370731	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US2015260313 AA	20150917	LSPB	+	published / reissued	
US2015260313 AA	20160601	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016281347 AA	20160929	LSPB	+	published / reissued	
US2016281347 AA	20170405	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016281347 AA	20170626	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2016281347 AA	20170627	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016281347 AA	20170628	LSFE	+AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2016281347 AA	20170706	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016281347 AA	20170802	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017328051 AA	20171116	LSPB	+	published / reissued	
US2017328051 AA	20180724	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : J.M. SALES ASSOCIATES, INC., MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MISKOVICH, JOSEPH S.; REEL/FRA:046444/0669 EFFECTIVE DATE : 20180712
US2017328051 AA	20181210	LSSES	NFA1	Non Final Action Mailed	
US2017328051 AA	20190402	LSSES	NFA1	Non Final Action Mailed	
US2017328051 AA	20191125	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017328051 AA	20200218	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US9371938 BB	20160621	LSGT	+	granted / extensions (spc, cpc, pte)	
US9371938 BB	20151026	LSSES	NFA1	Non Final Action Mailed	
US9371938 BB	20160311	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9371938 BB	20160520	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US9371938 BB	20160601	LSGT	PAT1	Patented Case	
US9371938 BB	20180724	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : J.M. SALES ASSOCIATES, INC., MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST;

						ASSIGNOR:MISKOVICH, JOSEPH S.; REEL/FRAME:046444/0669 EFFECTIVE DATE : 20180712
US9371938 BB	20191223	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US9371938 BB	20350310	PEXP		Calculated Patent Term Expiry		
US9739046 BB	20170822	LSGT	+	granted / extensions (spc, cpc, pte)		
US9739046 BB	20170802	LSGT	PAT1	Patented Case		
US9739046 BB	20180724	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : J.M. SALES ASSOCIATES, INC., MICHIGAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MISKOVICH, JOSEPH S.; REEL/FRAME:046444/0669 EFFECTIVE DATE : 20180712	
US9739046 BB	20360603	PEXP		Calculated Patent Term Expiry		
WO15138427 A1	20150917	LSPB	+	published / reissued		
WO15138427 A1	20160912	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE	
WO15138427 A1	20170405	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 15712470 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :	
WO17210054 A1	20171207	LSPB	+	published / reissued		
WO17210054 A1	20181204	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE	
WO17210054 A1	20190117	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017275411 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20170524 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :	
WO17210054 A1	20190118	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017728965 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190103	
WO17210054 A1	20191122	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 3064722 COUNTRY OF REF DOCUMENT : CA	
WO19027791 A1	20190207	LSPB	+	published / reissued		
WO19027791 A1	20200201	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE	

Title: PLASTIC DETENTION **CHAMBER** FOR **STORMWATER** RUNOFF AND RELATED SYSTEM AND METHODS

Abstract: A plastic, corrugated open bottom **chamber** includes features such as one or more of (i) sub-corrugation features on corrugation crests and/or corrugation valleys, (ii) stiffening fingers on the bottom of **chamber** foot portions, (iii) a viewport configuration that intersects only a single corrugation crest and (iv) a unitary end wall. A method of producing **chambers** with or without a unitary end wall using a common mold tool is also provided. A method of interconnecting **chambers** to form a **chamber** rows is also provided.

Classifications:

International (IPC 8-9): E02B E02B11/00 E02B13/00 E03B3/02

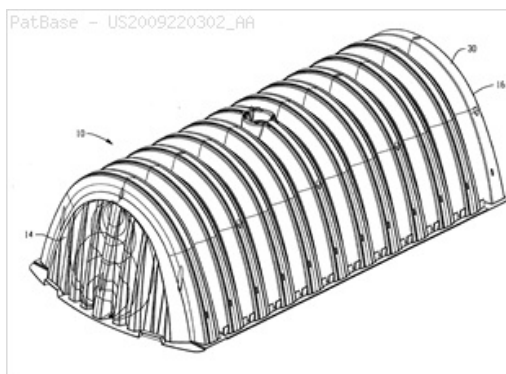
E03F1/00 (Advanced/Invention);

E02B11/00 (Core/Invention)

CPC: E02B11/005 E03F1/003

European: E02B11/00B E03F1/00B2

US: 405/43 405/43S 405/49 405/49P



Family:

Publication number	Publication date	Application number	Application date
AU2009214692 AA	20090820	AU20090214692	20090212
AU2009214692 BB	20141030	AU20090214692	20090212
BRPI0907731 A2	20150714	BR2009PI07731	20090212
CA2714481 AA	20100806	CA20092714481	20090212
CA2714481 C	20160920	CA20092714481	20090212
CN101965426 A	20110202	CN200980108181	20090212
EP2250320 A2	20101117	EP20090710874	20090212
EP2250320 A4	20151014	EP20090710874	20090212
HK1150866 A1	20120113	HK20110104889	20110517
MX2010008956 A1	20101221	MX20100008956	20090212
NZ587430 A	20120112	NZ20090587430	20090212
US2009220302 AA	20090903	US20090370287	20090212
US8491224 BB	20130723	US20090370287	20090212
WO09102855 A2	20090820	WO2009US33899	20090212
WO09102855 A3	20091029	WO2009US33899	20090212

Priority:

US20080028304 20080213
WO2009US33899 20090212

US20080028304P 20080213

US20090370287 20090212

Probable Assignee: CONTECH STORMWATER SOLUTIONS INC

Assignee(s): (std): BROCKENBROUGH ROGER L ; COBB DANIEL P ; CONTECH ENG SOLUTIONS LLC ; CONTECH ENGINEERED SOLUTIONS LLC ; CONTECH STORMWATER SOLUTIONS I ; CONTECH STORMWATER SOLUTIONS INC ; KATONA MICHAEL G ; STONE MICHAEL P ; SCHLUTER JAMES C

Assignee(s): GOLDMAN SACHS LENDING PARTNERS LLC ; CONTECH TECHNOLOGIES INC ; CONTECH STORMWATERSOLUTIONS LLC ; WELLS FARGO BANK NATIONAL ASSOCIATION AGENT AS ; CONTECH STORMWATER SOLUTIONS LLC ; WELLS FARGO CAPITAL FINANCE LLC

Inventor(s): (std): KATONA MICHAEL G ; COBB DANIEL P ; STONE MICHAEL P ; BROCKENBROUGH ROGER L ; SCHLUTER JAMES C ; SCHULUTER JAMES C ; BROKENBROUGH ROGER L

Inventor(s): ROGER L BROKENBROUGH ; MICHAEL G KATONA ; ROGER L BROCKENBROUGH ; MICHAEL P STONE ; DANIEL P COBB ; JAMES C SCHLUTER ; JAMES C SCHULUTER

Agent(s): PHILLIPS ORMONDE FITZPATRICK ; GOWLING LAFLEUR HENDERSON LLP ; GOWLING WLG CANADA LLP ; ASHTON GARETH MARK ; VICTOR CHU AND CO ; THOMPSON HINE LLP INTELLECTUAL PROPERTY GROUP ; THOMPSON HINE LLP ; NIEBERDING MICHAEL J 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
AU2009214692 AA	20090820	LSPB	+	published / reissued	
AU2009214692 BB	20141030	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2009214692 BB	20150226	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	

AU2009214692 BB	20290212	PEXP		Calculated Patent Term Expiry	
BRPI0907731 A2	20181002	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
BRPI0907731 A2	20190226	LSRV	B09B	DECISION: REFUSAL	
BRPI0907731 A2	20190514	LSRV	B09B	DECISION: REFUSAL	TEXT : MANTIDO O INDEFERIMENTO UMA VEZ QUE NAO FOI APRESENTADO RECURSO DENTRO DO PRAZO LEGAL
CA2714481 AA	20100806	LSPB	+	published / reissued	
CA2714481 AA	20131003	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130917
CA2714481 C	20160920	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2714481 C	20290212	PEXP		Calculated Patent Term Expiry	
CN101965426 A	20110202	LSPB	+	published / reissued	
CN101965426 A	20110202	LSPB	+C06	PUBLICATION	
CN101965426 A	20131106	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP2250320 A2	20101117	LSPB	+	published / reissued	
EP2250320 A2	20101117	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100831
EP2250320 A2	20151014	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20150910
EP2250320 A2	20161130	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20160412
EP2250320 A2	20170908	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1150866 COUNTRY OF REF DOCUMENT : HK
HK1150866 A1	20120113	LSPB	+	published / reissued	
MX2010008956 A1	20101221	LSPB	+	published / reissued	
MX2010008956 A1	20140109	LSGT	+FG	GRANT OR REGISTRATION	
MX2010008956 A1	20140313	LSAS	GB	TRANSFER OR ASSIGNMENT	
MX2010008956 A1	20140313	LSAS	HC	CHANGE OF COMPANY NAME OR JURIDICAL STATUS	
MX2010008956 A1	20140313	LSAS	HC	CHANGE OF COMPANY NAME OR JURIDICAL STATUS	PARTYTYPE : OWNER OWNER : AURINIA PHARMACEUTICALS INC.
MX2010008956 A1	20140313	LSAS	PD	CHANGE OF PROPRIETORSHIP	PARTYTYPE : OWNER OWNER : CONTECH ENGINEERED SOLUTIONS LLC
NZ587430 A	20120112	LSPB	+	published / reissued	
NZ587430 A	20120525	LSGT	+PSEA	PATENT SEALED	
NZ587430 A	20130328	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 3 YEARS UNTIL 12 FEB 2016 BY COMPUTER PACKAGES INC. EFFECTIVE DATE : 20130227

NZ587430 A	20160129	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 12 FEB 2017 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20160119
NZ587430 A	20170127	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 12 FEB 2018 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20170118
NZ587430 A	20180126	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 12 FEB 2019 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20180118
NZ587430 A	20190125	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 12 FEB 2020 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20190118
NZ587430 A	20200131	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 12 FEB 2021 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20200118
US2009220302 AA	20090903	LSPB	+	published / reissued	
US2009220302 AA	20120203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CONTECH STORMWATER SOLUTIONS LLC, OHIO OLDPARTY : CENTIFICATE OF CONVERSION; ASSIGNOR:CONTECH STORMWATER SOLUTIONS INC.; REEL/FRAME:027650/0174 EFFECTIVE DATE : 20120125
US2009220302 AA	20120221	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WELLS FARGO CAPITAL FINANCE, LLC, NEW YORK OLDPARTY : SECURITY INTEREST; ASSIGNORS:CONTECH ENGINEERED SOLUTIONS LLC; CONTECH BRIDGE SOLUTIONS LLC; CONTECH STORMWATER SOLUTIONS LLC; AND OTHERS; REEL/FRAME:028014/0952 EFFECTIVE DATE : 20120207
US2009220302 AA	20120807	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CONTECH ENGINEERED SOLUTIONS LLC, OHIO OLDPARTY : MERGER; ASSIGNOR:CONTECH STORMWATER SOLUTIONS LLC; REEL/FRAME:028735/0632 EFFECTIVE DATE : 20120628
US2009220302 AA	20130618	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOLDMAN SACHS LENDING PARTNERS LLC, NEW YORK OLDPARTY : NOTICE OF GRANT OF SECURITY INTEREST IN PATENTS; ASSIGNORS:KEYSTONE RETAINING WALL SYSTEMS LLC; CONTECH ENGINEERED SOLUTIONS LLC; IMBRIUM SYSTEMS LLC; REEL/FRAME:030634/0040 EFFECTIVE DATE : 20130613
US2009220302 AA	20130703	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8491224 BB	20130723	LSGT	+	granted / extensions (spc, cpc, pte)	
US8491224 BB	20090610	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CONTECH STORMWATER SOLUTIONS INC., OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:COBB, DANIEL P.; STONE, MICHAEL P.; SCHLUTER, JAMES C.; AND OTHERS; REEL/FRAME:022803/0973; SIGNING DATES FROM 20090310 TO 20090508
US8491224 BB	20090610	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CONTECH STORMWATER SOLUTIONS INC., OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST;

					ASSIGNORS: COBB, DANIEL P.; STONE, MICHAEL P.; SCHLUTER, JAMES C.; AND OTHERS; SIGNING DATES FROM 20090310 TO 20090508; REEL/FRAME: 022803/0973
US8491224 BB	20130703	LSGT	PAT1	Patented Case	
US8491224 BB	20161130	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CONTECH TECHNOLOGIES, INC, GEORGIA OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR: GOLDMAN SACHS LENDING PARTNERS, LLC; REEL/FRAME: 040741/0458 EFFECTIVE DATE : 20161115
US8491224 BB	20161202	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CONTECH ENGINEERED SOLUTIONS, LLC, GEORGIA OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR: GOLDMAN SACHS LENDING PARTNERS, LLC; REEL/FRAME: 040796/0939 EFFECTIVE DATE : 20161115
US8491224 BB	20161202	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CONTECH STORMWATERSOLUTIONS, LLC, GEORGIA OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR: WELLS FARGO CAPITAL FINANCE, LLC; REEL/FRAME: 040797/0514 EFFECTIVE DATE : 20161115
US8491224 BB	20161208	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WELLS FARGO BANK, NATIONAL ASSOCIATION, AS AGENT, OLDPARTY : SECURITY INTEREST; ASSIGNOR: CONTECH ENGINEERED SOLUTIONS INC.; REEL/FRAME: 040852/0262 EFFECTIVE DATE : 20161115
US8491224 BB	20170123	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8491224 BB	20311017	PEXP		Calculated Patent Term Expiry (PTA 977 days)	
WO09102855 A2	20090820	LSPB	+	published / reissued	
WO09102855 A2	20090212	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200980108181.7 COUNTRY OF REF DOCUMENT : CN
WO09102855 A3	20100806	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2714481 COUNTRY OF REF DOCUMENT : CA
WO09102855 A3	20100813	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2010/008956 COUNTRY OF REF DOCUMENT : MX
WO09102855 A3	20100814	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09102855 A3	20100818	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009214692 COUNTRY OF REF DOCUMENT : AU
WO09102855 A3	20100818	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 587430 COUNTRY OF REF DOCUMENT : NZ
WO09102855 A3	20100831	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009710874 COUNTRY OF REF DOCUMENT : EP
WO09102855 A3	20100909	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2009214692 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20090212

KIND CODE OF REF DOCUMENT :
A
DESIGNATED STATE(S) :

WO09102855 A3 20150714 LSNP ENP ENTRY INTO THE
NATIONAL PHASE
IN:

REF DOCUMENT NUMBER :
PI0907731
COUNTRY OF REF DOCUMENT :
BR
KIND CODE OF REF DOCUMENT :
A2
DESIGNATED STATE(S) :
EFFECTIVE DATE : 20100812

Title: SEWER OVERFLOW RELIEF DEVICE

Abstract: A sewer overflow relief device for mounting at a top end of a sewer overflow relief pipe includes a top cover having at least one outside air intake and an air flow control mechanism for controlling the flow of outside air into the sewer overflow relief pipe. In use, the device prevents outside water from entering the sewer and the device may be ejected from the sewer overflow relief pipe by sewage pressure pushing against the device, thereby allowing the sewer overflow relief pipe to overflow.

Classifications:

International (IPC 8-9): E03F5/042 E03F5/08 E03F5/12 F16K24/06 F16L55/07 (Advanced/Invention);

E03F5/00 E03F5/04 F16K24/00 F16L55/07 (Core/Invention)

CPC: Y10T137/7771 E03F5/08 E03F5/12 F16K24/06

European: E03F5/08 E03F5/12 F16K24/06

US: 137/493

PatBase - US2010108159_AA

Patent Application Publication May 6, 2010 Sheet 1 of 6 US 2010/0108159 A1

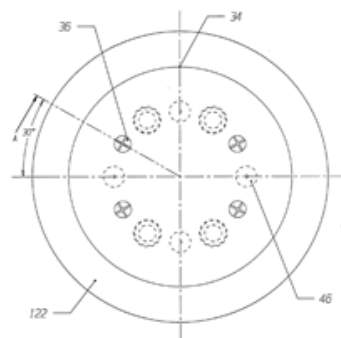


FIGURE 1

Family:

Publication number	Publication date	Application number	Application date
AU2008217536 AA	20080828	AU20080217536	20080221
AU2008217536 BB	20120607	AU20080217536	20080221
AU2008217536 CA	20121206	AU20080217536	20080221
AU2012203936 AA	20120726	AU20120203936	20120706
AU2012203936 BB	20150618	AU20120203936	20120706
CA2678710 AA	20090820	CA20082678710	20080221
CA2678710 C	20151201	CA20082678710	20080221
EP2115226 A1	20091111	EP20080706117	20080221
EP2115226 A4	20140108	EP20080706117	20080221
NZ579184 A	20120727	NZ20080579184	20080221
US2010108159 AA	20100506	US20080527983	20080221
WO08101295 A1	20080828	WO2008AU00234	20080221

Priority:

AU20070900884 20070221 AU20070900884P 20070221 WO2008AU00234 20080221
 AU20080217536 20080221 AU20120203936 20120706

Probable Assignee: ORC TECHNOLOGY PTY LTD

Assignee(s): (std): ORC TECH PTY LTD ; ORC TECHNOLOGY PTY LTD ; WILLIAMSON GREGORY JOHN

Inventor(s): (std): WILLIAMSON GREGORY JOHN

Inventor(s): GREGORY JOHN WILLIAMSON

Agent(s): WADESON; BERESKIN AND PARR LLP SENCRL SRL; HARRISON GODDARD FOOTE; NOVAK DRUCE DELUCA AND QUIGG LLP; WATERMARK PATENT AND TRADEMARK ATTORNEYS

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 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
AU2008217536 AA	20080828	LSPB	+	published / reissued	
AU2008217536 BB	20120607	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2008217536 BB	20120816	LSRE	DA2	APPLICATIONS FOR AMENDMENT	TEXT : THE NATURE OF THE AMENDMENT IS AS SHOWN IN THE STATEMENT(S) FILED 10 JUL 2012 .

AU2008217536 BB	20280221	PEXP		Calculated Patent Term Expiry	
AU2008217536 CA	20121206	LSRE	DA3	AMENDMENTS MADE SECTION 104	TEXT : THE NATURE OF THE AMENDMENT IS AS SHOWN IN THE STATEMENT(S) FILED 10 JUL 2012
AU2008217536 CA	20121213	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012203936 AA	20120726	LSPB	+	published / reissued	
AU2012203936 BB	20150618	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2012203936 BB	20151015	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012203936 BB	20320706	PEXP		Calculated Patent Term Expiry	
CA2678710 AA	20090820	LSPB	+	published / reissued	
CA2678710 AA	20130221	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130213
CA2678710 C	20151201	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2678710 C	20280221	PEXP		Calculated Patent Term Expiry	
EP2115226 A1	20091111	LSPB	+	published / reissued	
EP2115226 A1	20091111	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20090908
EP2115226 A4	20140108	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20131210
EP2115226 A4	20150114	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20140722
NZ579184 A	20120727	LSPB	+	published / reissued	
NZ579184 A	20121130	LSGT	+PSEA	PATENT SEALED	
NZ579184 A	20121221	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ579184 A	20150424	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 21 FEB 2016 BY WADESON EFFECTIVE DATE : 20150402
NZ579184 A	20160129	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 21 FEB 2017 BY WADESON EFFECTIVE DATE : 20160119
NZ579184 A	20170224	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 21 FEB 2018 BY WADESON EFFECTIVE DATE : 20170127
NZ579184 A	20180223	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 21 FEB 2019 BY WADESON EFFECTIVE DATE : 20180215
NZ579184 A	20190222	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 21 FEB 2020 BY WADESON EFFECTIVE DATE : 20190208
NZ579184 A	20200228	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 21 FEB 2021 BY WADESON IP PTY LTD EFFECTIVE DATE : 20200210
US2010108159 AA	20100506	LSPB	+	published / reissued	
US2010108159 AA	20091016	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

OWNER : ORC TECHNOLOGY PTY LTD,AUSTRALIA
 OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST;
 ASSIGNOR:WILLIAMSON, GREGORY JOHN;
 REEL/FRAME:023382/0621
 EFFECTIVE DATE : 20090830

US2010108159 AA	20130825	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
WO08101295 A1	20080828	LSPB	+	published / reissued	
WO08101295 A1	20090820	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2678710 COUNTRY OF REF DOCUMENT : CA
WO08101295 A1	20090821	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 579184 COUNTRY OF REF DOCUMENT : NZ
WO08101295 A1	20090822	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO08101295 A1	20090824	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008217536 COUNTRY OF REF DOCUMENT : AU
WO08101295 A1	20090908	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008706117 COUNTRY OF REF DOCUMENT : EP
WO08101295 A1	20090917	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2008217536 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20080221 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO08101295 A1	20091016	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12527983 COUNTRY OF REF DOCUMENT : US

Title: LIQUID SAMPLING DEVICES AND METHOD

Abstract: Liquid sampling devices and methods for sampling flowing or other liquid to determine its composition. The preferred sampling device has an upper liquid catch basin 40 for receiving a liquid to be sampled, a lower sample collection chamber 20, a liquid inlet 24 communicating the basin and collection chamber, and an inlet valve 26, 28 for closing the inlet against entry of liquid and foreign matter into the chamber and escape of liquid and vapor from the chamber except when the inlet is submerged in liquid to be sampled and the collection chamber contains less than a predetermined volume of the liquid. The sampling device is placed in sampling position such that the inlet valve 26, 28 remains closed until liquid covers the inlet 24, whereupon the inlet valve opens to permit liquid flow into the collection chamber 20 and later recloses in response to filling of the chamber with a predetermined sample volume. Exemplary uses of the sampling device are sampling storm water runoff from industrial property to determine the contaminants, if any, absorbed by the storm water as it flows across the property, and sampling liquid leakage in a brewery or other liquid processing facility to aid in locating the leak.

Classifications:

International (IPC 8-9): F16K31/22 G01N1/10 G01N1/16

G01N1/20 (Advanced/Invention);

G01N1/10 G01N33/18 (Advanced/Non-invention);

G01N1/10 G01N1/16 (Core/Invention)

International (IPC 1-7): B08B9/02 F16K31/22 G01N1/10 G01N1/16

G01N1/20

CPC: Y10T137/4336 Y10T137/7404 Y10T137/7413 Y10T137/7436

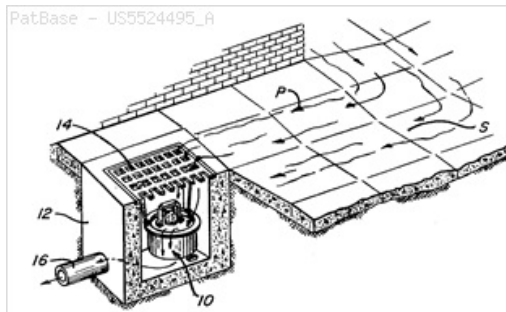
G01N1/2035 F16K31/22 G01N33/18 G01N2001/1043 G01N2001/205

European: F16K31/22 G01N1/20B S01N1/10D2 S01N1/20B3

S01N33/18

US: 137/244 137/423 137/426 137/433 73/863.52 73/863.57

73/864.63

**Family:**

Publication number	Publication date	Application number	Application date
CA2125262 AA	19941210	CA19942125262	19940606
CA2125262 C	20010821	CA19942125262	19940606
US5524495 A	19960611	US19950421474	19950412
US5915408 A	19990629	US19960660120	19960607

Priority:

US19920902067 19920622
US19950421474 19950412

US19930075215 19930609
US19960660120 19960607

CA19942125262 19940606

Probable Assignee: VORTEX CO

Assignee(s): (std): DUDLEY LYNN A ; VORTEX CO ; VORTEX COMPANY

Assignee(s): DUDLEY LYNN AARON

Inventor(s): (std): DUDLEY LYNN A ; DUDLEY LYNN AARON

Agent(s): RIDOUT AND MAYBEE LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2125262 AA	19941210	LSPB	+	published / reissued	
CA2125262 AA	19980601	LSSES	+EEER	EXAMINATION REQUEST	
CA2125262 C	20010821	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2125262 C	20100607	LSLE	-MKLA	LAPSED	
CA2125262 C	20140606	PEXP		Calculated Patent Term Expiry	
US5524495 A	19960611	LSGT	+	granted / extensions (spc, cpc, pte)	
US5524495 A	19960311	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VORTEX COMPANY, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DUDLEY, LYNN A.; REEL/FRAME:007840/0958 EFFECTIVE DATE : 19930604
US5524495 A	19960529	LSGT	PAT1	Patented Case	
US5524495 A	19960529	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5524495 A	19991207	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5524495 A	20031209	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5524495 A	20071207	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12

US5524495 A	20150412	PEXP		Calculated Patent Term Expiry	
US5915408 A	19990629	LSGT	+	granted / extensions (spc, cpc, pte)	
US5915408 A	20021217	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5915408 A	20061211	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5915408 A	20110629	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5915408 A	20110725	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5915408 A	20110725	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5915408 A	20110816	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20110629
US5915408 A	20160607	PEXP		Calculated Patent Term Expiry	

Title: APPARATUS FOR DISPLAYING SHOWER OR BATH WATER PARAMETERS

Abstract: The present invention is a display apparatus for affixation to a shower or bath water supply piping or incorporated within a shower, or bath or faucet head, in an aesthetically pleasing format and comprised of fabrication materials e.g., a polymeric or metallic bases with chrome, brass white or colored finishes or combination of these finishes and materials of construction. The display apparatus includes a power generation, CPU or microprocessor, temperature sensor and/or water flow sensors, timing circuits and a display means. The display means can be an analog or digital display or combination of display means. Ergonomically placed buttons can be incorporated into the display means to change parameter units (e.g. metric to US), set alarm conditions (e.g. temperature over set point, time past a set point, flow rate set points). The display means must be able to provide sufficient lighting in shower conditions. In addition, the display means must be able to sustain capability in moist wet conditions. In the embodiment defined by the attached shower display apparatus, know piping joint technology will be used for installation into both new and presently installed shower systems. In the embodiment defined by the display means incorporate into the shower head the shower head/display assembly can also be installed in both new and presently installed shower systems.

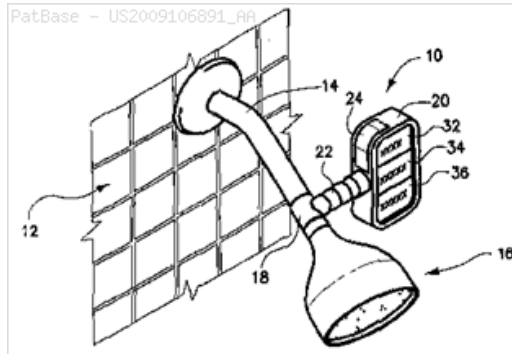
Classifications:

International (IPC 8-9): A47K1/04 A47K1/05 A47K3/00 A47K3/28 B05B1/18 B05B12/00 B05B12/02 B05B12/12 B67D7/08 B67D7/56 E03B7/04 E03B7/07 E03B7/09 E03C1/04 E03C1/06 F16K37/00 G01F1/56 G01F1/68 G01F15/02 G01F15/06 G01F15/075 G01K13/02 G05D23/19 G05D7/06 G06F3/0362 G06F3/0481 G06F3/0482 G06F3/0484 G06F3/0488 G10L15/22 (Advanced/Invention); B05B1/18 E03B7/07 (Advanced/Non-invention); A47K3/00 A47K3/28 (Core/Invention)

CPC: G10L15/22 G10L2015/223 E03C1/04 E03B7/071 G01F15/10 Y10T137/86389 E03C1/0404 G01F1/56 G01F1/68 Y02A20/218 Y02A20/15 B67D7/08 E03B7/07 Y10T137/8158 G06F3/0362 G06F3/04817 G06F3/0482 G06F3/04847 G06F3/04886 B05B1/18 B05B12/004 B05B12/008 B05B12/02 B05B12/12 E03B7/04 E03C2001/0418 G01F15/024 G01F15/063 G01F15/075 G01F15/0755 G01K13/02 G01K2013/026 G01K2207/00

European: B05B12/00S B05B12/00S3D B05B12/02 B05B12/12 E03B7/04 E03B7/07B E03C1/04 E03C1/04E G01F15/02B2 G01F15/06B2 G01F15/075 G01F15/075B G01F15/10 G01K13/02 G10L15/22 L05B1/18 P03C1/04N S01K13/02L S01K207/00 S10L15/22E

US: 1/1 137/551 137/624.11 239/71 239/71P 239/71S 239/74 239/74P 4/597 4/597P 4/601 4/605 4/605P 4/615 4/643 4/678 715/773 73/198

**Family:**

Publication number	Publication date	Application number	Application date
US2009106891 AA	20090430	US20070877860	20071024
US2009293189 AA	20091203	US20090539150	20090811
US2011031331 AA	20110210	US20100877094	20100907
US2011068192 AA	20110324	US20100956031	20101130
US2011186154 AA	20110804	US20110986341	20110108
US20111303310 AA	20111215	US20110216497	20110824
US20111303311 AA	20111215	US20110216521	20110824
US2012234409 AA	20120920	US20120491201	20120607
US2012273069 AA	20121101	US20120541819	20120705
US2015224525 AA	20150813	US20150693394	20150422
US2016378322 AA	20161229	US20160163968	20160525
US8347427 BB	20130108	US20110216521	20110824
US8887324 BB	20141118	US20110216497	20110824
US8893320 BB	20141125	US20120491201	20120607
US9061307 BB	20150623	US20090539150	20090811
US9254499 BB	20160209	US20070877860	20071024
US9266136 BB	20160223	US20100877094	20100907
US10489038 BB	20191126	US20160163968	20160525

Priority:

US20070877860	20071024	US20090539150	20090811	US20090241111P	20090910
US20100877094	20100907	US20100389709P	20101004	US20100956031	20101130
US20110986341	20110108	US20110216497	20110824	US20110216521	20110824
US20120491201	20120607	US20120541819	20120705	US20150693394	20150422
US20150166067P	20150525	US20160163968	20160525		

Probable Assignee: REIN TECH INC

Assignee(s): (std): KLICPERA MICHAEL ; KLICPERA MICHAEL EDWARD ; LLORENTE DAVID ; SOMERVILLE ALVIS

Assignee(s): REIN TECH INC ; KLICPERA MICHAEL E

Inventor(s): (std): SOMERVILLE ALVIS ; LLORENTE DAVID ; KLICPERA MICHAEL EDWARD ; KLICPERA MICHAEL

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Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10489038 BB	20191126	LSGT	+	granted / extensions (spc, cpc, pte)	
US10489038 BB	20360911	PEXP		Calculated Patent Term Expiry (PTA 109 days)	
US2009106891 AA	20090430	LSPB	+	published / reissued	

US2009106891 AA	20160120	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009293189 AA	20091203	LSPB	+	published / reissued	
US2009293189 AA	20150603	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011031331 AA	20110210	LSPB	+	published / reissued	
US2011031331 AA	20160203	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011068192 AA	20110324	LSPB	+	published / reissued	
US2011068192 AA	20130114	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011186154 AA	20110804	LSPB	+	published / reissued	
US2011186154 AA	20150303	LSAL	APL5	On Appeal -- Awaiting Decision by the Board of Appeals	
US2011186154 AA	20170623	LSAL	BDR1	Board of Appeals Decision Rendered	
US2011186154 AA	20170829	LSWD	-ABD1	Abandoned -- After Examiner's Answer or Board of Appeals Decision	
US2011303310 AA	20111215	LSPB	+	published / reissued	
US2011303311 AA	20111215	LSPB	+	published / reissued	
US2011303311 AA	20121218	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012234409 AA	20120920	LSPB	+	published / reissued	
US2012273069 AA	20121101	LSPB	+	published / reissued	
US2012273069 AA	20160404	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015224525 AA	20150813	LSPB	+	published / reissued	
US2015224525 AA	20150729	LSES	NFA1	Non Final Action Mailed	
US2015224525 AA	20160205	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2016378322 AA	20161229	LSPB	+	published / reissued	
US2016378322 AA	20171002	LSES	NFA1	Non Final Action Mailed	
US2016378322 AA	20180219	LSES	NFA1	Non Final Action Mailed	
US2016378322 AA	20180928	LSES	NFA1	Non Final Action Mailed	
US2016378322 AA	20190311	LSES	NFA1	Non Final Action Mailed	
US2016378322 AA	20191004	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016378322 AA	20191022	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016378322 AA	20191106	LSGT	PAT1	Patented Case	
US2016378322 AA	20191106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8347427 BB	20130108	LSGT	+	granted / extensions (spc, cpc, pte)	
US8347427 BB	20121218	LSGT	PAT1	Patented Case	
US8347427 BB	20170123	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

US8347427 BB	20170123	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20170123
US8347427 BB	20171010	LSRE	CC	CERTIFICATE OF CORRECTION	
US8347427 BB	20180508	LSRE	CC	CERTIFICATE OF CORRECTION	
US8347427 BB	20181026	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : REIN TECH, INC., WYOMING OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KLICPERA, MICHAEL; REEL/FRAME:047325/0670 EFFECTIVE DATE : 20180820
US8347427 BB	20190813	LSRE	CC	CERTIFICATE OF CORRECTION	
US8347427 BB	20191008	LSRX	+RR	REQUEST FOR REEXAMINATION FILED	EFFECTIVE DATE : 20190802
US8347427 BB	20191210	LSOP	IPR	AIA TRIAL PROCEEDING FILED BEFORE THE PATENT AND APPEAL BOARD: INTER PARTES REVIEW	PARTYTYPE : OPPONENT OPPONENT : MUELLER SYSTEMS, LLC AND MUELLER WATER PRODUCTS, I OLDPARTY : TRIAL NO: IPR2020-00099 EFFECTIVE DATE : 20191029
US8347427 BB	20310824	PEXP		Calculated Patent Term Expiry	
US8887324 BB	20141118	LSGT	+	granted / extensions (spc, cpc, pte)	
US8887324 BB	20141029	LSGT	PAT1	Patented Case	
US8887324 BB	20180417	LSRE	CC	CERTIFICATE OF CORRECTION	
US8887324 BB	20180702	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8887324 BB	20181224	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8887324 BB	20181224	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8887324 BB	20181224	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8887324 BB	20190115	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20181118
US8887324 BB	20311028	PEXP		Calculated Patent Term Expiry (PTA 65 days and a terminal disclaimer has been filed)	
US8893320 BB	20141125	LSGT	+	granted / extensions (spc, cpc, pte)	
US8893320 BB	20141105	LSGT	PAT1	Patented Case	
US8893320 BB	20161018	LSRE	CC	CERTIFICATE OF CORRECTION	
US8893320 BB	20180709	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8893320 BB	20181231	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8893320 BB	20181231	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees	

Under 37 CFR 1.362					
US8893320 BB	20181231	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8893320 BB	20190122	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20181125
US8893320 BB	20320614	PEXP		Calculated Patent Term Expiry (PTA 7 days)	
US9061307 BB	20150623	LSGT	+	granted / extensions (spc, cpc, pte)	
US9061307 BB	20091103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KLICPERA, MICHAEL E., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SOMERVILLE, ALVIS J.; REEL/FRAME:023460/0315 EFFECTIVE DATE : 20091026
US9061307 BB	20150603	LSGT	PAT1	Patented Case	
US9061307 BB	20161004	LSRE	CC	CERTIFICATE OF CORRECTION	
US9061307 BB	20181026	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : REIN TECH, INC., WYOMING OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KLICPERA, MICHAEL; REEL/FRAME:047325/0670 EFFECTIVE DATE : 20180820
US9061307 BB	20190211	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9061307 BB	20190729	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9061307 BB	20190729	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US9061307 BB	20190729	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US9061307 BB	20190820	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20190623
US9061307 BB	20310925	PEXP		Calculated Patent Term Expiry (PTA 775 days)	
US9254499 BB	20160209	LSGT	+	granted / extensions (spc, cpc, pte)	
US9254499 BB	20151029	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9254499 BB	20151221	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9254499 BB	20160120	LSGT	PAT1	Patented Case	
US9254499 BB	20181026	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : REIN TECH, INC., WYOMING OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KLICPERA, MICHAEL; REEL/FRAME:047325/0670 EFFECTIVE DATE : 20180820
US9254499 BB	20190725	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9254499 BB	20290209	PEXP		Calculated Patent	

				Term Expiry (PTA 474 days)	
US9266136 BB	20160223	LSGT	+	granted / extensions (spc, cpc, pte)	
US9266136 BB	20151214	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US9266136 BB	20151217	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US9266136 BB	20160203	LSGT	PAT1	Patented Case	
US9266136 BB	20190725	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9266136 BB	20330620	PEXP	Calculated Patent Term Expiry (PTA 1017 days)		