PatBase - Search results 07 December 2020
Search query (5): FT=(water~ and treatment~ and chemical~ and chamber~ and exchange~) and IC =(A01K)
Results: 1490

Search history

Search 1: FT=(water~ treatment~ and chemical~ dispenser~ and chamber~ exchange~) (Results 0)

Search 2: FT=(water~ and treatment~ and chemical~ and dispenser~ and chamber~ and exchange~) (Results 18085)

Search 3: FT=(water~ and treatment~ and chemical~ and dispenser~ and chamber~ and exchange~) and IC =(A01K) (Results 578)

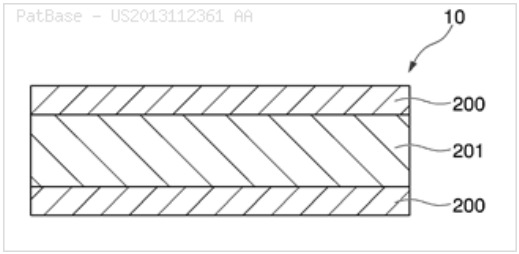
Search 4: FT=(water~ and treatment~ and chemical~ and chamber~ and exchange~) and IC =(A61J) (Results 464)

Search 5: FT=(water~ and treatment~ and chemical~ and chamber~ and exchange~) and IC =(A01K) (Results 1490)

1) Family number: 50525212 (US2013112361 AA)

Title: WIRE FOR PAPERMAKING OF MICROFIBROUS CELLULOSE-CONTAINING SHEET AND METHOD FOR PRODUCING MICROFIBROUS CELLULOSE-CONTAINING SHEET

Abstract: A wire for papermaking of a microfibrous cellulose-containing sheet includes a base that has **water** permeability and a porous coating layer that is provided on at least one surface of the base, wherein the porous coating layer contains a porous pigment, an adhesive and a hydrophobizing agent.



Classifications:
International (IPC 8-9): A01K63/04 A61M1/00 A61M5/00 B01D35/00 B01J19/08 C02F1/28 C02F1/42 C02F1/46 C02F1/461 C02F1/469 C02F101/00 C02F101/16 C02F103/00 C02F3/00 C02F3/02 C02F3/06 C02F3/10 C02F3/12 C02F3/28 C02F3/30 C02F3/34 C12M1/00 C12M1/42 C12N1/00 C25B1/00 C25B1/02 C25B15/00 C25B3/00 C25C7/00 C25D17/00 D21F1/00 D21F1/10 D21F11/00 D21H11/16 D21H11/18 D21H15/02 D21H19/72 F02M37/22 H01M8/16
CPC: D21F1/00 D21F1/0027 D21F1/0036 D21F1/0063 D21F11/00 D21H11/16 D21H15/02 C02F1/283 C02F1/46109 C02F1/46114 C02F2001/46133 C02F2001/46157 C02F2101/006 C02F2103/002 C02F2103/005 C02F2201/4611 C02F2201/46115 C02F2201/46135 C02F2301/08 C02F2303/10 C02F3/005 C02F3/1273 C02F3/2826 C02F3/345 Y02E50/30 Y02W10/10 Y02W10/30 Y02W10/37 A01K63/04 C02F1/385 C02F2001/007 C02F2001/46138 C02F2101/16 C02F2209/22 C02F3/302 C02F1/4693 C02F2201/46125 C02F2201/46145 C02F2201/46165 C02F2203/008 C02F2209/001 C02F2209/003 C02F2209/006 C02F2209/03 C02F2209/38 C02F2209/40 C02F2209/42 C02F3/006 C02F3/301 C02F3/34 C25B1/00 C25B1/02 C25B3/00 H01M8/16 Y02E60/50 C02F2201/007 C02F2209/08 C02F2209/14 C02F2209/15 C02F3/025
US: 1/1 162/202 162/289 204/242 204/250 210/143 210/150 210/202 210/243

Family:

Publication number	Publication date	Application number	Application date
CN103140625 A	20130605	CN201180045708	20110722
CN103140625 B	20150128	CN201180045708	20110722
DE602011013582 D1	20150319	DE201160013582T	20110722
DE602011036995 D1	20170524	DE201160036995T	20111019
DE602011049823 D1	20180802	DE201160049823T	20110414
EP2597195 A1	20130529	EP20110809729	20110722
EP2597195 A4	20140625	EP20110809729	20110722
EP2597195 B1	20150128	EP20110809729	20110722
EP2595924 A1	20130529	EP20110809996	20110414
EP2595924 A4	20140806	EP20110809996	20110414
EP2595924 B1	20180704	EP20110809996	20110414
EP2595925 A2	20130529	EP20110810413	20110721
EP2595925 A4	20140827	EP20110810413	20110721
EP2630088 A2	20130828	EP20110835081	20111019
EP2630088 A4	20141203	EP20110835081	20111019
EP2630088 B1	20170412	EP20110835081	20111019
EP3401284 A1	20181114	EP20180181533	20110414
JP2012011559 A1	20130909	JP20120525435T	20110722
JP5598546 B1	20141001	JP20120525435T	20110722
JP2013538114 T2	20131010	JP20130520700T	20110414
JP5873085 B2	20160301	JP20130520700T	20110414
JP2016120492 A2	20160707	JP20160005028	20160114
JP6171030 B2	20170726	JP20160005028	20160114
US2013112361 AA	20130509	US20110811099	20110722
US8585866 BB	20131119	US20110811099	20110722
US10099950 BB	20181016	US20110811132	20110414
US2013299400 AA	20131114	US20110811132	20110414
US10851003 BB	20201201	US20110811149	20110721
US2013112601 AA	20130509	US20110811149	20110721
US2014069806 AA	20140313	US20110880401	20111019
US9963790 BB	20180508	US20110880401	20111019
US2019112212 AA	20190418	US20180160060	20181015
WO12011559 A1	20120126	WO2011JP66680	20110722
WO12011984 A1	20120126	WO2011US32500	20110414
WO12012647 A2	20120126	WO2011US44872	20110721
WO12012647 A3	20120802	WO2011US44872	20110721
WO12054629 A2	20120426	WO2011US56920	20111019
WO12054629 A3	20120719	WO2011US56920	20111019

Priority:

JP20100196001	20100701	US20100366271P	20100721	JP20100166046	20100723
JP20100166045	20100723	JP20100196001	20100901	US20100394576P	20101019
US20100428415P	20101230	US20110468865P	20110329	EP20110809996	20110414
WO2011US32500	20110414	JP20130520700T	20110414	US20110811132	20110414
US20110496603P	20110614	WO2011US44872	20110721	US20110811149	20110721
WO2011JP66680	20110722	EP20110809729	20110722	JP20120525435	20110722
EP20110835081	20111019	WO2011US56920	20111019	US20110880401	20111019
US20130811132	20130730	JP20160005028	20160114	US20180160060	20181015

Probable Assignee: OJI HOLDINGS CORP

Assignee(s): (std): BUCK JUSTIN ; CAMBRIAN INNOVATION ; CAMBRIAN INNOVATION INC ; CAMBRIAN INNOVATION LLC ; GUZMAN JUAN J ; HUANG ZHEN ; KAWAMUKAI TAKASHI ; KIELY PATRICK ; KOHARA YUSUKE ; MIKAMI EIICHI ; NOISHIKI YASUTOMO ; OJI HOLDINGS CORP ; OJI PAPER CO ; SILVER MATTHEW

Assignee(s): CAMBRIAN INNOVATION INC BOSTON ; CAMBRIAN INNOVATION LLC BOSTON ; OJI PAPER CO LTD ; WINDSAIL CREDIT FUND LP ADMINISTRATIVE AGENT AS

Inventor(s): (std): BUCK JUSTIN ; GUZMAN JUAN J ; HUANG ZHEN ; JUAN J GUZMAN ; JUSTIN BUCK ; KAWAMUKAI

	TAKASHI ; KIELY PATRICK ; KOHARA YUSUKE ; MATTHEW SILVER ; MIKAMI EIICHI ; NOISHIKI YASUTOMO ; PATRICK KIELY ; SILVER MATTHEW
Inventor(s):	BUCK JUSTIN CAMBRIDGE ; GUZMAN JUAN J MEDFORD ; KIELY PATRICK GATINEAU ; SILVER MATTHEW CAMBRIDGE
Agent(s):	CAPITOL PATENT AND TRADEMARK LAW; CAPITOL PATENT AND TRADEMARK LAW FIRM PLLC; GLEISS GROSSE SCHRELL U PARTNER MBB PATENTANWAELTE RECHTSANWAELTE; KNOBBE MARTENS OLSON AND BEAR LLP; LEONARDO MARK S ET AL; PETERS HAJO; SHIGA MASATAKE ET AL; WILSON GUNN; ZACCO DR PETERS U PARTNER
Designated states:	AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN103140625 A	20130605	LSPB	+	published / reissued	
CN103140625 A	20130605	LSPB	+C06	PUBLICATION	
CN103140625 A	20130710		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN103140625 B	20150128	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103140625 B	20150128	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103140625 B	20310722	PEXP		Calculated Patent Term Expiry	
DE602011036995 D1	20170223		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationSymbol: C02F0001460000 ClassificationScheme: IPC Text: PREVIOUS MAIN CLASS: C02F0001460000
DE602011036995 D1	20190501	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
DE602011049823 D1	20180201		R079	AMENDMENT OF IPC MAIN CLASS	Text: PREVIOUS MAIN CLASS: C02F0001460000 ClassificationSymbol: C02F0001461000 ClassificationScheme: IPC
EP2595924 A1	20130529	LSPB	+	published / reissued	
EP2595924 A1	20130529	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20130220
EP2595924 A1	20130529		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2595924 A1	20130612		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SILVER, MATTHEW
EP2595924 A1	20130612		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: BUCK, JUSTIN
EP2595924 A1	20130612		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: KIELY, PATRICK
EP2595924 A1	20130612		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: GUZMAN, JUAN, J. PartyType: inventor
EP2595924 A1	20131030		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2595924 A4	20140806	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND	Effective date: 20140707

				DESPATCHED	
EP2595924 A4	20140806		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 1/46 20060101AFI20140701BHEP ClassificationScheme: IPC
EP2595924 A4	20140806		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/28 20060101ALI20140701BHEP
EP2595924 A4	20140806		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/06 20060101ALI20140701BHEP ClassificationScheme: IPC
EP2595924 A4	20161012	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20160913
EP2595924 A4	20180201		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602011049823 ClassificationSymbol: C02F0001461000 Text: PREVIOUS MAIN CLASS: C02F0001460000 Ref legal event code: R079 ClassificationScheme: IPC Country of Ref document: DE
EP2595924 A4	20180307		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 1/28 20060101ALN20180201BHEP ClassificationScheme: IPC
EP2595924 A4	20180307		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/34 20060101ALN20180201BHEP
EP2595924 A4	20180307		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/28 20060101ALI20180201BHEP
EP2595924 A4	20180307		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/461 20060101AFI20180201BHEP
EP2595924 A4	20180314	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180214
EP2595924 B1	20180704	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2595924 B1	20180704		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2595924 B1	20180704	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2595924 B1	20180713	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP2595924 B1	20180715	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 1014307 Ref country code: AT Effective date: 20180715 Kind code of Ref document: T Ref legal event code: REF Country of Ref document: AT
EP2595924 B1	20180725	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2595924 B1	20180802	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Ref country code: DE Ref document number: 602011049823 Country of Ref document: DE
EP2595924 B1	20181017		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: FP
EP2595924 B1	20181126	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP2595924 B1	20181215	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 1014307 Kind code of Ref document: T Effective date: 20180704 Ref country code: AT Ref legal event code: MK05 Country of Ref document: AT
EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20181005 Country of Ref document: GR

EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20181004 Country of Ref document: NO
EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180704 Country of Ref document: SE
EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180704 Country of Ref document: FI
EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181104 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2595924 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20181004 Country of Ref document: BG
EP2595924 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180704 Country of Ref document: ES
EP2595924 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2595924 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180704 Country of Ref document: LV
EP2595924 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION

				INFORMATION FROM NATIONAL OFFICE TO EPO]	OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2595924 B1	20190405	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602011049823 Ref country code: DE Ref legal event code: R097 Country of Ref document: DE
EP2595924 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2595924 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2595924 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180704 Country of Ref document: IT
EP2595924 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2595924 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180704 Country of Ref document: SM
EP2595924 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180704 Country of Ref document: DK
EP2595924 B1	20190612	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190405
EP2595924 B1	20190628	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190501 Year of fee payment: 9 Country of Ref document: NL
EP2595924 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190508 Year of fee payment: 9 Country of Ref document: DE
EP2595924 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180704 Country of Ref document: SI
EP2595924 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190501 Year of fee payment: 9 Country of Ref document: FR
EP2595924 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190501 Year of fee payment: 9 Country of Ref document: GB
EP2595924 B1	20191129	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2595924 B1	20191219	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190430 Ref country code: BE Ref legal event code: MM
EP2595924 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION	Lapsed date: 20190414 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU

				FROM NATIONAL OFFICE TO EPO]	
EP2595924 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180704 Country of Ref document: MC
EP2595924 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20190430 Country of Ref document: CH
EP2595924 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190430 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2595924 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190430 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP2595924 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180704 Country of Ref document: TR
EP2595924 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20190414 Country of Ref document: IE
EP2595924 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20181105 Country of Ref document: PT
EP2595924 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200505 Year of fee payment: 10 Country of Ref document: DE
EP2595924 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20200430 Country of Ref document: FR
EP2595924 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20200430 Country of Ref document: NL
EP2595924 B1	20200831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200430 Year of fee payment: 10 Country of Ref document: GB
EP2595924 B1	20310414	PEXP		Calculated Patent Term Expiry	
EP2595925 A2	20130529	LSPB	+	published / reissued	
EP2595925 A2	20130529	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20130220
EP2595925 A2	20130529		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2595925 A2	20130612		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SILVER, MATTHEW
EP2595925 A2	20130612		RIN1	INFORMATION ON	Inventor: GUZMAN, JUAN, J.

				INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor
EP2595925 A2	20130612		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: BUCK, JUSTIN
EP2595925 A2	20130612		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KIELY, PATRICK PartyType: inventor
EP2595925 A2	20130612		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: HUANG, ZHEN
EP2595925 A2	20131030		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2595925 A4	20140827	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20140728
EP2595925 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/30 20060101ALN20140722BHEP
EP2595925 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/06 20060101ALI20140722BHEP
EP2595925 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A01K 63/04 20060101ALI20140722BHEP ClassificationScheme: IPC
EP2595925 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/28 20060101ALI20140722BHEP ClassificationScheme: IPC
EP2595925 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 101/16 20060101ALN20140722BHEP ClassificationScheme: IPC
EP2595925 A4	20140827		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/46 20060101AFI20140722BHEP
EP2595925 A4	20170125	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20161222
EP2595925 A4	20180704	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20180201
EP2597195 A1	20130529	LSPB	+	published / reissued	
EP2597195 A1	20130529	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20130121
EP2597195 A1	20130529		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2597195 A1	20131030		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2597195 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160720 Year of fee payment: 6 Country of Ref document: DE
EP2597195 A4	20140625	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20140527
EP2597195 A4	20140625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: D21F 1/00 20060101AFI20140521BHEP ClassificationScheme: IPC
EP2597195 A4	20140625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED	ClassificationScheme: IPC ClassificationSymbol: D21H 11/18 20060101ALI20140521BHEP

				BEFORE GRANT	
EP2597195 A4	20140625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: D21H 15/02 20060101ALI20140521BHEP ClassificationScheme: IPC
EP2597195 A4	20140625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: D21H 11/16 20060101ALI20140521BHEP ClassificationScheme: IPC
EP2597195 A4	20140917		REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602011013582 Text: PREVIOUS MAIN CLASS: D21F0001100000 Ref legal event code: R079 ClassificationSymbol: D21F0001000000 Ref country code: DE ClassificationScheme: IPC Country of Ref document: DE
EP2597195 A4	20141022		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: D21F 1/00 20060101AFI20140917BHEP
EP2597195 A4	20141022		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: D21H 11/18 20060101ALI20140917BHEP ClassificationScheme: IPC
EP2597195 A4	20141022		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: D21H 11/16 20060101ALI20140917BHEP ClassificationScheme: IPC
EP2597195 A4	20141022		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: D21H 15/02 20060101ALI20140917BHEP ClassificationScheme: IPC
EP2597195 A4	20141119	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20141020
EP2597195 B1	20150128	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2597195 B1	20150128		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2597195 B1	20150128	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP2597195 B1	20150130	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2597195 B1	20150225	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP2597195 B1	20150315	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 708301 Kind code of Ref document: T Effective date: 20150315 Ref legal event code: REF Ref country code: AT Country of Ref document: AT
EP2597195 B1	20150319	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602011013582 Effective date: 20150319 Ref legal event code: R096 Country of Ref document: DE
EP2597195 B1	20150615	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150128 Ref document number: 708301 Kind code of Ref document: T Ref country code: AT Ref legal event code: MK05 Country of Ref document: AT
EP2597195 B1	20150617	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150128 Ref country code: NL Ref legal event code: VDEP
EP2597195 B1	20150625	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2597195 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2597195 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: HR

EP2597195 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: SE
EP2597195 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150428 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2597195 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150428 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2597195 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: FI
EP2597195 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: ES
EP2597195 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: AT
EP2597195 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150429 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2597195 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2597195 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2597195 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2597195 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150528 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2597195 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: LV
EP2597195 B1	20151029	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602011013582 Ref legal event code: R097 Country of Ref document: DE
EP2597195 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

				OFFICE TO EPO]	Country of Ref document: EE
EP2597195 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2597195 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: DK
EP2597195 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2597195 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2597195 B1	20151231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2597195 B1	20160106	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20151029
EP2597195 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2597195 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2597195 B1	20160229	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2597195 B1	20160323	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20150722
EP2597195 B1	20160331	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150722 Country of Ref document: LU
EP2597195 B1	20160420	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2597195 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20150731 Country of Ref document: LI
EP2597195 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150722 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP2597195 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2597195 B1	20160429	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: ST Effective date: 20160331 Ref country code: FR

EP2597195 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: BE
EP2597195 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20150731 Country of Ref document: FR
EP2597195 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150722 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2597195 B1	20170331	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: MT
EP2597195 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2597195 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110722 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2597195 B1	20170630	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: CY
EP2597195 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20170719 Country of Ref document: DE
EP2597195 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: PT
EP2597195 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: MK
EP2597195 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2597195 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20150128 Country of Ref document: AL
EP2597195 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20180710 Country of Ref document: DE
EP2597195 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190710 Year of fee payment: 9 Country of Ref document: DE

EP2597195 B1	20201030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200707 Year of fee payment: 10 Country of Ref document: DE
EP2597195 B1	20310722	PEXP		Calculated Patent Term Expiry	
EP2630088 A2	20130828	LSPB	+	published / reissued	
EP2630088 A2	20130828	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20130517
EP2630088 A2	20130828		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2630088 A2	20140122		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2630088 A4	20141203	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20141031
EP2630088 A4	20141203		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/30 20060101ALN20141027BHEP ClassificationScheme: IPC
EP2630088 A4	20141203		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 1/46 20060101AFI20141027BHEP ClassificationScheme: IPC
EP2630088 A4	20141203		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/34 20060101ALN20141027BHEP
EP2630088 A4	20141203		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C25B 1/02 20060101ALI20141027BHEP
EP2630088 A4	20141203		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: H01M 8/16 20060101ALI20141027BHEP ClassificationScheme: IPC
EP2630088 A4	20141203		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C25B 3/00 20060101ALI20141027BHEP
EP2630088 A4	20141203		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/06 20060101ALI20141027BHEP ClassificationScheme: IPC
EP2630088 A4	20141203		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/28 20060101ALI20141027BHEP
EP2630088 A4	20161102		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/30 20060101ALN20160923BHEP
EP2630088 A4	20161102		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/34 20060101ALN20160923BHEP ClassificationScheme: IPC
EP2630088 A4	20161102		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/28 20060101ALI20160923BHEP ClassificationScheme: IPC
EP2630088 A4	20161102		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 1/46 20060101AFI20160923BHEP ClassificationScheme: IPC
EP2630088 A4	20161102		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: H01M 8/16 20060101ALI20160923BHEP ClassificationScheme: IPC
EP2630088 A4	20161102		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/06 20060101ALI20160923BHEP ClassificationScheme: IPC
EP2630088 A4	20161102		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C25B 1/02 20060101ALI20160923BHEP ClassificationScheme: IPC

EP2630088 A4	20161102		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C25B 3/00 20060101ALI20160923BHEP ClassificationScheme: IPC
EP2630088 A4	20161109	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20161011
EP2630088 A4	20170329		INTC	INTENTION TO GRANT ANNOUNCED (DELETED)	
EP2630088 A4	20170329		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/30 20060101ALN20170223BHEP ClassificationScheme: IPC
EP2630088 A4	20170329		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 1/46 20060101AFI20170223BHEP ClassificationScheme: IPC
EP2630088 A4	20170329		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/28 20060101ALI20170223BHEP ClassificationScheme: IPC
EP2630088 A4	20170329		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C25B 1/02 20060101ALI20170223BHEP
EP2630088 A4	20170329		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/06 20060101ALI20170223BHEP
EP2630088 A4	20170329		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C25B 3/00 20060101ALI20170223BHEP ClassificationScheme: IPC
EP2630088 A4	20170329		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: H01M 8/16 20060101ALI20170223BHEP
EP2630088 A4	20170329		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/34 20060101ALN20170223BHEP ClassificationScheme: IPC
EP2630088 A4	20170405	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20170302
EP2630088 B1	20170412	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2630088 B1	20170412		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2630088 B1	20170412	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP2630088 B1	20170412		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BUCK, JUSTIN PartyType: inventor
EP2630088 B1	20170412		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SILVER, MATTHEW
EP2630088 B1	20170412		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: KIELY, PATRICK
EP2630088 B1	20170412		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: GUZMAN, JUAN, J.
EP2630088 B1	20170413	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP2630088 B1	20170503	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP2630088 B1	20170515	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: REF Ref country code: AT Ref document number: 883671 Effective date: 20170515 Kind code of Ref document: T Country of Ref document: AT
EP2630088 B1	20170517		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: FP
EP2630088 B1	20170524	LSPB	REG	REFERENCE TO A	Ref legal event code: R096

				NATIONAL CODE	Ref document number: 602011036995 Ref country code: DE Country of Ref document: DE
EP2630088 B1	20170825	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP2630088 B1	20170915	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MK05 Kind code of Ref document: T Effective date: 20170412 Ref document number: 883671 Ref country code: AT Country of Ref document: AT
EP2630088 B1	20171030	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 7
EP2630088 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: LT
EP2630088 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: FI
EP2630088 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170412 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2630088 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170713 Country of Ref document: GR
EP2630088 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170412 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2630088 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170712 Country of Ref document: NO
EP2630088 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170412 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2630088 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: SE
EP2630088 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: RS
EP2630088 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: LV
EP2630088 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170812 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2630088 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING	Lapsed date: 20170712 NotificationOfLapse: LAPSE BECAUSE

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2630088 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170412 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2630088 B1	20180115	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R097 Ref country code: DE Ref document number: 602011036995 Country of Ref document: DE
EP2630088 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: RO
EP2630088 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: CZ
EP2630088 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: SK
EP2630088 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: DK
EP2630088 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170412 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2630088 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171030 Year of fee payment: 7 Country of Ref document: FR
EP2630088 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20171128 Country of Ref document: DE
EP2630088 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: SM
EP2630088 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170412 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2630088 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20171030 Country of Ref document: GB
EP2630088 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171030 Year of fee payment: 7 Country of Ref document: NL
EP2630088 B1	20180321	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20180115
EP2630088 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170412 Country of Ref document: MC
EP2630088 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170412 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2630088 B1	20180531	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2630088 B1	20180725	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2630088 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20171031 Country of Ref document: CH
EP2630088 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171019 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2630088 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2630088 B1	20180822	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20171031 Ref legal event code: MM Ref country code: BE
EP2630088 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20171031 Country of Ref document: BE
EP2630088 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171019 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2630088 B1	20181030	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PLFP Year of fee payment: 8 Ref country code: FR
EP2630088 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171019 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP2630088 B1	20181231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181030 Year of fee payment: 8 Country of Ref document: NL
EP2630088 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20181030 Country of Ref document: FR
EP2630088 B1	20190501	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602011036995 Ref legal event code: R119 Ref country code: DE Country of Ref document: DE
EP2630088 B1	20190626	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20181019
EP2630088 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING 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; INVALID AB INITIO Lapsed date: 20111019

					Country of Ref document: HU
EP2630088 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20190501 Country of Ref document: DE
EP2630088 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170412 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CY
EP2630088 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181019 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP2630088 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190812 Year of fee payment: 9 Country of Ref document: FR
EP2630088 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: MK
EP2630088 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191029 Year of fee payment: 9 Country of Ref document: NL
EP2630088 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170412 Country of Ref document: TR
EP2630088 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170412 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2630088 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170412 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2630088 B1	20311019	PEXP		Calculated Patent Term Expiry	
EP3401284 A1	20181114	LSPB	+	published / reissued	
EP3401284 A1	20181114	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20180703
EP3401284 A1	20181114		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2595924 Country of Ref document: EP
EP3401284 A1	20181114		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3401284 A1	20181205		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BUCK, JUSTIN PartyType: inventor
EP3401284 A1	20181205		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SILVER, MATTHEW PartyType: inventor
EP3401284 A1	20181205		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT	PartyType: inventor Inventor: GUZMAN, JUAN, J.

				(CORRECTED)	
EP3401284 A1	20181205		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KIELY, PATRICK PartyType: inventor
EP3401284 A1	20200715	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20200612
JP2012011559 A1	20130909	LSPB	+	published / reissued	
JP2012011559 A1	20140711	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012011559 A1	20140716	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20140715
JP2012011559 A1	20140818	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20140728
JP2012011559 A1	20140822	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Ref document number: 5598546 Text: JAPANESE INTERMEDIATE CODE: R150 Country of Ref document: JP
JP2013538114 T2	20131010	LSPB	+	published / reissued	
JP2013538114 T2	20140415	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20140414
JP2013538114 T2	20140415	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20140414 Text: JAPANESE INTERMEDIATE CODE: A621
JP2013538114 T2	20150209		A977	REPORT ON RETRIEVAL	Text: JAPANESE INTERMEDIATE CODE: A971007 Effective date: 20150209
JP2013538114 T2	20150311	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20150310 Text: JAPANESE INTERMEDIATE CODE: A131
JP2013538114 T2	20150605		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20150605 Text: JAPANESE INTERMEDIATE CODE: A601
JP2013538114 T2	20150703	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20150703 Text: JAPANESE INTERMEDIATE CODE: A523
JP2013538114 T2	20151204	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2013538114 T2	20151216	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20151215
JP2013538114 T2	20160121	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20160114
JP2013538114 T2	20160122	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Ref document number: 5873085 Text: JAPANESE INTERMEDIATE CODE: R150 Country of Ref document: JP
JP2016120492 A2	20160707	LSPB	+	published / reissued	
JP2016120492 A2	20160810	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20160810
JP2016120492 A2	20161101	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20161101
JP2016120492 A2	20161205		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20161205 Text: JAPANESE INTERMEDIATE CODE: A601
JP2016120492 A2	20170501	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170501 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016120492 A2	20170601	LSGT	+TRDD	DECISION OF GRANT OR	

JP2016120492 A2	20170606	LSGT	+A01	REJECTION WRITTEN WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20170606 Text: JAPANESE INTERMEDIATE CODE: A01
JP2016120492 A2	20170706	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20170703
JP2016120492 A2	20170707	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Text: JAPANESE INTERMEDIATE CODE: R150 Ref document number: 6171030 Country of Ref document: JP
JP5598546 B1	20140717	LSGT	+A01	特許査定書	
JP5598546 B1	20140717	LSGT	+A01	特許査定書	Effective date: 20140715
JP5598546 B1	20140717	LSFE	R1001	特許料納付書 (包括納付)	
JP5598546 B1	20140717	LSFE	R1001	特許料納付書 (包括納付)	Text: 01400036644 Effective date: 20140728
JP5598546 B1	20140822	LSGT	+R150	特許証	
JP5598546 B1	20140822	LSGT	+R150	特許証	Effective date: 20140902
JP5598546 B1	20141001	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5598546 B1	20170713	LSFE	R20	特許料納付書	
JP5598546 B1	20170713	LSFE	R20	特許料納付書	Effective date: 20170711 Text: 51701456877
JP5598546 B1	20170718	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5598546 B1	20170718	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20170725
JP5598546 B1	20180712	LSFE	R20	特許料納付書	
JP5598546 B1	20180712	LSFE	R20	特許料納付書	Effective date: 20180710 Text: 51801407463
JP5598546 B1	20180717	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5598546 B1	20180717	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20180724
JP5598546 B1	20190711	LSFE	R20	特許料納付書	
JP5598546 B1	20190711	LSFE	R20	特許料納付書	Text: 51901460050 Effective date: 20190710
JP5598546 B1	20190723	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5598546 B1	20190723	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20190802
JP5598546 B1	20200710	LSFE	R20	特許料納付書	Text: 52001401516 Effective date: 20200709
JP5598546 B1	20200713	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20200807
JP5598546 B1	20310722	PEXP		Calculated Patent Term Expiry	
JP5873085 B2	20130911		-A072	DISMISSAL OF PROCEDURE	Text: JAPANESE INTERMEDIATE CODE: A072 Effective date: 20130910
JP5873085 B2	20151217	LSGT	+A01	特許査定書	
JP5873085 B2	20160119	LSFE	R100	特許料納付書	
JP5873085 B2	20160122	LSGT	+R150	特許証	
JP5873085 B2	20160301	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5873085 B2	20190122	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP5873085 B2	20310414	PEXP		Calculated Patent Term Expiry	
JP6171030 B2	20160810	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20160810
JP6171030 B2	20161101	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20161101 Text: JAPANESE INTERMEDIATE CODE: A131

JP6171030 B2	20170501	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20170501
JP6171030 B2	20170601	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP6171030 B2	20170606	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20170606 Text: JAPANESE INTERMEDIATE CODE: A01
JP6171030 B2	20170608	LSGT	+A01	特許査定書	
JP6171030 B2	20170704	LSFE	R100	特許料納付書	
JP6171030 B2	20170707	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Text: JAPANESE INTERMEDIATE CODE: R150 Ref document number: 6171030 Country of Ref document: JP
JP6171030 B2	20170707	LSGT	+R150	特許証	
JP6171030 B2	20170726	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6171030 B2	20360114	PEXP		Calculated Patent Term Expiry	
US10099950 BB	20110511	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SILVER, MATTHEW;BUCK, JUSTIN;KIELY, PATRICK;AND OTHERS;SIGNING DATES FROM 20110427 TO 20110503;REEL/FRAME:026260/0174 Owner: CAMBRIAN INNOVATION LLC, MASSACHUSETTS PartyType: owner
US10099950 BB	20110729	LSAS	AS	ASSIGNMENT	Effective date: 20110729 OldParty: MERGER;ASSIGNOR:CAMBRIAN INNOVATION, LLC;REEL/FRAME:026673/0828 PartyType: owner Owner: CAMBRIAN INNOVATION, INC., MASSACHUSETTS
US10099950 BB	20130816	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: CAMBRIAN INNOVATION INC., MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SILVER, MATTHEW;BUCK, JUSTIN;KIELY, PATRICK;AND OTHERS;SIGNING DATES FROM 20130204 TO 20130728;REEL/FRAME:031026/0789
US10099950 BB	20180926	LSGT	PAT1	Patented Case	
US10099950 BB	20181016	LSGT	+	granted / extensions (spc, cpc, pte)	
US10099950 BB	20330916	PEXP		Calculated Patent Term Expiry (PTA 886 days)	
US10851003 BB	20201201	LSGT	+	granted / extensions (spc, cpc, pte)	
US10851003 BB	20310721	PEXP		Calculated Patent Term Expiry	
US2013112361 AA	20130509	LSPB	+	published / reissued	
US2013112361 AA	20131030	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013112601 AA	20130509	LSPB	+	published / reissued	
US2013112601 AA	20130730	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SILVER, MATTHEW;BUCK, JUSTIN;KIELY, PATRICK;AND OTHERS;SIGNING DATES FROM 20130204 TO 20130728;REEL/FRAME:030920/0501 Owner: CAMBRIAN INNOVATION, INC., MASSACHUSETTS
US2013112601 AA	20151216		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	

US2013112601 AA	20160628	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20160627 Owner: WINDSAIL CREDIT FUND, L.P., AS ADMINISTRATIVE AGEN OldParty: SECURITY AGREEMENT;ASSIGNORS:CAMBRIAN INNOVATION INC.;CAMBRIAN WATER OPERATIONS, LLC;CAMBRIAN WATER HOLDINGS, LLC;REEL/FRAME:039185/0851
US2013112601 AA	20170329	LSES	NFA1	Non Final Action Mailed	
US2013112601 AA	20170713		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2013112601 AA	20170720		FRM1	Final Rejection Mailed	
US2013112601 AA	20171017		RFE1	Docketed New Case - Ready for Examination	
US2013112601 AA	20171026	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2013112601 AA	20171031	LSES	NFA1	Non Final Action Mailed	
US2013112601 AA	20180222		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2013112601 AA	20180515		FRM1	Final Rejection Mailed	
US2013112601 AA	20190114		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2013112601 AA	20190215		FRM1	Final Rejection Mailed	
US2013112601 AA	20190215		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2013112601 AA	20190525		RFE1	Docketed New Case - Ready for Examination	
US2013112601 AA	20190525		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2013112601 AA	20190607	LSES	NFA1	Non Final Action Mailed	
US2013112601 AA	20190607		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2013112601 AA	20191025		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2013112601 AA	20191025		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2013112601 AA	20200121		FRM1	Final Rejection Mailed	
US2013112601 AA	20200121		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2013112601 AA	20200506	LSES	ADV1	Advisory Action Mailed	
US2013112601 AA	20200506		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN	Text: ADVISORY ACTION MAILED

				GENERAL	
US2013112601 AA	20200727	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2013112601 AA	20200727		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2013112601 AA	20200729		RFE1	Docketed New Case - Ready for Examination	
US2013112601 AA	20201008	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2013112601 AA	20201008		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2013112601 AA	20201023	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2013112601 AA	20201023		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2013112601 AA	20201111	LSGT	PAT1	Patented Case	
US2013112601 AA	20201111	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013299400 AA	20131114	LSPB	+	published / reissued	
US2013299400 AA	20151030	LSES	NFA1	Non Final Action Mailed	
US2013299400 AA	20160628	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: SECURITY AGREEMENT;ASSIGNORS:CAMBRIAN INNOVATION INC.;CAMBRIAN WATER OPERATIONS, LLC;CAMBRIAN WATER HOLDINGS, LLC;REEL/FRAME:039185/0851 Effective date: 20160627 Owner: WINDSAIL CREDIT FUND, L.P., AS ADMINISTRATIVE AGEN
US2013299400 AA	20170419	LSES	NFA1	Non Final Action Mailed	
US2013299400 AA	20170723		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2013299400 AA	20170816		FRM1	Final Rejection Mailed	
US2013299400 AA	20171114		RFE1	Docketed New Case - Ready for Examination	
US2013299400 AA	20171130	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2013299400 AA	20171204	LSES	NFA1	Non Final Action Mailed	
US2013299400 AA	20180420		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2013299400 AA	20180501	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2013299400 AA	20180803	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2013299400 AA	20180926	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

US2014069806 AA	20140313	LSPB	+	published / reissued	
US2014069806 AA	20140514		RFE1	Docketed New Case - Ready for Examination	
US2014069806 AA	20140710	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SILVER, MATTHEW;BUCK, JUSTIN;KIELY, PATRICK;AND OTHERS;SIGNING DATES FROM 20130822 TO 20131121;REEL/FRAME:033286/0690 PartyType: owner Owner: CAMBRIAN INNOVATION INC., MASSACHUSETTS
US2014069806 AA	20160628	LSAS	AS	ASSIGNMENT	Effective date: 20160627 Owner: WINDSAIL CREDIT FUND, L.P., AS ADMINISTRATIVE AGEN OldParty: SECURITY AGREEMENT;ASSIGNORS:CAMBRIAN INNOVATION INC.;CAMBRIAN WATER OPERATIONS, LLC;CAMBRIAN WATER HOLDINGS, LLC;REEL/FRAME:039185/0851 PartyType: owner
US2014069806 AA	20170501	LSES	NFA1	Non Final Action Mailed	
US2014069806 AA	20170915		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014069806 AA	20170925		FRM1	Final Rejection Mailed	
US2014069806 AA	20180108	LSES	ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2014069806 AA	20180109	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014069806 AA	20180402	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2014069806 AA	20180403	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2014069806 AA	20180418	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019112212 AA	20190111		RFE1	Docketed New Case - Ready for Examination	
US2019112212 AA	20190111		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019112212 AA	20190418	LSPB	+	published / reissued	
US8585866 BB	20130122	LSAS	AS	ASSIGNMENT	Owner: OJI HOLDINGS CORPORATION, JAPAN PartyType: owner Effective date: 20130116 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MIKAMI, EIICHI;KOHARA, YUSUKE;KAWAMUKAI, TAKASHI;AND OTHERS;REEL/FRAME:029670/0304
US8585866 BB	20131030	LSGT	PAT1	Patented Case	
US8585866 BB	20131119	LSGT	+	granted / extensions (spc, cpc, pte)	
US8585866 BB	20170504	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8585866 BB	20310722	PEXP		Calculated Patent Term Expiry	
US9963790 BB	20180418	LSGT	PAT1	Patented Case	
US9963790 BB	20180508	LSGT	+	granted / extensions (spc, cpc, pte)	
US9963790 BB	20331129	PEXP		Calculated Patent Term Expiry (PTA 772 days)	

WO12011559 A1	20110722	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201180045708.3 Country of Ref document: CN
WO12011559 A1	20120121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011809729 Country of Ref document: EP
WO12011559 A1	20120126	LSPB	+	published / reissued	
WO12011559 A1	20120314		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 11809729 Kind code of Ref document: A1 Country of Ref document: EP
WO12011559 A1	20130118	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13811099 Country of Ref document: US
WO12011559 A1	20130121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2012525435 Country of Ref document: JP
WO12011559 A1	20130123	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO12011984 A1	20120126	LSPB	+	published / reissued	
WO12011984 A1	20120314		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 11809996 Kind code of Ref document: A1 Country of Ref document: EP
WO12011984 A1	20130121	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2013520700 Kind code of Ref document: A Country of Ref document: JP
WO12011984 A1	20130121	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO12011984 A1	20130220	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011809996 Country of Ref document: EP
WO12011984 A1	20130730	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13811132 Country of Ref document: US
WO12012647 A2	20120126	LSPB	+	published / reissued	
WO12012647 A2	20120314		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 11810413 Kind code of Ref document: A2 Country of Ref document: EP
WO12012647 A3	20130118	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13811149 Country of Ref document: US
WO12012647 A3	20130121	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO12012647 A3	20130220	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011810413 Country of Ref document: EP
WO12054629 A2	20120426	LSPB	+	published / reissued	
WO12054629 A2	20120620		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 11835081 Kind code of Ref document: A2 Country of Ref document: EP
WO12054629 A3	20130419	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO12054629 A3	20130517		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2011835081 Country of Ref document: EP
WO12054629 A3	20130517	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011835081 Country of Ref document: EP

WO12054629 A3	20131202	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13880401 Country of Ref document: US

2) Family number: 28342820 (US2003052062 AA)

Title: NITROGEN TREATING METHOD AND NITROGEN TREATING SYSTEM

Abstract: There are provided a nitrogen treating method and system for a nitrogen compound, which can treat the nitrogen compound efficiently and which can reduce the size and cost of an apparatus. The gist is that, in a nitrogen treating method wherein a nitrogen compound in for-**treatment** **water** is treated according to an electrochemical technique, a cathode reaction region and an anode reaction region are defined by a cation **exchange** membrane interposed between a cathode and an anode, and the for-**treatment** **water** treated in the cathode reaction region according to the electrochemical technique is treated with hypohalogenous acid, or, ozone or active oxygen according to a **chemical** technique.

Classifications:
International (IPC 8-9): A01K63/04 C02F1/46 C02F1/461 C02F1/467 C02F1/72 C02F1/76 C02F1/78 C02F101/16 C02F3/12 C02F9/00 C02F9/06
International (IPC 1-7): A01K63/04 C02F1/46 C02F1/461 C02F1/72 C02F101/16 C02F3/12 C02F9/06
CPC: C02F1/467 C02F1/4676 C02F1/72 C02F1/76 C02F1/78 C02F2001/46133 C02F2101/16 C02F2103/18 C02F2103/42 C02F2201/46115 C02F2201/46145 C02F3/12 C02F9/00 Y02W10/10 Y10S210/903
US: 205/746 210/192 210/631 210/748 210/748.01 210/748.19 210/748.2 210/756 210/757 210/760 210/903

PatBase – US2003052062 AA

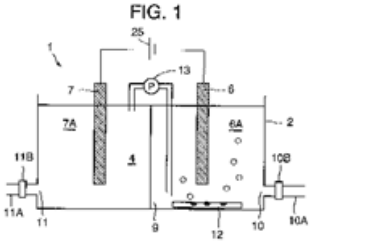
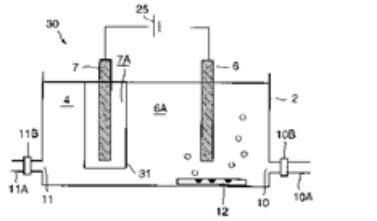


FIG. 1

FIG. 2



Family:

Publication number	Publication date	Application number	Application date
CN1278959 C	20061011	CN20021042863	20020919
CN1408652 A	20030409	CN20021042863	20020919
DE60218257 D1	20070405	DE20026018257T	20020916
DE60218257 T2	20071108	DE20026018257T	20020916
EP1295853 A2	20030326	EP20020256388	20020916
EP1295853 A3	20031001	EP20020256388	20020916
EP1295853 B1	20070221	EP20020256388	20020916
JP2003088870 A2	20030325	JP20010285568	20010919
JP3530511 B2	20040524	JP20010285568	20010919
US2003052062 AA	20030320	US20020222983	20020819
US6984326 BB	20060110	US20020222983	20020819

Priority:
JP20010285568 20010919

Probable Assignee: SANYO ELECTRIC CO LTD
Assignee(s): (std): HIRO NAOKI ; ISEKI MASAHIRO ; KOIZUMI TOMOHITO ; RAKUMA TSUYOSHI ; SANYO ELECTRIC CO ; SANYO ELECTRIC CO LTD
Inventor(s): (std): HIRO NAOKI ; ISEKI MASAHIRO ; IZEKI MASAHIRO ; KO NAOKI ; KOIZUMI TOMOHITO ; MASAHIRO ISEKI ; NAOKI HIRO ; RAKUMA TAKESHI ; RAKUMA TSUYOSHI ; TOMOHITO KOIZUMI ; TOMOTO ISEKI MASAHIRO HIRO NAO ; TOMOTO KOIZUMI ; TSUYOSHI RAKUMA
Inventor(s): ISEKI MASAHIRO HIRO NAOKI KOIZUMI TOMOTO ; KOIZUMI TOMOTO
Agent(s): ARMSTRONG KRATZ QUINTOS HANSON AND BROOKS LLP
Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN1278959 C	20061011	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1278959 C	20061011	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1278959 C	20081119	LSLE	-C19	LAPSE OF PATENT	

				RIGHT DUE TO NON-PAYMENT OF THE ANNUAL FEE	
CN1278959 C	20220919	PEXP		Calculated Patent Term Expiry	
CN1408652 A	20030409	LSPB	+	published / reissued	
CN1408652 A	20030409	LSPB	+C06	PUBLICATION	
CN1408652 A	20030625		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
DE60218257 D1	20080320	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60218257 D1	20090723	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60218257 T2	20071108	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60218257 T2	20080320	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60218257 T2	20090723	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60218257 T2	20220916	PEXP		Calculated Patent Term Expiry	
EP1295853 A2	20030326	LSPB	+	published / reissued	
EP1295853 A2	20030326		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP1295853 A2	20030326		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP1295853 A2	20030326		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1295853 A3	20031001		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP1295853 A3	20031001		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1295853 A3	20040512	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20040315
EP1295853 A3	20040623	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: AT BE BG
EP1295853 A3	20040729		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: 8566
EP1295853 A3	20060802		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 9/06 20060101AFI20060628BHEP ClassificationScheme: IPC
EP1295853 A3	20060802		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 1/72 20060101ALI20060628BHEP ClassificationScheme: IPC
EP1295853 A3	20060802		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 101/16 20060101ALI20060628BHEP
EP1295853 A3	20060906		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: DE FR GB
EP1295853 B1	20070221	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1295853 B1	20070221		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: DE FR GB
EP1295853 B1	20070221	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP1295853 B1	20070405		REF	CORRESPONDS TO:	Date of Ref document: 20070405 Kind code of Ref document: P Ref document number: 60218257 Country of Ref document: DE
EP1295853 B1	20071012		-EN	FR: TRANSLATION	

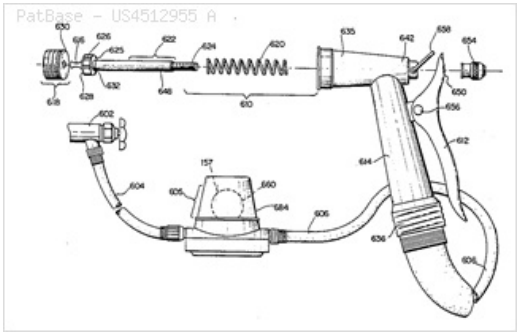
				NOT FILED	
EP1295853 B1	20080130	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20071122
EP1295853 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20071012 Country of Ref document: FR
EP1295853 B1	20080528	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20070916
EP1295853 B1	20080530	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20071130 Country of Ref document: DE
EP1295853 B1	20081128	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20070916 Country of Ref document: GB
EP1295853 B1	20081128	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20070221 Country of Ref document: FR
EP1295853 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20090401 Country of Ref document: DE
EP1295853 B1	20220916	PEXP		Calculated Patent Term Expiry	
JP2003088870 A2	20030325	LSPB	+	published / reissued	
JP2003088870 A2	20031128	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20031127 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003088870 A2	20040127	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20040126 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003088870 A2	20040212	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003088870 A2	20040219	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20040218 Text: JAPANESE INTERMEDIATE CODE: A01
JP2003088870 A2	20040304	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20040227
JP3530511 B2	20040524	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3530511 B2	20080305	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP3530511 B2	20210919	PEXP		Calculated Patent Term Expiry	
US2003052062 AA	20030320	LSPB	+	published / reissued	
US2003052062 AA	20040505	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ISEKI, MASAHIRO;HIRO, NAOKI;KOIZUMI, TOMOHITO;AND OTHERS;REEL/FRAME:014572/0401;SIGNING DATES FROM 20040412 TO 20040415 PartyType: owner Owner: SANYO ELECTRIC CO., LTD., JAPAN
US6984326 BB	20021112	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ISEKI, MASASHIRO;HIRO, NAOKI;KOIZUMI,

					TOMOHITO;AND OTHERS;REEL/FRAME:013481/0758;SIGNING DATES FROM 20021023 TO 20021025 Owner: SANYO ELECTRIC CO., LTD., JAPAN
US6984326 BB	20051221	LSGT	PAT1	Patented Case	
US6984326 BB	20060110	LSGT	+	granted / extensions (spc, cpc, pte)	
US6984326 BB	20090610	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6984326 BB	20130311	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6984326 BB	20170818	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US6984326 BB	20180205	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US6984326 BB	20180205	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6984326 BB	20180205	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6984326 BB	20180227	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20180110
US6984326 BB	20230308	PEXP		Calculated Patent Term Expiry (PTA 201 days)	

3) Family number: 3106097 (US4512955 A)

Title: APPARATUS FOR **WATER** **TREATMENT**

Abstract: A new use of the apparatus for dispensing **chemicals** such as insecticides and fertilizers by means of a garden hose is disclosed. In earlier applications the use of a spherical feeder capsule in an "intermediate-velocity **chamber**" was disclosed wherein the spherical shape provided uniformity of feeding by reason of its random movement and rotation in the **chamber**. In the new use described, the spherical shape may provide a decidedly non-uniform rate of feeding; and there may be a lesser degree of freedom of the feeder within the **chamber** compared to the earlier-claimed uses. In the preferred embodiment a **water** supply is connected through a hose to a **chamber** such as the "Fluidic Lawn Feeder" produced by Acme Burgess Inc. From the **chamber** a second piece of hose extends to a pistol-grip nozzle of the well-known type whereby an operator may quickly turn the **water** on and off to the pro-set rate of spray or the like. When the **water** is suddenly shut off by this kind of nozzle it tends to create a "**water** hamer" in the **chamber** so that users are expressly warned against use of such nozzles with the "Lawn Feeder" as supplied by Acme Burgess Inc. A new use is shown for a spherical feeder capsule with small feed holes which tends both to damp and limit the "**water** hammer" as an air bubble in the capsule is compressed, on resuming flow, the trapped air expands and positively ejects an amount of the concentrated solution from the feeder capsule into the flow. Thus in steady flow, a small and relatively constant rate of feeding is established, as shown in earlier-filed application; but an operator can by every pull of the trigger on the nozzle provide a "shot" of more concentrated solution.



Classifications:
International (IPC 8-9): A01K63/00 A01K63/04 B01D21/30 B01D35/00 B01D35/027 B01J19/00 B01J4/00 B05B7/04 C02F1/00 C02F1/50 C02F1/52 C02F1/66 C02F1/68 C02F1/76 E04H4/00 E04H4/12
International (IPC 1-7): A01K63/00 A01K64/02 A47K3/00 B01D11/02 B01D35/00 B01J4/00 B05B7/24 C02B1/20 C02B3/06 C02B5/00 C02C1/40 C02F1/50 C02F1/56 C02F1/68 C02F1/76 C02F5/08 C02F5/14 C23F11/00 E04H3/20
CPC: B01F1/0027 B01F5/0496 B05B7/04 C02F1/003 C02F1/50 C02F1/52 C02F1/66 C02F1/688 C02F1/76 C02F2103/023 C02F2103/42 C02F2307/04 Y10T137/4891 B01F13/0049 B01F1/0022 B01F15/0215
US: 137/268 210/167.11 210/169 210/206 210/633 210/696 210/697 210/698 210/699 210/701 210/702 210/706 210/716 210/728 210/732 210/749 210/754 210/755 210/756 210/759 210/764 210/765 239/310 4/227.6 4/228 4/448 4/490 4/496 4/538 4/541.3 422/14 422/15 422/16 422/265 422/266
Locarno class: 45/38

Family:

Publication number	Publication date	Application number	Application date
JP1117967 C3	19821015	JP19760076094	19760629
JP52004638 A2	19770113	JP19760076094	19760629
JP57006399 B4	19820204	JP19760076094	19760629
US4530120 A	19850723	US19800136033	19800331
US4519914 A	19850528	US19800136156	19800331
US4512955 A	19850423	US19820349920	19820218
US4692314 A	19870908	US19830488597	19830422
US4775485 A	19881004	US19870093186	19870904
US4880547 A	19891114	US19880169230	19880316
US4853131 A	19890801	US19880169430	19880317

Priority:

US19750591536 19750630 US19800136156 19800331 US19800136033 19800331
US19820349920 19820218 US19830488597 19830422 US19870093186 19870904
US19880169230 19880316 US19880169430 19880317

Probable Assignee: SMARTPOOL LLC

Assignee(s): (std): ETANI KENJI ; ETANI SHIYOUJI KK

Assignee(s): ETANI KENJI TRUSTEE OF KENJI ETANI REVOCABLE TRUST ; ETANI KENJI TRUSTEE OF KENJI ETANI REVOCABLE TRUST U A D 10 28 96 ; ETANI NANCY A ; ETANI NANCY A SUCCESSOR TRUSTEE OF FAMILY TRUST PO ; ETANI NANCY A SUCCESSOR TRUSTEE OF FAMILY TRUST POCLE B OF KENJI ETAMI REVOCABLE TRUST DATED OCTOBER 28 1996 ; ETANI NANCY A TRUSTEE OF KENJI ETANI REVOCABLE TRU ; ETANI NANCY A TRUSTEE OF KENJI ETANI REVOCABLE TRUST U A D 10 28 96 ; SMARTPOOL INC ; SMARTPOOL LLC

Inventor(s): (std): ETANI KENJI ; KENJI ETANI

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
JP1117967 C3	19821015	LSGT	+	granted / extensions (spc, cpc, pte)	
JP52004638 A2	19770113	LSPB	+	published / reissued	
JP57006399 B4	19820204	LSPB	+	published / reissued	
US4512955 A	19850222	LSGT	PAT1	Patented Case	
US4512955 A	19850222	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4512955 A	19850423	LSGT	+	granted / extensions (spc, cpc, pte)	

US4512955 A	19880722	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4512955 A	19921106	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4512955 A	19921106		+SULP	SURCHARGE FOR LATE PAYMENT	
US4512955 A	19960920	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US4512955 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, KENJI, TRUSTEE OF THE KENJI ETANI REVOCABLE PartyType: owner
US4512955 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, NANCY A., TRUSTEE OF THE KENJI ETANI REVOCA PartyType: owner
US4512955 A	20000222	LSAS	AS	ASSIGNMENT	Effective date: 20000216 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE KENJI ETANI REVOCABLE TRUST DATED OCTOBER 28, 1996;REEL/FRAME:010618/0359 Owner: ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE FAMILY T PartyType: owner
US4512955 A	20060111	LSAS	AS	ASSIGNMENT	Effective date: 20051031 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:RECREATIONAL WATER TECHNOLOGIES, LLC;REEL/FRAME:016996/0782 Owner: SMARTPOOL INCORPORATED, NEW JERSEY PartyType: owner
US4512955 A	20130409	LSAS	AS	ASSIGNMENT	Effective date: 20121231 OldParty: CHANGE OF NAME;ASSIGNOR:SMARTPOOL INCORPORATED;REEL/FRAME:030183/0281 Owner: SMARTPOOL LLC, NEW JERSEY PartyType: owner
US4519914 A	19850327	LSGT	PAT1	Patented Case	
US4519914 A	19850327	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4519914 A	19850528	LSGT	+	granted / extensions (spc, cpc, pte)	
US4519914 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, KENJI, TRUSTEE OF THE KENJI ETANI REVOCABLE PartyType: owner
US4519914 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, NANCY A., TRUSTEE OF THE KENJI ETANI REVOCA PartyType: owner
US4519914 A	20000222	LSAS	AS	ASSIGNMENT	Effective date: 20000216 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE KENJI ETANI REVOCABLE TRUST DATED OCTOBER 28, 1996;REEL/FRAME:010618/0359 Owner: ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE FAMILY T PartyType: owner
US4519914 A	20060111	LSAS	AS	ASSIGNMENT	Effective date: 20051031 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:RECREATIONAL WATER TECHNOLOGIES, LLC;REEL/FRAME:016996/0782 Owner: SMARTPOOL INCORPORATED, NEW JERSEY PartyType: owner
US4519914 A	20130409	LSAS	AS	ASSIGNMENT	Effective date: 20121231 OldParty: CHANGE OF NAME;ASSIGNOR:SMARTPOOL INCORPORATED;REEL/FRAME:030183/0281 Owner: SMARTPOOL LLC, NEW JERSEY PartyType: owner
US4530120 A	19850521	LSGT	PAT1	Patented Case	
US4530120 A	19850521	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

US4530120 A	19850723	LSGT	+	granted / extensions (spc, cpc, pte)	
US4530120 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, KENJI, TRUSTEE OF THE KENJI ETANI REVOCABLE PartyType: owner
US4530120 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, NANCY A., TRUSTEE OF THE KENJI ETANI REVOCA PartyType: owner
US4530120 A	20000222	LSAS	AS	ASSIGNMENT	Effective date: 20000216 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE KENJI ETANI REVOCABLE TRUST DATED OCTOBER 28, 1996;REEL/FRAME:010618/0359 Owner: ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE FAMILY T PartyType: owner
US4530120 A	20060111	LSAS	AS	ASSIGNMENT	Effective date: 20051031 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:RECREATIONAL WATER TECHNOLOGIES, LLC;REEL/FRAME:016996/0782 Owner: SMARTPOOL INCORPORATED, NEW JERSEY PartyType: owner
US4530120 A	20130409	LSAS	AS	ASSIGNMENT	Effective date: 20121231 OldParty: CHANGE OF NAME;ASSIGNOR:SMARTPOOL INCORPORATED;REEL/FRAME:030183/0281 Owner: SMARTPOOL LLC, NEW JERSEY PartyType: owner
US4692314 A	19870709	LSGT	PAT1	Patented Case	
US4692314 A	19870709	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4692314 A	19870908	LSGT	+	granted / extensions (spc, cpc, pte)	
US4692314 A	19901029	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4692314 A	19950221	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4692314 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, KENJI, TRUSTEE OF THE KENJI ETANI REVOCABLE PartyType: owner
US4692314 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, NANCY A., TRUSTEE OF THE KENJI ETANI REVOCA PartyType: owner
US4692314 A	19990301	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US4692314 A	20000222	LSAS	AS	ASSIGNMENT	Effective date: 20000216 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE KENJI ETANI REVOCABLE TRUST DATED OCTOBER 28, 1996;REEL/FRAME:010618/0359 Owner: ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE FAMILY T PartyType: owner
US4692314 A	20060111	LSAS	AS	ASSIGNMENT	Effective date: 20051031 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:RECREATIONAL WATER TECHNOLOGIES, LLC;REEL/FRAME:016996/0782 Owner: SMARTPOOL INCORPORATED, NEW JERSEY PartyType: owner
US4692314 A	20130409	LSAS	AS	ASSIGNMENT	Effective date: 20121231 OldParty: CHANGE OF NAME;ASSIGNOR:SMARTPOOL INCORPORATED;REEL/FRAME:030183/0281 Owner: SMARTPOOL LLC, NEW JERSEY PartyType: owner
US4775485 A	19880803	LSGT	PAT1	Patented Case	
US4775485 A	19880803	LSGT	STCF	INFORMATION ON STATUS: PATENT	Text: PATENTED CASE

				GRANT	
US4775485 A	19881004	LSGT	+	granted / extensions (spc, cpc, pte)	
US4775485 A	19920406	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4775485 A	19960325	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4775485 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, KENJI, TRUSTEE OF THE KENJI ETANI REVOCABLE PartyType: owner
US4775485 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, NANCY A., TRUSTEE OF THE KENJI ETANI REVOCA PartyType: owner
US4775485 A	20000222	LSAS	AS	ASSIGNMENT	Effective date: 20000216 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE KENJI ETANI REVOCABLE TRUST DATED OCTOBER 28, 1996;REEL/FRAME:010618/0359 Owner: ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE FAMILY T PartyType: owner
US4775485 A	20000327	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US4775485 A	20060111	LSAS	AS	ASSIGNMENT	Effective date: 20051031 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:RECREATIONAL WATER TECHNOLOGIES, LLC;REEL/FRAME:016996/0782 Owner: SMARTPOOL INCORPORATED, NEW JERSEY PartyType: owner
US4775485 A	20130409	LSAS	AS	ASSIGNMENT	Effective date: 20121231 OldParty: CHANGE OF NAME;ASSIGNOR:SMARTPOOL INCORPORATED;REEL/FRAME:030183/0281 Owner: SMARTPOOL LLC, NEW JERSEY PartyType: owner
US4853131 A	19890615	LSGT	PAT1	Patented Case	
US4853131 A	19890615	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4853131 A	19890801	LSGT	+	granted / extensions (spc, cpc, pte)	
US4853131 A	19930129	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4853131 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, KENJI, TRUSTEE OF THE KENJI ETANI REVOCABLE PartyType: owner
US4853131 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, NANCY A., TRUSTEE OF THE KENJI ETANI REVOCA PartyType: owner
US4853131 A	19970121	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4853131 A	20000222	LSAS	AS	ASSIGNMENT	Effective date: 20000216 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE KENJI ETANI REVOCABLE TRUST DATED OCTOBER 28, 1996;REEL/FRAME:010618/0359 Owner: ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE FAMILY T PartyType: owner
US4853131 A	20010111	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US4853131 A	20060111	LSAS	AS	ASSIGNMENT	Effective date: 20051031 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:RECREATIONAL WATER TECHNOLOGIES, LLC;REEL/FRAME:016996/0782 Owner: SMARTPOOL INCORPORATED, NEW JERSEY PartyType: owner
US4853131 A	20130409	LSAS	AS	ASSIGNMENT	Effective date: 20121231 OldParty: CHANGE OF NAME;ASSIGNOR:SMARTPOOL INCORPORATED;REEL/FRAME:030183/0281

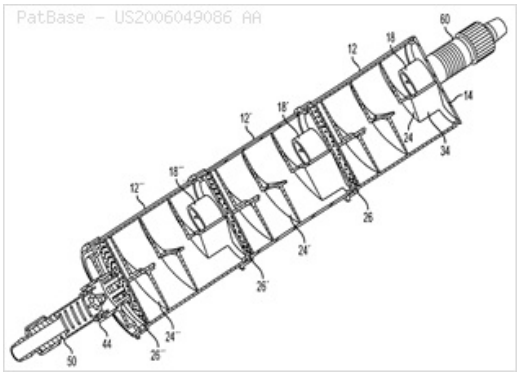
					Owner: SMARTPOOL LLC, NEW JERSEY PartyType: owner
US4880547 A	19890920	LSGT	PAT1	Patented Case	
US4880547 A	19891114	LSGT	+	granted / extensions (spc, cpc, pte)	
US4880547 A	19930430	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4880547 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, KENJI, TRUSTEE OF THE KENJI ETANI REVOCABLE PartyType: owner
US4880547 A	19970113	LSAS	AS	ASSIGNMENT	Effective date: 19970106 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, KENJI;REEL/FRAME:008442/0950 Owner: ETANI, NANCY A., TRUSTEE OF THE KENJI ETANI REVOCA PartyType: owner
US4880547 A	19970624		REMI	MAINTENANCE FEE REMINDER MAILED	
US4880547 A	19971116	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4880547 A	19980127	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19971119
US4880547 A	20000222	LSAS	AS	ASSIGNMENT	Effective date: 20000216 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE KENJI ETANI REVOCABLE TRUST DATED OCTOBER 28, 1996;REEL/FRAME:010618/0359 Owner: ETANI, NANCY A., SUCCESSOR TRUSTEE OF THE FAMILY T PartyType: owner
US4880547 A	20180130	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4880547 A	20180130	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

4) Family number: 32682691 (US2006049086 AA)

Title: MODULAR AQUARIUM FILTER

Abstract: A modular aquarium filter includes one or more cartridges connected in series. The cartridges may contain filter media for **chemical**, biological and/or mechanical filtration. In addition, the cartridges are designed such that they provide a unique internal helical geometry to increase the contact area and flow rate of the **water** with the filter media. The helix may be optionally adjusted to provide different thickness filter layers for aquarium filtration. The pitch of the flights of the helix may be varied to provide enhanced centrifugal flow of the **water** within the cartridge. The present invention also provides self-sealing valve assemblies at the filter inlet and outlet, which when disconnected shut off the flow of **water** through the filter to expedite **exchange** of the cartridges.

Classifications:
International (IPC 8-9): A01K63/04 B01D25/00 B01D25/02 B01D29/50 B01D29/56 B01D29/58 B01D35/00 B01D35/027 C02F1/28 C02F3/00 C02F3/34
CPC: A01K63/045
US: 119/259 119/260 210/150 210/151 210/167.21 210/167.22 210/167.25 210/169 210/201 210/259 210/416.2 210/512.1



Family:

Publication number	Publication date	Application number	Application date
CA2579565 AA	20070306	CA20052579565	20050907
CA2579565 C	20130108	CA20052579565	20050907
CN101115387 A	20080130	CN200580035575	20050907
CN101115387 B	20130213	CN200580035575	20050907
EP1799033 A2	20070627	EP20050793981	20050907
EP1799033 A4	20140813	EP20050793981	20050907
EP1799033 B1	20161109	EP20050793981	20050907
JP2008512096 T2	20080424	JP20070530492T	20050907
JP4902540 B2	20120321	JP20070530492T	20050907
US2006049086 AA	20060309	US20040935725	20040907
US7208084 BB	20070424	US20040935725	20040907
US2007209986 AA	20070913	US20070739591	20070424
US7335298 BB	20080226	US20070739591	20070424
WO06029244 A2	20060316	WO2005US31941	20050907
WO06029244 A3	20060831	WO2005US31941	20050907

Priority:
US20040935725 20040907 WO2005US31941 20050907 US20070739591 20070424

Probable Assignee: TFH PUBLICATIONS INC
Assignee(s): (std): AXELROD GLEN ; AXELROD GLEN S ; TFH PUBLICATIONS INC
Assignee(s): SUNTRUST BANK ADMINISTRATIVE AGENT AS
Inventor(s): (std): AXELROD GLEN ; AXELROD GLEN S ; GLEN AXELROD
Agent(s): GOWLING LAFLEUR HENDERSON LLP; GROSSMAN TUCKER PERREAULT AND PFLEGER PLLC; KIERDORF RITSCHEL RICHLY
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA2579565 AA	20070306	LSPB	+	published / reissued	
CA2579565 AA	20100820	LSES	+EEER	EXAMINATION REQUEST	
CA2579565 C	20130108	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2579565 C	20250907	PEXP		Calculated Patent Term Expiry	
CN101115387 A	20080130	LSPB	+	published / reissued	
CN101115387 A	20080130	LSPB	+C06	PUBLICATION	
CN101115387 A	20080319		C10	ENTRY INTO SUBSTANTIVE	

				EXAMINATION	
CN101115387 B	20130213	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101115387 B	20130213	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101115387 B	20250907	PEXP		Calculated Patent Term Expiry	
EP1799033 A2	20070627	LSPB	+	published / reissued	
EP1799033 A2	20070627	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070324
EP1799033 A2	20070627		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: 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
EP1799033 A2	20071212		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1799033 A4	20140813	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20140716
EP1799033 A4	20140813		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 25/02 20060101ALI20140710BHEP
EP1799033 A4	20140813		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 63/04 20060101AFI20140710BHEP
EP1799033 A4	20140813		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 29/58 20060101ALI20140710BHEP
EP1799033 A4	20160629	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20160603
EP1799033 B1	20161109	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1799033 B1	20161109		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: 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
EP1799033 B1	20161109	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1799033 B1	20161115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1799033 B1	20161115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20161115 Kind code of Ref document: T Ref country code: AT Ref document number: 843023 Ref legal event code: REF Country of Ref document: AT
EP1799033 B1	20161130	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1799033 B1	20161222	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602005050658 Ref legal event code: R096 Country of Ref document: DE
EP1799033 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP1799033 B1	20170310	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP1799033 B1	20170315		REG	REFERENCE TO A NATIONAL	Effective date: 20161109 Ref country code: NL

				CODE	Ref legal event code: MP
EP1799033 B1	20170415	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20161109 Kind code of Ref document: T Ref country code: AT Ref document number: 843023 Ref legal event code: MK05 Country of Ref document: AT
EP1799033 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170210 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1799033 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP1799033 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1799033 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP1799033 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP1799033 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1799033 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170309 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP1799033 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1799033 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170309 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP1799033 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI

EP1799033 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP1799033 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP1799033 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1799033 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1799033 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP1799033 B1	20170810	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602005050658 Ref legal event code: R097 Country of Ref document: DE
EP1799033 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170209 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP1799033 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP1799033 B1	20170925	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 13
EP1799033 B1	20171018	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20170810
EP1799033 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170925 Year of fee payment: 13 Country of Ref document: IT
EP1799033 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170927 Year of fee payment: 13 Country of Ref document: GB
EP1799033 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL	Payment date: 20170925 Year of fee payment: 13 Country of Ref document: FR

				OFFICE TO EPO]	
EP1799033 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP1799033 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170927 Year of fee payment: 13 Country of Ref document: DE
EP1799033 B1	20180430	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1799033 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP1799033 B1	20180627	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP1799033 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170907 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1799033 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1799033 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1799033 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170907 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1799033 B1	20180925	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 14
EP1799033 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180925 Year of fee payment: 14 Country of Ref document: FR
EP1799033 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180920 Year of fee payment: 14 Country of Ref document: IT
EP1799033 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	Payment date: 20180927 Year of fee payment: 14 Country of Ref document: DE

				EPO]	
EP1799033 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180927 Year of fee payment: 14 Country of Ref document: GB
EP1799033 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050907 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP1799033 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CY
EP1799033 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190920 Year of fee payment: 15 Country of Ref document: IT
EP1799033 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190925 Year of fee payment: 15 Country of Ref document: FR
EP1799033 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190927 Year of fee payment: 15 Country of Ref document: GB
EP1799033 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190927 Year of fee payment: 15 Country of Ref document: DE
EP1799033 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161109 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1799033 B1	20201030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200929 Year of fee payment: 16 Country of Ref document: DE
EP1799033 B1	20201030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200925 Year of fee payment: 16 Country of Ref document: FR
EP1799033 B1	20201030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200928 Year of fee payment: 16 Country of Ref document: GB
EP1799033 B1	20250907	PEXP		Calculated Patent Term Expiry	

JP2008512096 T2	20080424	LSPB	+	published / reissued	
JP2008512096 T2	20080731	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20080730
JP2008512096 T2	20101006		A977	REPORT ON RETRIEVAL	Effective date: 20101006 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2008512096 T2	20110406	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20110405
JP2008512096 T2	20110706	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20110705 Text: JAPANESE INTERMEDIATE CODE: A523
JP2008512096 T2	20111130	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2008512096 T2	20111207	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20111206 Text: JAPANESE INTERMEDIATE CODE: A01
JP2008512096 T2	20111208	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2008512096 T2	20120112	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20111228
JP2008512096 T2	20120113	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Text: JAPANESE INTERMEDIATE CODE: R150
JP2008512096 T2	20120113	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Text: JAPANESE INTERMEDIATE CODE: R150 Ref document number: 4902540 Country of Ref document: JP
JP2008512096 T2	20120116	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4902540 B2	20111208	LSGT	+A01	特許査定書	
JP4902540 B2	20120110	LSFE	R100	特許料納付書	
JP4902540 B2	20120113	LSGT	+R150	特許証	
JP4902540 B2	20120321	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4902540 B2	20141225	LSFE	R20	特許料納付書	
JP4902540 B2	20150106	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4902540 B2	20150106	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4902540 B2	20160104	LSFE	R20	特許料納付書	
JP4902540 B2	20160112	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4902540 B2	20160112	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4902540 B2	20170105	LSFE	R20	特許料納付書	
JP4902540 B2	20170110	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4902540 B2	20170110	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4902540 B2	20180104	LSFE	R20	特許料納付書	
JP4902540 B2	20180109	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4902540 B2	20180109	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4902540 B2	20181227	LSFE	R20	特許料納付書	
JP4902540 B2	20190108	LSFE	+R250	RECEIPT OF	Text: JAPANESE INTERMEDIATE

				ANNUAL FEES	CODE: R250
JP4902540 B2	20190108	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4902540 B2	20191226	LSFE	R20	特許料納付書	Effective date: 20191224
JP4902540 B2	20200107	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4902540 B2	20200107	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20200124
JP4902540 B2	20250907	PEXP		Calculated Patent Term Expiry	
US2006049086 AA	20060309	LSPB	+	published / reissued	
US2006049086 AA	20070404	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2007209986 AA	20070913	LSPB	+	published / reissued	
US2007209986 AA	20080206	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7208084 BB	20041216	LSAS	AS	ASSIGNMENT	Effective date: 20040920 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:AXELROD, GLEN S.;REEL/FRAME:015461/0008 Owner: T.F.H. PUBLICATIONS, INC., NEW JERSEY PartyType: owner
US7208084 BB	20070404	LSGT	PAT1	Patented Case	
US7208084 BB	20070424	LSGT	+	granted / extensions (spc, cpc, pte)	
US7208084 BB	20101025	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7208084 BB	20131224	LSAS	AS	ASSIGNMENT	Effective date: 20131205 OldParty: SECURITY AGREEMENT;ASSIGNOR:T.F.H. PUBLICATIONS, INC.;REEL/FRAME:031869/0033 Owner: SUNTRUST BANK, AS ADMINISTRATIVE AGENT, GEORGIA PartyType: owner
US7208084 BB	20141024	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7208084 BB	20181024	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7208084 BB	20250513	PEXP		Calculated Patent Term Expiry (PTA 248 days)	
US7335298 BB	20080206	LSGT	PAT1	Patented Case	
US7335298 BB	20080226	LSGT	+	granted / extensions (spc, cpc, pte)	
US7335298 BB	20110826	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7335298 BB	20131224	LSAS	AS	ASSIGNMENT	Owner: SUNTRUST BANK, AS ADMINISTRATIVE AGENT, GEORGIA Effective date: 20131205 OldParty: SECURITY AGREEMENT;ASSIGNOR:T.F.H. PUBLICATIONS, INC.;REEL/FRAME:031869/0033 PartyType: owner
US7335298 BB	20150826	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7335298 BB	20190826	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7335298 BB	20240907	PEXP		Calculated Patent Term Expiry	
WO06029244 A2	20060316	LSPB	+	published / reissued	
WO06029244 A2	20060316		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06029244 A2	20060316		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE

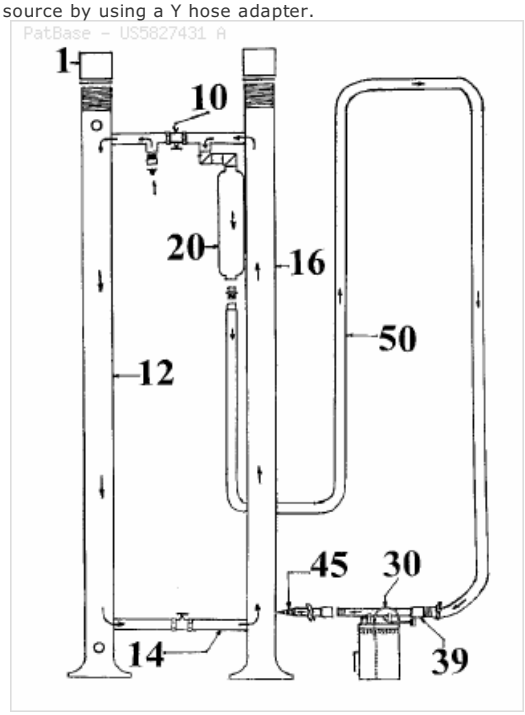
					SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06029244 A2	20061011		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06029244 A2	20070306	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2579565 Country of Ref document: CA
WO06029244 A2	20070306	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007530492 Country of Ref document: JP
WO06029244 A2	20070308	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06029244 A2	20070324		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2005793981 Country of Ref document: EP
WO06029244 A2	20070324	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005793981 Country of Ref document: EP
WO06029244 A2	20070418	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200580035575.6 Country of Ref document: CN
WO06029244 A2	20070627	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005793981 Country of Ref document: EP

5) Family number: 11204569 (US5827431 A)

Title: Amazon rainmaker

Abstract: A system whereby freshwater and saltwater aquaria **water** may be stripped and sterilized to near laboratory quality distilled **water** standards and injected with appropriate **chemicals** and compounds necessary to reproduce the conditions indigenous to the native habitat of any particular species in which you have chosen to raise in your aquarium. This system is attached to standard washer and dryer **water** outlets and is connected to the device with a standard +E,fra 3/4+EE '' garden hose. Tap **water** is run through a cation resin **exchange** **chamber** to pull out negatively charged ions and then passes through an identical **chamber** containing anion resin **exchange** media to pull the positively charged ions out of the **water** coming through. The end result being near zero ppm total dissolved solids. Upon passing through both ion **exchange** **chambers** the **water** is then moved to the outlet where it is run through an eight watt ultraviolet germicidal sterilization **chamber** to kill any incoming microscopic or submicroscopic organic life forms that would enter the aquaria and introduce germs, pathogen, bacteria or viruses that would be harmful to the fish. Coming from the outlet of the sterilization **chamber** through a garden hose connected to the **chemical** injection unit where the mixture of either acids or bases and/or any other necessary **chemicals**, nutrients or media that are indigenous to the native habitat required in the aquaria would be drawn through a siphon process from a spill-proof vented reservoir injected into the stream of purified **water** and would be replaced into the aquarium at the exact same pH and with the exact same **chemical** properties of the **water** which was removed prior to the refilling of the tank. The **water** is forced through the device by hydrostatic pressure which can be adjusted at the source. The temperature can also be adjusted at the source by using a Y hose adapter.

Classifications:
International (IPC 8-9): A01K63/04
International (IPC 1-7): A01K63/04
CPC: A01K63/04
US: 210/167.21 210/169 210/668 210/748 210/748.11 210/749



Family:

Publication number	Publication date	Application number	Application date
US5827431 A	19981027	US19970783688	19970115

Priority:

US19970783688 19970115

Probable Assignee: JONES JAMES PHILLIP
Assignee(s): (std): JONES JAMES PHILLIP
Inventor(s): (std): JONES JAMES PHILLIP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US5827431 A	19981027	LSGT	+	granted / extensions (spc, cpc, pte)	
US5827431 A	20010213		RF	REISSUE APPLICATION FILED	Effective date: 20001027
US5827431 A	20020514		REMI	MAINTENANCE FEE REMINDER MAILED	
US5827431 A	20021028	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5827431 A	20021127	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5827431 A	20021127	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5827431 A	20021224	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20021027

US5827431 A	20170115	PEXP	Calculated Patent Term Expiry

6) Family number: 20683389 (WO0023639 A1)

Title: INSTALLATION FOR THE COLLECTION OF LIQUID RESIDUES APPLICABLE TO THE **TREATMENT** OF PARTS BY ELECTROLYTIC BATH

Abstract: Installation for the collection of liquid residues applicable to the **treatment** of parts through an electrolytic bath, comprising a tank (1) to which are fed through a conduit (2) the residues (30) to be collected and which will be further conveyed to a recycling **chamber** (5) through a conduit (4) and impulsed by means of a filling pump (3). The recycling **chamber** (5) is provided with a probe (6) which determines its filling. The effluent circulation pump (7) increases by means of a heat **exchanger** (8) the temperature of the residual liquid (30) to be recovered, the pump being incorporated inside the recycling **chamber** (5). Said temperature is increased until it reaches a predetermined temperature given by a thermometer–thermostat (9) connected to the recycling **chamber** (5); a suppressor (10) starts sucking through a collector/separator (11).

Classifications:
International (IPC 8-9): C02F1/10 C25D21/00 C25D21/20
International (IPC 1-7): A01K1/015 A47G23/03 B65D1/00 C02F1/10 C25B21/18 C25D21/20
CPC: C25D21/20

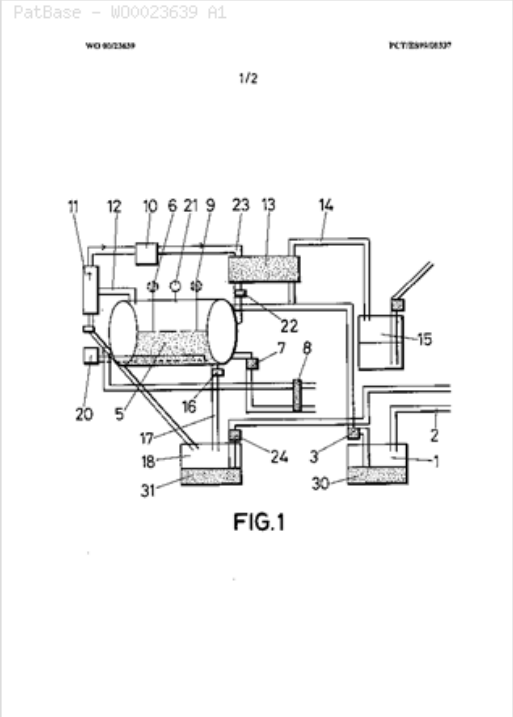


FIG.1

Family:

Publication number	Publication date	Application number	Application date
AR020925 AA	20020605	AR1999P105313	19991021
AU199964776 A1	20000508	AU19990064776	19991020
AU199964776 A5	20000508	AU19990064776	19991020
ES2153755 AA	20010301	ES19980002192	19981021
ES2153755 BA	20011201	ES19980002192	19981021
ES2154187 AA	20010316	ES19980002374	19981113
ES2154187 BA	20011016	ES19980002374	19981113
WO0023639 A1	20000427	WO1999ES00337	19991020

Priority:
ES19980002192 19981021 ES19980002374 19981113 WO1999ES00337 19991020

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AR020925 AA	20020605	LSPB	+	published / reissued	
AR020925 AA	20061124	LSGT	+FG	GRANT, REGISTRATION	
AU199964776 A1	20000508	LSPB	+	published / reissued	
AU199964776 A1	20000907	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT	

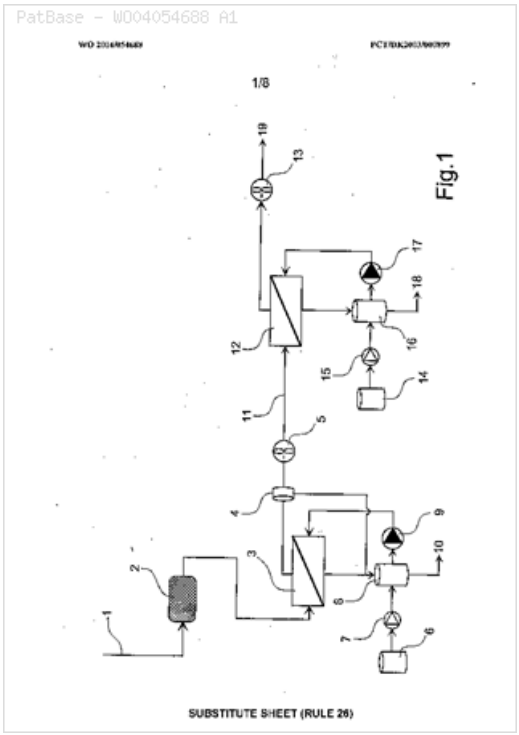
				APPLIC. NOT ENTERING NATIONAL PHASE	
ES2153755 AA	20010301	LSPB	+	published / reissued	
ES2153755 AA	20010301	LSES	+EC2A	SEARCH REPORT PUBLISHED	Date of Ref document: 20010301 Effective date: 20010301 Kind code of Ref document: A1
ES2153755 BA	20011201	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2153755 BA	20181021	PEXP		Calculated Patent Term Expiry	
ES2153755 BA	20190128	LSLE	-FD2A	ANNOUNCEMENT OF LAPSE IN SPAIN	Effective date: 20190128
ES2154187 AA	20010316	LSPB	+	published / reissued	
ES2154187 AA	20010316	LSES	+EC2A	SEARCH REPORT PUBLISHED	Date of Ref document: 20010316 Effective date: 20010316 Kind code of Ref document: A1
ES2154187 BA	20011016	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2154187 BA	20181113	PEXP		Calculated Patent Term Expiry	
ES2154187 BA	20190128	LSLE	-FD2A	ANNOUNCEMENT OF LAPSE IN SPAIN	Effective date: 20190128
WO0023639 A1	20000113	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 1999 64776 Country of Ref document: AU
WO0023639 A1	20000427	LSPB	+	published / reissued	
WO0023639 A1	20000427		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
WO0023639 A1	20000427		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SL SN SZ TD TG TJ TM TZ UG ZW
WO0023639 A1	20000621		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0023639 A1	20010117	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO0023639 A1	20010222	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0023639 A1	20010621	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: CA

7) Family number: 30687876 (WO04054688 A1)

Title: A SYSTEM AND APPARATUS FOR REMOVAL OF UNWANTED SUBSTANCES IN A GAS FLOW

Abstract: The present invention relates to a system and an apparatus for removal of unwanted substances in a gas flow (1) comprising a number of purification modules, each module comprising a hydrophobic membrane (3), a mixing container (10), and a solvent fluid, where the substances in the gas flow (1) are diffused through the hydrophobic membrane (3) and are absorbed in the solvent fluid, and where the purified gas flow (11) is led to either a further purification module or to the surrounding environment, wherein the solvent fluid either is an alkaline solvent fluid or an acid solvent fluid, where said solvent fluids circulate between said hydrophobic membrane (3) and said mixing container (10), and where either concentrated acid or alkaline fluids are added to said solvent fluid in the mixing container (10) in order to maintain a substantially constant pH value in the solvent fluid. The invention furthermore relates to methods for removing ammonium from a biogas process, for cleaning an air flow, and for drying waste.

Classifications:
International (IPC 8-9): A01K1/00 B01D53/14 B01D53/22
International (IPC 1-7): B01D53/14 B01D53/22
CPC: A01K1/0047 B01D53/1406 B01D53/229 Y02C20/20 Y02P60/22



Family:

Publication number	Publication date	Application number	Application date
AU2003287916 AA	20040709	AU20030287916	20031218
CA2558116 AA	20040701	CA20032558116	20031218
EP1572323 A1	20050914	EP20030779756	20031218
WO04054688 A1	20040701	WO2003DK00899	20031218

Priority:
DK20020001935 20021218 WO2003DK00899 20031218

Probable Assignee: BIOSCENT HOLDING APS
Assignee(s) (std)**:** BIOSCENT ; ISMAIL TOURI DBA BIOSCENT ; TOURI ISMAEL
Assignee(s): BIOSCENT HOLDING APS
Inventor(s) (std)**:** TOURI ISMAEL
Inventor(s): ISMAEL TOURI
Agent(s): GOWLING LAFLEUR HENDERSON LLP
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 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

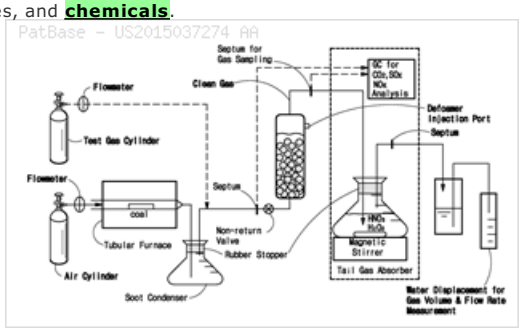
Patent	Date recorded	Event group	Code	Event	Details
AU2003287916 AA	20040709	LSPB	+	published / reissued	
AU2003287916 AA	20050901	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
CA2558116 AA	20040701	LSPB	+	published /	

				reissued	
CA2558116 AA	20081023	LSES	+EEER	EXAMINATION REQUEST	
CA2558116 AA	20120206	LSLE	-FZDE	DEAD	
EP1572323 A1	20050914	LSPB	+	published / reissued	
EP1572323 A1	20050914	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20050602
EP1572323 A1	20050914		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
EP1572323 A1	20050914		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK
EP1572323 A1	20051214	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: BIOSCENT HOLDING APS PartyType: owner
EP1572323 A1	20060412		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Payment date: 20050602 Country of Ref document: LT
EP1572323 A1	20060412		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Payment date: 20050602 Country of Ref document: LV
EP1572323 A1	20091230	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20091127
EP1572323 A1	20110407	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R003
EP1572323 A1	20110824	LSRV	-18R	APPLICATION REFUSED	Effective date: 20110407
WO04054688 A1	20040701	LSPB	+	published / reissued	
WO04054688 A1	20040701		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO04054688 A1	20040701		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GN GQ GR GW HU IE IT KG KZ LU MC MD ML MR NE NL PT RO RU SE SI SK SN TD TG TJ TM TR
WO04054688 A1	20040825		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO04054688 A1	20050602	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003779756 Country of Ref document: EP
WO04054688 A1	20050914	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2003779756 Country of Ref document: EP
WO04054688 A1	20060616	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2558116 Country of Ref document: CA
WO04054688 A1	20061120	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO04054688 A1	20061120	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP

8) Family number: 58447902 (US2015037274 AA)

Title: METHODS OF FILTERING MULTIPLE CONTAMINANTS, MITIGATING CONTAMINANT FORMATION, AND RECYCLING GREENHOUSE GASES USING A HUMIC AND FULVIC REAGENT

Abstract: A highy alkalized humic and fulvic filter reagent for the removal of multiple contaminants from a gas is provided. The contaminants removed from the gas stream may include, but are not limited to, Carbon Dioxide, Sulfur Oxide, Nitrogen Oxides, Hydrogen Sulfides, radionuclides, mercaptans, ammonia, toxic metals, particulates, volatile vapors, and organics. The present invention further includes the disposal of the filter reagent by way of using the highly alkalized humic and fulvic filter for soil fertility, releasing the carbon dioxide from the filter reagent, converting the liquid filter reagent into a solid for disposal or for use as a contaminant removal filter for **waters**, wastes, and **chemicals**.



Classifications:
International (IPC 8-9): A01K1/00 A61L9/01 A61L9/14 B01D B01D47/00 B01D53/14 B01D53/18 B01D53/48 B01D53/50 B01D53/56 B01D53/58 B01D53/62 B01D53/64 B01D53/72 B01D53/78 B01D53/96 B01J20/24 B01J39/16 B01J45/00 B1D53/58 C02F1/28 C02F1/42 C05F C05F11/02 C5F11/02
CPC: A01K1/0047 B01D2251/2065 B01D2251/304 B01D2251/306 B01D2251/604 B01D2251/80 B01D2252/20 B01D2255/207 B01D2257/302 B01D2257/306 B01D2257/404 B01D2257/406 B01D2257/504 B01D2257/708 B01D2257/91 B01D2257/93 B01D2258/0266 B01D2258/0283 B01D53/1418 B01D53/1493 B01D53/507 B01D53/523 B01D53/526 B01D53/56 B01D53/58 B01D53/64 B01D53/72 B01D53/78 B01D53/96 C02F1/283 C02F1/286 Y02C20/40 Y02E50/30
US: 210/660 252/184 422/28 422/4 423/210 423/226 423/235 423/242.3 424/76.8 95/214 95/92 96/135 96/223 96/227 96/243

Family:

Publication number	Publication date	Application number	Application date
AU2014296293 AA	20150205	AU20140296293	20140730
CA2948405 AA	20161021	CA20142948405	20140730
CN105517689 A	20160420	CN201480042518	20140730
CN105517689 B	20200908	CN201480042518	20140730
EP3027294 A1	20160608	EP20140833096	20140730
EP3027294 A4	20180328	EP20140833096	20140730
IN201617006742 A	20160805	IN201617006742	20160226
JP2016530991 T2	20161006	JP20160531857T	20140730
JP6458032 B2	20190123	JP20160531857T	20140730
RU2016107075 A	20170831	RU20160107075	20140730
RU2016107075 A3	20180503	RU20160107075	20140730
RU2672738 C2	20181119	RU20160107075	20140730
TR201601236 B	20170821	TR20160001236	20140730
TR201601236 T1	20160921	TR20160001236T	20140730
US2015037274 AA	20150205	US20140446862	20140730
US9011577 BB	20150421	US20140446862	20140730
WO15017534 A1	20150205	WO2014US48882	20140730
ZA201601219 A	20180328	ZA20160001219	20160223

Priority:

US20130860110P 20130730 US20140446862 20140730 WO2014US48882 20140730 RU20160107075 20140730

Probable Assignee: ARCTECH INC

Assignee(s) (std): ARCTECH INC ; JAIN ASHOK ; JAIN ASHOK T ; LEE SHINWOO ; WALIA DAMAN ; WALIA DAMAN S

Assignee(s): ASHOK JAIN ; DAMAN WALIA ; SHINWOO LEE

Inventor(s) (std): JAIN ASHOK ; JAIN ASHOK T ; LEE SHINWOO ; WALIA DAMAN ; WALIA DAMAN S ; WALLIA DAMAN

Inventor(s): ASHOK JAIN ; DAMAN WALIA ; SHINWOO LEE

Agent(s): AJ PARK; BALDWINS INTELLECTUAL PROPERTY; DENNISON ASSOCIATES; INNOTEK; JOHANSSON LARS E; NEVZER ALPERTEN; REPPER KEVIN

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2014296293 AA	20160317	LSPB	+	published / reissued	
AU2014296293 AA	20190228	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
CA2948405 AA	20161021	LSPB	+	published / reissued	
CA2948405 AA	20190815	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20190729

CN105517689 A	20160420	LSPB	+	published / reissued	
CN105517689 A	20160420	LSPB	+C06	PUBLICATION	
CN105517689 A	20160420	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN105517689 A	20160824		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN105517689 A	20160824		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN105517689 B	20200908	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105517689 B	20200908	LSGT	+GR01	PATENT GRANT	
CN105517689 B	20200908	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN105517689 B	20340730	PEXP		Calculated Patent Term Expiry	
EP3027294 A1	20160608	LSPB	+	published / reissued	
EP3027294 A1	20160608	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20160226
EP3027294 A1	20160608		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3027294 A1	20160608		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3027294 A1	20161109		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3027294 A1	20170705		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C05F 11/02 20060101ALI20170601BHEP
EP3027294 A1	20170705		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 53/58 20060101ALI20170601BHEP
EP3027294 A1	20170705		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 53/14 20060101AFI20170601BHEP
EP3027294 A1	20170705		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/28 20060101ALI20170601BHEP
EP3027294 A1	20171018		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 53/14 20060101AFI20170912BHEP
EP3027294 A1	20171018		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C05F 11/02 20060101ALI20170912BHEP
EP3027294 A1	20171018		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 53/58 20060101ALI20170912BHEP
EP3027294 A1	20171018		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/28 20060101ALI20170912BHEP
EP3027294 A1	20171213		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 53/58 20060101ALI20171107BHEP
EP3027294 A1	20171213		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 53/14 20060101AFI20171107BHEP
EP3027294 A1	20171213		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C05F 11/02 20060101ALI20171107BHEP
EP3027294 A1	20171213		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/28 20060101ALI20171107BHEP
EP3027294 A1	20180228		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED	ClassificationScheme: IPC ClassificationSymbol: C02F 1/28 20060101ALI20180124BHEP

				BEFORE GRANT	
EP3027294 A1	20180228		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 53/14 20060101AFI20180124BHEP
EP3027294 A1	20180228		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C05F 11/02 20060101ALI20180124BHEP
EP3027294 A1	20180228		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 53/58 20060101ALI20180124BHEP
EP3027294 A4	20180328	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20180222
EP3027294 A4	20190320	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20180925
IN201617006742 A	20160805	LSPB	+	published / reissued	
JP2016530991 T2	20161006	LSPB	+	published / reissued	
JP2016530991 T2	20170728	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170728 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016530991 T2	20170728	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20170728 Text: JAPANESE INTERMEDIATE CODE: A621
JP2016530991 T2	20171002		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20171002 Text: JAPANESE INTERMEDIATE CODE: A601
JP2016530991 T2	20171201	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20171201 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016530991 T2	20180313	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20180313 Text: JAPANESE INTERMEDIATE CODE: A131
JP2016530991 T2	20180316		A977	REPORT ON RETRIEVAL	Effective date: 20180314 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2016530991 T2	20180613		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20180613 Text: JAPANESE INTERMEDIATE CODE: A601
JP2016530991 T2	20180813	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180813 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016530991 T2	20181119	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2016530991 T2	20181121	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20181121 Text: JAPANESE INTERMEDIATE CODE: A01
JP2016530991 T2	20181227	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20181221 Text: JAPANESE INTERMEDIATE CODE: A61
JP2016530991 T2	20181228	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Ref document number: 6458032 Text: JAPANESE INTERMEDIATE CODE: R150 Country of Ref document: JP
JP6458032 B2	20181129	LSGT	+A01	特許査定書	
JP6458032 B2	20181225	LSFE	R100	特許料納付書	
JP6458032 B2	20181228	LSGT	+R150	特許証	
JP6458032 B2	20190123	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6458032 B2	20340730	PEXP		Calculated Patent Term Expiry	
RU2016107075 A	20170831	LSPB	+	published / reissued	
RU2672738 C2	20181119	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2672738 C2	20200605	LSLE	-MM4A	THE PATENT IS INVALID DUE TO	Effective date: 20190731

				NON-PAYMENT OF FEES	
RU2672738 C2	20340730	PEXP		Calculated Patent Term Expiry	
TR201601236 B	20170821	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201601236 B	20340730	PEXP		Calculated Patent Term Expiry	
TR201601236 T1	20160921	LSPB	+	published / reissued	
US2015037274 AA	20150205	LSPB	+	published / reissued	
US2015037274 AA	20150323	LSAS	AS	ASSIGNMENT	Effective date: 20140730 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:WALIA, DAMAN S;JAIN, ASHOK T;LEE, SHINWOO;REEL/FRAME:035227/0952 Owner: ARCTECH INC., VIRGINIA PartyType: owner
US2015037274 AA	20150401	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9011577 BB	20150401	LSGT	PAT1	Patented Case	
US9011577 BB	20150421	LSGT	+	granted / extensions (spc, cpc, pte)	
US9011577 BB	20181210	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9011577 BB	20190527	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
US9011577 BB	20190527	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US9011577 BB	20190527	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US9011577 BB	20190611	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20190421
US9011577 BB	20340730	PEXP		Calculated Patent Term Expiry	
WO15017534 A1	20150205	LSPB	+	published / reissued	
WO15017534 A1	20150318		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 14833096 Country of Ref document: EP
WO15017534 A1	20160127	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2016531857 Country of Ref document: JP
WO15017534 A1	20160129	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2016/01236 Country of Ref document: TR
WO15017534 A1	20160201	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO15017534 A1	20160226	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2014833096 Country of Ref document: EP
WO15017534 A1	20160229	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2016107075 Country of Ref document: RU
WO15017534 A1	20160317	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20140730 Kind code of Ref document: A Ref document number: 2014296293 Country of Ref document: AU
WO15017534 A1	20161021	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2948405 Country of Ref document: CA
ZA201601219 A	20180328	LSGT	+	granted / extensions (spc, cpc, pte)	

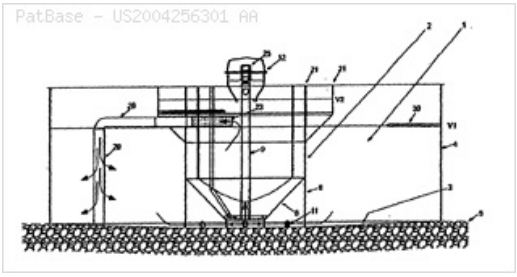
ZA201601219 A	20360222	PEXP	Calculated Patent Term Expiry

9) Family number: 15763410 (US2004256301 AA)

Title: PROCESS AND MEANS FOR THE **TREATMENT** OF **WATER** IN AN AQUACULTURE SYSTEM

Abstract: A process and a means are described for **treatment** of **water** that forms a growth environment for marine organisms, where this **water** is in a main tank that is placed on land. The invention provides a sufficient **treatment**/cleaning of the **water** so that it can be continuously re-circulated, and thus form a closed loop where one is nut dependent on supply of external **water**.

Classifications:
International (IPC 8-9): A01K A01K1/00 A01K61/00 A01K63/04 B01D35/00 B01D35/027 B03B5/00 C02F1/00 C02F1/32 C02F1/50 C02F1/78 C02F3/00 C02F3/06 C02F3/12 C02F3/34 C02F9/00
International (IPC 1-7): A01K1/00 A01K61/00 A01K63/04 B01D35/027 B03B5/00 C02F1/00 C02F1/32 C02F1/50 C02F1/78 C02F3/00 C02F3/34
CPC: A01K63/04 C02F1/32 C02F1/78 C02F2103/20 C02F2301/026 C02F2303/04 C02F3/06 C02F3/12 C02F9/00 Y02W10/10 Y02W10/15
US: 119/227 119/26 119/260 119/260S 210/150 210/167 210/167.3 210/169 210/170.02 210/170.020P 210/170.06 210/206 210/221.2 210/260 210/748 210/748.11 210/760



Family:

Publication number	Publication date	Application number	Application date
AT348516 E	20070115	AT20020768182T	20021003
CA2462759 AA	20040402	CA20022462759	20021003
DE60216962 D1	20070201	DE20026016962T	20021003
DE60216962 T2	20071018	DE20026016962T	20021003
DK1448049 T3	20070423	DK20020768182T	20021003
EP1448049 A1	20040825	EP20020768182	20021003
EP1448049 B1	20061220	EP20020768182	20021003
ES2278959 T3	20070816	ES20020768182T	20021003
JP2005506076 T2	20050303	JP20030537396T	20021003
NO20014797 A	20030404	NO20010004797	20011003
NO20014797 A0	20011003	NO20010004797	20011003
NO20014797 L	20030404	NO20010004797	20011003
NO20041352 A	20040603	NO20040001352	20040331
NO20041352 A0	20040331	NO20040001352	20040331
NO20041352 L	20040603	NO20040001352	20040331
NO324084 B1	20070806	NO20040001352	20040331
PL367352 A1	20050221	PL20020367352	20021003
PT1448049 T	20070330	PT20020768182T	20021003
RU2004110056 A	20050310	RU20040110056	20021003
RU2279215 C2	20060710	RU20040110056	20021003
US7052601 BB	20060530	US20020491593	20021003
US2004256301 AA	20041223	US20040491593	20040604
WO03034817 A1	20030501	WO2002NO00361	20021003

Priority:
NO20010004797 20011003 WO2002NO00361 20021003 NO20040001352 20040331

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT348516 E	20070115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT348516 E	20070615	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT348516 E	20221003	PEXP		Calculated Patent Term Expiry	
CA2462759 AA	20040402	LSPB	+	published / reissued	
CA2462759 AA	20070606	LSES	+EEER	EXAMINATION REQUEST	

CA2462759 AA	20101004	LSLE	-FZDE	DEAD	
DE60216962 D1	20080110	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60216962 D1	20090820	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60216962 T2	20071018	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60216962 T2	20080110	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60216962 T2	20090820	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60216962 T2	20221003	PEXP		Calculated Patent Term Expiry	
DK1448049 T3	20070423	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1448049 T3	20221003	PEXP		Calculated Patent Term Expiry	
EP1448049 A1	20040825	LSPB	+	published / reissued	
EP1448049 A1	20040825	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20040427
EP1448049 A1	20040825		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP1448049 A1	20040825		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1448049 A1	20050413	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20050228
EP1448049 A1	20060628		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 63/04 20060101AFI20060525BHEP
EP1448049 A1	20060628		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 61/00 20060101ALI20060525BHEP
EP1448049 B1	20061220	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1448049 B1	20061220		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP1448049 B1	20061220	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1448049 B1	20061220	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP1448049 B1	20061220	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CH
EP1448049 B1	20061220	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1448049 B1	20061220	LSLE	-PG25	LAPSED IN A	Lapsed date: 20061220

				CONTRACTING 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 Country of Ref document: IT
EP1448049 B1	20061220	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LI
EP1448049 B1	20061220	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP1448049 B1	20061220	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP1448049 B1	20061220	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT;WARNING: LAPSES OF ITALIAN PATENTS WITH EFFECTIVE DATE BEFORE 2007 MAY HAVE OCCURRED AT ANY TIME BEFORE 2007. THE CORRECT EFFECTIVE DATE MAY BE DIFFERENT FROM THE ONE RECORDED. Country of Ref document: IT
EP1448049 B1	20061220	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1448049 B1	20070115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1448049 B1	20070201		REF	CORRESPONDS TO:	Date of Ref document: 20070201 Kind code of Ref document: P Ref document number: 60216962 Country of Ref document: DE
EP1448049 B1	20070207	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1448049 B1	20070330		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20070312 Ref country code: PT Ref legal event code: SC4A Text: AVAILABILITY OF NATIONAL TRANSLATION
EP1448049 B1	20070410		REG	REFERENCE TO A NATIONAL CODE	Ref country code: SE Ref legal event code: TRGR
EP1448049 B1	20070601	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	Ref country code: EP
EP1448049 B1	20070629	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1448049 B1	20070720		+ET	FR: TRANSLATION FILED	
EP1448049 B1	20070813	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20070813 Year of fee payment: 6 Country of Ref document: IE
EP1448049 B1	20070816	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2278959 Ref legal event code: FG2A Country of Ref document: ES
EP1448049 B1	20071124	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE	Payment date: 20070928 Year of fee payment: 6 Country of Ref document: FI

				TO EPO]	
EP1448049 B1	20071128	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20070921
EP1448049 B1	20080102	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20070813 Year of fee payment: 6 Country of Ref document: GB
EP1448049 B1	20080131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20070924 Year of fee payment: 6 Country of Ref document: BG
EP1448049 B1	20080131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20070927 Year of fee payment: 6 Country of Ref document: DE
EP1448049 B1	20080131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20071015 Year of fee payment: 6 Country of Ref document: DK
EP1448049 B1	20080331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20071017 Year of fee payment: 6 Country of Ref document: SE
EP1448049 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070321 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1448049 B1	20080530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20071031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
EP1448049 B1	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP1448049 B1	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081104 Year of fee payment: 7 Country of Ref document: ES
EP1448049 B1	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081031 Year of fee payment: 7 Country of Ref document: PT
EP1448049 B1	20090430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081031 Year of fee payment: 7 Country of Ref document: FR
EP1448049 B1	20090608	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DK Ref legal event code: EBP
EP1448049 B1	20090616	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	Ref country code: EP
EP1448049 B1	20090624	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20081003 Ref country code: EP
EP1448049 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081003 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FI
EP1448049 B1	20090831	LSLE	-PG25	LAPSED IN A	Lapsed date: 20090501

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP1448049 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20071003 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1448049 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1448049 B1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20061220 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1448049 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DK
EP1448049 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081003 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1448049 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081003 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1448049 B1	20100415	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20100405 Ref country code: PT Ref legal event code: MM4A Text: LAPSE DUE TO NON-PAYMENT OF FEES
EP1448049 B1	20100723	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20100630 Ref country code: FR Ref legal event code: ST
EP1448049 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091102 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1448049 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100405 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: PT
EP1448049 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081004 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: SE
EP1448049 B1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BG
EP1448049 B1	20110404	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20110404 Ref country code: ES Ref legal event code: FD2A
EP1448049 B1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL	Lapsed date: 20110322 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES

				OFFICE TO EPO]	
EP1448049 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091004 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP1448049 B1	20221003	PEXP		Calculated Patent Term Expiry	
ES2278959 T3	20070816	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2278959 T3	20221003	PEXP		Calculated Patent Term Expiry	
JP2005506076 T2	20050303	LSPB	+	published / reissued	
JP2005506076 T2	20050607	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20050606 Text: JAPANESE INTERMEDIATE CODE: A621
JP2005506076 T2	20080609	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080606 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005506076 T2	20080904		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20080903 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005506076 T2	20080911		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20080910 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005506076 T2	20081004		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20081003 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005506076 T2	20081014		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20081010 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005506076 T2	20090107	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20090106 Text: JAPANESE INTERMEDIATE CODE: A02
NO20014797 A	20030404	LSPB	+	published / reissued	
NO20041352 A	20040603	LSPB	+	published / reissued	
NO324084 B1	20070806	LSGT	+	granted / extensions (spc, cpc, pte)	
NO324084 B1	20100531	LSLE	-MM1K	LAPSED BY NOT PAYING THE ANNUAL FEES	
NO324084 B1	20240331	PEXP		Calculated Patent Term Expiry	
PL367352 A1	20050221	LSPB	+	published / reissued	
PL367352 A1	20110228	LSWD	-DISC	DECISIONS ON DISCONTINUANCE OF THE PROCEEDINGS (TAKEN AFTER THE PUBLICATION OF THE PARTICULARS OF THE APPLICATIONS)	
PT1448049 T	20070330	LSGT	+	granted / extensions (spc, cpc, pte)	
PT1448049 T	20221003	PEXP		Calculated Patent Term Expiry	
RU2004110056 A	20050310	LSPB	+	published / reissued	
RU2279215 C2	20060710	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2279215 C2	20101127	LSLE	-MM4A	THE PATENT IS INVALID DUE TO NON-PAYMENT OF FEES	Effective date: 20091004
RU2279215 C2	20221003	PEXP		Calculated Patent Term Expiry	
US2004256301 AA	20041223	LSPB	+	published / reissued	
US7052601 BB	20040604	LSAS	AS	ASSIGNMENT	Effective date: 20040520

					OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GRAVDAL, ARVE;REEL/FRAME:015752/0734 Owner: ECO FARM AS, NORWAY PartyType: owner
US7052601 BB	20060530	LSGT	+	granted / extensions (spc, cpc, pte)	
US7052601 BB	20090601	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7052601 BB	20140110		REMI	MAINTENANCE FEE REMINDER MAILED	
US7052601 BB	20140530	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7052601 BB	20140630	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7052601 BB	20140630	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7052601 BB	20140722	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20140530
US7052601 BB	20230310	PEXP		Calculated Patent Term Expiry (PTA 158 days)	
WO03034817 A1	20030501	LSPB	+	published / reissued	
WO03034817 A1	20030501		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
WO03034817 A1	20030501		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO03034817 A1	20030702		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO03034817 A1	20030703		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO03034817 A1	20040402	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2462759 Country of Ref document: CA
WO03034817 A1	20040402	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003537396 Country of Ref document: JP
WO03034817 A1	20040427	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002768182 Country of Ref document: EP
WO03034817 A1	20040604	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10491593 Country of Ref document: US
WO03034817 A1	20040825	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2002768182 Country of Ref document: EP
WO03034817 A1	20061220	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 2002768182 Country of Ref document: EP

10) Family number: 33188851 (US2006175253 AA)

Title: SYSTEMS AND METHODS FOR GENERATION OF LOW ZETA POTENTIAL MINERAL CRYSTALS TO ENHANCE QUALITY OF LIQUID SOLUTIONS

Abstract: Methods and systems for enhancing of quality of liquid by treating a source liquid to enhance the concentration of low zeta potential crystals and produce a treated liquid having a higher concentration of low zeta potential crystals that that of the source liquid. The inventive system comprises an aqueous liquid source having a threshold concentration of selected minerals and a low zeta potential crystal generator for treating the aqueous source liquid to produce treated liquid having an enhanced concentration of low zeta potential crystals.

Classifications:
International (IPC 8-9): A01K1/10 A23K1/00 B01D11/04 B01D37/00 B01D37/02 B01D61/00 B01D63/00 C02F1/00 C02F1/44 C02F1/46 C02F1/48 C02F1/52 C02F1/68 C02F9/00 C02F9/06 C23F15/00
CPC: B01D9/00 C02F1/001 C02F1/283 C02F1/32 C02F1/40 C02F1/42 C02F1/441 C02F1/4602 C02F1/467 C02F1/48 C02F1/68 C02F1/72 C02F2303/04 C02F2303/24 C09K5/10 C23F15/00 F28F2265/20 C02F2103/023 C02F2103/32
US: 119/174 119/51.01 119/51.5 210/195.1 210/257.2 210/500.29 210/634 210/650 210/652 210/702 210/748.01 210/748.010P 210/749 210/764

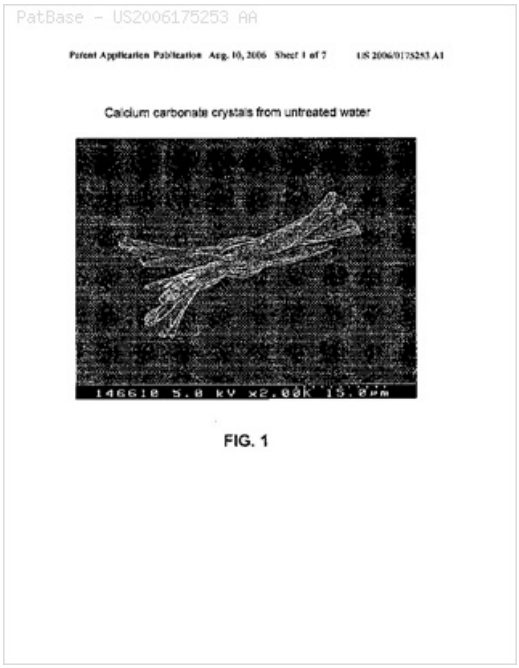


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
CA2597113 AA	20070807	CA20062597113	20060207
CA2597113 C	20140318	CA20062597113	20060207
EP1848668 A1	20071031	EP20060705122	20060207
EP1848668 A4	20080625	EP20060705122	20060207
US2006175253 AA	20060810	US20060350001	20060207
US2006175254 AA	20060810	US20060350164	20060207
US7906025 BB	20110315	US20060350164	20060207
US2010326926 AA	20101230	US20100772545	20100503
US8454837 BB	20130604	US20100772545	20100503
WO06081683 A1	20060810	WO2006CA00160	20060207
WO06081688 A1	20060810	WO2006CA00166	20060207

Priority:

US20050651041P 20050207 WO2006CA00166 20060207 US20060350001 20060207
WO2006CA00160 20060207 US20060350164 20060207 US20100772545 20100503

Probable Assignee: BAUER ENERGY DESIGN INC
Assignee(s): (std): BAUER ENERGY DESIGN INC ; BAUER WALTER J ; EBED HOLDINGS INC
Inventor(s): (std): BAUER WALTER J
Inventor(s): BAUER WALTER
Agent(s): ANN W; GOWLING WLG CANADA LLP; JANET; KRUPNIK EDUARDO; SMART AND BIGGAR; SPECKMAN LAW GROUP PLLC
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA2597113 AA	20070807	LSPB	+	published / reissued	
CA2597113 AA	20110428	LSES	+EEER	EXAMINATION REQUEST	
CA2597113 C	20140318	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2597113 C	20260207	PEXP		Calculated Patent	

				Term Expiry	
EP1848668 A1	20071031	LSPB	+	published / reissued	
EP1848668 A1	20071031	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070831
EP1848668 A1	20071031		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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
EP1848668 A1	20080514		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1848668 A4	20080625	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20080528
EP1848668 A4	20080625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/48 20060101AFI20080522BHEP
EP1848668 A4	20080625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 1/46 20060101ALI20080522BHEP ClassificationScheme: IPC
EP1848668 A4	20080625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/68 20060101ALI20080522BHEP
EP1848668 A4	20080625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 9/06 20060101ALI20080522BHEP ClassificationScheme: IPC
EP1848668 A4	20080625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C23F 15/00 20060101ALI20080522BHEP ClassificationScheme: IPC
EP1848668 A4	20080625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 37/02 20060101ALI20080522BHEP
EP1848668 A4	20080625		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A23K 1/00 20060101ALI20080522BHEP
EP1848668 A4	20081029	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20081002
EP1848668 A4	20091111	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20090415
US2006175253 AA	20060424	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: BAUER ENERGY DESIGN, INC., CANADA Effective date: 20060421 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BAUER, WALTER J.;REEL/FRAME:017517/0906
US2006175253 AA	20060810	LSPB	+	published / reissued	
US2006175253 AA	20090601	LSAS	AS	ASSIGNMENT	Effective date: 20090508 PartyType: owner Owner: EBED HOLDINGS INC., CANADA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BAUER ENERGY DESIGN, INC.;REEL/FRAME:022762/0057
US2006175253 AA	20100719	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006175253 AA	20100719		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2006175254 AA	20060810	LSPB	+	published / reissued	
US2006175254 AA	20090601	LSAS	AS	ASSIGNMENT	Effective date: 20090508 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BAUER ENERGY DESIGN, INC.;REEL/FRAME:022762/0057 Owner: EBED HOLDINGS INC.,

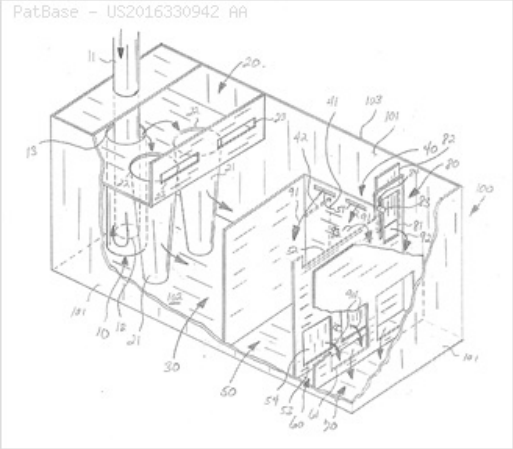
					CANADA
US2006175254 AA	20110223	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2010326926 AA	20101230	LSPB	+	published / reissued	
US2010326926 AA	20130515	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7906025 BB	20060425	LSAS	AS	ASSIGNMENT	Effective date: 20060421 Owner: BAUER ENERGY DESIGN, INC., CANADA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BAUER, WALTER J.;REEL/FRAME:017525/0405 PartyType: owner
US7906025 BB	20110223	LSGT	PAT1	Patented Case	
US7906025 BB	20110315	LSGT	+	granted / extensions (spc, cpc, pte)	
US7906025 BB	20140915	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7906025 BB	20180913	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7906025 BB	20290202	PEXP		Calculated Patent Term Expiry (PTA 1091 days)	
US8454837 BB	20130515	LSGT	PAT1	Patented Case	
US8454837 BB	20130604	LSGT	+	granted / extensions (spc, cpc, pte)	
US8454837 BB	20161124	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8454837 BB	20260207	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO06081683 A1	20060810	LSPB	+	published / reissued	
WO06081683 A1	20060920		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06081683 A1	20070808	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06081683 A1	20080402	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref document number: 06705116 Kind code of Ref document: A1 Country of Ref document: EP
WO06081683 A1	20080402	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 6705116 Country of Ref document: EP
WO06081688 A1	20060810	LSPB	+	published / reissued	
WO06081688 A1	20060920		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06081688 A1	20070807	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2597113 Country of Ref document: CA
WO06081688 A1	20070808	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06081688 A1	20070831	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006705122 Country of Ref document: EP
WO06081688 A1	20071031	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2006705122 Country of Ref document: EP

11) Family number: 63986081 (US2016330942 AA)

Title: MULTI-PATH AQUARIUM FILTRATION APPARATUS

Abstract: A multi-path aquarium filtration system having multiple **chambers** adapted to receive different types of **treatment** systems, and having a bypass gate assembly whereby the flow volume between certain **chambers** is adjustable.

Classifications:
International (IPC 8-9): A01K63/00 A01K63/04 C02F1/00 C02F1/28 C02F101/10 C02F101/16 C02F101/38 C02F103/20
CPC: A01K63/006 A01K63/045 C02F1/001 C02F1/28 C02F2101/105 C02F2101/16 C02F2101/38 C02F2103/20 C02F2301/046 C02F3/24 C02F9/00 Y02W10/10
US: 1/1 210/167.25



Family:

Publication number	Publication date	Application number	Application date
US2016330942 AA	20161117	US20160152013	20160511
US9883661 BB	20180206	US20160152013	20160511
US10631525 BA	20200428	US20180973529	20180507

Priority:

US20150159498P 20150511 US20160152013 20160511 US20180889167 20180205 US20180973529 20180507

Probable Assignee: NEW PCA LLC
Assignee(s): (std): NEW PCA LLC
Inventor(s): (std): BRUDOS JEFFREY R ; HUNTLEY L WARD ; LARI NICK
Agent(s): YOUNG PA MARK

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US10631525 BA	20180507	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10631525 BA	20180531	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10631525 BA	20200408	LSGT	PAT1	Patented Case	
US10631525 BA	20200408	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US10631525 BA	20200428	LSGT	+	granted / extensions (spc, cpc, pte)	
US10631525 BA	20380507	PEXP		Calculated Patent Term Expiry	
US2016330942 AA	20160726		RFE1	Docketed New Case - Ready for Examination	
US2016330942 AA	20161117	LSPB	+	published / reissued	
US2016330942 AA	20170531		EQA1	Ex parte Quayle Action Mailed	
US2016330942 AA	20170711		RSP3	Response to Ex parte Quayle Action Entered and Forwarded to Examiner	
US2016330942 AA	20170927	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	

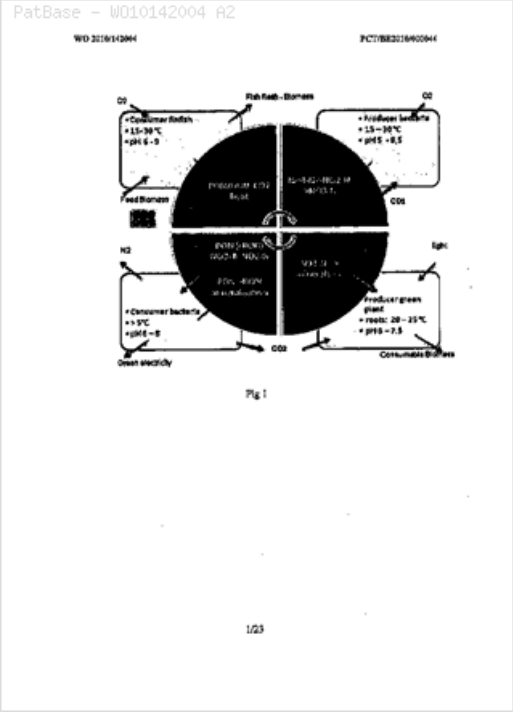
US2016330942 AA	20171229	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2016330942 AA	20180102	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016330942 AA	20180117	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9883661 BB	20180117	LSGT	PAT1	Patented Case	
US9883661 BB	20180206	LSGT	+	granted / extensions (spc, cpc, pte)	
US9883661 BB	20360511	PEXP		Calculated Patent Term Expiry	

12) Family number: 43630432 (WO10142004 A2)

Title: CONTROLLED BIOSECURE AQUATIC FARMING SYSTEM IN A CONFINED ENVIRONMENT

Abstract: The present invention relates generally to improving the bio security and the stability of intensive recirculating aquatic farming systems for instance by hard and soft sensing and control of the pH and alkalinity in an aquatic farming system and in response thereto optimal pH and alkalinity normalisation and nitrogen removal. This control is aimed at reduce toxicity in particular nitrogen toxicity on the living organism and at preventing biosystem collapse. Yet more particularly the invention concerns a control system to restore the biosystem' s homeostasis of intense recirculating aquatic farming systems. The system of present invention to control the pH is particularly suitable for an aquatic farming system that needs a normo-pH suitable for the integration intensive recirculating farming of aquatic animals with the farming of soilless hydroponics crop farming. The present invention relates generally to a controlled farming system for energy efficient farming in a confined space that is monitored and controlled by a hard and soft sensing system whereby the controlled farming system comprises reactors and storage containers, which are interconnected and/or are communicating with the confined space, which comprises the farming system. In particular embodiment the energy, biomass and molecule flows in the internal environment of the reactors, the storage containers and the confined space comprising the reactors and storage containers are controlled for energy efficient farming of aquatic organisms and crops and the minimal waste of energy and material in the external environment. More particularly the present invention concerns a system and method for farming of crops and aquatic animals with improved control of the systems components for optimal use of the biomass and energy input and less energy and biomass waste output.

Classifications:
International (IPC 8-9): A01K63/04 C12M1/00
CPC: A01K63/04 C12M21/04 C12M23/58 C12M29/12 Y02E50/30



Family:

Publication number	Publication date	Application number	Application date
GB200910007 A0	20090722	GB20090010007	20090610
GB200910178 A0	20090729	GB20090010178	20090615
GB200911415 A0	20090812	GB20090011415	20090702
GB200915161 A0	20091007	GB20090015161	20090831
WO10142004 A2	20101216	WO2010BE00044	20100611
WO10142004 A3	20110707	WO2010BE00044	20100611
WO10142004 A8	20111124	WO2010BE00044	20100611

Priority:

GB20090010007 20090610 GB20090010178 20090615 GB20090011415 20090702
GB20090013882 20090810 US20090273869P 20090810 GB20090015161 20090831

Probable Assignee: UNIV LEUVEN KATH

Assignee(s): (std): AERTS JEAN MARIE ; BERCKMANS DANIEL ; DE SCHRYVER PETER ; GODDEERIS BRUNO ; KATHOLIEKE UNIVERSIFEIT LEUVEN ; SORGELOOS PATRICK ; UNIV GENT ; UNIV LEUVEN KATH ; VAN HOESTENBERGHE STIJN ; VERSTRAETE WILLY

Assignee(s): KATHOLIEKE UNIVERSITEIT LEUVEN ; UNIVERSITEIT GENT

Inventor(s): (std): AERTS JEAN MARIE ; BERCKMANS DANIEL ; DE SCHRYVER PETER ; GODDEERIS BRUNO ; SORGELOOS PATRICK ; VAN HOESTENBERGHE STIJN ; VERSTRAETE WILLY

Agent(s): CHALTIN PATRICK

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

Legal status (INPADOC)

View legal status timeline

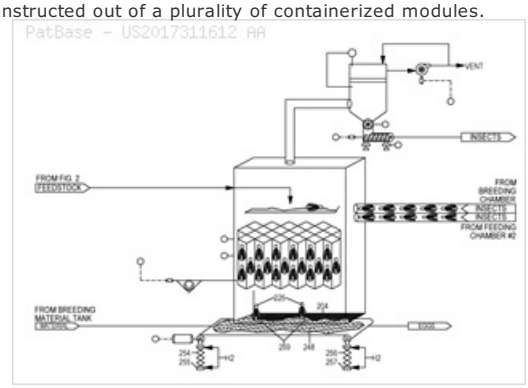
Patent	Date recorded	Event group	Code	Event	Details

GB200910007 A0	20101208	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB200910178 A0	20110209	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB200911415 A0	20101229	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB200915161 A0	20110309	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
WO10142004 A2	20101216	LSPB	+	published / reissued	
WO10142004 A2	20110202		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 10737464 Kind code of Ref document: A2 Country of Ref document: EP
WO10142004 A8	20111212	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10142004 A8	20120704	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 10737464 Country of Ref document: EP

13) Family number: 67366846 (US2017311612 AA)

Title: INSECT PRODUCTION SYSTEMS AND METHODS

Abstract: Variable-scale, modular, easily manufacturable, energy efficient, reliable, and computer operated Insect Production Superstructure Systems (IPSS) may be used to produce insects for human and animal consumption, and for the extraction and use of lipids for applications involving medicine, nanotechnology, consumer products, and **chemical** production with minimal **water**, feedstock, and environmental impact. An IPSS may comprise modules including feedstock mixing, enhanced feedstock splitting, insect feeding, insect breeding, insect collection, insect grinding, pathogen removal, multifunctional flour mixing, liquid mixing, shaping, cooking, flavoring, biocatalyst mixing, exoskeleton separation, liquid separation, and lipid extraction. An IPSS may be configured to be constructed out of a plurality of containerized modules.



Classifications:
International (IPC 8-9): A01G22/15 A01K67/00 A01K67/033 A21D2/00 A21D2/02 A21D2/14 A21D2/18 A21D2/34 A21D2/36 A21D6/00 A23K10/20 A23K20/163 A23K20/174 A23K20/20 A23K50/90 A23L1/16 A23L13/10 A23L13/40 A23L2/46 A23L2/52 A23L2/56 A23L2/60 A23L33/105 A23L33/17 A23N17/00 A23P10/40 A23P30/00 A61K8/9789 B01D3/14 B01F3/00 B01F3/08 B02C23/10 C02F1/28 C02F1/42 C02F1/44 C11C1/10 C12G3/06 C12N15/86 C12P21/00 C12P7/22
CPC: A01K67/033 A21D2/34 A23K20/163 A23K20/174 A23K20/20 A23K50/90 C11C1/10 A01K2227/706 A23P30/00 A21D6/00 A23K10/20 A23N17/007 A01G22/15 A23L2/46 A23L2/56 A23L2/60 A23V2002/00 B01F3/0807 C02F1/28 C02F1/42 C02F1/44 C02F2001/422 C02F2001/425 C12G3/06 Y02W10/37 A01K67/0339 A23J1/00 A23L33/10 A23L33/17 C05F1/00 C12N15/86 C12N2710/14043 C12N2710/14143 C12P21/00 A23L2/52 A23L33/105 A23P10/40 A61K8/9789 B01D3/14 C12P7/22
US: 1/1 119/6.5 426/2 426/474

Family:

Publication number	Publication date	Application number	Application date
US10188083 BB	20190129	US20160242579	20160821
US2018049414 AA	20180222	US20160242579	20160821
US10264768 BB	20190423	US20160257761	20160906
US2018049417 AA	20180222	US20160257761	20160906
US10264769 BB	20190423	US20160257854	20160906
US2018049418 AA	20180222	US20160257854	20160906
US10212949 BB	20190226	US20170651535	20170717
US2017311612 AA	20171102	US20170651535	20170717
US10188086 BB	20190129	US20170664490	20170731
US2017325431 AA	20171116	US20170664490	20170731
US10188087 BB	20190129	US20170815013	20171116
US2018070567 AA	20180315	US20170815013	20171116
US10219536 BB	20190305	US20170841886	20171214
US2018103679 AA	20180419	US20170841886	20171214
US10738268 BB	20200811	US20180153724	20181006
US2019085279 AA	20190321	US20180153724	20181006
US10687551 BB	20200623	US20180207148	20181202
US2019098926 AA	20190404	US20180207148	20181202
US10701912 BB	20200707	US20180237028	20181231
US2019133097 AA	20190509	US20180237028	20181231
US10076104 BB	20180918	US20180901546	20180221
US2018177168 AA	20180628	US20180901546	20180221
US2020229411 AA	20200723	US20200823313	20200318
US2020315150 AA	20201008	US20200907196	20200620
US2020315238 AA	20201008	US20200907198	20200620
US2020370073 AA	20201126	US20200990854	20200811

Priority:

US20160242579 20160821 US20160257854 20160906 US20160257761 20160906
US20170651535 20170717 US20170664490 20170731 US20170815013 20171116
US20170841886 20171214 US20180901546 20180221 US20180153724 20181006
US20180207148 20181202 US20180237028 20181231 US20200823313 20200318
US20200907196 20200620 US20200907198 20200620 US20200990854 20200811

Probable Assignee: INSECTERGY LLC
Assignee(s): (std): INSECTERGY LLC ; LEO DANIEL MICHAEL
Inventor(s): (std): LEO DANIEL MICHAEL

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US10076104 BB	20180829	LSGT	PAT1	Patented Case	
US10076104 BB	20180918	LSGT	+	granted / extensions (spc, cpc, pte)	
US10076104 BB	20360821	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	

US10188083 BB	20190109	LSGT	PAT1	Patented Case	
US10188083 BB	20190129	LSGT	+	granted / extensions (spc, cpc, pte)	
US10188083 BB	20370404	PEXP		Calculated Patent Term Expiry (PTA 226 days)	
US10188086 BB	20170731	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO MICRO (ORIGINAL EVENT CODE: MICR); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10188086 BB	20190109	LSGT	PAT1	Patented Case	
US10188086 BB	20190129	LSGT	+	granted / extensions (spc, cpc, pte)	
US10188086 BB	20360821	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10188087 BB	20171116	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10188087 BB	20171205	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO MICRO (ORIGINAL EVENT CODE: MICR); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10188087 BB	20190109	LSGT	PAT1	Patented Case	
US10188087 BB	20190129	LSGT	+	granted / extensions (spc, cpc, pte)	
US10188087 BB	20360821	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10212949 BB	20190206	LSGT	PAT1	Patented Case	
US10212949 BB	20190226	LSGT	+	granted / extensions (spc, cpc, pte)	
US10212949 BB	20370717	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10219536 BB	20171214	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10219536 BB	20180105	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO MICRO (ORIGINAL EVENT CODE: MICR); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10219536 BB	20190213	LSGT	PAT1	Patented Case	
US10219536 BB	20190305	LSGT	+	granted / extensions (spc, cpc, pte)	
US10219536 BB	20360821	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10264768 BB	20190403	LSGT	PAT1	Patented Case	
US10264768 BB	20190423	LSGT	+	granted / extensions (spc, cpc, pte)	
US10264768 BB	20370418	PEXP		Calculated Patent Term Expiry (PTA 240 days)	
US10264769 BB	20190403	LSGT	PAT1	Patented Case	
US10264769 BB	20190423	LSGT	+	granted / extensions (spc, cpc, pte)	
US10264769 BB	20370219	PEXP		Calculated Patent Term Expiry (PTA 182	

				days)	
US10687551 BB	20181202	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10687551 BB	20181220	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10687551 BB	20190103		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10687551 BB	20200623	LSGT	+	granted / extensions (spc, cpc, pte)	
US10687551 BB	20361128	PEXP		Calculated Patent Term Expiry (PTA 99 days)	
US10701912 BB	20181231	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10701912 BB	20190129	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10701912 BB	20190326		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10701912 BB	20200617	LSGT	PAT1	Patented Case	
US10701912 BB	20200707	LSGT	+	granted / extensions (spc, cpc, pte)	
US10701912 BB	20361017	PEXP		Calculated Patent Term Expiry (PTA 57 days)	
US10738268 BB	20181006	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10738268 BB	20181026	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10738268 BB	20181220		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10738268 BB	20200811	LSGT	+	granted / extensions (spc, cpc, pte)	
US10738268 BB	20361101	PEXP		Calculated Patent Term Expiry (PTA 72 days)	
US2017311612 AA	20171010		RFE1	Docketed New Case - Ready for Examination	
US2017311612 AA	20171102	LSPB	+	published / reissued	
US2017311612 AA	20180626	LSES	NFA1	Non Final Action Mailed	
US2017311612 AA	20180813	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US2017311612 AA	20190109	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017311612 AA	20190206	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

US2017325431 AA	20171116	LSPB	+	published / reissued	
US2017325431 AA	20190109	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018049414 AA	20170122		RFE1	Docketed New Case - Ready for Examination	
US2018049414 AA	20180222	LSPB	+	published / reissued	
US2018049414 AA	20180625	LSES	NFA1	Non Final Action Mailed	
US2018049414 AA	20190109	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018049417 AA	20170319		RFE1	Docketed New Case - Ready for Examination	
US2018049417 AA	20180222	LSPB	+	published / reissued	
US2018049417 AA	20190108	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018049417 AA	20190123		RFE1	Docketed New Case - Ready for Examination	
US2018049417 AA	20190221	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018049417 AA	20190307	LSFE	AWA2	Awaiting TC Resp, Issue Fee Payment Received	
US2018049417 AA	20190307	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018049417 AA	20190315	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018049417 AA	20190315		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018049417 AA	20190403	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018049418 AA	20170222		RFE1	Docketed New Case - Ready for Examination	
US2018049418 AA	20180222	LSPB	+	published / reissued	
US2018049418 AA	20180624	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2018049418 AA	20190110	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018049418 AA	20190123		RFE1	Docketed New Case - Ready for Examination	
US2018049418 AA	20190222	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018049418 AA	20190224	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US2018049418 AA	20190224	LSFE	PPR1	Publications -- Issue Fee Payment Received	

US2018049418 AA	20190309	LSFE	AWA2	Awaiting TC Resp, Issue Fee Payment Received	
US2018049418 AA	20190311	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018049418 AA	20190315	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018049418 AA	20190315		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018049418 AA	20190403	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018070567 AA	20171211		RFE1	Docketed New Case - Ready for Examination	
US2018070567 AA	20180315	LSPB	+	published / reissued	
US2018070567 AA	20190109	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018103679 AA	20180108		RFE1	Docketed New Case - Ready for Examination	
US2018103679 AA	20180419	LSPB	+	published / reissued	
US2018103679 AA	20181231	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018103679 AA	20190213	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018177168 AA	20180628	LSPB	+	published / reissued	
US2018177168 AA	20180628	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018177168 AA	20180810	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018177168 AA	20180829	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019085279 AA	20181220		RFE1	Docketed New Case - Ready for Examination	
US2019085279 AA	20190321	LSPB	+	published / reissued	
US2019085279 AA	20200331		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019085279 AA	20200331		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019085279 AA	20200515	LSES	NFA1	Non Final Action Mailed	
US2019085279 AA	20200515		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019085279 AA	20200604	LSAS	AS	ASSIGNMENT	Effective date: 20200604 OldParty: ASSIGNMENT OF ASSIGNORS

					INTEREST;ASSIGNOR:LEO, DANIEL MICHAEL;REEL/FRAME:052836/0404 Owner: INSECTERGY, LLC, MARYLAND PartyType: owner
US2019085279 AA	20200611	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2019085279 AA	20200611		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2019085279 AA	20200722	LSGT	PAT1	Patented Case	
US2019085279 AA	20200722	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019098926 AA	20190103		RFE1	Docketed New Case - Ready for Examination	
US2019098926 AA	20190404	LSPB	+	published / reissued	
US2019098926 AA	20200511	LSAS	AS	ASSIGNMENT	Effective date: 20200511 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LEO, DANIEL MICHAEL;REEL/FRAME:052628/0038 Owner: INSECTERGY, LLC, MARYLAND PartyType: owner
US2019098926 AA	20200511	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2019098926 AA	20200511		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2019098926 AA	20200603	LSGT	PAT1	Patented Case	
US2019098926 AA	20200603	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019133097 AA	20190326		RFE1	Docketed New Case - Ready for Examination	
US2019133097 AA	20190509	LSPB	+	published / reissued	
US2019133097 AA	20200515	LSAS	AS	ASSIGNMENT	Effective date: 20200515 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LEO, DANIEL MICHAEL;REEL/FRAME:052675/0569 Owner: INSECTERGY, LLC, MARYLAND PartyType: owner
US2019133097 AA	20200515	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2019133097 AA	20200515		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2019133097 AA	20200605	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2019133097 AA	20200605		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2019133097 AA	20200617	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2020229411 AA	20200413		APP1	Application Dispatched from Preexam, Not	

				Yet Docketed	
US2020229411 AA	20200723	LSPB	+	published / reissued	
US2020229411 AA	20200821		RFE1	Docketed New Case - Ready for Examination	
US2020229411 AA	20200821		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020315150 AA	20200925		RFE1	Docketed New Case - Ready for Examination	
US2020315150 AA	20201008	LSPB	+	published / reissued	
US2020315238 AA	20200925		RFE1	Docketed New Case - Ready for Examination	
US2020315238 AA	20201008	LSPB	+	published / reissued	
US2020370073 AA	20201126	LSPB	+	published / reissued	

14) Family number: 5855320 (EP0153530 A2)

Title: METHOD AND APPARATUS FOR DOSING A FLOWING LIQUID STREAM.

Abstract: In an apparatus and a method of dosing a flowing stream of a first liquid, e.g. **water**, with a second liquid, e.g. a solution of a dosing **chemical**, in a main (10), dosing rate is proportional to the pressure drop across a laminar flow zone (21) in the **water** main (10). An adjustable laminar flow element (21) and a method of making it are disclosed.

Classifications:
International (IPC 8-9): A01K5/00 A61J3/00 B01J4/00 C02F1/68 F17D3/00 F17D3/12 G05D11/00 G05D11/13
International (IPC 1-7): A01K5/00 A61J3/00 C02F1/68 F17D3/12
CPC: B01J4/008 C02F1/686 G05D11/138

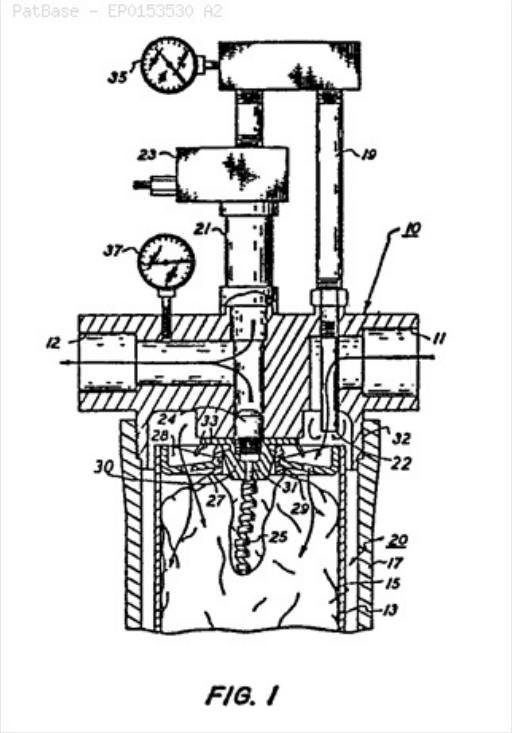


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
EP0153530 A2	19850904	EP19840307538	19841101
EP0153530 A3	19870610	EP19840307538	19841101
JP60188700 A2	19850926	JP19850000985	19850109

Priority:
US19840582661 19840223

Probable Assignee: SYBRON CORP
Assignee(s): (std): SYBRON CORP
Inventor(s): (std): DEBITSUDO JIEI OKONNAA ; FURETSUDO EE SHIEIBAA ; O CONNOR DAVID J ; SHAVER FRED A
Designated states: BE DE FR GB IT NL

Legal status (INPADOC)

View legal status timeline

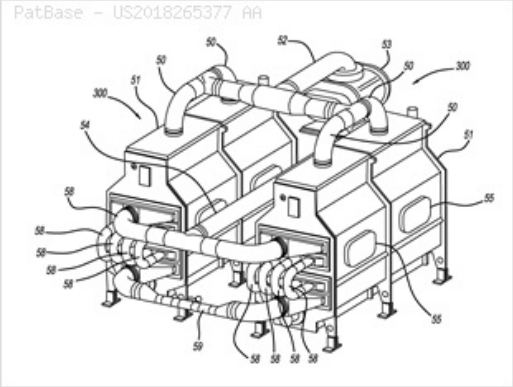
Patent	Date recorded	Event group	Code	Event	Details
EP0153530 A2	19850904	LSPB	+	published / reissued	
EP0153530 A2	19850904		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: BE DE FR GB IT NL
EP0153530 A3	19870610		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: BE DE FR GB IT NL
EP0153530 A3	19880824	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 19871211
EP0153530 A3	20070808		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SHAVER, FRED A.
EP0153530 A3	20070808		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: O'CONNOR, DAVID J. PartyType: inventor
JP60188700 A2	19850926	LSPB	+	published / reissued	

15) Family number: 65086816 (US2018265377 AA)

Title: **WATER** **TREATMENT** SYSTEM

Abstract: The present disclosure relates a system for the **treatment** of **water**. The **water** **treatment** system may be linked an aquatic protection system or a **water** filtration system.

Classifications:
International (IPC 8-9): A01K A01K63/04 A01K79/02 A01M29/30 A01N A01N1/00 B01D B01D1/06 B01D1/12 B01D1/16 B01D1/22 B01D3/10 B01D35/18 B01D35/26 C02F C02F1/00 C02F1/04 C02F1/06 C02F1/08 C02F1/12 C02F103/08 C02F9/10
CPC: A01K79/02 A01M29/30 B01D1/065 B01D1/12 B01D1/16 B01D1/221 B01D3/10 B01D3/106 C02F1/004 C02F1/008 C02F1/041 C02F1/048 C02F1/06 C02F1/08 C02F1/12 C02F2103/08 C02F2201/001 C02F2209/001 C02F2209/42 C02F2301/024 Y02W10/37
US: 1/1 202/175



Family:

Publication number	Publication date	Application number	Application date
EP3340785 A1	20180704	EP20160840246	20160829
EP3340785 A4	20190313	EP20160840246	20160829
EP3340785 B1	20201118	EP20160840246	20160829
IL257426 A0	20180430	IL20160257426	20160829
IN201847010123 A	20180330	IN201847010123	20180320
SG10201912725V A1	20200227	SG20191012725	20160829
US10584041 BB	20200310	US20160755167	20160829
US2018265377 AA	20180920	US20160755167	20160829
US2020207641 AA	20200702	US20200812780	20200309
WO17035521 A1	20170302	WO2016US49206	20160829
ZA201801294 A	20190731	ZA20180001294	20180226

Priority:

US20150210485P 20150827 WO2016US49206 20160829 US20160755167 20160829
US20180755167 20180226 US20200812780 20200309

Probable Assignee: RENEW GROUP PTE LTD

Assignee(s): (std): BHARGAVA MANOJ ; KOWALSKI DERECK ; MORAN KEVIN FRANICIS ; RENEW GROUP PRIVATE LTD ; RENEW GROUP PTE LTD ; RENEW HEALTH LTD ; TALLY WILLIAM N

Inventor(s): (std): BHARGAVA MANOJ ; KOWALSKI DERECK ; MORAN KEVIN ; MORAN KEVIN FRANCIS ; MORAN KEVIN FRANICIS ; TALLY WILLIAM ; TALLY WILLIAM N

Agent(s): MOIR ROBERT; OAKLAND LAW GROUP PLLC; SIMPSON KIRSTY MAIRI; VIERING JENTSCHURA AND PARTNER 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 DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
EP3340785 A1	20180704	LSPB	+	published / reissued	
EP3340785 A1	20180704	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20180321
EP3340785 A1	20180704		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3340785 A1	20180704		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3340785 A1	20180704		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3340785 A1	20181205		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3340785 A1	20181205		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	

				(DELETED)	
EP3340785 A4	20190313	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20190213
EP3340785 A4	20190313		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/08 20060101ALI20190207BHEP
EP3340785 A4	20190313		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 63/04 20060101AFI20190207BHEP
EP3340785 A4	20190313		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/12 20060101ALI20190207BHEP
EP3340785 A4	20190313		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 9/10 20060101ALI20190207BHEP ClassificationScheme: IPC
EP3340785 A4	20190313		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B01D 35/26 20060101ALI20190207BHEP ClassificationScheme: IPC
EP3340785 A4	20190313		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B01D 1/22 20060101ALI20190207BHEP ClassificationScheme: IPC
EP3340785 A4	20190313		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/04 20060101ALI20190207BHEP
EP3340785 A4	20190313		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 35/18 20060101ALI20190207BHEP
EP3340785 A4	20190313		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 1/16 20060101ALI20190207BHEP
EP3340785 A4	20190313		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01N 1/00 20060101ALI20190207BHEP
EP3340785 A4	20191106	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20191004
EP3340785 A4	20200331		+GRAP	DESPATCH OF COMMUNICATION OF INTENTION TO GRANT A PATENT	Text: ORIGINAL CODE: EPIDOSNIGR1
EP3340785 A4	20200429	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20200401
EP3340785 A4	20200612		GRAJ	INFORMATION RELATED TO DISAPPROVAL OF COMMUNICATION OF INTENTION TO GRANT BY THE APPLICANT OR RESUMPTION OF EXAMINATION PROCEEDINGS BY THE EPO DELETED	Text: ORIGINAL CODE: EPIDOSDIGR1
EP3340785 A4	20200705		+GRAP	DESPATCH OF COMMUNICATION OF INTENTION TO GRANT A PATENT	Text: ORIGINAL CODE: EPIDOSNIGR1
EP3340785 A4	20200715		INTC	INTENTION TO GRANT ANNOUNCED (DELETED)	
EP3340785 A4	20200722	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: RENEW HEALTH LIMITED PartyType: owner
EP3340785 A4	20200805	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20200706
EP3340785 A4	20200909		+GRAS	GRANT FEE PAID	Text: ORIGINAL CODE: EPIDOSNIGR3
EP3340785 A4	20201016		+GRAA	(EXPECTED) GRANT	Text: ORIGINAL CODE: 0009210
EP3340785 B1	20201118	LSGT	+	granted / extensions (spc, cpc, pte)	

EP3340785 B1	20201118		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3340785 B1	20201118	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP3340785 B1	20360829	PEXP		Calculated Patent Term Expiry	
IN201847010123 A	20180330	LSPB	+	published / reissued	
SG10201912725V A1	20200227	LSPB	+	published / reissued	
US10584041 BB	20180226	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US10584041 BB	20180306	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US10584041 BB	20200310	LSGT	+	granted / extensions (spc, cpc, pte)	
US10584041 BB	20200325	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:RENEW GROUP PRIVATE LIMITED;REEL/FRAME:052219/0845 Effective date: 20180917 Owner: RENEW HEALTH LIMITED, IRELAND
US10584041 BB	20360829	PEXP		Calculated Patent Term Expiry	
US2018265377 AA	20180920	LSPB	+	published / reissued	
US2018265377 AA	20181005		RFE1	Docketed New Case - Ready for Examination	
US2018265377 AA	20181005		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018265377 AA	20190415	LSES	NFA1	Non Final Action Mailed	
US2018265377 AA	20190415		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018265377 AA	20190723		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018265377 AA	20190723		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018265377 AA	20190821		FRM1	Final Rejection Mailed	
US2018265377 AA	20190821		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2018265377 AA	20191028	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018265377 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018265377 AA	20200122	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2018265377 AA	20200128	LSFE	PPR1	Publications --	

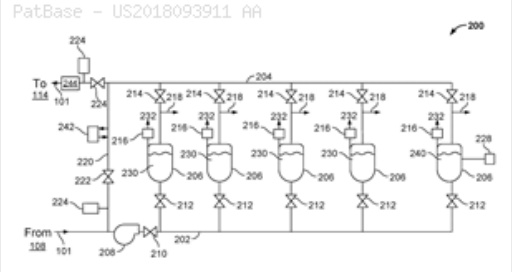
				Issue Fee Payment Received	
US2018265377 AA	20200128		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2018265377 AA	20200219	LSGT	PAT1	Patented Case	
US2018265377 AA	20200219	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2020207641 AA	20200324		RFE1	Docketed New Case - Ready for Examination	
US2020207641 AA	20200324		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020207641 AA	20200325	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:RENEW GROUP PRIVATE LIMITED;REEL/FRAME:052219/0845 Effective date: 20180917 Owner: RENEW HEALTH LIMITED, IRELAND
US2020207641 AA	20200702	LSPB	+	published / reissued	
US2020207641 AA	20201106	LSES	NFA1	Non Final Action Mailed	
WO17035521 A1	20170302	LSPB	+	published / reissued	
WO17035521 A1	20170426		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 16840246 Kind code of Ref document: A1 Country of Ref document: EP
WO17035521 A1	20180207	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 257426 Country of Ref document: IL
WO17035521 A1	20180212	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 11201801178R Country of Ref document: SG
WO17035521 A1	20180228	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17035521 A1	20180327	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2016840246 Country of Ref document: EP
ZA201801294 A	20190731	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA201801294 A	20380225	PEXP		Calculated Patent Term Expiry	

16) Family number: 69101756 (US2018093911 AA)

Title: REMOVING NITRATE FROM **WATER**

Abstract: A sulphur denitrification system includes a liquid input fluidly coupled to a source of saltwater that includes nitrate; a liquid output fluidly coupled to the source of saltwater; a plurality of vertically-oriented tanks, at least one of the tanks including a liquid inlet that is fluidly coupled to the liquid input to receive a flow of the saltwater, a volume configured to enclose a plurality of sulphur particles that support denitrification bacteria that biologically transform the nitrate into at least one of nitrous oxide or nitrogen gas, and a liquid outlet fluidly coupled to the liquid output and the liquid inlets of the tanks; and a circulation system configured to circulate a portion of the saltwater though the liquid input to the liquid inlets of the plurality of tanks, through the plurality of tanks, and from the liquid outlets of the tanks to the liquid output and the liquid inlets of the tanks.

Classifications:
International (IPC 8-9): A01K63/04 C02F1/02 C02F1/66 C02F1/68 C02F1/78 C02F101/16 C02F103/22 C02F3/00 C02F3/28 C02F3/30 C02F3/34 C02F9/00 C12M1/00 C12N1/20
CPC: A01K63/045 C02F1/02 C02F1/66 C02F1/685 C02F1/78 C02F2101/101 C02F2101/163 C02F2103/20 C02F2103/22 C02F2203/006 C02F2209/006 C02F2209/02 C02F2209/04 C02F2209/06 C02F2209/40 C02F2301/043 C02F2305/00 C02F3/006 C02F3/2806 C02F3/305 C02F3/34 C02F3/345 C02F9/00 Y02W10/37
US: 1/1 210/605



Family:

Publication number	Publication date	Application number	Application date
CN110234609 A	20190913	CN201780069784	20171003
EP3523254 A1	20190814	EP20170859029	20171003
EP3523254 A4	20200624	EP20170859029	20171003
JP2019537505 T2	20191226	JP20190519231T	20171003
US2018093911 AA	20180405	US20160284720	20161004
US9994466 BB	20180612	US20160284720	20161004
US10550024 BB	20200204	US20180952940	20180413
US2018230032 AA	20180816	US20180952940	20180413
WO18067581 A1	20180412	WO2017US54958	20171003

Priority:
US20160284720 20161004 WO2017US54958 20171003 US20180952940 20180413

Probable Assignee: GEORGIA AQUARIUM INC
Assignee(s): (std): GEORGIA AQUARIUM INC
Inventor(s): (std): DOVE ALISTAIR ; HALL ERIC
Agent(s): AMMELBURG JAN MORITZ; FISH AND RICHARDSON PC; WERNLI MATTHEW K
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
CN110234609 A	20190913	LSPB	+	published / reissued	
CN110234609 A	20190913	LSPB	PB01	PUBLICATION	
CN110234609 A	20190913	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN110234609 A	20191029		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN110234609 A	20191029		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN110234609 A	20200814		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 40014096 Ref legal event code: DE Country of Ref document: HK
EP3523254 A1	20190814	LSPB	+	published / reissued	
EP3523254 A1	20190814	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20190503
EP3523254 A1	20190814		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3523254 A1	20190814		+AV	REQUEST FOR	Country of Ref document: MA MD

				VALIDATION OF THE EUROPEAN PATENT	
EP3523254 A1	20190814		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3523254 A1	20200108		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3523254 A1	20200108		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3523254 A4	20200624	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20200526
EP3523254 A4	20200624		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/34 20060101AFI20200518BHEP ClassificationScheme: IPC
EP3523254 A4	20200624		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/30 20060101ALI20200518BHEP ClassificationScheme: IPC
JP2019537505 T2	20191226	LSPB	+	published / reissued	
JP2019537505 T2	20201005	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20201005 Text: JAPANESE INTERMEDIATE CODE: A621
JP2019537505 T2	20201005	LSES	+A621	出願審査請求書	Effective date: 20201005
JP2019537505 T2	20201006	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20201006 Text: JAPANESE INTERMEDIATE CODE: A523
JP2019537505 T2	20201006		A523	手続補正書	Effective date: 20201006
JP2019537505 T2	20201006		A871	EXPLANATION OF CIRCUMSTANCES CONCERNING ACCELERATED EXAMINATION	Effective date: 20201006 Text: JAPANESE INTERMEDIATE CODE: A871
JP2019537505 T2	20201006		A871	早期審査に関する事情説明書	Effective date: 20201006
US10550024 BB	20180413	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DOVE, ALISTAIR;HALL, ERIC;SIGNING DATES FROM 20161102 TO 20161103;REEL/FRAME:045538/0373 Owner: GEORGIA AQUARIUM INC., GEORGIA
US10550024 BB	20180413	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10550024 BB	20180508	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10550024 BB	20200204	LSGT	+	granted / extensions (spc, cpc, pte)	
US10550024 BB	20200428	LSRE	CC	CERTIFICATE OF CORRECTION	
US10550024 BB	20361004	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US2018093911 AA	20180402	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018093911 AA	20180405	LSPB	+	published / reissued	
US2018093911 AA	20180413		WIA1	Withdraw from issue awaiting action	

US2018093911 AA	20180419		RFE1	Docketed New Case - Ready for Examination	
US2018093911 AA	20180503	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018093911 AA	20180523	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018230032 AA	20180509		RFE1	Docketed New Case - Ready for Examination	
US2018230032 AA	20180816	LSPB	+	published / reissued	
US2018230032 AA	20190314	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2018230032 AA	20190315	LSES	NFA1	Non Final Action Mailed	
US2018230032 AA	20190326		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018230032 AA	20190326		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018230032 AA	20190530	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018230032 AA	20190530		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018230032 AA	20190903		RFE1	Docketed New Case - Ready for Examination	
US2018230032 AA	20190903		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018230032 AA	20190919	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018230032 AA	20190919		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018230032 AA	20191230	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018230032 AA	20191230		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018230032 AA	20200115	LSGT	PAT1	Patented Case	
US2018230032 AA	20200115	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9994466 BB	20161118	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DOVE, ALISTAIR;HALL, ERIC;SIGNING

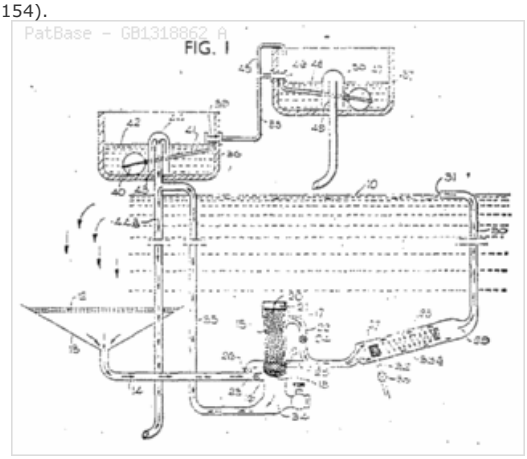
					DATES FROM 20161102 TO 20161103;REEL/FRAME:040367/0709 Owner: GEORGIA AQUARIUM INC., GEORGIA PartyType: owner
US9994466 BB	20180523	LSGT	PAT1	Patented Case	
US9994466 BB	20180612	LSGT	+	granted / extensions (spc, cpc, pte)	
US9994466 BB	20361026	PEXP		Calculated Patent Term Expiry (PTA 22 days)	
WO18067581 A1	20180412	LSPB	+	published / reissued	
WO18067581 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 17859029 Country of Ref document: EP
WO18067581 A1	20190404	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2019519231 Country of Ref document: JP
WO18067581 A1	20190405	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18067581 A1	20190510	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20190506 Ref document number: 2017859029 Country of Ref document: EP

17) Family number: 3749711 (GB1318862 A)

Title: METHODS OF AND APPARATUS FOR REARING FISH

Abstract: 1318862 Aquaria VORTEX (FISHERY EQUIPMENT) Ltd 22 June 1970 [20 March 1969] 14570/69 Heading A1A Apparatus for rearing fish comprises a main tank (not shown) containing **water** 10 having an outlet 11 covered by a filter 12 which prevents fish passing therethrough but allows **water** containing contaminants, both in solid and liquid form to pass into pipe 14 communicating with a filter **chamber** 15 and thence through an oxygenating or aerating **chamber** 28 containing a diffuser 33a back into the tank at pipe outlet 31. The filter **chamber** 15 contains filter elements 18-20 which prevent the passage of solid contaminants which fall into a sump **chamber** 34, and also remove bacteria from the **water**. A flushing tank 36 has an outlet pipe 44a to which **chamber** 34 is connected via a pipe 35 so that **water** flowing at high velocity down pipe 44a sucks in the **water** in pipe 35 together with the contaminants in **chamber** 34. Since **water** will be withdrawn in this manner from the recirculation system additional **water** is supplied to main tank from a reservoir tank 37. Fish food may be injected into the final duct section 30, or supplied directly into the tank. In a second embodiment, Fig. 2 (not shown), two separate duct systems (112) (113) are provided externally of the main tank (110), providing for the removal of solid and liquid contaminants respectively. It is possible to pass **water** which has been freed of solid contaminants through the liquid contaminant removal ducting. The duct system (113) may contain bacteriologically acting **treatment** means. In a further form of filter arrangement, Fig. 3 (not shown), the **water** passes through a compartment (135) in which there is a **water** peamable endless belt (140) having vanes (153) forming pockets which trap solid contaminants which are discharged gravitationally when the pockets are inverted over a collecting tray (154).

Classifications:
International (IPC 8-9): A01K63/04
International (IPC 1-7): A01K63/00
CPC: A01K63/045



Family:

Publication number	Publication date	Application number	Application date
GB1318862 A	19730531	GB19690014570	19690320

Priority:
GB19690014570 19690320

Probable Assignee: VORTEX FISHERY EQUIPMENT LTD
Assignee(s): (std): VORTEX FISHERY EQUIPMENT LTD

Legal status (INPADOC)

View legal status timeline

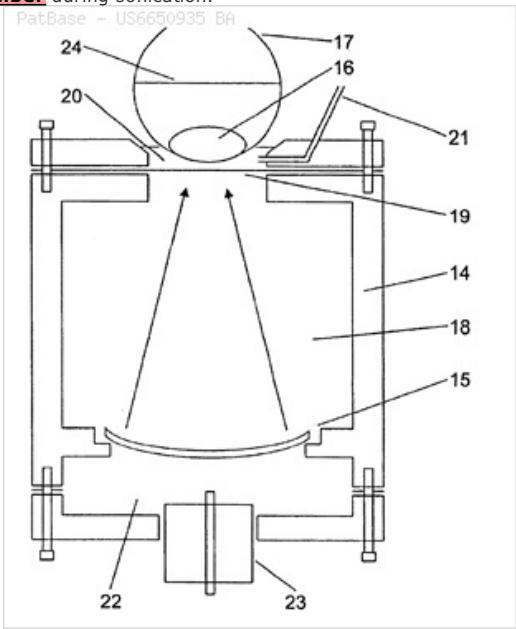
Patent	Date recorded	Event group	Code	Event	Details
GB1318862 A	19730531	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1318862 A	19890320	PEXP		Calculated Patent Term Expiry	

18) Family number: 29733547 (US6650935 BA)

Title: ULTRASOUND DRIVEN DEVICES FOR ACCELERATED TRANSFER OF SUBSTANCES ACROSS POROUS BOUNDARIES

Abstract: A method of phonophoretic transfer of an active agent into or across a porous surface, which method comprises contacting the active agent with the porous surface and applying thereto ultrasound at a frequency of between 20 kHz and 3 MHz; characterised in that the active agent is ideally cationic and is disposed in a low viscosity carrier and wherein the active agent is in direct contact with the porous surface. An apparatus for phonophoretic transfer of an active agent to or through a porous surface, said apparatus comprising an ultrasonic generator, a housing provided with an ultrasound transducer mounted in or on housing, and a **treatment chamber** disposed in or on said housing, said transducer being directed towards said **treatment chamber**, wherein the **treatment chamber** is provided with a liquid-tight membrane to retain the active agent against a porous surface located in the **treatment chamber** during sonication.

Classifications:
International (IPC 8-9): A01K45/00 A61M31/00 A61M37/00
International (IPC 1-7): A01K45/00 A61M37/00 A61N1/30 B41M3/00 B41M5/00
CPC: A01K45/007 A61M2037/0007 A61M31/002 A61M37/0092
US: 604/20



Family:

Publication number	Publication date	Application number	Application date
AU199961137 A1	20000501	AU19990061137	19991007
AU199961137 A5	20000501	AU19990061137	19991007
EP1119391 A1	20010801	EP19990947770	19991007
GB9822150 A0	19981202	GB19980022150	19981009
US6650935 BA	20031118	US20010806900	20010404
WO0021605 A1	20000420	WO1999GB03325	19991007

Priority:
GB19980022150 19981009 WO1999GB03325 19991007

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

Legal status (INPADOC)

View legal status timeline

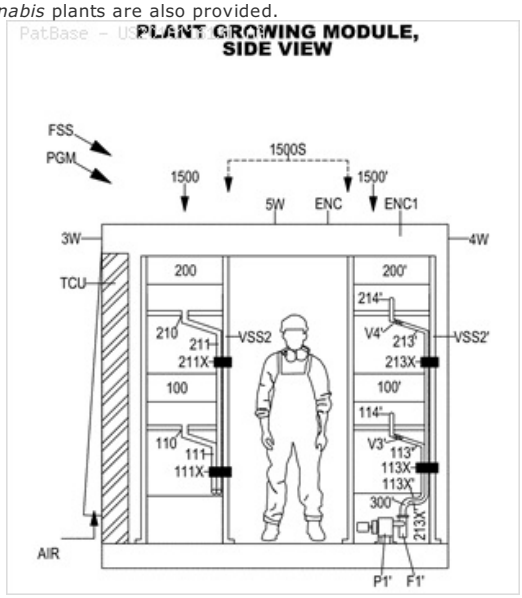
Patent	Date recorded	Event group	Code	Event	Details
AU199961137 A1	20000501	LSPB	+	published / reissued	
AU199961137 A1	20010705	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2) (F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
EP1119391 A1	20010801	LSPB	+	published / reissued	
EP1119391 A1	20010801	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20010327
EP1119391 A1	20010801		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1119391 A1	20010801		+AX	REQUEST FOR EXTENSION OF THE	Text: AL;LT;LV;MK;RO;SI

				EUROPEAN PATENT	
EP1119391 A1	20030903	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20030718
EP1119391 A1	20030917	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: HIGHLAND INNOVATION CENTRE LIMITED PartyType: owner
EP1119391 A1	20050209	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20040803
GB9822150 A0	20000112	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
US6650935 BA	20031030	LSGT	PAT1	Patented Case	
US6650935 BA	20031118	LSGT	+	granted / extensions (spc, cpc, pte)	
US6650935 BA	20070518	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6650935 BA	20110512	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6650935 BA	20150626		REMI	MAINTENANCE FEE REMINDER MAILED	
US6650935 BA	20151118	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6650935 BA	20151214	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6650935 BA	20151214	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6650935 BA	20160105	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20151118
US6650935 BA	20210404	PEXP		Calculated Patent Term Expiry	
WO0021605 A1	20000420	LSPB	+	published / reissued	
WO0021605 A1	20000420		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
WO0021605 A1	20000420		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SL SN SZ TD TG TJ TM TZ UG ZW
WO0021605 A1	20000614		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0021605 A1	20000706		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0021605 A1	20010327	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1999947770 Country of Ref document: EP
WO0021605 A1	20010404	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 09806900 Country of Ref document: US
WO0021605 A1	20010801	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1999947770 Country of Ref document: EP
WO0021605 A1	20010809	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0021605 A1	20040803	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 1999947770 Country of Ref document: EP

19) Family number: 69563031 (US2018116131 AA)

Title: CANNABIS FARMING SYSTEMS AND METHODS

Abstract: Variable-scale, modular, easily manufacturable, energy efficient, reliable, and computer-operated farming superstructure systems (FSS) may be used to produce *cannabis* for human consumption with minimal **water** and environmental impact. A system for producing electricity, heat, and *cannabis* includes a power production system (PPS), a farming superstructure system (FSS), and a temperature control unit (TCU). Methods to method to separate volatiles from *cannabis* are described. Methods to asexually clone a plurality of *cannabis* plants are also provided.



Classifications:

International (IPC 8-9): A01C23/00 A01C23/04 A01G1/00 A01G2/10 A01G22/00 A01G22/15 A01G23/00 A01G23/04 A01G24/00 A01G24/18 A01G24/23 A01G24/25 A01G24/30 A01G24/40 A01G24/48 A01G25/00 A01G25/16 A01G27/00 A01G3/00 A01G3/08 A01G31/00 A01G31/02 A01G31/06 A01G7/02 A01G7/04 A01G9/02 A01G9/029 A01G9/10 A01G9/14 A01G9/18 A01G9/20 A01G9/24 A01G9/26 A01H5/02 A01H5/06 A01H5/12 A01H6/28 A01K67/033 A21D13/04 A21D13/40 A23B7/153 A23G9/32 A23L29/00 A23L33/10 A23L5/20 A23L7/10 A23L7/126 A23N15/00 A61K36/185 B01D11/02 B26D3/00 C05B17/00 C05C11/00 C05D1/00 C05D3/00 C05D5/00 C05D9/00 C05G1/00 F02C3/04 F25B13/00 H02K7/18 H05B33/08 H05B37/02

CPC: A01G24/00 A01G24/18 A01G24/23 A01G24/48 A01G7/02 A01G7/045 A01G9/02 A01H5/12 A01H6/28 A23B7/153 A23L5/23 A23L7/10 A23V2002/00 A61K2236/00 A61K36/185 A01C23/042 A01G22/00 A01G24/30 A01G24/40 A01G31/06 A01G9/0297 A01G9/246 A01G9/247 A01G9/249 A23L33/10 A23N15/00 C05B17/00 C05C11/00 C05D1/00 C05D3/00 C05D5/00 C05D9/00 C05G1/00 Y02A40/25 Y02A40/924 Y02P20/133 Y02P60/21 A01C23/008 A01G2003/005 A01G27/006 A01G3/00 A01G9/14 A01G9/18 A01G9/20 A01G9/24 A01G9/26 A61K2236/333 A61K2236/51 H02K7/1823 A01G2031/006 A01G31/02 A01G1/001 A01G9/1066 A01G2/10 B01D11/0203 B01D11/0207 B01D11/0226 B01D11/0257 B01D11/0284 B01D11/0288 B01D11/0296 B01D9/0054 B26D3/00 F02C3/04 F05D2220/76 F25B1/00 F25B13/00 F25B15/04 F25B15/06 F25B27/02 Y02A30/274 A01G9/1033 A01G2031/003 A01G2031/005 A01G25/00 A01G25/16 A01G3/08 A01G31/001 A01H5/02 A21D13/40 A21D2/34 A21D2/36 A23G9/32 A23L29/00 A23L29/20 A23L33/105 A23L33/135 A23L7/126 A01G7/04 A01H5/10 A21D13/04 H05B45/20 H05B47/11 H05B47/16 A01G22/15 A01G24/25 A01H4/005 A01H5/06 A01K2207/20 A01K2227/706 A01K67/033 A01K67/0339 A61K2236/11 A61K2236/33 A61K2236/37 A61L2/12 B01D11/028 B01D9/0004 B01D9/0018 B01D9/004

US: 1/1 426/481 47/17 47/62A 47/66.6 800/298

Family:

Publication number	Publication date	Application number	Application date
US2018332786 AA	20181122	US20170600714	20170520
US10595474 BB	20200324	US20170609472	20170531
US2018343806 AA	20181206	US20170609472	20170531
US2019000029 AA	20190103	US20170639437	20170630
US2019037792 AA	20190207	US20170667022	20170802
US2018343900 AA	20181206	US20170784112	20171014
US10694683 BB	20200630	US20170841923	20171214
US2018116131 AA	20180503	US20170841923	20171214
US2018343812 AA	20181206	US20180029627	20180708
US10517320 BB	20191231	US20180904044	20180223
US2018343901 AA	20181206	US20180904044	20180223
US2019246591 AA	20190815	US20190396134	20190426
US2020146317 AA	20200514	US20190729420	20191229
US2020229359 AA	20200723	US20200827579	20200323
US2020315103 AA	20201008	US20200907199	20200620

Priority:

US20170600714 20170520 US20170609472 20170531 US20170639437 20170630
US20170667022 20170802 US20170784112 20171014 US20170841923 20171214
US20180904044 20180223 US20180029627 20180708 US20190396134 20190426
US20190729420 20191229 US20200827579 20200323 US20200907199 20200620

Probable Assignee: INSECTERGY LLC

Assignee(s): (std): FREITAS SHAWN ROBERT ; INSECTERGY LLC ; LEO DANIEL MICHAEL

Inventor(s): (std): FREITAS SHAWN ROBERT ; LEO DANIEL MICHAEL

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US10517320 BB	20180223	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10517320 BB	20180320	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10517320 BB	20180320	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO MICRO (ORIGINAL EVENT CODE: MICR); ENTITY STATUS OF PATENT

					OWNER: SMALL ENTITY
US10517320 BB	20180320	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10517320 BB	20191231	LSGT	+	granted / extensions (spc, cpc, pte)	
US10517320 BB	20370531	PEXP		Calculated Patent Term Expiry	
US10595474 BB	20170801		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10595474 BB	20200304	LSGT	PAT1	Patented Case	
US10595474 BB	20200324	LSGT	+	granted / extensions (spc, cpc, pte)	
US10595474 BB	20380809	PEXP		Calculated Patent Term Expiry (PTA 435 days)	
US10694683 BB	20171214	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10694683 BB	20180105	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO MICRO (ORIGINAL EVENT CODE: MICR); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10694683 BB	20180425		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10694683 BB	20200630	LSGT	+	granted / extensions (spc, cpc, pte)	
US10694683 BB	20380427	PEXP		Calculated Patent Term Expiry (PTA 331 days)	
US2018116131 AA	20180425		RFE1	Docketed New Case - Ready for Examination	
US2018116131 AA	20180503	LSPB	+	published / reissued	
US2018116131 AA	20200123		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018116131 AA	20200123		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018116131 AA	20200423	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018116131 AA	20200423		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018116131 AA	20200511	LSAS	AS	ASSIGNMENT	Effective date: 20200511 Owner: INSECTERGY, LLC, MARYLAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LEO, DANIEL MICHAEL;REEL/FRAME:052627/0979 PartyType: owner
US2018116131 AA	20200511	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US2018116131 AA	20200515	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018116131 AA	20200515		STPP	INFORMATION ON STATUS: PATENT	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED

				APPLICATION AND GRANTING PROCEDURE IN GENERAL	
US2018116131 AA	20200610	LSGT	PAT1	Patented Case	
US2018116131 AA	20200610	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018332786 AA	20170622		RFE1	Docketed New Case - Ready for Examination	
US2018332786 AA	20170622		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018332786 AA	20181122	LSPB	+	published / reissued	
US2018332786 AA	20190522	LSES	NFA1	Non Final Action Mailed	
US2018332786 AA	20190522		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018332786 AA	20191216	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2018332786 AA	20191216		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2018343806 AA	20170801		RFE1	Docketed New Case - Ready for Examination	
US2018343806 AA	20181206	LSPB	+	published / reissued	
US2018343806 AA	20191029		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018343806 AA	20191029		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018343806 AA	20200211	LSAS	AS	ASSIGNMENT	Owner: INSECTERGY, LLC, MARYLAND PartyType: owner Effective date: 20200211 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LEO, DANIEL MICHAEL;REEL/FRAME:051784/0326
US2018343806 AA	20200211	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US2018343806 AA	20200218	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018343806 AA	20200218		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018343812 AA	20180830		RFE1	Docketed New Case - Ready for Examination	
US2018343812 AA	20180830		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018343812 AA	20181206	LSPB	+	published / reissued	
US2018343812 AA	20191210	LSES	NFA1	Non Final Action Mailed	
US2018343812 AA	20191210		STPP	INFORMATION ON STATUS: PATENT	Text: NON FINAL ACTION MAILED

				APPLICATION AND GRANTING PROCEDURE IN GENERAL	
US2018343812 AA	20200103		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018343812 AA	20200103		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018343812 AA	20200225		FRM1	Final Rejection Mailed	
US2018343812 AA	20200225		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2018343812 AA	20200318	LSES	NFA1	Non Final Action Mailed	
US2018343812 AA	20200318		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018343812 AA	20200924	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2018343900 AA	20180102		RFE1	Docketed New Case - Ready for Examination	
US2018343900 AA	20180102		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018343900 AA	20181206	LSPB	+	published / reissued	
US2018343900 AA	20190808	LSES	NFA1	Non Final Action Mailed	
US2018343900 AA	20190808		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018343900 AA	20190815		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018343900 AA	20190815		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018343900 AA	20191108	LSES	NFA1	Non Final Action Mailed	
US2018343900 AA	20191108		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018343900 AA	20191126		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018343900 AA	20191126		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018343900 AA	20200227		RSP1	Response after Final Action Forwarded to Examiner	
US2018343900 AA	20200227		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER

				GRANTING PROCEDURE IN GENERAL	
US2018343900 AA	20200428	LSES	NFA1	Non Final Action Mailed	
US2018343900 AA	20200428		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018343900 AA	20201110	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2018343900 AA	20201110		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2018343901 AA	20181206	LSPB	+	published / reissued	
US2018343901 AA	20181217	LSES	NFA1	Non Final Action Mailed	
US2018343901 AA	20190131		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018343901 AA	20190226	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US2018343901 AA	20190328	LSES	NFA1	Non Final Action Mailed	
US2018343901 AA	20190328		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018343901 AA	20190402	LSES	NFA1	Non Final Action Mailed	
US2018343901 AA	20190420		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018343901 AA	20190420		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018343901 AA	20190521		RSP1	Response after Final Action Forwarded to Examiner	
US2018343901 AA	20190521		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER
US2018343901 AA	20190605	LSES	ADV1	Advisory Action Mailed	
US2018343901 AA	20190605		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: ADVISORY ACTION MAILED
US2018343901 AA	20190612		RFE1	Docketed New Case - Ready for Examination	
US2018343901 AA	20190612		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018343901 AA	20190816		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018343901 AA	20190816		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER

				PROCEDURE IN GENERAL	
US2018343901 AA	20191108	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LEO, DANIEL MICHAEL;REEL/FRAME:050962/0251 Effective date: 20191108 PartyType: owner Owner: INSECTERGY, LLC, MARYLAND
US2018343901 AA	20191116	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018343901 AA	20191116		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018343901 AA	20191211	LSGT	PAT1	Patented Case	
US2018343901 AA	20191211	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019000029 AA	20170809		RFE1	Docketed New Case - Ready for Examination	
US2019000029 AA	20170809		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019000029 AA	20180110	LSAS	AS	ASSIGNMENT	Effective date: 20171220 Owner: INSECTERGY, LLC, MARYLAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LEO, DANIEL MICHAEL;FREITAS, SHAWN ROBERT;REEL/FRAME:044586/0188 PartyType: owner
US2019000029 AA	20190103	LSPB	+	published / reissued	
US2019000029 AA	20190523	LSES	NFA1	Non Final Action Mailed	
US2019000029 AA	20190523		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019000029 AA	20190608		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019000029 AA	20190608		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019000029 AA	20190729		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019000029 AA	20190729		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019000029 AA	20191118		RSP1	Response after Final Action Forwarded to Examiner	
US2019000029 AA	20191118		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER
US2019000029 AA	20200104		RFE1	Docketed New Case - Ready for Examination	
US2019000029 AA	20200104		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING	Text: DOCKETED NEW CASE - READY FOR EXAMINATION

				PROCEDURE IN GENERAL	
US2019000029 AA	20200611	LSES	NFA1	Non Final Action Mailed	
US2019000029 AA	20200611		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019000029 AA	20200705		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019000029 AA	20200705		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019000029 AA	20201015		RSP1	Response after Final Action Forwarded to Examiner	
US2019000029 AA	20201110	LSES	ADV1	Advisory Action Mailed	
US2019000029 AA	20201110		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: ADVISORY ACTION MAILED
US2019037792 AA	20170905		RFE1	Docketed New Case - Ready for Examination	
US2019037792 AA	20170905		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019037792 AA	20180110	LSAS	AS	ASSIGNMENT	Owner: INSECTERGY, LLC, MARYLAND Effective date: 20171220 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LEO, DANIEL MICHAEL;FREITAS, SHAWN ROBERT;REEL/FRAME:044586/0252 PartyType: owner
US2019037792 AA	20190207	LSPB	+	published / reissued	
US2019037792 AA	20200420	LSES	NFA1	Non Final Action Mailed	
US2019037792 AA	20200420		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019037792 AA	20200429		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019037792 AA	20200804	LSES	NFA1	Non Final Action Mailed	
US2019037792 AA	20200910		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019037792 AA	20200910		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019037792 AA	20201113		FRM1	Final Rejection Mailed	
US2019037792 AA	20201113		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2019246591 AA	20190709		RFE1	Docketed New Case - Ready for Examination	

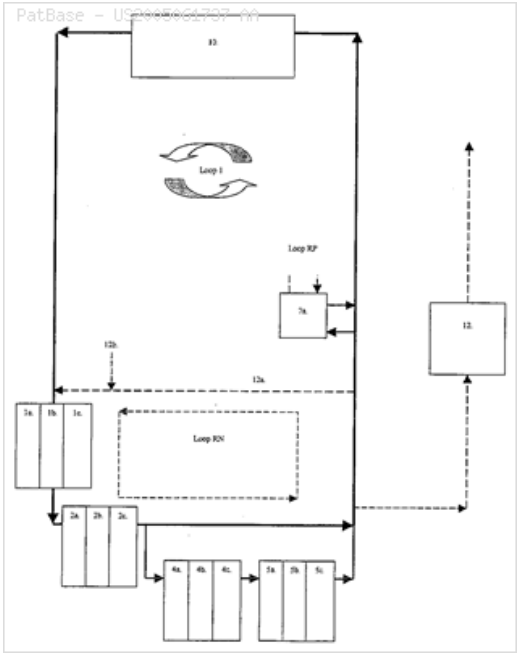
US2019246591 AA	20190709		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019246591 AA	20190815	LSPB	+	published / reissued	
US2020146317 AA	20200131		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020146317 AA	20200514	LSPB	+	published / reissued	
US2020146317 AA	20201005		RFE1	Docketed New Case - Ready for Examination	
US2020229359 AA	20200410		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020229359 AA	20200723	LSPB	+	published / reissued	
US2020315103 AA	20200705		RFE1	Docketed New Case - Ready for Examination	
US2020315103 AA	20201008	LSPB	+	published / reissued	

20) Family number: 28996144 (US2005061737 AA)

Title: INTEGRATED CLOSED LOOP SYSTEM FOR INDUSTRIAL **WATER** PURIFICATION

Abstract: The present invention relates to an integrated closed loop system for aquaculture in at least one culturing tank and using continuous bioreactor technology for the biological **treatment** and removal of organic material, nitrogen and phosphorous, comprising: an integrated, partially or wholly closed loop system for waste **water** **treatment**, where the **water** contains nitrogen containing compounds and/or substances, comprising at least one production unit of such nitrogen containing compounds and/or substances and using continuous bioreactor technology for the biological **treatment** and removal of organic matter, nitrogen and phosphorous from the said **water** at continuous flow, comprising: a) at least one suspended carrier bioreactor for bacterial growth under anoxic conditions to cause anaerobic denitrification, with one or several compartments, preceding b) at least one suspended-carrier bioreactor for bacterial growth under oxic conditions to cause aerobic nitrification, c) the denitrification taking place after the production unit, and d) the nitrification taking place prior to the production unit in a by-pass mode as part of the continuous flow.

Classifications:
International (IPC 8-9): A01K61/00 A01K63/04 C02F1/00 C02F1/32 C02F1/78 C02F3/06 C02F3/08 C02F3/30 C02F3/32
International (IPC 1-7): A01K61/00 A01K63/04 A23B7/00 C02F101/16 C02F103/20 C02F3/08 C02F3/30 C02F3/32
CPC: A01K63/04 C02F1/001 C02F1/32 C02F1/78 C02F3/06 C02F3/302 C02F3/308 Y02W10/10 Y02W10/37 Y10S210/903 Y10S210/906 Y10S210/908
US: 119/227 210/151 210/167.22 210/169 210/195.1 210/259 210/602 210/605 210/615 210/631 210/903 210/906 210/908



Family:

Publication number	Publication date	Application number	Application date
AT410920 E	20081015	AT20030703613T	20030205
AU2003206322 AA	20030902	AU20030206322	20030205
CA2474617 AA	20040727	CA20032474617	20030205
DE60324105 D1	20081127	DE20036024105T	20030205
EP1480513 A1	20041201	EP20030703613	20030205
EP1480513 B1	20081015	EP20030703613	20030205
HR20040813 A2	20050630	HR20040000813	20040907
SE200200348 A0	20020207	SE20020000348	20020207
SE200200348 L	20030808	SE20020000348	20020207
SE521571 C2	20031111	SE20020000348	20020207
US2005061737 AA	20050324	US20040914489	20040809
US7001519 BB	20060221	US20040914489	20040809
WO03065798 A1	20030814	WO2003SE00198	20030205

Priority:
SE20020000348 20020207 WO2003SE00198 20030205 US20040914489 20040809

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT410920 E	20081015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT410920 E	20090415	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW	

				INTRODUCING PATENT TREATIES	
AT410920 E	20230205	PEXP		Calculated Patent Term Expiry	
AU2003206322 AA	20030902	LSPB	+	published / reissued	
AU2003206322 AA	20060629	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
CA2474617 AA	20040727	LSPB	+	published / reissued	
CA2474617 AA	20070205	LSLE	-FZDE	DEAD	
DE60324105 D1	20091105	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60324105 D1	20091105	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60324105 D1	20091217	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60324105 D1	20091217	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
EP1480513 A1	20041201	LSPB	+	published / reissued	
EP1480513 A1	20041201	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20040907
EP1480513 A1	20041201		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT SE SI SK TR
EP1480513 A1	20041201		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO
EP1480513 A1	20070103	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20061201
EP1480513 A1	20071219		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A01K 63/04 20060101AFI20071112BHEP ClassificationScheme: IPC
EP1480513 A1	20071219		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/30 20060101ALI20071112BHEP ClassificationScheme: IPC
EP1480513 A1	20071219		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/08 20060101ALI20071112BHEP ClassificationScheme: IPC
EP1480513 A1	20071219		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/32 20060101ALI20071112BHEP
EP1480513 A1	20071219		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 61/00 20060101ALI20071112BHEP
EP1480513 B1	20081015	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1480513 B1	20081015		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT SE SI SK TR
EP1480513 B1	20081015		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO
EP1480513 B1	20081015	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP1480513 B1	20081015	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP1480513 B1	20081126	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP1480513 B1	20081127		REF	CORRESPONDS TO:	Kind code of Ref document: P Ref document number: 60324105 Date of Ref document: 20081127 Country of Ref document: DE
EP1480513 B1	20090325	LSRV	-LTIE	LT: INVALIDATION	Ref country code: EP

				OF EUROPEAN PATENT OR PATENT EXTENSION	Effective date: 20081015
EP1480513 B1	20090401	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	Ref country code: EP
EP1480513 B1	20090430	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20081015 Country of Ref document: AT
EP1480513 B1	20090430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090115 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP1480513 B1	20090430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090126 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1480513 B1	20090529	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20081015 Country of Ref document: FI
EP1480513 B1	20090529	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20081015 Country of Ref document: NL
EP1480513 B1	20090529	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20090316 Country of Ref document: PT
EP1480513 B1	20090529	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20081015 Country of Ref document: SI
EP1480513 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20081015 Country of Ref document: BE
EP1480513 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081015 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1480513 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081015 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP1480513 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081015 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1480513 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081015 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT

EP1480513 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20090115 Country of Ref document: SE
EP1480513 B1	20090923	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20090716
EP1480513 B1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090228 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
EP1480513 B1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081015 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP1480513 B1	20090930	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP1480513 B1	20091028	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20090205
EP1480513 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090228 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1480513 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090228 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1480513 B1	20091127	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Effective date: 20091030 Ref legal event code: ST
EP1480513 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20090901 Country of Ref document: DE
EP1480513 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090205 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1480513 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090302 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1480513 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20090205 Country of Ref document: GB
EP1480513 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20090116 Country of Ref document: GR
EP1480513 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090205 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1480513 B1	20110630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION	Lapsed date: 20090416 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

				FROM NATIONAL OFFICE TO EPO]	Country of Ref document: HU
EP1480513 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081015 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1480513 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081015 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1480513 B1	20230205	PEXP		Calculated Patent Term Expiry	
HR20040813 A2	20050203	LSFE	+ODRP	RENEWAL FEE FOR THE MAINTENANCE OF A PATENT	Payment date: 20050203 Year of fee payment: 3
HR20040813 A2	20050630	LSPB	+	published / reissued	
HR20040813 A2	20050630	LSPB	+A1OB	PUBLICATION OF A PATENT APPLICATION	
HR20040813 A2	20050630		+ARAI	REQUEST FOR THE GRANT OF A PATENT ON THE BASIS OF THE SUBMITTED RESULTS OF A SUBSTANTIVE EXAMINATION OF A PATENT APPLICATION	
HR20040813 A2	20081103	LSWD	-OBST	APPLICATION WITHDRAWN	
SE521571 C2	20031111	LSGT	+	granted / extensions (spc, cpc, pte)	
SE521571 C2	20091013	LSLE	-NUG	PATENT HAS LAPSED	
SE521571 C2	20220207	PEXP		Calculated Patent Term Expiry	
US2005061737 AA	20050324	LSPB	+	published / reissued	
US7001519 BB	20041202	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LINDEN, BJORN;WIK, TORSTEN;REEL/FRAME:016030/0652;SIGNING DATES FROM 20041105 TO 20041130 Owner: GREENFISH AB, SWEDEN
US7001519 BB	20060221	LSGT	+	granted / extensions (spc, cpc, pte)	
US7001519 BB	20090928		REMI	MAINTENANCE FEE REMINDER MAILED	
US7001519 BB	20100221	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7001519 BB	20100322	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7001519 BB	20100322	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7001519 BB	20100413	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20100221
US7001519 BB	20230205	PEXP		Calculated Patent Term Expiry	
WO03065798 A1	20030814	LSPB	+	published / reissued	
WO03065798 A1	20030814		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO03065798 A1	20030814		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW

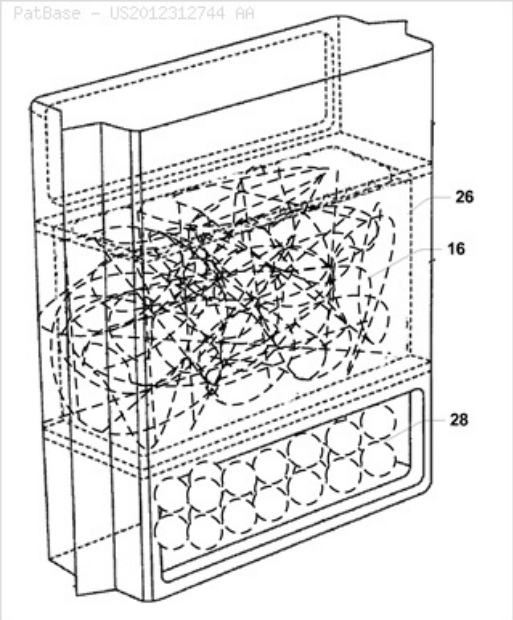
WO03065798 A1	20031002		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO03065798 A1	20031008		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO03065798 A1	20040727	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2474617 Country of Ref document: CA
WO03065798 A1	20040728	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003206322 Country of Ref document: AU
WO03065798 A1	20040809	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10914489 Country of Ref document: US
WO03065798 A1	20040907	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003703613 Country of Ref document: EP
WO03065798 A1	20040907	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: P20040813A Country of Ref document: HR
WO03065798 A1	20041201	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2003703613 Country of Ref document: EP
WO03065798 A1	20060614	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO03065798 A1	20060614	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP

21) Family number: 52545349 (US2012312744 AA)

Title: AQUARIUM FILTER MEDIA INCLUDING NANOFIBERS

Abstract: A filtration device for an aquarium comprising a filtering **chamber** for receiving **water** and a filter medium therein wherein said filter medium comprises fibers having a diameter from 0.1 nm to 3000 nm and an aspect ratio of length to diameter of 5:1 to 10,000 to 1 wherein said fibers provide for colonization of nitrosomonas bacterium and/or nitrobacteria.

Classifications:
International (IPC 8-9): A01K63/04 B01D35/02 B01D39/02 B01D39/06 B01D39/14 C02F3/00 C02F3/34
CPC: A01K63/045 B01D2239/025 B01D2239/0407 B01D2239/0618 B01D2239/1225 B01D2239/1233 C02F3/00 Y10S210/903
US: 210/167.21 210/167.22 210/167.25 210/508 210/615 210/903



Family:

Publication number	Publication date	Application number	Application date
AU2012267785 AA	20121213	AU20120267785	20120608
AU2012267785 BB	20160121	AU20120267785	20120608
CA2836300 AA	20131114	CA20122836300	20120608
CN103596885 A	20140219	CN201280028094	20120608
EP2718238 A1	20140416	EP20120796448	20120608
EP2718238 A4	20150729	EP20120796448	20120608
JP2014519332 T2	20140814	JP20140514866T	20120608
US2012312744 AA	20121213	US20110179606	20110711
US8845891 BB	20140930	US20110179606	20110711
WO12170764 A1	20121213	WO2012US41472	20120608

Priority:
US20110495338P 20110609 US20110179606 20110711 WO2012US41472 20120608

Probable Assignee: TFH PUBLICATIONS INC
Assignee(s): (std): AXELROD GLEN S ; T F H PUBLICATIONS INC
Assignee(s): SUNTRUST BANK ADMINISTRATIVE AGENT AS
Inventor(s): (std): AXELROD GLEN S
Agent(s): GOWLING LAFLEUR HENDERSON LLP; GROSSMAN STEVEN J ET AL; GROSSMAN TUCKER PERREAULT AND PFLEGER PLLC; IP GATEWAY PATENT AND TRADE MARK ATTORNEYS PTY LTD; IP GATEWAY PATENT AND TRADEMARK ATTORNEYS PTY LTD; LIESEGANG EVA
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2012267785 AA	20121213	LSPB	+	published / reissued	
AU2012267785 BB	20160121	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2012267785 BB	20160519	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012267785 BB	20320608	PEXP		Calculated Patent Term Expiry	
CA2836300 AA	20131114	LSPB	+	published / reissued	
CA2836300 AA	20170428	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20170418

CN103596885 A	20140219	LSPB	+	published / reissued	
CN103596885 A	20140219	LSPB	+C06	PUBLICATION	
CN103596885 A	20140702		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN103596885 A	20160622	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP2718238 A1	20140416	LSPB	+	published / reissued	
EP2718238 A1	20140416	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20131114
EP2718238 A1	20140416		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2718238 A1	20140917		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2718238 A1	20150729	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	Effective date: 20150701
EP2718238 A1	20150729		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/34 20060101AFI20150625BHEP
EP2718238 A1	20160330	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20160229
EP2718238 A1	20161214	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20160712
JP2014519332 T2	20140814	LSPB	+	published / reissued	
JP2014519332 T2	20150508	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20150508 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014519332 T2	20150508	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20150508 Text: JAPANESE INTERMEDIATE CODE: A621
JP2014519332 T2	20160316		A977	REPORT ON RETRIEVAL	Effective date: 20160316 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2014519332 T2	20160426	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20160426 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014519332 T2	20160726	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160726 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014519332 T2	20161220	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20161220 Text: JAPANESE INTERMEDIATE CODE: A02
US2012312744 AA	20121213	LSPB	+	published / reissued	
US2012312744 AA	20131224	LSAS	AS	ASSIGNMENT	Effective date: 20131205 OldParty: SECURITY AGREEMENT;ASSIGNOR:T.F.H. PUBLICATIONS, INC.;REEL/FRAME:031869/0033 Owner: SUNTRUST BANK, AS ADMINISTRATIVE AGENT, GEORGIA PartyType: owner
US2012312744 AA	20140910	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8845891 BB	20111017	LSAS	AS	ASSIGNMENT	Effective date: 20110720 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:AXELROD, GLEN S.;REEL/FRAME:027071/0762 Owner: T.F.H. PUBLICATIONS, INC., NEW JERSEY PartyType: owner
US8845891 BB	20140910	LSGT	PAT1	Patented Case	
US8845891 BB	20140930	LSGT	+	granted / extensions (spc, cpc, pte)	
US8845891 BB	20180209	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4

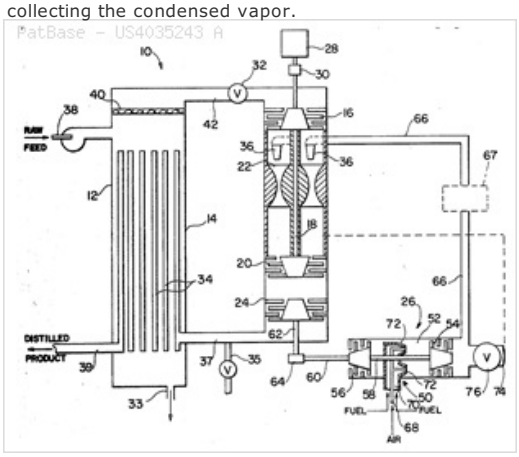
US8845891 BB	20320827	PEXP		Calculated Patent Term Expiry (PTA 413 days)	
WO12170764 A1	20121213	LSPB	+	published / reissued	
WO12170764 A1	20130206		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 12796448 Country of Ref document: EP
WO12170764 A1	20131114	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2836300 Country of Ref document: CA
WO12170764 A1	20131114		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2012796448 Country of Ref document: EP
WO12170764 A1	20131114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2012796448 Country of Ref document: EP
WO12170764 A1	20131128	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20120608 Kind code of Ref document: A Ref document number: 2012267785 Country of Ref document: AU
WO12170764 A1	20131209	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2014514866 Country of Ref document: JP
WO12170764 A1	20131209	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

22) Family number: 2328730 (US4035243 A)

Title: METHOD AND APPARATUS FOR HIGH VOLUME DISTILLATION OF LIQUIDS

Abstract: A method and apparatus for high volume distillation of impure liquid comprises evaporating the impure liquid in an evaporator to form a vapor at a temperature above the freezing point and at or below the boiling point of said liquid at atmospheric pressure and at a pressure corresponding to the evaporation temperature under saturated conditions; compressing said vapor adiabatically; admixing in a mixing **chamber** the compressed vapor under substantially isobaric conditions directly with hot gases having a temperature sufficiently greater than the temperature of the compressed vapor that the resulting vapor-gas mixture temperature is greater than the temperature of the compressed vapor prior to the mixing; passing the vapor-gas mixture through an expansion engine to motivate the engine and to produce shaft energy, whereby the vapor-gas mixture adiabatically expands and cools; compressing the expanded vapor-gas mixture adiabatically in an independently powered compressor to a predetermined pressure corresponding to a predetermined temperature differential between the compressed vapor-gas mixture and the impure liquid; cooling the vapor-gas mixture in heat transfer relation with the impure liquid whereby the vapor at least partially condenses, transferring sufficient heat to the impure liquid for evaporating the liquid and to form the aforementioned vapor; and collecting the condensed vapor.

Classifications:
International (IPC 8-9): A01K59/00 B01D1/00 B01D1/28 B01D3/00 B01D3/06 B01D3/14 C02F1/04 C02F1/16 C07C29/00 C07C29/80
International (IPC 1-7): A01K59/00 B01D1/28 B01D3/00 B01D3/06 B01D3/10 B01D3/14 B01J8/02 C02B1/04 C02C5/00 C02F1/04 C02F1/06 C07C29/80 C12F1/00
CPC: B01D1/2887 B01D3/001 B01D3/14 C07C29/80 C12C11/02 B01D1/2881 B01D1/2884 B01D1/289 B01D3/065 C02F1/048 C02F1/16 Y10S203/11 Y10S203/16 Y10S203/17 Y10S203/21 Y10S203/06 Y10S203/14 Y10S203/25 Y02A20/124 Y10S203/18
US: 202/153 202/160 202/162 202/172 202/173 202/177 202/180 202/182 202/205 202/233 202/234 203/100 203/11 203/19 203/24 203/26 203/91 203/94 203/98 203/DIG.13 203/DIG.14 203/DIG.16 203/DIG.17 203/DIG.2 203/DIG.20 203/DIG.24 203/DIG.6 208/108 422/129 449/2 449/53 585/649 585/651 585/709 6/1 60/39.57 60/39.58 60/648 60/649 203/DIG.014 203/DIG.016 203/DIG.017 203/DIG.02 203/DIG.006 203/DIG.013 203/DIG.024



Family:

Publication number	Publication date	Application number	Application date
AU198167809 A1	19810817	AU19810067809	19810127
BR8106261 A	19811117	BR19810006261	19810127
CA1100430 A1	19810505	CA19770276979	19770426
CA1171813 A1	19840731	CA19810369369	19810127
CA1154631 A1	19831004	CA19810369370	19810127
CA1152442 A1	19830823	CA19810374442	19810401
CA1152442 A2	19830823	CA19810374442	19810401
EP0044861 A1	19820203	EP19810900479	19810127
GB1583101 A	19810121	GB19770017494	19770427
GB2078123 A1	19820106	GB19810027509	19810127
IN146334 A	19790505	IN1977CA00646	19770429
MX4795 U	19821006	MX19770100542U	19770428
US4035243 A	19770712	US19760681290	19760428
US4186060 A	19800129	US19770769291	19770222
US4186058 A	19800129	US19770787832	19770418
US4282067 A	19810804	US19790065466	19790810
US4319964 A	19820316	US19790065501	19790810
US4346490 A	19820831	US19810224071	19810115
US4440601 A	19840403	US19810224072	19810115
WO8102088 A1	19810806	WO1981US00123	19810127

Priority:

US19760681290 19760428
CA19770276979 19770426
US19800115615 19800128
WO1981US00123 19810127
CA19810374442 19810401
US19770769291 19770222
US19790065466 19790810
US19810224071 19810115
CA19810369370 19810127
US19770787832 19770418
US19790065501 19790810
US19810224072 19810115
CA19810369369 19810127

Probable Assignee: REBACK ELMER BUFFALO NY

Assignee(s): (std): FOGEL S ; FOGEL S J ; KATZ J ; KATZ JEROME ; KATZ JEROME FOGEL SIDNEY J

Assignee(s): FOGEL SIDNEY J ; REBACK ELMER ; REBACK ELMER BUFFALO NY ; REBACK ELMER BUFFALO NY REBACK LEONARD BUFFALO NY ; REBACK LEONARD ; REBACK LEONARD BUFFALO NY

Inventor(s): (std): FOGEL S ; FOGEL S J ; FOGEL SIDNEY J ; KATZ J ; KATZ JEROME

Inventor(s): J KATZ ; S J FOGEL

Agent(s): MACRAE AND CO

Designated states: AU BR DE FR GB JP NO SE

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU198167809 A1	19810817	LSPB	+	published / reissued	
BR8106261 A	19811117	LSPB	+	published / reissued	

BR8106261 A	20180327		B15K	OTHERS CONCERNING APPLICATIONS: ALTERATION OF CLASSIFICATION	ClassificationScheme: IPC ClassificationSymbol: B01D 3/14 (2006.01), B01D 1/28 (2006.0
CA1100430 A1					
CA1100430 A1	19980505	LSLE	-MKEX	EXPIRY	
CA1152442 A1					
CA1152442 A1	20000823	LSLE	-MKEX	EXPIRY	
CA1152442 A2	19830823	LSGT	+	granted / extensions (spc, cpc, pte)	
CA1154631 A1					
CA1154631 A1	20001004	LSLE	-MKEX	EXPIRY	
CA1171813 A1					
CA1171813 A1	20010731	LSLE	-MKEX	EXPIRY	
EP0044861 A1	19820203	LSPB	+	published / reissued	
EP0044861 A1	19820203		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: FR
EP0044861 A1	19820707	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 19820329
GB1583101 A	19810121	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1583101 A	19810408	LSGT	+PS	PATENT SEALED	
GB1583101 A	19861217	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	
GB1583101 A	19970427	PEXP		Calculated Patent Term Expiry	
GB2078123 A1	19820106	LSPB	+	published / reissued	
GB2078123 A1	19830518	LSWD	-WAP	APPLICATION WITHDRAWN, TAKEN TO BE WITHDRAWN OR REFUSED ** AFTER PUBLICATION UNDER SECTION 16(1)	
IN146334 A	19790505	LSPB	+	published / reissued	
US4035243 A	19770712	LSGT	+	granted / extensions (spc, cpc, pte)	
US4035243 A	19960428	PEXP		Calculated Patent Term Expiry	
US4186058 A	19800129	LSGT	+	granted / extensions (spc, cpc, pte)	
US4186058 A	19800129	LSGT	PAT1	Patented Case	
US4186060 A	19800129	LSGT	+	granted / extensions (spc, cpc, pte)	
US4186060 A	19800129	LSGT	PAT1	Patented Case	
US4186060 A	19970222	PEXP		Calculated Patent Term Expiry	
US4282067 A	19810428	LSGT	PAT1	Patented Case	
US4282067 A	19810428	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4282067 A	19810804	LSGT	+	granted / extensions (spc, cpc, pte)	
US4282067 A	19811124	LSAS	AS	ASSIGNMENT	Effective date: 19811118 OldParty: ASSIGNMENT OF 1/2 OF ASSIGNORS INTEREST;ASSIGNORS:KATZ, JEROME;FOGEL, SIDNEY J.;REEL/FRAME:003929/0492 Owner: REBACK, ELMER, BUFFALO, NY PartyType: owner
US4282067 A	19811124	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF 1/2 OF ASSIGNORS INTEREST;ASSIGNORS:KATZ, JEROME;FOGEL, SIDNEY J.;REEL/FRAME:003929/0492 Effective date: 19811118 Owner: REBACK, LEONARD, BUFFALO, NY PartyType: owner
US4282067 A	19990810	PEXP		Calculated Patent Term Expiry	
US4319964 A	19820316	LSGT	+	granted / extensions (spc, cpc, pte)	
US4319964 A	19820607	LSGT	PAT1	Patented Case	

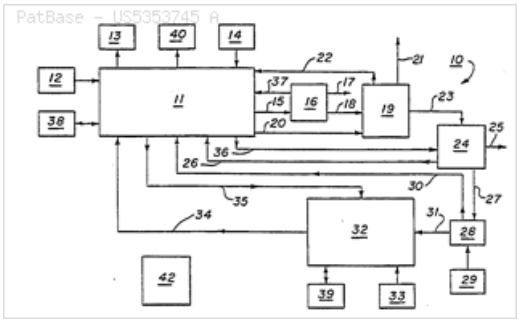
US4319964 A	19820607	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4319964 A	19990810	PEXP		Calculated Patent Term Expiry	
US4346490 A	19820831	LSGT	+	granted / extensions (spc, cpc, pte)	
US4346490 A	19821213	LSGT	PAT1	Patented Case	
US4346490 A	19821213	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4346490 A	19860228	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4346490 A	19900223	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4346490 A	19940405		REMI	MAINTENANCE FEE REMINDER MAILED	
US4346490 A	19940826	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US4346490 A	19940826		+SULP	SURCHARGE FOR LATE PAYMENT	
US4440601 A	19840201	LSGT	PAT1	Patented Case	
US4440601 A	19840201	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4440601 A	19840403	LSGT	+	granted / extensions (spc, cpc, pte)	
US4440601 A	19871005	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4440601 A	19911003	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4440601 A	19951002	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
WO8102088 A1	19810806	LSPB	+	published / reissued	
WO8102088 A1	19810806		+AK	DESIGNATED STATES	Country of Ref document: AU BR DE GB JP NO SE
WO8102088 A1	19810806		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Country of Ref document: FR

23) Family number: 20276732 (US5353745 A)

Title: Aquaculture system and methods for using the same

Abstract: The present invention is directed to apparatus and a method for maintaining and growing a primary cultured species and secondary organisms essential to the growth of the primary species in an aquaculture system in which the parameters which affect the maintenance and growth of the primary cultured species are carefully monitored and adjusted on a substantially continuous basis. The apparatus comprises a tank for holding an aqueous medium and the primary species, nutrient supply equipment, equipment for selectively removing the aqueous medium from the tank, apparatus for removing particulate matter from the aqueous medium removed from the tank, a sterilizer for sterilizing the aqueous medium removed from the tank, equipment for removing toxins from the aqueous medium removed from the tank without biological filtration, and a station with associated equipment for bringing the aqueous medium to a steady state suitable for the growth and survival of the primary species. Conduits, pumps and associated valving are provided for transferring the aqueous medium among the various **treatment** stations and for returning the aqueous medium to the tank after it has been treated by any or all of the foregoing **treatment** equipment.

Classifications:
International (IPC 8-9): A01K61/00 A01K61/10 A01K61/85 A01K63/00 A01K63/04
International (IPC 1-7): A01K61/00 A01K61/02 A01K63/00 A01K63/04
CPC: A01K63/003 A01K63/04
US: 119/226



Family:

Publication number	Publication date	Application number	Application date
AT187598 E	20000115	AT19930921678T	19930920
AU199349297 A1	19940426	AU19930049297	19930920
AU670128 B2	19960704	AU19930049297	19930920
CA2153989 AA	19950714	CA19932153989	19930920
CN1070021 C	20010829	CN19931018414	19930928
CN1100888 A	19950405	CN19931018414	19930928
DE69327337 D1	20000120	DE19936027337T	19930920
DE69327337 T2	20000727	DE19936027337T	19930920
DK0680255 T3	20000613	DK19930921678T	19930920
EP0680255 A1	19951108	EP19930921678	19930920
EP0680255 A4	19960110	EP19930921678	19930920
EP0680255 B1	19991215	EP19930921678	19930920
ES2142354 T3	20000416	ES19930921678T	19930920
GR3032955 T3	20000731	GR20000400655T	20000314
JP8504569 T2	19960521	JP19940509110T	19930920
MX9306017 A1	19940331	MX19930006017	19930929
NZ256342 A	19980626	NZ19930256342	19930920
PT680255 T	20000630	PT19930921678T	19930920
US5353745 A	19941011	US19920953432	19920929
WO9407361 A1	19940414	WO1993US08850	19930920

Priority:
US19920953432 19920929 WO1993US08850 19930920

Probable Assignee: MATTAT CORP

Assignee(s): (std): FAHS II RICHARD W ; FAHS RICHARD W II ; II RICHARD W FAHS ; MATTAT CORP ; RICHARD W FAHS II ; RICHARD W FAHS JR

Assignee(s): FAHS RICHARD W ; MATTAT CORP DANVILLE

Inventor(s): (std): FAHS II RICHARD W ; FAHS RICHARD W ; FAHS RICHARD W II ; FAHS RICHARD W JR

Inventor(s): II RICHARD W FAHS ; RICHARD W FAHS II ; RICHARD W FAHS JR

Agent(s): CULLENS PATENT AND TRADE MARK ATTORNEYS; CULLENS PTY LTD; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; SPRUSON AND FERGUSON

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT187598 E	20000115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT187598 E	20130920	PEXP		Calculated Patent Term Expiry	
AU199349297 A1	19940426	LSPB	+	published / reissued	
AU670128 B2	19960704	LSGT	+	granted / extensions (spc, cpc, pte)	

AU670128 B2	20030501	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU670128 B2	20130920	PEXP		Calculated Patent Term Expiry	
CA2153989 AA	19950714	LSPB	+	published / reissued	
CA2153989 AA	20000728	LSES	+EEER	EXAMINATION REQUEST	
CA2153989 AA	20030922	LSLE	-FZDE	DEAD	
CN1070021 C	20010829	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1070021 C	20010829	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1070021 C	20031119	LSLE	-C19	LAPSE OF PATENT RIGHT DUE TO NON-PAYMENT OF THE ANNUAL FEE	
CN1070021 C	20130928	PEXP		Calculated Patent Term Expiry	
CN1100888 A	19950405	LSPB	+	published / reissued	
CN1100888 A	19950405	LSPB	+C06	PUBLICATION	
CN1100888 A	19960214		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
DE69327337 D1	20010104	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69327337 D1	20030710	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69327337 T2	20000727	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69327337 T2	20010104	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69327337 T2	20030710	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69327337 T2	20130920	PEXP		Calculated Patent Term Expiry	
DK0680255 T3	20000613	LSGT	+	granted / extensions (spc, cpc, pte)	
DK0680255 T3	20130920	PEXP		Calculated Patent Term Expiry	
EP0680255 A1	19951108	LSPB	+	published / reissued	
EP0680255 A1	19951108	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19950714
EP0680255 A1	19951108		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP0680255 A4	19960110	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 19951127
EP0680255 A4	19960110		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A4 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP0680255 A4	19960110	LSRE	RHK1	MAIN CLASSIFICATION (CORRECTION)	ClassificationScheme: IPC ClassificationSymbol: A01K 63/04
EP0680255 A4	19980701	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19980519
EP0680255 B1	19991215	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0680255 B1	19991215		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

EP0680255 B1	19991215		REF	CORRESPONDS TO:	Ref document number: 187598 Kind code of Ref document: T Date of Ref document: 20000115 Country of Ref document: AT
EP0680255 B1	19991215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP0680255 B1	20000120		REF	CORRESPONDS TO:	Ref document number: 69327337 Date of Ref document: 20000120 Country of Ref document: DE
EP0680255 B1	20000223	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP0680255 B1	20000314		+ITF	IT: TRANSLATION FOR A EP PATENT FILED	Owner: STUDIO GLP S.R.L. PartyType: owner
EP0680255 B1	20000414	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PFA Text: MATTAT CORPORATION,71 OVERLOOK DRIVE,DANVILLE, PA 17821 (US) TRANSFER- MATTAT CORPORATION,11 LAUREL HILL DRIVE,WOODSTOCK/CT 06281 (US)
EP0680255 B1	20000416	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 2142354 Ref country code: ES Kind code of Ref document: T3 Ref legal event code: FG2A Country of Ref document: ES
EP0680255 B1	20000428		+ET	FR: TRANSLATION FILED	
EP0680255 B1	20000613		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DK Ref legal event code: T3
EP0680255 B1	20000615		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: NV Ref country code: CH PartyType: representative Representative: HANS RUDOLF GACHNANG PATENTANWALT
EP0680255 B1	20000630		REG	REFERENCE TO A NATIONAL CODE	Text: AVAILABILITY OF NATIONAL TRANSLATION Ref country code: PT Effective date: 20000314 Ref legal event code: SC4A
EP0680255 B1	20000630		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20000317 Ref legal event code: TE4A Ref country code: PT Text: MATTAT CORPORATION US
EP0680255 B1	20000802	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20000802 Year of fee payment: 8 Country of Ref document: AT
EP0680255 B1	20000811		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: CA Ref country code: FR
EP0680255 B1	20000920	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20000920 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP0680255 B1	20000921	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20000921 Country of Ref document: CH
EP0680255 B1	20000930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: THE PATENT HAS BEEN ANNULLED BY A DECISION OF A NATIONAL AUTHORITY Lapsed date: 20000930 Country of Ref document: MC
EP0680255 B1	20001129	LSGT	+26N	NO OPPOSITION FILED	
EP0680255 B1	20010615	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20010615 Country of Ref document: DK
EP0680255 B1	20010618	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20010618 Year of fee payment: 9 Country of Ref document: NL
EP0680255 B1	20010704	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL	Payment date: 20010704 Year of fee payment: 9

				OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: PT
EP0680255 B1	20010720	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20010720 Country of Ref document: IE
EP0680255 B1	20010725	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20010725 Year of fee payment: 9 Country of Ref document: GR
EP0680255 B1	20010807	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20010807 Year of fee payment: 9 Country of Ref document: GB
EP0680255 B1	20010831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20010831 Country of Ref document: FR
EP0680255 B1	20010831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20010831 Year of fee payment: 9 Country of Ref document: SE
EP0680255 B1	20010920	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20010920 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: AT
EP0680255 B1	20010927	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20010927 Year of fee payment: 9 Country of Ref document: DE
EP0680255 B1	20010930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20010930 Country of Ref document: CH
EP0680255 B1	20010930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20010930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP0680255 B1	20011010	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20011010 Year of fee payment: 9 Country of Ref document: BE
EP0680255 B1	20020101		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: IF02 Ref country code: GB
EP0680255 B1	20020515	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP0680255 B1	20020920	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20020920 Country of Ref document: GB
EP0680255 B1	20020920	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20020920 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP0680255 B1	20020921	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20020921 Country of Ref document: SE

EP0680255 B1	20020927	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20020927 Year of fee payment: 10 Country of Ref document: ES
EP0680255 B1	20020930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20020930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP0680255 B1	20020930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20020930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DK
EP0680255 B1	20030331	LSLE	-BERE	BE: LAPSED	PartyType: owner Ref country code: EP Owner: *MATTAT CORP. Effective date: 20020930
EP0680255 B1	20030331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20030331 Country of Ref document: PT
EP0680255 B1	20030401	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030401 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP0680255 B1	20030401	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20030401 Country of Ref document: NL
EP0680255 B1	20030404	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20030404 Country of Ref document: GR
EP0680255 B1	20030505	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EBP Ref country code: DK
EP0680255 B1	20030506	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	Ref country code: EP
EP0680255 B1	20030507	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20020920 Ref country code: EP
EP0680255 B1	20030603	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030603 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP0680255 B1	20030630	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20030331 Ref country code: PT Ref legal event code: MM4A Text: LAPSE DUE TO NON-PAYMENT OF FEES
EP0680255 B1	20030709	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP0680255 B1	20030711	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: ST
EP0680255 B1	20030922	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20030922 Country of Ref document: ES
EP0680255 B1	20041216	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FD2A Effective date: 20030922 Ref country code: ES
EP0680255 B1	20050920	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050920 Country of Ref document: IT
EP0680255 B1	20050920	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050920 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES;WARNING: LAPSES OF ITALIAN PATENTS WITH EFFECTIVE DATE BEFORE 2007 MAY HAVE OCCURRED AT ANY TIME BEFORE 2007. THE CORRECT EFFECTIVE DATE MAY BE DIFFERENT FROM THE ONE RECORDED. Country of Ref document: IT
EP0680255 B1	20130920	PEXP		Calculated Patent Term Expiry	
ES2142354 T3	20000416	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2142354 T3	20000416	LSGT	+FG2A	DEFINITIVE PROTECTION	Ref document number: 680255 Country of Ref document: ES
ES2142354 T3	20130920	PEXP		Calculated Patent Term Expiry	
GR3032955 T3	20000731	LSGT	+	granted / extensions (spc, cpc, pte)	
GR3032955 T3	20030404	LSLE	-ML	LAPSE DUE TO NON-PAYMENT OF FEES	
GR3032955 T3	20200314	PEXP		Calculated Patent Term Expiry	
JP8504569 T2	19960521	LSPB	+	published / reissued	
MX9306017 A1	19940331	LSPB	+	published / reissued	
NZ256342 A	19980626	LSPB	+	published / reissued	
PT680255 T	20000630	LSGT	+	granted / extensions (spc, cpc, pte)	
PT680255 T	20150630	PEXP		Calculated Patent Term Expiry	
US5353745 A	19941011	LSGT	+	granted / extensions (spc, cpc, pte)	
US5353745 A	19950331	LSAS	AS	ASSIGNMENT	Effective date: 19950327 PartyType: owner Owner: MATTAT CORPORATION OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FAHS, RICHARD W., II;REEL/FRAME:007410/0300
US5353745 A	19980327	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5353745 A	20020328	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5353745 A	20060426		REMI	MAINTENANCE FEE REMINDER MAILED	
US5353745 A	20061011	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5353745 A	20061108	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5353745 A	20061108	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5353745 A	20061205	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20061011
US5353745 A	20120929	PEXP		Calculated Patent Term Expiry	
WO9407361 A1	19940414	LSPB	+	published / reissued	
WO9407361 A1	19940414		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AT AU BB BG BR BY CA CH CZ DE DK ES FI GB HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SK UA VN
WO9407361 A1	19940414		+AL	DESIGNATED COUNTRIES FOR	Kind code of Ref document: A1 Country of Ref document: AT BE BF BJ CF CG CH CI CM DE DK ES FR GA GB GN GR IE IT LU MC

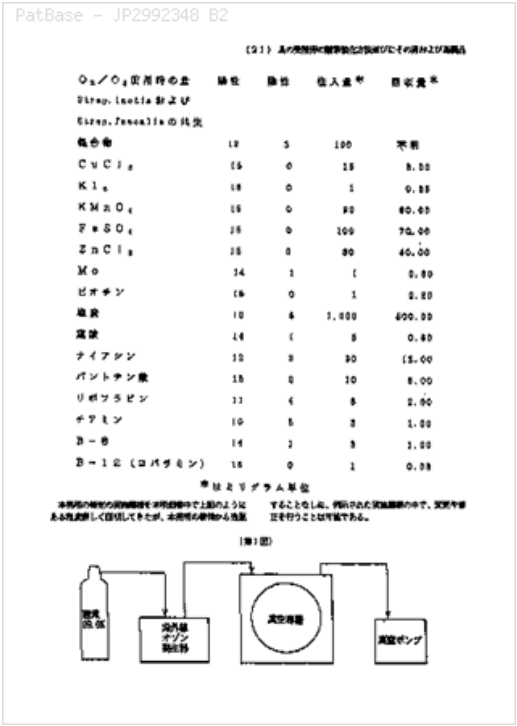
				REGIONAL PATENTS	ML MR NE NL PT SE SN TD TG
WO9407361 A1	19940623		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9407361 A1	19940720		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9407361 A1	19950704	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 256342 Country of Ref document: NZ
WO9407361 A1	19950713	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO9407361 A1	19950714	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1993921678 Country of Ref document: EP
WO9407361 A1	19950714	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2153989 Country of Ref document: CA
WO9407361 A1	19951108	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1993921678 Country of Ref document: EP
WO9407361 A1	19991215	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1993921678 Country of Ref document: EP

24) Family number: 30163711 (US5283072 A)

Title: MODIFIED AND SIMULATED LIQUID POULTRY EGG PRODUCTS AND METHODS OF MAKING THE SAME

Abstract: A blended yolk composition is disclosed comprised of a fat, an emulsifier and an aqueous component, at least one of the fat and the aqueous component containing a chicken-type flavoring. The yolk composition can be used in baking or combined with egg white, a modified egg white or a simulated egg white to produce a simulated blended whole poultry egg composition. Alternatively the yolk composition may utilize a modified yolk, such as decholesterolized yolk. Also disclosed are methods of preparing the compositions.

Classifications:
International (IPC 8-9): A01K41/00 A01K45/00 A01K67/02 A01K67/027 A23B5/00 A23B5/005 A23B5/06 A23B5/08 A23B5/10 A23B5/12 A23B5/14 A23B5/16 A23B5/18 A23L1/32 A23L15/00 A23L3/015 A23L3/10 A23L3/3409 A23L3/3418 A23L3/3463 A23L3/358 A61D19/00 C12N5/075
International (IPC 1-7): A01K21/00 A01K29/00 A01K41/00 A01K45/00 A01K67/02 A23B5/00 A23B5/005 A23B5/01 A23B5/06 A23B5/08 A23B5/10 A23B5/12 A23B5/16 A23B5/18 A23J3/00 A23L1/32 A23L3/00 A23L3/015 A23L3/10 A23L3/3409 A23L3/3418 A23L3/3445 A23L3/3463 A23L3/3495 A23L3/3499 A23L3/358 A61D19/00 A61K45/00 C12N15/00 C12N5/00
CPC: A01K41/00 A01K67/027 A23B5/005 A23B5/0052 A23B5/10 A23B5/12 A23B5/16 A23B5/18 A23L15/20 A23L15/35 A23L3/0155 A23L3/10 A23L3/3409 A23L3/358 A23B5/00 A23B5/14 A23L15/00 A23V2002/00 A01K45/007
US: 119/174 119/6.8 426/2 426/298 426/299 426/300 426/301 426/312 426/313 426/330.1 426/47 426/521 426/614 435/240.2 435/325 435/374 435/395 800/2



Family:

Publication number	Publication date	Application number	Application date
AU199225604 A1	19930316	AU19920025604	19920813
AU199510534 A1	19950613	AU19950010534	19941110
AU199526917 A1	19960104	AU19950026917	19950601
AU694522 B2	19980723	AU19950026917	19950601
BRPI9506033 A	19971014	BR1995PI06033	19950601
CA2115834 AA	19940216	CA19922115834	19920813
CA2177164 AA	19960522	CA19942177164	19941110
CA2177164 C	19990921	CA19942177164	19941110
CA2168749 AA	19960202	CA19952168749	19950601
CN1131378 A	19960918	CN19951090715	19950601
DE69434672 D1	20060511	DE19946034672T	19941110
DE69434672 T2	20061109	DE19946034672T	19941110
EP0661921 A1	19950712	EP19920919436	19920813
EP0661921 A4	19940620	EP19920919436	19920813
EP0731642 A1	19960918	EP19950901204	19941110
EP0731642 A4	19991103	EP19950901204	19941110
EP0731642 B1	20060322	EP19950901204	19941110
EP0723459 A1	19960731	EP19950922118	19950601
EP0723459 A4	19961016	EP19950922118	19950601
ES2264125 T3	20061216	ES19950901204T	19941110
JP7501209 T2	19950209	JP19930504449T	19920813
JP2992348 B2	19991220	JP19960501059T	19950601
JP9501060 T2	19970204	JP19960501059T	19950601
KR19947003134 A	19941024	KR19947001597	19920813
KR100239966 B1	20000302	KR19960700567	19960203
KR19960704024 A	19960831	KR19960700567	19960203
KR960704024 A	19960831	KR19960700567	19960203
KR19967004024 A	19960831	KR19967000567	19950601
MX9204713 A1	19930701	MX19920004713	19920814
MX9600473 A1	19970830	MX19960000473	19950601
NZ288020 A	19980826	NZ19950288020	19950601
PT100784 A	19930930	PT19920100784	19920818
RU96105067 A	19980627	RU19960105067	19960303
US5283072 A	19940201	US19910674495	19910325
US5431939 A	19950711	US19910746940	19910819
US5589211 A	19961231	US19930156273	19931122
US5493994 A	19960227	US19940253750	19940603
US5964182 A	19991012	US19960591174	19960116
US5939118 A	19990817	US19960691744	19960802

VN718 A1	19990125	VN19960001779	19960216
WO9303622 A1	19930304	WO1992US06822	19920813
WO9514388 A1	19950601	WO1994US12950	19941110
WO9533485 A1	19951214	WO1995US06675	19950601

Priority:

US19850748086 19850624 US19850758086 19850624 US19870070597 19870708
US19880196878 19880519 US19890349974 19890508 US19910674495 19910325
US19910746940 19910819 WO1992US06822 19920813 US19930156273 19931122
US19940253750 19940603 WO1994US12950 19941110 WO1995US06675 19950601
US19960591174 19960116 US19960691744 19960802

Probable Assignee: NATIONAL PASTEURIZED EGGS INC

Assignee(s): (std): COX JAMES P ; COX JEANNE M ; COX R W ; COX R W DUFFY ; COX ROBERT ; COX ROBERT DUFFY W ; COX ROBERT W DUFFY ; JEANNE M COX ; OED INC ; QED INC ; ROBERT DUFFY W COX

Assignee(s): ANTAEUS ENTERPRISES INC ; ANTAEUS ENTERPRISES INC COLLATERAL AGENT AS ; BON DENTE TECHNOLOGY JOINT VENTURE ; COX R ; COX ROBERT W ; DUFFY COX ROBERT W ; FOOTBRIDGE CAPITAL LLC ; HARRIS BANK NA ; JAMES P COX ; JPMORGAN CHASE BANK NA ; KOTSUKUSU JEIMUSU PII ; KOTSUKUSU ROBAATO DAFUI DABURYU ; NAITONAL PASTEURIZED EGGS LLC ; NATIONAL PASTEURIZED EGGS INC ; NATIONAL PASTEURIZED EGGS LLC ; PASTEURIZED EGGS LP ; PASTEURIZED EGGS LP SOUTH DOWN SHORES ; QED INC A CORP OF WASHINGTON ; R W COX ; ROBERT COX

Inventor(s): (std): COX DUFFY ; COX JAMES P ; COX JEANNE M ; COX R W DUFFY ; COX ROBERT ; COX ROBERT DUFFY W ; COX ROBERT W ; COX ROBERT W DUFFY ; DUFFY COX ROBERT W ; ROBERT W

Inventor(s): COX R ; DUFFY COX ; JAMES P COX ; JEANNE M COX ; KOTSUKUSU JEIMUSU PII ; KOTSUKUSU ROBAATO DAFUI DABURYU ; R W DUFFY COX ; ROBERT COX ; ROBERT DUFFY W COX ; ROBERT W DUFFY COX

Agent(s): CALLINANS; FINLAYSON AND SINGLEHURST; FISHER ADAMS KELLY CALLINANS; FPA PATENT ATTORNEYS PTY LTD; FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; GOWLING LAFLEUR HENDERSON LLP; SPRUSON AND FERGUSON

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU199225604 A1	19930316	LSPB	+	published / reissued	
AU199510534 A1	19950613	LSPB	+	published / reissued	
AU199526917 A1	19960104	LSPB	+	published / reissued	
AU694522 B2	19980723	LSGT	+	granted / extensions (spc, cpc, pte)	
AU694522 B2	20020110	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU694522 B2	20150601	PEXP		Calculated Patent Term Expiry	
BRPI9506033 A	19971014	LSPB	+	published / reissued	
BRPI9506033 A	20050329	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	
CA2115834 AA	19940216	LSPB	+	published / reissued	
CA2115834 AA	19940216	LSES	+EEER	EXAMINATION REQUEST	
CA2115834 AA	19970813	LSLE	-FZDE	DEAD	
CA2168749 AA	19960202	LSPB	+	published / reissued	
CA2168749 AA	19960404	LSES	+EEER	EXAMINATION REQUEST	
CA2168749 AA	20030127	LSLE	-FZDE	DEAD	
CA2177164 AA	19960522	LSPB	+	published / reissued	
CA2177164 AA	19960522	LSES	+EEER	EXAMINATION REQUEST	
CA2177164 C	19990921	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2177164 C	20141110	PEXP		Calculated Patent Term Expiry	
CA2177164 C	20150112	LSLE	-MKEX	EXPIRY	Effective date: 20141110
CN1131378 A	19960918	LSPB	+	published / reissued	
CN1131378 A	19960918	LSPB	+C06	PUBLICATION	
CN1131378 A	19960925		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1131378 A	20011226	LSDW	-C20	PATENT RIGHT OR	

				UTILITY MODEL DEEMED TO BE ABANDONED OR IS ABANDONED	
DE69434672 D1	20070215	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: COX, ROBERT W. DUFFY, LYNDEN, WASH., US PartyType: owner
DE69434672 D1	20070215		8381	INVENTOR (NEW SITUATION)	PartyType: inventor Inventor: COX, JEANNE M., LYNDEN, WA 98264, US
DE69434672 D1	20070215		8381	INVENTOR (NEW SITUATION)	PartyType: inventor Inventor: COX, JAMES P., LYNDEN, WA 98264, US
DE69434672 D1	20070215		8381	INVENTOR (NEW SITUATION)	Inventor: COX, ROBERT W. DUFFY, LYNDEN, WA 98264, US PartyType: inventor
DE69434672 D1	20070531	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69434672 D1	20141110	LSLE	-R071	EXPIRY OF RIGHT	
DE69434672 T2	20061109	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69434672 T2	20070215	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: COX, ROBERT W. DUFFY, LYNDEN, WASH., US PartyType: owner
DE69434672 T2	20070215		8381	INVENTOR (NEW SITUATION)	PartyType: inventor Inventor: COX, JEANNE M., LYNDEN, WA 98264, US
DE69434672 T2	20070215		8381	INVENTOR (NEW SITUATION)	Inventor: COX, JAMES P., LYNDEN, WA 98264, US PartyType: inventor
DE69434672 T2	20070215		8381	INVENTOR (NEW SITUATION)	Inventor: COX, ROBERT W. DUFFY, LYNDEN, WA 98264, US PartyType: inventor
DE69434672 T2	20070531	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69434672 T2	20141110	PEXP		Calculated Patent Term Expiry	
EP0661921 A1	19950712	LSPB	+	published / reissued	
EP0661921 A1	19950712	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19940121
EP0661921 A1	19950712		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL SE
EP0661921 A1	19960501	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19960319
EP0661921 A1	19970122	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 19960730
EP0661921 A4	19940620	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	
EP0661921 A4	19940620		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A4 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL SE
EP0723459 A1	19960731	LSPB	+	published / reissued	
EP0723459 A1	19960731		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP0723459 A1	19960731		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Text: LT PAYMENT 960202;LV PAYMENT 960202
EP0723459 A1	19960731		RAX	REQUESTED EXTENSION STATES OF THE EUROPEAN PATENT HAVE CHANGED	Text: LT PAYMENT 960202;LV PAYMENT 960202
EP0723459 A1	19960807	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19960607
EP0723459 A4	19961016	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 19960903
EP0723459 A4	19961016		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A4 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP0723459 A4	19970212	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19961227
EP0723459 A4	20000223	LSRE	RTI1	TITLE (CORRECTION)	Text: METHOD AND APPARATUS FOR THE NON-INVASIVE FORCED OXYGEN ENRICHMENT OF FERTILIZED AVIAN EGGS

EP0723459 A4	20000405	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19961227
EP0723459 A4	20010718	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20001219
EP0731642 A1	19960918	LSPB	+	published / reissued	
EP0731642 A1	19960918	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19960619
EP0731642 A1	19960918		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: BE DE DK ES FR GB IT NL
EP0731642 A4	19991103	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 19990921
EP0731642 A4	19991103		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A4 Country of Ref document: BE DE DK ES FR GB IT NL
EP0731642 A4	19991103		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	Text: 6A 23B 5/005 A, 6A 23B 5/06 B, 6A 23B 5/00 B, 6A 23B 5/10 B
EP0731642 A4	20020626	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20020514
EP0731642 B1	20060322	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0731642 B1	20060322		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: BE DE DK ES FR GB IT NL
EP0731642 B1	20060322	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20060322 Country of Ref document: IT
EP0731642 B1	20060322	LSLE	-PG25	LAPSED IN A CONTRACTING 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;WARNING: LAPSES OF ITALIAN PATENTS WITH EFFECTIVE DATE BEFORE 2007 MAY HAVE OCCURRED AT ANY TIME BEFORE 2007. THE CORRECT EFFECTIVE DATE MAY BE DIFFERENT FROM THE ONE RECORDED. Lapsed date: 20060322 Country of Ref document: IT
EP0731642 B1	20060322	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP0731642 B1	20060511		REF	CORRESPONDS TO:	Date of Ref document: 20060511 Ref document number: 69434672 Kind code of Ref document: P Country of Ref document: DE
EP0731642 B1	20060622	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20060622 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP0731642 B1	20061103		+ET	FR: TRANSLATION FILED	
EP0731642 B1	20061108	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	PartyType: owner Owner: COX, ROBERT W. DUFFY
EP0731642 B1	20061108		RIN2	INFORMATION ON INVENTOR PROVIDED AFTER GRANT (CORRECTED)	PartyType: inventor Inventor: COX, ROBERT W. DUFFY
EP0731642 B1	20061129		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: 732E Ref country code: GB
EP0731642 B1	20061216	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: ES Ref legal event code: FG2A Ref document number: 2264125 Kind code of Ref document: T3 Country of Ref document: ES
EP0731642 B1	20070102		NLT2	NL: MODIFICATIONS (OF NAMES), TAKEN FROM THE EUROPEAN PATENT PATENT BULLETIN	Effective date: 20061108 Owner: COX, ROBERT W. DUFFY PartyType: owner
EP0731642 B1	20070201	LSAS	NLS	NL: ASSIGNMENTS OF EP-PATENTS	Effective date: 20061117 PartyType: owner Ref country code: EP Owner: ROBERT W. DUFFY COX
EP0731642 B1	20070309	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: TP
EP0731642 B1	20070418	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20061227

EP0731642 B1	20071231		BECA	BE: CHANGE OF HOLDER'S ADDRESS	Effective date: 20060322 Owner: *COX ROBERT W. DUFFY246 EAST BARTLETT ROAD, LYNDEN PartyType: owner
EP0731642 B1	20071231	LSAS	BECH	BE: CHANGE OF HOLDER	Ref country code: EP PartyType: owner Owner: *COX ROBERT W. DUFFY Effective date: 20060322
EP0731642 B1	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20131106 Country of Ref document: DE
EP0731642 B1	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20131108 Country of Ref document: FR
EP0731642 B1	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20131106 Country of Ref document: GB
EP0731642 B1	20140228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20131109 Country of Ref document: NL
EP0731642 B1	20140228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20131114 Country of Ref document: IT
EP0731642 B1	20140228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20131113 Country of Ref document: BE
EP0731642 B1	20140228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20131011 Country of Ref document: ES
EP0731642 B1	20141109	PEXP		Calculated Patent Term Expiry	
EP0731642 B1	20141110	PEXP		Calculated Patent Term Expiry	
EP0731642 B1	20141110	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R071 Ref document number: 69434672 Country of Ref document: DE
EP0731642 B1	20141111	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 69434672 Ref country code: DE Ref legal event code: R071 Country of Ref document: DE
EP0731642 B1	20141119	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20141110 Ref country code: NL Ref legal event code: V4
EP0731642 B1	20141203	LSLE	REG	REFERENCE TO A NATIONAL CODE	Expiry date: 20141109 Ref legal event code: PE20 Ref country code: GB
EP0731642 B1	20150126	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FD2A Ref country code: ES Effective date: 20150126
EP0731642 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20141109 NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Country of Ref document: GB
EP0731642 B1	20150430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Lapsed date: 20141111 Country of Ref document: ES
ES2264125 T3	20061216	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2264125 T3	20141110	PEXP		Calculated Patent Term Expiry	
JP2992348 B2	19991220	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2992348 B2	20150601	PEXP		Calculated Patent Term Expiry	

JP7501209 T2	19950209	LSPB	+	published / reissued	
JP9501060 T2	19970204	LSPB	+	published / reissued	
KR100239966 B1	20000302	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100239966 B1	20160203	PEXP		Calculated Patent Term Expiry	
KR19947003134 A	19941024	LSPB	+	published / reissued	
KR19960704024 A	19960831	LSPB	+	published / reissued	
KR19967004024 A	19960831	LSPB	+	published / reissued	
KR960704024 A	19960831	LSPB	+	published / reissued	
KR960704024 A	19970317	LSES	A201	REQUEST FOR EXAMINATION	
KR960704024 A	19990331	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR960704024 A	19990825	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR960704024 A	19991025	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR960704024 A	20021026	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
MX9204713 A1	19930701	LSPB	+	published / reissued	
MX9600473 A1	19970830	LSPB	+	published / reissued	
NZ288020 A	19980826	LSPB	+	published / reissued	
PT100784 A	19930930	LSPB	+	published / reissued	
PT100784 A	19930930	LSPB	+BB1A	LAYING OPEN OF PATENT APPLICATION	Effective date: 19930506
PT100784 A	19990630	LSRV	-FC3A	REFUSAL	Effective date: 19990312
RU96105067 A	19980627	LSPB	+	published / reissued	
US5283072 A	19940126	LSGT	PAT1	Patented Case	
US5283072 A	19940201	LSGT	+	granted / extensions (spc, cpc, pte)	
US5283072 A	19970909		REMI	MAINTENANCE FEE REMINDER MAILED	
US5283072 A	19980201	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5283072 A	19980414	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19980204
US5283072 A	20110325	PEXP		Calculated Patent Term Expiry	
US5283072 A	20180127	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5283072 A	20180127	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5431939 A	19920421	LSAS	AS	ASSIGNMENT	Owner: QED, INC., A CORP. OF WASHINGTON, WASHINGTON Effective date: 19920414 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:COX, JAMES P.;COX, JEANNE M.;DUFFY COX, ROBERT W.;REEL/FRAME:006090/0394 PartyType: owner
US5431939 A	19941219	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:QED, INC.;REEL/FRAME:007273/0335 Effective date: 19941215 PartyType: owner Owner: COX, JAMES P., WASHINGTON
US5431939 A	19941219	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:QED, INC.;REEL/FRAME:007273/0335 Effective date: 19941215 Owner: COX, JEANNE M., WASHINGTON PartyType: owner
US5431939 A	19941219	LSAS	AS	ASSIGNMENT	Owner: COX, ROBERT W. DUFFY, WASHINGTON OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:QED, INC.;REEL/FRAME:007273/0335 PartyType: owner Effective date: 19941215
US5431939 A	19941228	LSAS	AS	ASSIGNMENT	Effective date: 19941215

					OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:QED, INC.;REEL/FRAME:007341/0548 Owner: COX, JAMES P., WASHINGTON PartyType: owner
US5431939 A	19941228	LSAS	AS	ASSIGNMENT	Effective date: 19941215 PartyType: owner Owner: COX, JEANNE M., WASHINGTON OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:QED, INC.;REEL/FRAME:007341/0548
US5431939 A	19941228	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: COX, ROBERT W. DUFFY, WASHINGTON OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:QED, INC.;REEL/FRAME:007341/0548 Effective date: 19941215
US5431939 A	19950630	LSGT	PAT1	Patented Case	
US5431939 A	19950630	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5431939 A	19950711	LSGT	+	granted / extensions (spc, cpc, pte)	
US5431939 A	19990111	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5431939 A	19990202		REMI	MAINTENANCE FEE REMINDER MAILED	
US5431939 A	20020201	LSAS	AS	ASSIGNMENT	Effective date: 20001214 OldParty: LICENSE AGREEMENT;ASSIGNOR:PASTEURIZED EGGS, L.P.;REEL/FRAME:012580/0071 Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS PartyType: owner
US5431939 A	20020207	LSAS	AS	ASSIGNMENT	Effective date: 20010919 OldParty: LICENSE AGREEMENT;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:012852/0683 PartyType: owner Owner: BON DENTE TECHNOLOGY JOINT VENTURE, WASHINGTON
US5431939 A	20020208	LSAS	AS	ASSIGNMENT	Effective date: 19970102 PartyType: owner Owner: PASTEURIZED EGGS, L.P., NEW HAMPSHIRE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:OED, INC.;REEL/FRAME:012581/0393
US5431939 A	20020924	LSAS	AS	ASSIGNMENT	OldParty: SECURITY AGREEMENT;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:013315/0659 Effective date: 20020607 Owner: ANTAEUS ENTERPRISES, INC., AS COLLATERAL AGENT, NE PartyType: owner
US5431939 A	20030317	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5431939 A	20030317		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7
US5431939 A	20060601	LSAS	AS	ASSIGNMENT	Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS Effective date: 20030725 PartyType: owner OldParty: BANKRUPTCY ORDER APPROVING SALE ALL RIGHT, TITLE AND OWNERSHIP INTEREST OF PASTEURIZED EGGS DATED JULY 22, 1995, SUBJECT ONLY TO TERM OF ORDER AND OCTOBER 23, 2003 ASSIGNMENT & LICENSE AGREEMENT BETWEEN BON DENTE JOINT VENTURE AND NATIONAL PASTEUTRIZED EGGS, INCLUDING REVERSIONARY RIGHTS OF BON DENTE JOINT VENTURE UPON DEFAULT.;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:017971/0724
US5431939 A	20060602	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20060602 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:COX, ROBERT W. DUFFY;REEL/FRAME:017957/0853 Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS
US5431939 A	20060602	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BON DENTE JOINT VENTURE;REEL/FRAME:017971/0207 Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS PartyType: owner Effective date: 20031031
US5431939 A	20060602	LSAS	AS	ASSIGNMENT	OldParty: TECHNOLOGY & PATENT ASSIGNMENT AND LICENSE AGREEMENT ALL

					RIGHTS, TITLE AND OWNERSHIP INTEREST OF DON DENTE JOINT VENTURE SUBJECT ONLY TO REVERSIONARY RIGHTS BON DENTE JOINT VENTURE UPON DEFAULT.;ASSIGNOR:BON DENTE JOINT VENTURE;REEL/FRAME:017996/0032 PartyType: owner Effective date: 20031031 Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS
US5431939 A	20070111	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5431939 A	20080828	LSAS	AS	ASSIGNMENT	OldParty: SECURITY AGREEMENT;ASSIGNOR:NATIONAL PASTEURIZED EGGS, LLC;REEL/FRAME:021450/0491 Effective date: 20080827 PartyType: owner Owner: HARRIS BANK N.A., ILLINOIS
US5431939 A	20120711	PEXP		Calculated Patent Term Expiry	
US5431939 A	20141216	LSAS	AS	ASSIGNMENT	Effective date: 20141209 Owner: NATIONAL PASTEURIZED EGGS, INC., ILLINOIS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THERMALPURE, LLC; FORMERLY BON DENTE JOINT VENTURE;REEL/FRAME:034512/0923 PartyType: owner
US5493994 A	19960215	LSGT	PAT1	Patented Case	
US5493994 A	19960227	LSGT	+	granted / extensions (spc, cpc, pte)	
US5493994 A	19990921		REMI	MAINTENANCE FEE REMINDER MAILED	
US5493994 A	19991118	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5493994 A	19991118		+SULP	SURCHARGE FOR LATE PAYMENT	
US5493994 A	20020201	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS OldParty: LICENSE AGREEMENT;ASSIGNOR:PASTEURIZED EGGS, L.P.;REEL/FRAME:012580/0071 Effective date: 20001214
US5493994 A	20020207	LSAS	AS	ASSIGNMENT	OldParty: LICENSE AGREEMENT;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:012852/0683 PartyType: owner Effective date: 20010919 Owner: BON DENTE TECHNOLOGY JOINT VENTURE, WASHINGTON
US5493994 A	20020208	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:COX, JAMES P.;DUFFY COX, ROBERT W.;REEL/FRAME:012581/0350 Effective date: 19970102 Owner: PASTEURIZED EGGS, L.P., NEW HAMPSHIRE
US5493994 A	20030917		REMI	MAINTENANCE FEE REMINDER MAILED	
US5493994 A	20040227	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5493994 A	20040427	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20040227
US5493994 A	20060601	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: BANKRUPTCY ORDER APPROVING SALE ALL RIGHT, TITLE AND OWNERSHIP INTEREST OF PASTEURIZED EGGS DATED JULY 22, 1995, SUBJECT ONLY TO TERM OF ORDER AND OCTOBER 23, 2003 ASSIGNMENT & LICENSE AGREEMENT BETWEEN BON DENTE JOINT VENTURE AND NATIONAL PASTEUTRIZED EGGS, INCLUDING REVERSIONARY RIGHTS OF BON DENTE JOINT VENTURE UPON DEFAULT.;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:017971/0724 Effective date: 20030725 Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS
US5493994 A	20140603	PEXP		Calculated Patent Term Expiry	
US5493994 A	20180125	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5493994 A	20180125	LSLE	-STCH	INFORMATION ON STATUS: PATENT	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES

				DISCONTINUATION	UNDER 37 CFR 1.362
US5589211 A	19961231	LSGT	+	granted / extensions (spc, cpc, pte)	
US5589211 A	20000627	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5589211 A	20020201	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: LICENSE AGREEMENT;ASSIGNOR:PASTEURIZED EGGS, L.P.;REEL/FRAME:012580/0071 Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS Effective date: 20001214
US5589211 A	20020207	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20010919 OldParty: LICENSE AGREEMENT;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:012852/0683 Owner: BON DENTE TECHNOLOGY JOINT VENTURE, WASHINGTON
US5589211 A	20020208	LSAS	AS	ASSIGNMENT	Owner: PASTEURIZED EGGS, L.P., NEW HAMPSHIRE Effective date: 19970102 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:COX, JAMES P.;COX, R.W. DUFFY;REEL/FRAME:012581/0477
US5589211 A	20020212	LSAS	AS	ASSIGNMENT	Effective date: 20011212 OldParty: SECURITY AGREEMENT;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:012590/0192 Owner: FOOTBRIDGE CAPITAL LLC, CONNECTICUT PartyType: owner
US5589211 A	20020924	LSAS	AS	ASSIGNMENT	Effective date: 20020607 Owner: ANTAEUS ENTERPRISES, INC., AS COLLATERAL AGENT, NE PartyType: owner OldParty: SECURITY AGREEMENT;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:013315/0659
US5589211 A	20030805	LSAS	AS	ASSIGNMENT	Owner: NATIONAL PASTEURIZED EGGS, LLC, WASHINGTON OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PASTEURIZED EGG CORPORATION;REEL/FRAME:014384/0230 PartyType: owner Effective date: 20030729
US5589211 A	20040302	LSAS	AS	ASSIGNMENT	Owner: NATIONAL PASTEURIZED EGGS LLC, ILLINOIS PartyType: owner OldParty: BANKRUPTCY ORDER APPROVING SALE;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:014384/0311 Effective date: 20030725
US5589211 A	20040602	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5589211 A	20060601	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 19950722 Owner: NAITONAL PASTEURIZED EGGS LLC, ILLINOIS OldParty: EXCLUSIVE LICENSE AGREEMENT/BANKRUPTCY ORDER APPROVING SALE;ASSIGNOR:PASTEURIZED EGGS CORPORATION (PURSUANT TO BANKRUPTCY COURT ORDER APPROVING SALE OF ASSETTS);REEL/FRAME:017957/0326
US5589211 A	20060602	LSAS	AS	ASSIGNMENT	Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BON DENTE JOINT VENTURE;REEL/FRAME:017971/0207 PartyType: owner Effective date: 20031031
US5589211 A	20060602	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:017971/0248 Effective date: 20030731 PartyType: owner Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS
US5589211 A	20060602	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20031031 OldParty: TECHNOLOGY & PATENT ASSIGNMENT AND LICENSE AGREEMENT ALL RIGHTS, TITLE AND OWNERSHIP INTEREST OF DON DENTE JOINT VENTURE SUBJECT ONLY TO REVERSIONARY RIGHTS BON DENTE JOINT VENTURE UPON DEFAULT.;ASSIGNOR:BON DENTE JOINT VENTURE;REEL/FRAME:017996/0032 Owner: NATIONAL PASTEURIZED EGGS,

					LLC, ILLINOIS
US5589211 A	20060615	LSAS	AS	ASSIGNMENT	OldParty: CONFIRMATION OF PAYOFF/ SATISFACTION OF FOOTBRIDGE CAPITAL. LLC SECURED PROMISSORY NOTE DATE JANUARY 7, 2002 IN TH FACE AMOUNT OF 1,500.000;ASSIGNOR:FOOTBRIDGE CAPITAL, LLC;REEL/FRAME:017804/0026 Effective date: 20060607 Owner: NATIONAL PASTEURIZED EGGS LLC, ILLINOIS PartyType: owner
US5589211 A	20080707		REMI	MAINTENANCE FEE REMINDER MAILED	
US5589211 A	20080828	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: HARRIS BANK N.A., ILLINOIS Effective date: 20080827 OldParty: SECURITY AGREEMENT;ASSIGNOR:NATIONAL PASTEURIZED EGGS, LLC;REEL/FRAME:021450/0491
US5589211 A	20081231	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US5589211 A	20090217	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20081231
US5589211 A	20091116	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	Effective date: 20091118
US5589211 A	20091118	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5589211 A	20091118	LSGT	PAT1	Patented Case	
US5589211 A	20091118	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5589211 A	20091118		+SULP	SURCHARGE FOR LATE PAYMENT	
US5589211 A	20131231	PEXP		Calculated Patent Term Expiry	
US5589211 A	20141216	LSAS	AS	ASSIGNMENT	Owner: NATIONAL PASTEURIZED EGGS, INC., ILLINOIS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THERMALPURE, LLC; FORMERLY BON DENTE JOINT VENTURE;REEL/FRAME:034512/0923 PartyType: owner Effective date: 20141209
US5939118 A	19990817	LSGT	+	granted / extensions (spc, cpc, pte)	
US5939118 A	20020201	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:COX, JAMES P.;COX, R.W. DUFFY;REEL/FRAME:012569/0856 Effective date: 19970102 Owner: PASTEURIZED EGGS, L.P., NEW HAMPSHIRE PartyType: owner
US5939118 A	20020201	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS Effective date: 20001214 OldParty: LICENSE AGREEMENT;ASSIGNOR:PASTEURIZED EGGS, L.P.;REEL/FRAME:012580/0071
US5939118 A	20020207	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: LICENSE AGREEMENT;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:012852/0683 Effective date: 20010919 Owner: BON DENTE TECHNOLOGY JOINT VENTURE, WASHINGTON
US5939118 A	20020212	LSAS	AS	ASSIGNMENT	Owner: FOOTBRIDGE CAPITAL LLC, CONNECTICUT OldParty: SECURITY AGREEMENT;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:012590/0192 PartyType: owner Effective date: 20011212
US5939118 A	20020924	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: SECURITY AGREEMENT;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:013315/0659 Effective date: 20020607 Owner: ANTAEUS ENTERPRISES, INC., AS COLLATERAL AGENT, NE
US5939118 A	20030214	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4

US5939118 A	20030305		REMI	MAINTENANCE FEE REMINDER MAILED	
US5939118 A	20030805	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20030729 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PASTEURIZED EGG CORPORATION;REEL/FRAME:014384/0230 Owner: NATIONAL PASTEURIZED EGGS, LLC, WASHINGTON
US5939118 A	20040302	LSAS	AS	ASSIGNMENT	OldParty: BANKRUPTCY ORDER APPROVING SALE;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:014384/0311 Owner: NATIONAL PASTEURIZED EGGS LLC, ILLINOIS PartyType: owner Effective date: 20030725
US5939118 A	20060601	LSAS	AS	ASSIGNMENT	Effective date: 20030725 OldParty: BANKRUPTCY ORDER APPROVING SALE ALL RIGHT, TITLE AND OWNERSHIP INTEREST OF PASTEURIZED EGGS DATED JULY 22, 1995, SUBJECT ONLY TO TERM OF ORDER AND OCTOBER 23, 2003 ASSIGNMENT & LICENSE AGREEMENT BETWEEN BON DENTE JOINT VENTURE AND NATIONAL PASTEUTRIZED EGGS, INCLUDING REVERSIONARY RIGHTS OF BON DENTE JOINT VENTURE UPON DEFAULT.;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:017971/0724 PartyType: owner Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS
US5939118 A	20060602	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20031031 Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BON DENTE JOINT VENTURE;REEL/FRAME:017971/0207
US5939118 A	20060602	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS Effective date: 20030731 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:017971/0248
US5939118 A	20060602	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: TECHNOLOGY & PATENT ASSIGNMENT AND LICENSE AGREEMENT ALL RIGHTS, TITLE AND OWNERSHIP INTEREST OF DON DENTE JOINT VENTURE SUBJECT ONLY TO REVERSIONARY RIGHTS BON DENTE JOINT VENTURE UPON DEFAULT.;ASSIGNOR:BON DENTE JOINT VENTURE;REEL/FRAME:017996/0032 Effective date: 20031031 Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS
US5939118 A	20060615	LSAS	AS	ASSIGNMENT	Effective date: 20060607 PartyType: owner OldParty: CONFIRMATION OF PAYOFF/ SATISFACTION OF FOOTBRIDGE CAPITAL. LLC SECURED PROMISSORY NOTE DATE JANUARY 7, 2002 IN TH FACE AMOUNT OF 1,500.000;ASSIGNOR:FOOTBRIDGE CAPITAL, LLC;REEL/FRAME:017804/0026 Owner: NATIONAL PASTEURIZED EGGS LLC, ILLINOIS
US5939118 A	20070220	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5939118 A	20080828	LSAS	AS	ASSIGNMENT	Owner: HARRIS BANK N.A., ILLINOIS PartyType: owner Effective date: 20080827 OldParty: SECURITY AGREEMENT;ASSIGNOR:NATIONAL PASTEURIZED EGGS, LLC;REEL/FRAME:021450/0491
US5939118 A	20110321		REMI	MAINTENANCE FEE REMINDER MAILED	
US5939118 A	20110817	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5939118 A	20110817	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US5939118 A	20111004	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20110817
US5939118 A	20111010	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	Effective date: 20111012
US5939118 A	20111012	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5939118 A	20111012	LSGT	PAT1	Patented Case	

US5939118 A	20111012	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5939118 A	20111012		+SULP	SURCHARGE FOR LATE PAYMENT	
US5939118 A	20141216	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THERMALPURE, LLC; FORMERLY BON DENTE JOINT VENTURE;REEL/FRAME:034512/0923 Owner: NATIONAL PASTEURIZED EGGS, INC., ILLINOIS PartyType: owner Effective date: 20141209
US5939118 A	20160802	PEXP		Calculated Patent Term Expiry	
US5964182 A	19991012	LSGT	+	granted / extensions (spc, cpc, pte)	
US5964182 A	20020201	LSAS	AS	ASSIGNMENT	OldParty: LICENSE AGREEMENT;ASSIGNOR:PASTEURIZED EGGS, L.P.;REEL/FRAME:012580/0071 Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS PartyType: owner Effective date: 20001214
US5964182 A	20020207	LSAS	AS	ASSIGNMENT	OldParty: LICENSE AGREEMENT;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:012852/0683 Effective date: 20010919 Owner: BON DENTE TECHNOLOGY JOINT VENTURE, WASHINGTON PartyType: owner
US5964182 A	20020208	LSAS	AS	ASSIGNMENT	Effective date: 19970102 Owner: PASTEURIZED EGGS, L.P., NEW HAMPSHIRE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:COX, JAMES P.;COX, ROBERT W. DUFFY;REEL/FRAME:012581/0364 PartyType: owner
US5964182 A	20031014	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5964182 A	20031112	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5964182 A	20031112	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5964182 A	20031209	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20031012
US5964182 A	20050105	LSAS	AS	ASSIGNMENT	Effective date: 20041229 PartyType: owner Owner: JPMORGAN CHASE BANK, N.A., NEW YORK OldParty: SECURITY INTEREST;ASSIGNOR:SYMBOL TECHNOLOGIES, INC.;REEL/FRAME:016116/0203
US5964182 A	20060601	LSAS	AS	ASSIGNMENT	Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS Effective date: 20030725 OldParty: BANKRUPTCY ORDER APPROVING SALE ALL RIGHT, TITLE AND OWNERSHIP INTEREST OF PASTEURIZED EGGS DATED JULY 22, 1995, SUBJECT ONLY TO TERM OF ORDER AND OCTOBER 23, 2003 ASSIGNMENT & LICENSE AGREEMENT BETWEEN BON DENTE JOINT VENTURE AND NATIONAL PASTEUTRIZED EGGS, INCLUDING REVERSIONARY RIGHTS OF BON DENTE JOINT VENTURE UPON DEFAULT.;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:017971/0724 PartyType: owner
US5964182 A	20160116	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
VN718 A1	19990125	LSGT	+	granted / extensions (spc, cpc, pte)	
WO9303622 A1	19930304	LSPB	+	published / reissued	
WO9303622 A1	19930304		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AU BB BG BR CA CS FI HU JP KP KR LK LU MG MN MW NO PL RO RU SD
WO9303622 A1	19930304		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE BF BJ CF CG CH CI CM DE DK ES FR GA GB GN GR IE IT LU MC ML MR NL SE SN TD TG

WO9303622 A1	19940121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1992919436 Country of Ref document: EP
WO9303622 A1	19940216	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2115834 Country of Ref document: CA
WO9303622 A1	19940511		LE32	LATER ELECTION FOR INTERNATIONAL APPLICATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE OR ACCORDING TO RULE 3	Text: CA,KR,NO
WO9303622 A1	19950712	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1992919436 Country of Ref document: EP
WO9303622 A1	19960730	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 1992919436 Country of Ref document: EP
WO9514388 A1	19950601	LSPB	+	published / reissued	
WO9514388 A1	19950601		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AT AU BB BG BR BY CA CH CN CZ DE DK ES FI GB HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SK UA UZ VN
WO9514388 A1	19950601		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE BF BJ CF CG CH CI CM DE DK ES FR GA GB GN GR IE IT LU MC ML MR NE NL PT SE SN TD TG
WO9514388 A1	19950720		COP	CORRECTED VERSION OF PAMPHLET	Text: PAGE 1/12,DRAWINGS,REPLACED BY A NEW PAGE BEARING THE SAME NUMBER;AFTER RECTIFICATION OF OBVIOUS ERRORS AS AUTHORIZED BY THE INTERNATIONAL SEARCHING AUTHORITY
WO9514388 A1	19950830		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9514388 A1	19950831		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9514388 A1	19960522	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2177164 Country of Ref document: CA
WO9514388 A1	19960619	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1995901204 Country of Ref document: EP
WO9514388 A1	19960912	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO9514388 A1	19960918	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1995901204 Country of Ref document: EP
WO9514388 A1	20060322	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1995901204 Country of Ref document: EP
WO9533485 A1	19950601	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 95190715.8 Country of Ref document: CN
WO9533485 A1	19951214	LSPB	+	published / reissued	
WO9533485 A1	19951214		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA US UZ VN
WO9533485 A1	19951214		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE BF BJ CF CG CH CI CM DE DK ES FR GA GB GN GR IE IT KE LU MC ML MR MW NE NL PT SD SE SN SZ TD TG UG
WO9533485 A1	19951228		CFP	CORRECTED VERSION OF A PAMPHLET FRONT PAGE	
WO9533485 A1	19951228	LSRE	CR1	CORRECTION OF ENTRY IN SECTION I	Text: PAT.BUL.53/95 UNDER INID (51) "IPC" REPLACE "A61K 45/00" BY "A01K 45/00"
WO9533485 A1	19960201	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 288020 Country of Ref document: NZ
WO9533485 A1	19960202	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1995922118 Country of Ref document: EP
WO9533485 A1	19960202	LSNP	+WWE	WIPO INFORMATION:	Ref document number: 2168749

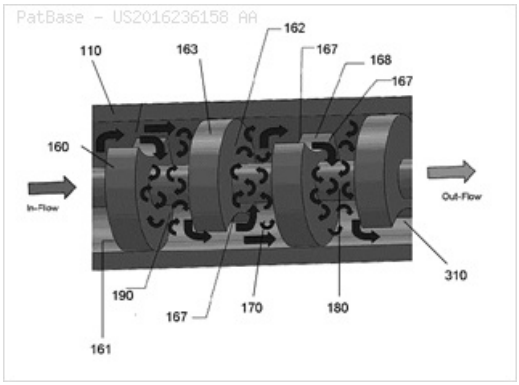
				ENTRY INTO NATIONAL PHASE	Country of Ref document: CA
WO9533485 A1	19960202	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PA/a/1996/000473 Country of Ref document: MX
WO9533485 A1	19960403		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9533485 A1	19960731	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1995922118 Country of Ref document: EP
WO9533485 A1	19970320	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref legal event code: 8642 Ref country code: DE
WO9533485 A1	20001219	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 1995922118 Country of Ref document: EP

25) Family number: 58909170 (US2016236158 AA)

Title: NANOBUBBLE-CONTAINING LIQUID SOLUTIONS

Abstract: A nanobubble generator, a nanobubble-containing liquid solution comprising a substantially high concentration of nanobubbles, a system and methods of producing the nanobubble-containing liquid solution. The nanobubble generator includes an inflow portion for receiving a source liquid solution, a series of at least two sequential cavitation zones and shear planes to treat the source liquid solution and producing nano-bubble containing liquid solution, and an outflow portion for releasing the nanobubble-containing liquid solution.

Classifications:
International (IPC 8-9): A01K39/02 A23K1/18 A23K50/70 A23K50/75 A61L2/02 A61L2/18 A61L2/20 B01F B01F3/04 B01F5/00 B01F5/06 B08B3/08 B08B9/027 B82B3/00 C02F1/00 C02F1/48 C02F1/50 C02F1/76 C02F1/78 C02F101/10 C02F101/20 C02F101/30 C02F101/32 C12N1/00
CPC: A01K39/02 B01F2003/04297 B01F2003/04858 B01F2215/0052 B01F3/04 B01F3/04106 B01F5/06 B01F5/0608 B01F5/0669 B08B3/08 B08B9/027 B82B3/00 C02F1/48 C02F1/76 C02F2101/101 C02F2101/203 C02F2101/206 C02F2101/30 C02F2101/32 C02F2307/06 A23K50/70 A23L2/54 C02F2303/04 C02F2303/20 C02F2303/22 C02F2303/26
US: 1/1 426/2



Family:

Publication number	Publication date	Application number	Application date
AU2014331497 AA	20160317	AU20140331497	20141003
AU2019201646 AA	20190502	AU20190201646	20190311
AU2019201646 BB	20201105	AU20190201646	20190311
BR112016006226 A2	20170801	BR20161106226	20141003
CA2888661 AA	20150417	CA20142888661	20141003
CA2888661 C	20151117	CA20142888661	20141003
CA2900515 AA	20150409	CA20142900515	20141003
CA2900515 C	20161025	CA20142900515	20141003
CN105592916 A	20160518	CN201480053733	20141003
CN105592916 B	20200407	CN201480053733	20141003
EP3052225 A1	20160810	EP20140850268	20141003
EP3052225 A4	20170531	EP20140850268	20141003
HK1219924 A1	20170421	HK20160107994	20160708
IL244386 A0	20160421	IL20140244386	20141003
IN201617008393 A	20160715	IN201617008393	20160310
JP2016536139 T2	20161124	JP20160546128T	20141003
JP6577474 B2	20190918	JP20160546128T	20141003
JP2019162633 A2	20190926	JP20190104466	20141003
KR20160067909 A	20160614	KR20167011575	20141003
MX2016003652 A1	20160624	MX20160003652	20141003
RU2016109447 A	20171109	RU20160109447	20141003
RU2693136 C2	20190701	RU20160109447	20141003
RU2693136 C9	20191007	RU20160109447	20141003
US10814290 BB	20201027	US20140025971	20141003
US2016236158 AA	20160818	US20140025971	20141003
WO15048904 A1	20150409	WO2014CA50957	20141003
ZA201601541 A	20200226	ZA20160001541	20160304

Priority:

US20130886318P 20131003 WO2014CA50957 20141003 AU20140331497 20141003
CA20142900515 20141003 CA20142888661 20141003 JP20160546128T 20141003
US20140025971 20141003 CA20152888661 20150820 AU20190201646 20190311
JP20190104466 20190604

Probable Assignee: EBED HOLDINGS INC

Assignee(s): (std): EBED HOLDINGS INC ; EBEN KHOLDINGZ INK ; EDUARDO KRUPNIK ; SAUDI BASIC IND CORP ; WALTER JACOB BAUER

Assignee(s): BAUER WALTER JACOB

Inventor(s): (std): BAUER JACOB WALTER ; BAUER UOLTER DZHAKOB ; BAUER WALTER JACOB ; BAUER WALTER JACOB W J ; NAWAZ ZEESHAN ; WALTER JACOB BAUER

Inventor(s): EDUARDO KRUPNIK

Agent(s): AJ PARK; CHAPMAN AND CO; GOULINGZ INTERNESHNL INK KLYUKIN VYACHESLAV ALEKSANDROVICH; GOWLING WLG CANADA LLP; KRUPNIK EDUARDO; MILLER THOMSON LLP; MORISHITA SAKAKI; SO KEUNG YIP AND SIN SOLICITORS AND NOTARIES AGENTS FOR TRADE MARKS; WONG JEFFREY W

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2014331497 AA	20160317	LSPB	+	published / reissued	
AU2014331497 AA	20190411	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
AU2019201646 AA	20190502	LSPB	+	published / reissued	
AU2019201646 BB	20201105	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2019201646 BB	20390311	PEXP		Calculated Patent Term Expiry	
BR112016006226 A2	20170801	LSPB	+	published / reissued	
BR112016006226 A2	20191203		B06U	PRELIMINARY REQUIREMENT: REQUESTS WITH SEARCHES PERFORMED BY OTHER PATENT OFFICES: SUSPENSION OF THE PATENT APPLICATION PROCEDURE	
CA2888661 AA	20150417	LSPB	+	published / reissued	
CA2888661 AA	20150707	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20150618
CA2888661 C	20151117	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2888661 C	20341003	PEXP		Calculated Patent Term Expiry	
CA2900515 AA	20150409	LSPB	+	published / reissued	
CA2900515 AA	20160406	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20160322
CA2900515 C	20161025	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2900515 C	20341003	PEXP		Calculated Patent Term Expiry	
CN105592916 A	20160518	LSPB	+	published / reissued	
CN105592916 A	20160518	LSPB	+C06	PUBLICATION	
CN105592916 A	20160518	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN105592916 A	20161019		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN105592916 A	20161019		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN105592916 A	20170421		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1219924 Ref legal event code: DE Country of Ref document: HK
CN105592916 B	20200407	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105592916 B	20200407	LSGT	+GR01	PATENT GRANT	
CN105592916 B	20200407	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN105592916 B	20341003	PEXP		Calculated Patent Term Expiry	
EP3052225 A1	20160810	LSPB	+	published / reissued	
EP3052225 A1	20160810	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20160321
EP3052225 A1	20160810		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3052225 A1	20160810		+AX	REQUEST FOR EXTENSION OF THE	Country of Ref document: BA ME

				EUROPEAN PATENT	
EP3052225 A1	20170111		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3052225 A4	20170531	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20170503
EP3052225 A4	20170531		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01F 5/06 20060101AFI20170425BHEP
EP3052225 A4	20170531		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01F 3/04 20060101ALI20170425BHEP
EP3052225 A4	20180711	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20180608
EP3052225 A4	20200429	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20200401
EP3052225 A4	20200916		INTC	INTENTION TO GRANT ANNOUNCED (DELETED)	
EP3052225 A4	20201021	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20200915
HK1219924 A1	20170421	LSPB	+	published / reissued	
HK1219924 A1	20360708	PEXP		Calculated Patent Term Expiry	
IN201617008393 A	20160715	LSPB	+	published / reissued	
JP2016536139 T2	20161124	LSPB	+	published / reissued	
JP2016536139 T2	20171003	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20171003 Text: JAPANESE INTERMEDIATE CODE: A621
JP2016536139 T2	20180625		A977	REPORT ON RETRIEVAL	Effective date: 20180625 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2016536139 T2	20180703	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20180703 Text: JAPANESE INTERMEDIATE CODE: A131
JP2016536139 T2	20181003	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20181003 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016536139 T2	20190205	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20190205 Text: JAPANESE INTERMEDIATE CODE: A02
JP2016536139 T2	20190604	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190604 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016536139 T2	20190620	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190604 Text: JAPANESE INTERMEDIATE CODE: A821
JP2016536139 T2	20190625	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20190624 Text: JAPANESE INTERMEDIATE CODE: A911
JP2016536139 T2	20190719	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2016536139 T2	20190730	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20190730 Text: JAPANESE INTERMEDIATE CODE: A01
JP2016536139 T2	20190829	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20190822 Text: JAPANESE INTERMEDIATE CODE: A61
JP2016536139 T2	20190830	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Ref document number: 6577474 Text: JAPANESE INTERMEDIATE CODE: R150 Country of Ref document: JP
JP2019162633 A2	20190604	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190604 Text: JAPANESE INTERMEDIATE

					CODE: A523
JP2019162633 A2	20190604		A523	手続補正書	Effective date: 20190604
JP2019162633 A2	20190604		A63	特許願	Effective date: 20190604
JP2019162633 A2	20190604		A781	上申書	Effective date: 20190604
JP2019162633 A2	20190620	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20190620 Text: JAPANESE INTERMEDIATE CODE: A621
JP2019162633 A2	20190620	LSES	+A621	出願審査請求書	Effective date: 20190620
JP2019162633 A2	20190926	LSPB	+	published / reissued	
JP2019162633 A2	20200602	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20200602 Text: JAPANESE INTERMEDIATE CODE: A131
JP2019162633 A2	20200602	LSES	-A131	拒絶理由通知書	Effective date: 20200602
JP2019162633 A2	20200902		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20200902 Text: JAPANESE INTERMEDIATE CODE: A601
JP2019162633 A2	20200902		A601	期間延長請求書	Effective date: 20200902
JP2019162633 A2	20201030	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20201030 Text: JAPANESE INTERMEDIATE CODE: A523
JP2019162633 A2	20201030		A523	手続補正書	Effective date: 20201030
JP2019162633 A2	20201030		A53	意見書	Effective date: 20201030
JP6577474 B2	20160719	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160523 Text: JAPANESE INTERMEDIATE CODE: A523
JP6577474 B2	20190801	LSGT	+A01	特許査定書	
JP6577474 B2	20190827	LSFE	R100	特許料納付書	
JP6577474 B2	20190830	LSGT	+R150	特許証	
JP6577474 B2	20190918	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6577474 B2	20341003	PEXP		Calculated Patent Term Expiry	
KR20160067909 A	20160614	LSPB	+	published / reissued	
KR20160067909 A	20201103	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
MX2016003652 A1	20160624	LSPB	+	published / reissued	
RU2016109447 A	20171109	LSPB	+	published / reissued	
RU2693136 C2	20190701	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2693136 C2	20191004		TK4A	CORRECTION TO THE PUBLICATION IN THE BULLETIN (PATENT)	Text: CORRECTION TO CHAPTER -FG4A- IN JOURNAL 19-2019 FOR INID CODE(S) (73)
RU2693136 C2	20341003	PEXP		Calculated Patent Term Expiry	
RU2693136 C9	20191007	LSPB	TH4A	REISSUE OF PATENT SPECIFICATION	
US10814290 BB	20201007	LSGT	PAT1	Patented Case	
US10814290 BB	20201027	LSGT	+	granted / extensions (spc, cpc, pte)	
US10814290 BB	20350802	PEXP		Calculated Patent Term Expiry (PTA 303 days)	
US2016236158 AA	20160429	LSAS	AS	ASSIGNMENT	Effective date: 20160309 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BAUER, WALTER JACOB;REEL/FRAME:038419/0827 Owner: EBED HOLDINGS INC., CANADA PartyType: owner
US2016236158 AA	20160818	LSPB	+	published / reissued	
US2016236158 AA	20160930		APP2	Application Returned back to Preexam	

US2016236158 AA	20160930		RFE1	Docketed New Case - Ready for Examination	
US2016236158 AA	20180206	LSES	NFA1	Non Final Action Mailed	
US2016236158 AA	20180724	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016236158 AA	20180725	LSES	NFA1	Non Final Action Mailed	
US2016236158 AA	20181218		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016236158 AA	20190214		FRM1	Final Rejection Mailed	
US2016236158 AA	20190214		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2016236158 AA	20190722		RFE1	Docketed New Case - Ready for Examination	
US2016236158 AA	20190722		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2016236158 AA	20190821	LSES	NFA1	Non Final Action Mailed	
US2016236158 AA	20190821		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2016236158 AA	20200119		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016236158 AA	20200119		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2016236158 AA	20200207		FRM1	Final Rejection Mailed	
US2016236158 AA	20200207		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2016236158 AA	20200612		RFE1	Docketed New Case - Ready for Examination	
US2016236158 AA	20200612		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2016236158 AA	20200622	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016236158 AA	20200622		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
WO15048904 A1	20150409	LSPB	+	published / reissued	
WO15048904 A1	20150417	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2888661 Country of Ref document: CA
WO15048904 A1	20150520		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 14850268 Country of Ref document: EP

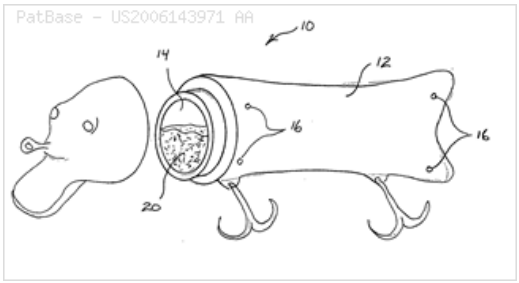
WO15048904 A1	20160302	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 244386 Country of Ref document: IL
WO15048904 A1	20160303	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2016546128 Country of Ref document: JP
WO15048904 A1	20160317	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20141003 Kind code of Ref document: A Ref document number: 2014331497 Country of Ref document: AU
WO15048904 A1	20160318	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2016/003652 Country of Ref document: MX
WO15048904 A1	20160321		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2014850268 Country of Ref document: EP
WO15048904 A1	20160321	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2014850268 Country of Ref document: EP
WO15048904 A1	20160330	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 15025971 Country of Ref document: US
WO15048904 A1	20160404	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO15048904 A1	20160405		REG	REFERENCE TO NATIONAL CODE	Ref country code: BR Ref document number: 112016006226 Ref legal event code: B01A Country of Ref document: BR
WO15048904 A1	20160429	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20167011575 Country of Ref document: KR
WO15048904 A1	20160503	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2016109447 Country of Ref document: RU
WO15048904 A1	20170801	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20160322 Kind code of Ref document: A2 Ref document number: 112016006226 Country of Ref document: BR
ZA201601541 A	20200226	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA201601541 A	20360303	PEXP		Calculated Patent Term Expiry	

26) Family number: 33099994 (US2006143971 AA)

Title: FISHING LURE DEVICE AND ASSOCIATED METHOD OF MANUFACTURE

Abstract: A fishing lure assembly and the method of making a unique fill composition that causes attractant scent compounds to be dispensed from the fishing lure assembly. The fishing lure assembly has a body that can retain a volume of fill composition. The fill composition contains an ion **exchange** material and attractant scent compounds that are ionically bonded together. When the fishing lure is submersed in **water**, the fill composition is exposed to a controlled flow of **water**. In an ion **exchange** reaction, ions contained within the **water** bond to the ion **exchange** material and thus free the previously bonded attractant scent compounds. The freed attractant scent compounds flow out of the lure assembly with the passing **water**.

Classifications:
International (IPC 8-9): A01K75/02 A01K85/00 A01K85/01
CPC: A01K85/01 A01K85/16
US: 424/84 424/84S 43/17.6 43/17.600P 43/42 43/42.06 43/42.060S 43/42P



Family:

Publication number	Publication date	Application number	Application date
US2006143971 AA	20060706	US20040027377	20041231
US7228656 BB	20070612	US20040027377	20041231
US2007199231 AA	20070830	US20070796329	20070427
US2008000140 AA	20080103	US20070820694	20070620
US2008289241 AA	20081127	US20080126685	20080523
US8240078 BB	20120814	US20080126685	20080523

Priority:

US20040027377 20041231 US20060815120P 20060620 US20070796329 20070427
US20070931684P 20070524 US20070820694 20070620 US20080034678P 20080307
US20080034678 20080307 US20080126685 20080523

Probable Assignee: MYSTIC TACKLEWORKS INC

Assignee(s): (std): ALGAR MARTIN G ; COLEMAN ERNEST A ; FAY RICHARD R ; HAWRYSHYN CRAIG W ; MCDONALD GLENN E ; MITCHELL GREG J ; MITCHELL GREGORY J ; RELLIS GROUP INC ; SHAW STEVEN R

Assignee(s): MYSTIC TACKLEWORKS INC ; SKINNER CHRISTOPHER

Inventor(s): (std): ALGAR MARTIN G ; COLEMAN ERNEST A ; FAY RICHARD R ; HAWRYSHYN CRAIG W ; MCDONALD GLENN E ; MITCHELL GREG J ; MITCHELL GREGORY J ; SHAW STEVEN R

Inventor(s): ALGAR MARTIN ; COLEMAN ERNEST ; MITCHELL GREG ; MITCHELL GREGORY

Agent(s): LAMORTE AND ASSOCIATES PC; MCCARTER AND ENGLISH LLP; MCCARTER AND ENGLISH LLP CITYPLACE I; MCCARTER AND ENGLISH LLP, CITYPLACE I; SOFER AND HAROUN LLP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2006143971 AA	20060706	LSPB	+	published / reissued	
US2006143971 AA	20060925	LSAS	AS	ASSIGNMENT	Owner: RELLIS GROUP, INC., CONNECTICUT Effective date: 20060825 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MITCHELL, GREG J.;REEL/FRAME:018297/0323 PartyType: owner
US2006143971 AA	20070419	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20070411 OldParty: UNDER 37 CFR 3.73(B);ASSIGNORS:MITCHELL, GREG J.;COLEMAN, ERNEST A.;REEL/FRAME:019191/0640 Owner: RELLIS GROUP, INC., CONNECTICUT
US2007199231 AA	20070830	LSPB	+	published / reissued	
US2007199231 AA	20100121	LSAS	AS	ASSIGNMENT	Owner: MYSTIC TACKLEWORKS, INC., CONNECTICUT OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:RELLIS GROUP, INC.;REEL/FRAME:023821/0125 Effective date: 20100119 PartyType: owner
US2007199231 AA	20100913	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007199231 AA	20100913		-STCB	INFORMATION ON STATUS: APPLICATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

				DISCONTINUATION	
US2008000140 AA	20080103	LSPB	+	published / reissued	
US2008000140 AA	20080908	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MITCHELL, GREG J;ALGAR, MARTIN G;REEL/FRAME:021495/0411;SIGNING DATES FROM 20060615 TO 20060825 Owner: MYSTIC TACKLEWORKS, INC., CONNECTICUT PartyType: owner
US2008000140 AA	20080908	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MITCHELL, GREG J;ALGAR, MARTIN G;SIGNING DATES FROM 20060615 TO 20060825;REEL/FRAME:021495/0411 Owner: MYSTIC TACKLEWORKS, INC., CONNECTICUT PartyType: owner
US2008000140 AA	20090731	LSAS	AS	ASSIGNMENT	Effective date: 20090709 OldParty: PATENT COLLATERAL ASSIGNMENT AND SECURITY AGREEMENT;ASSIGNOR:MYSTIC TACKLEWORKS, INC.;REEL/FRAME:023036/0784 Owner: SKINNER, CHRISTOPHER, NEW JERSEY PartyType: owner
US2008000140 AA	20110103	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008000140 AA	20110103		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2008289241 AA	20081127	LSPB	+	published / reissued	
US2008289241 AA	20090731	LSAS	AS	ASSIGNMENT	Effective date: 20090709 PartyType: owner Owner: SKINNER, CHRISTOPHER, NEW JERSEY OldParty: PATENT COLLATERAL ASSIGNMENT AND SECURITY AGREEMENT;ASSIGNOR:MYSTIC TACKLEWORKS, INC.;REEL/FRAME:023036/0784
US2008289241 AA	20120725	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7228656 BB	20070612	LSGT	+	granted / extensions (spc, cpc, pte)	
US7228656 BB	20070619	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MITCHELL, GREG J.;COLEMAN, ERNEST A.;REEL/FRAME:019448/0064;SIGNING DATES FROM 20070510 TO 20070515 Owner: RELLIS GROUP, INC., CONNECTICUT PartyType: owner
US7228656 BB	20100121	LSAS	AS	ASSIGNMENT	Effective date: 20100119 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:RELLIS GROUP, INC.;REEL/FRAME:023821/0125 Owner: MYSTIC TACKLEWORKS, INC., CONNECTICUT PartyType: owner
US7228656 BB	20110117		REMI	MAINTENANCE FEE REMINDER MAILED	
US7228656 BB	20110612	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7228656 BB	20110612	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US7228656 BB	20110802	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20110612
US7228656 BB	20121001	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	Effective date: 20121005
US7228656 BB	20121005	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7228656 BB	20121005		+SULP	SURCHARGE FOR LATE PAYMENT	

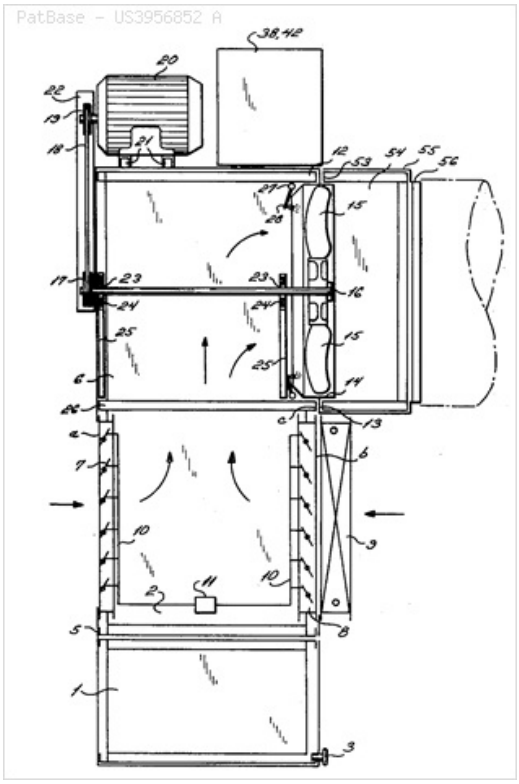
US7228656 BB	20150123		REMI	MAINTENANCE FEE REMINDER MAILED	
US7228656 BB	20150612	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7228656 BB	20150713	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7228656 BB	20150713	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7228656 BB	20150804	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150612
US7228656 BB	20250128	PEXP		Calculated Patent Term Expiry (PTA 28 days)	
US8240078 BB	20120725	LSGT	PAT1	Patented Case	
US8240078 BB	20120814	LSGT	+	granted / extensions (spc, cpc, pte)	
US8240078 BB	20160219	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8240078 BB	20160219		+SULP	SURCHARGE FOR LATE PAYMENT	
US8240078 BB	20200406	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8240078 BB	20200921	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
US8240078 BB	20201005	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8240078 BB	20301223	PEXP		Calculated Patent Term Expiry (PTA 944 days)	

27) Family number: 1283458 (US3956852 A)

Title: AIR AND SOIL **TREATMENT** APPARATUS FOR A GREENHOUSE

Abstract: An upright rectangular housing provided with air driving means for generating an airstream into which a number of ingredients, necessary to the life support of vegetation within a greenhouse, is injected for airborne distribution throughout the greenhouse, in addition to a ground level irrigation system fed by a reservoir in the housing containing the liquid components of the ingredients, while the temperature of the greenhouse is controlled by a pair of air intakes in the housing which selectively admit recycled air through a heater which raises the temperature when necessary or outside air if the temperature is to be lowered. Additional cooling is achieved by the adiabatic heat transfer of a **water** spray or the expansion of a gas within the housing of the apparatus.

Classifications:
International (IPC 8-9): A01C23/00 A01C23/04 A01G9/24 A01M13/00
International (IPC 1-7): A01C23/04 A01G9/00 A01G9/18 A01G9/24 A01K7/02 A01M7/00 A01N9/24 B01F F24F5/00
CPC: A01G9/246 Y02A40/25
US: 165/222 454/229 47/17



Family:

Publication number	Publication date	Application number	Application date
CH601742 A	19780714	CH19750001254	19750203
DE2508071 A1	19751120	DE19752508071	19750225
ES435470 A1	19761216	ES19750435470	19750310
FR2272594 A1	19751226	FR19750007192	19750307
FR2272594 B1	19781006	FR19750007192	19750307
GB1503572 A	19780315	GB19750005503	19750210
IT1041744 A	19800110	IT19750020950	19750305
JP51118681 A2	19761018	JP19750029952	19750310
NL7502638 A	19750912	NL19750002638	19750306
US3956852 A	19760518	US19750554317	19750228

Priority:
RO19740077879 19740310

Probable Assignee: METALUL ROSU INTREPRINDEREA

Assignee(s): (std): METALUI ROSU CLUJ INTREPRINDER ; METALUL ROSU ; METALUL ROSU CLUJ INTREPRINDER ; METALUL ROSU INTREPRINDEREA

Assignee(s): INTEREPURINDEREA METARURU ROOSU ; INTREPRINDEREA METALUI ROSU CLUJ ; INTREPRINDEREA METALUL ROSU ; INTREPRINDEREA METALUL ROSU CLUJ ; INTREPRINDEREA METALUL ROSU RU ; INTREPRINDEREA METALUL ROSU TE CLUJ ROEMENIE

Inventor(s): (std): BEETORU KONSUTANCHINESUKU ; CEAUSESCU ION ; CEAUSESCU ION DIPL ING ; CONSTANTINESCU P ; CONSTANTINESCU PETRE ; CONSTANTINESCU PETRE DIPL ING ; CRISTEA N ; CRISTEA NICOLAE ; CRISTEA NICOLAE DIPL ING ; EMIIRU OAKISU ; ION SEAUSESUKU ; NIKORAE KURISUTEA ; OACHIS E ; OACHIS EMIL ; OACHIS EMIL DIPL ING

Inventor(s): EMIL OACHIS ; ION CEAUSESCU ; NICOLAE CRISTEA ; PETRE CONSTANTINESCU

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CH601742 A	19780714	LSGT	+	granted / extensions (spc, cpc, pte)	
CH601742 A	19821029	LSLE	-PL	PATENT CEASED	
CH601742 A	19950203	PEXP		Calculated Patent Term Expiry	
DE2508071 A1	19751120	LSPB	+	published / reissued	

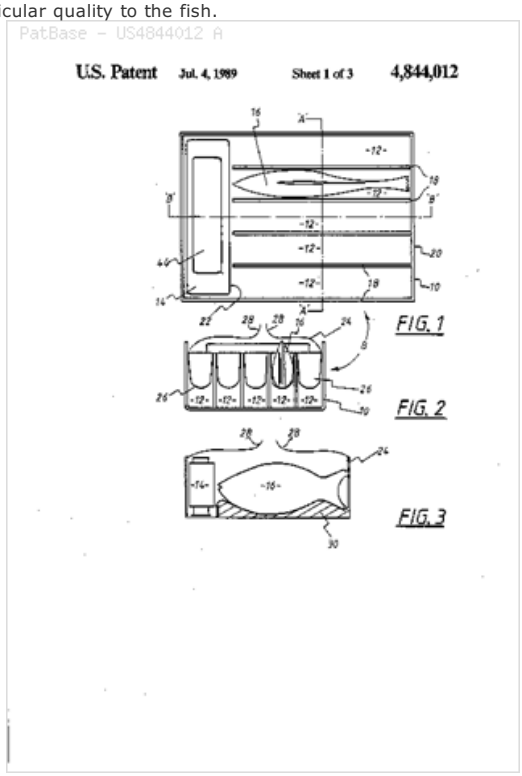
DE2508071 A1	19830203	LSLE	-8141	DISPOSAL/NO REQUEST FOR EXAMINATION
ES435470 A1	19761216	LSGT	+	granted / extensions (spc, cpc, pte)
ES435470 A1	19961216	PEXP		Calculated Patent Term Expiry
FR2272594 A1	19751226	LSPB	+	published / reissued
FR2272594 B1	19781006	LSGT	+	granted / extensions (spc, cpc, pte)
FR2272594 B1	19830121	LSLE	-ST	NOTIFICATION OF LAPSE
FR2272594 B1	19950307	PEXP		Calculated Patent Term Expiry
GB1503572 A	19780315	LSGT	+	granted / extensions (spc, cpc, pte)
GB1503572 A	19780726	LSGT	+PS	PATENT SEALED
GB1503572 A	19830928	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE
GB1503572 A	19950210	PEXP		Calculated Patent Term Expiry
IT1041744 A	19800110	LSGT	+	granted / extensions (spc, cpc, pte)
IT1041744 A	19950305	PEXP		Calculated Patent Term Expiry
JP51118681 A2	19761018	LSPB	+	published / reissued
NL7502638 A	19750912	LSPB	+	published / reissued
NL7502638 A	19820503	LSLE	-BV	THE PATENT APPLICATION HAS LAPSED
US3956852 A	19760518	LSGT	+	granted / extensions (spc, cpc, pte)
US3956852 A	19950228	PEXP		Calculated Patent Term Expiry

28) Family number: 2221509 (US4844012 A)

Title: FISH TRANSPORT SYSTEM

Abstract: A method of transporting live fish is disclosed. The method comprises inducing in the fish a state of piscine immobility syndrome. Piscine immobility syndrome means the hypnotic-like, apparently behavioral, state in fish appear to assume a relaxed state. The state of piscine immobility syndrome is maintained in the fish while transporting the fish to the desired destination. It has been found that a state of piscine immobility syndrome can be induced by physically restraining the fish against substantial movement and supplying **water** of a particular quality to the fish.

Classifications:
International (IPC 8-9): A01K63/00 A01K63/02 G02B6/44
International (IPC 1-7): A01K61/00 A01K63/00 A01K63/02 A01K63/04 A01N1/00 B65D85/50 C02F
CPC: A01K63/02 G02B6/4401
US: 119/2 119/203 119/3



Family:

Publication number	Publication date	Application number	Application date
AT68666 E	19911115	AT19860303961T	19860523
AU198657817 A1	19861127	AU19860057817	19860522
AU590567 B2	19891109	AU19860057817	19860522
CN1015953 B	19920325	CN19861004348	19860523
CN86104348 A	19870401	CN19861004348	19860523
DE3682112 D1	19911128	DE19863682112T	19860523
DK239586 A	19861124	DK19860002395	19860522
DK239586 A0	19860522	DK19860002395	19860522
EP0202952 A2	19861126	EP19860303961	19860523
EP0202952 A3	19870603	EP19860303961	19860523
EP0202952 B1	19911023	EP19860303961	19860523
IL78901 A0	19860930	IL19860078901	19860523
IL78901 A1	19900610	IL19860078901	19860523
IS3101 A7	19860828	IS19860003101	19860523
JP62083836 A2	19870417	JP19860117707	19860523
NO862039 A	19861124	NO19860002039	19860522
NO862039 L	19861124	NO19860002039	19860522
NZ212177 A	19881028	NZ19850212177	19850523
US4844012 A	19890704	US19880284791	19881212
ZA8603844 A	19870225	ZA19860003844	19860522

Priority:
NZ19850212177 19850523 EP19860303961 19860523

Probable Assignee: HER MAJESTY QUEEN IN RIGHT OF NEW ZEALAND

Assignee(s): (std): NEW ZEALAND GOVERNMENT ; NZ GOVERNMENT ; UNITED KINGDOM GOVERNMENT

Assignee(s): HER MAJESTY QUEEN IN RIGHT OF NEW ZEALAND ; HER MAJESTY QUEEN IN RIGHT OF NEW ZEALAND LINCOLN CHRISTCHURCH NZ ; HER MAJESTY THE QUEEN IN RIGHT OF NEW ZEALAND ; HER MAJESTY THE QUEEN IN RIGHT OF NEW ZEALAND LINCOLN CHRISTCHURCH NZ ; NEW ZEALAND GOVERNMENT PROPERTU CORP ; NEW ZEALAND GOVERNMENT PROPERTY CORP ; NEW ZEALAND GOVERNMENT PROPERTY CORPORATE ; NEW ZEALAND GOVERNMENT PUROPATEI CORP

Inventor(s): (std): JERRET ALISTAIR RENFREW ; JERRETT A R ; JERRETT ALISTAIR ; JERRETT ALISTAIR R ; JERRETT ALISTAIR RENFREN ; JERRETT ALISTAIR RENFREW

Inventor(s): ALISTAIR RENFREN JERRETT ; ALISTAIR RENFREW JERRET ; ALISTAIR RENFREW JERRETT ; ARISUTEAA RENFURIYUU JIERETSUTO ; JERRETT ALISTAIR RENFREW KARORI WELLINGTON NZ

Agent(s): REINHOLD COHN AND PARTNERS

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT68666 E	19911115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT68666 E	19920415	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT68666 E	20060523	PEXP		Calculated Patent Term Expiry	
AU198657817 A1	19861127	LSPB	+	published / reissued	
AU590567 B2	19891109	LSGT	+	granted / extensions (spc, cpc, pte)	
AU590567 B2	20060522	PEXP		Calculated Patent Term Expiry	
CN1015953 B	19920325	LSPB	+	published / reissued	
CN1015953 B	19920325		C13	DECISION	
CN1015953 B	19920325	LSES	GR02	审定	Text: 审定 (Approval)
CN1015953 B	19930505	LSDW	-C01	DEEMED WITHDRAWAL OF PATENT APPLICATION (PATENT LAW 1993)	
CN1015953 B	19930505	LSDW	-WD01	发明专利申请公布后的视为撤回	Text: 专利申请的视为撤回 (Patent application is deemed to have been withdrawn)
CN86104348 A	19870401	LSPB	+	published / reissued	
CN86104348 A	19870401	LSPB	+C06	PUBLICATION	
CN86104348 A	19870401	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN86104348 A	19880817		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN86104348 A	19880817		SE01	实质审查请求的生效	Text: 实质审查请求 (The Request for Substantive Examination)
DE3682112 D1	19921119	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3682112 D1	19921119	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3682112 D1	19930506	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE3682112 D1	19930506	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DK239586 A	19861124	LSPB	+	published / reissued	
DK239586 A	19910121	LSWD	-AHB	APPLICATION SHELVED DUE TO NON-PAYMENT	
EP0202952 A2	19861126	LSPB	+	published / reissued	
EP0202952 A2	19861126		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH DE FR GB IT LI LU NL SE
EP0202952 A3	19870603		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AT BE CH DE FR GB IT LI LU NL SE
EP0202952 A3	19880120	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19871119
EP0202952 A3	19890823	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19890706
EP0202952 A3	19910905		+ITF	IT: TRANSLATION FOR A EP PATENT FILED	Owner: ST. ASSOC. MARIETTI & PIPPARELLI PartyType: owner
EP0202952 A3	19911002	LSAS	RAP1	RIGHTS OF AN	PartyType: owner

				APPLICATION TRANSFERRED	Owner: HER MAJESTY THE QUEEN IN RIGHT OF NEW ZEALAND
EP0202952 B1	19911023	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0202952 B1	19911023		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE FR GB IT LI LU NL SE
EP0202952 B1	19911023	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19911023 Country of Ref document: AT
EP0202952 B1	19911023		REF	CORRESPONDS TO:	Ref document number: 68666 Date of Ref document: 19911115 Kind code of Ref document: T Country of Ref document: AT
EP0202952 B1	19911128		REF	CORRESPONDS TO:	Date of Ref document: 19911128 Ref document number: 3682112 Country of Ref document: DE
EP0202952 B1	19911206		+ET	FR: TRANSLATION FILED	
EP0202952 B1	19920523	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19920523 Country of Ref document: GB
EP0202952 B1	19920524	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19920524 Country of Ref document: SE
EP0202952 B1	19920531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19920531 Country of Ref document: BE
EP0202952 B1	19920531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19920531 Country of Ref document: CH
EP0202952 B1	19920531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19920531 Country of Ref document: LI
EP0202952 B1	19920531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19920531 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP0202952 B1	19921014	LSGT	+26N	NO OPPOSITION FILED	
EP0202952 B1	19921130	LSLE	-BERE	BE: LAPSED	Owner: HER MAJESTY THE QUEEN IN RIGHT OF NEW ZEALAND Ref country code: EP PartyType: owner Effective date: 19920531
EP0202952 B1	19921201	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19921201 Country of Ref document: NL
EP0202952 B1	19930118	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	Ref country code: EP
EP0202952 B1	19930120	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 19920523 Ref country code: EP
EP0202952 B1	19930129	LSLE	-PG25	LAPSED IN A CONTRACTING	Lapsed date: 19930129 Country of Ref document: FR

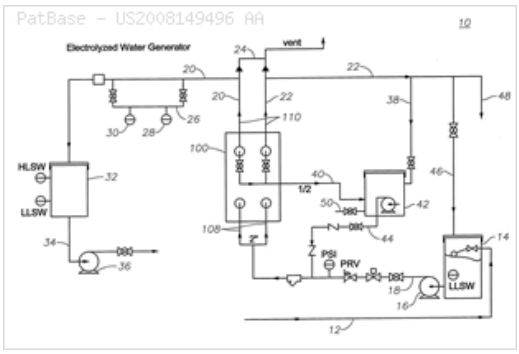
				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	
EP0202952 B1	19930129	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP0202952 B1	19930202	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19930202 Country of Ref document: DE
EP0202952 B1	19930326	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: ST
EP0202952 B1	19950131	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	Ref country code: EP Text: 86303961.6 Effective date: 19921204
EP0202952 B1	20050523	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050523 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP0202952 B1	20050523	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050523 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES;WARNING: LAPSES OF ITALIAN PATENTS WITH EFFECTIVE DATE BEFORE 2007 MAY HAVE OCCURRED AT ANY TIME BEFORE 2007. THE CORRECT EFFECTIVE DATE MAY BE DIFFERENT FROM THE ONE RECORDED. Country of Ref document: IT
EP0202952 B1	20060523	PEXP		Calculated Patent Term Expiry	
IL78901 A1	19900610	LSPB	+	published / reissued	
IL78901 A1	19970218	LSWD	-RH	PATENT VOID	
IS3101 A7	19860828	LSPB	+	published / reissued	
JP62083836 A2	19870417	LSPB	+	published / reissued	
NO862039 A	19861124	LSPB	+	published / reissued	
NZ212177 A	19881028	LSPB	+	published / reissued	
US4844012 A	19890510	LSGT	PAT1	Patented Case	
US4844012 A	19890704	LSGT	+	granted / extensions (spc, cpc, pte)	
US4844012 A	19921021	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4844012 A	19970211		REMI	MAINTENANCE FEE REMINDER MAILED	
US4844012 A	19970706	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4844012 A	19970916	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19970709
US4844012 A	20081212	PEXP		Calculated Patent Term Expiry	
US4844012 A	20180129	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4844012 A	20180129	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
ZA8603844 A	19870225	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA8603844 A	20060521	PEXP		Calculated Patent Term Expiry	

29) Family number: 41950587 (US2008149496 AA)

Title: APPARATUS AND METHODS FOR ELECTROLYZED **WATER**

Abstract: An apparatus and method for the production of alkaline **water** is provided, wherein the **water**, when administered to cattle, is effective for the **treatment** and prevention of rumen acidosis. Additionally, the alkaline **water** is effective for increased production of milk and increased quality of milk produced.

Classifications:
International (IPC 8-9): A01K29/00 A23K1/175 A23K1/18 A23L2/38 C02F1/461
CPC: A23K20/10 A23K20/22 A23K50/10 C02F1/461 C02F1/68 C02F2001/46195 A01K7/00 C02F2001/4619 C02F2103/026 C02F2103/20 C02F2201/46115 C02F2209/04
US: 119/174 205/742 426/2 426/2P



Family:

Publication number	Publication date	Application number	Application date
AU2007336758 AA	20080703	AU20070336758	20071221
BRPI0720685 A2	20140415	BR2007PI20685	20071221
EP2121526 A2	20091125	EP20070865993	20071221
EP2121526 A4	20110119	EP20070865993	20071221
MX2009006844 A1	20090824	MX20090006844	20071221
NZ578567 A	20120330	NZ20070578567	20071221
US2008149496 AA	20080626	US20070962534	20071221
US2012114787 AA	20120510	US20120353720	20120119
WO08080119 A2	20080703	WO2007US88692	20071221
WO08080119 A3	20080828	WO2007US88692	20071221

Priority:

US20060876698P 20061222 US20060876855P 20061222 WO2007US88692 20071221
US20070962534 20071221 US20120353720 20120119

Probable Assignee: EAU TECHNOLOGIES INC

Assignee(s): (std): EAU TECHNOLOGIES INC ; KINDRED DOUGLAS W

Inventor(s): (std): KINDRED DOUGLAS W

Inventor(s): DOUGLAS W KINDRED

Agent(s): BRACEWELL AND GIULIANI LLP; DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; HAY MICHAEL F; LOCKEY ROBERT ALEXANDER

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2007336758 AA	20080703	LSPB	+	published / reissued	
AU2007336758 AA	20150507	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
BRPI0720685 A2	20140415	LSPB	+	published / reissued	
BRPI0720685 A2	20140826		-B08L	APPLICATION FEES: FINAL ARCHIVING	Text: REFERENTE AO NAO RECOLHIMENTO DAS 4A, 5A E 6A ANUIDADES.
BRPI0720685 A2	20201110	LSFE	B08I	APPLICATION FEES: PUBLICATION CANCELLED	Text: ANULADA A PUBLICACAO CODIGO 8.12 NA RPI NO 2277 DE 26/08/2014 POR TER SIDO INDEVIDA.
BRPI0720685 A2	20201117	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	Text: REFERENTE AS 4A, 5A, 6A, 7A, 8A, 9A, 10A, 11A E 12A ANUIDADES.
EP2121526 A2	20091125	LSPB	+	published / reissued	
EP2121526 A2	20091125	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20090721
EP2121526 A2	20091125		+AK	DESIGNATED CONTRACTING	Kind code of Ref document: A2 Country of Ref document: AT BE

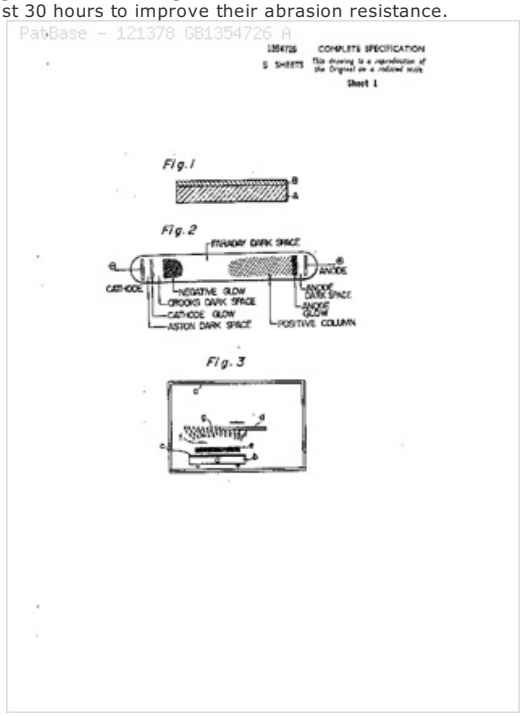
				STATES	BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR
EP2121526 A2	20100331		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2121526 A4	20110119	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20101221
EP2121526 A4	20110209	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20110112
EP2121526 A4	20150325	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20141018
MX2009006844 A1	20090824	LSPB	+	published / reissued	
NZ578567 A	20120330	LSPB	+	published / reissued	
NZ578567 A	20120727	LSGT	+PSEA	PATENT SEALED	
NZ578567 A	20141128	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20141106 Text: PATENT RENEWED FOR 1 YEAR UNTIL 21 DEC 2015 BY CPA GLOBAL
NZ578567 A	20151127	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20151106 Text: PATENT RENEWED FOR 1 YEAR UNTIL 21 DEC 2016 BY CPA GLOBAL
NZ578567 A	20170630	LSLE	-LAPS	PATENT LAPSED	
US2008149496 AA	20080626	LSPB	+	published / reissued	
US2008149496 AA	20120212	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008149496 AA	20120212		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2012114787 AA	20120403	LSAS	AS	ASSIGNMENT	Effective date: 20120329 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KINDRED, DOUGLAS W.;REEL/FRAME:027980/0186 Owner: EAU TECHNOLOGIES, INC., GEORGIA PartyType: owner
US2012114787 AA	20120510	LSPB	+	published / reissued	
US2012114787 AA	20130812	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012114787 AA	20130812		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO08080119 A2	20080703	LSPB	+	published / reissued	
WO08080119 A2	20080820		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 07865993 Kind code of Ref document: A2 Country of Ref document: EP
WO08080119 A3	20090622	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2009/006844 Country of Ref document: MX
WO08080119 A3	20090623	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08080119 A3	20090721	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007865993 Country of Ref document: EP
WO08080119 A3	20090722	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007336758 Country of Ref document: AU
WO08080119 A3	20090722	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 578567 Country of Ref document: NZ
WO08080119 A3	20090813	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20071221 Kind code of Ref document: A Ref document number: 2007336758 Country of Ref document: AU
WO08080119 A3	20140415	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20090622 Kind code of Ref document: A2 Ref document number: PI0720685

30) Family number: 121378 (GB1354726 A)

Title: GLASS ARTICLES COATED TO REDUCE SOLAR RADIATION TRANSMISSION

Abstract: 1354726 Coated glass NIPPON SHEET GLASS CO Ltd 28 July 1971 [29 July 1970] 35508/71 Heading C7F Sheet window or optical glass is coated on at least one face with a film of a nitride, carbide or silicide of an element of Gp. IV, V, or VI of the Mendeleev Periodic Table. Preferred films are Cr carbide, Cr nitride, Cr silicide, SiC + TiN; the thickness may be 5-200 millimicrons, and the film is applied by sputtering, e.g. RF sputtering in Ar or reactive sputtering in N 2 to form a nitride or mixed nitride, e.g. of Cr/Mo or Cr/Ti, or by vapour-deposition using electronbeam heating, the glass being ion-bombardment cleaned prior to coating. An apparatus is described wherein glass sheets are moved in sequence past ion bombardment cleaning means and then past **water** -cooled sputtering cathodes. Coatings of chromium carbide, nitride, or silicide may be post-treated in **water** or steam above 60?C for at least 30 hours to improve their abrasion resistance.

Classifications:
International (IPC 8-9): A01K79/00 A01K81/00 C03C17/22 G02B5/20
International (IPC 1-7): A01K81/00 B32B17/00 C03C17/00 C03C17/22 C23C13/04 C23C15/00 G02B5/00
CPC: C03C17/22 C03C17/225 C03C2217/281 C03C2217/282 C03C2218/151 C03C2218/154 G02B5/208



Family:

Publication number	Publication date	Application number	Application date
BE770661 A	19711201	BE19710770661	19710729
DE2138034 A1	19720217	DE19712138034	19710729
FR2104813 A1	19720421	FR19710027880	19710729
FR2104813 B1	19740531	FR19710027880	19710729
GB1354726 A	19740605	GB19710035508	19710728
JP48023573 U1	19730317	JP19710066855U	19710729
JP50031430 Y2	19750912	JP19710066855U	19710729
ZA7105061 A	19720426	ZA19710005061	19710729

Priority:
JP19700066855 19700729 JP19710066855U 19710729

Probable Assignee: NIPPON SHEET GLASS CO LTD
Assignee(s): (std): NIPPON SHEET GLASS CO LTD
Assignee(s): NIPPON SHEET GLASS CO JA ; NIPPON SHEET GLASS CO LTD 8 ; NIPPON SHEET GLASS CO LTD 8 4 CHOME DOSHO MACHI HIGASHI KU OSAKA JAPON
Inventor(s): (std): KUSHIHASHI A ; SONO K

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BE770661 A	19711201	LSPB	+	published / reissued	
DE2138034 A1	19720217	LSPB	+	published / reissued	
FR2104813 A1	19720421	LSPB	+	published / reissued	
FR2104813 B1	19740531	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2104813 B1	19760910	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2104813 B1	19910729	PEXP		Calculated Patent Term Expiry	
GB1354726 A	19740605	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1354726 A	19741009	LSGT	+PS	PATENT SEALED	
GB1354726 A	19760225	LSLE	-PLNP	PATENT LAPSED THROUGH NONPAYMENT OF RENEWAL FEES	
GB1354726 A	19910728	PEXP		Calculated Patent Term Expiry	

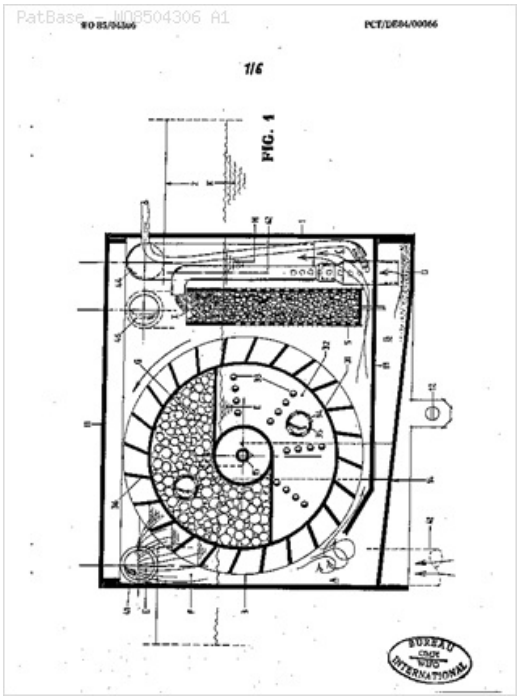
JP48023573 U1	19730317	LSPB	+	published / reissued
JP50031430 Y2	19750912	LSPB	+	published / reissued
ZA7105061 A	19720426	LSGT	+	granted / extensions (spc, cpc, pte)
ZA7105061 A	19870728	PEXP		Calculated Patent Term Expiry

31) Family number: 2155418 (WO8504306 A1)

Title: FILTER DEVICE FOR AQUARIUM

Abstract: The filter device comprises a housing wherein a rotary filter drum is arranged having blades similar to those of a turbine, a polluted **water** supply and a filtered **water** discharge. In order to obtain a good filtration, a hollow cylinder (3) is arranged inside the drum, the blades (36) are arranged tangentially with respect to the inner surface of the cylinder and are terminated approximately on the outside of the periphery of the drum and are inclined against the rotational direction thereof. The filtering drum is secured so that a portion of its cross-section is immersed in **water** (A) and another portion is in atmospheric air (F), while the blades (36) are fed by the **water** (E) supply (41) situated above the **water** level. **Water** to be purified enters the radial **chambers** which are open towards the outside and are formed by said blades (36) and the side walls of the drum; filtering substances in the form of bacterial support material (G) are fixed to the drum which alternatingly plunges into **water** and comes out to atmospheric air.

Classifications:
International (IPC 8-9): A01K63/04 C02F3/08
International (IPC 1-7): A01K63/04 C02F3/02 C02F3/08
CPC: A01K63/045 C02F3/082 Y02W10/10



Family:

Publication number	Publication date	Application number	Application date
AU198427308 A1	19851101	AU19840027308	19840322
DE3238366 A1	19840419	DE19823238366	19821016
DE3238366 C2	19850509	DE19823238366	19821016
DE3490685 D2	19860410	DE19843490685T	19840322
EP0175681 A1	19860402	EP19840901327	19840322
WO8504306 A1	19851010	WO1984DE00066	19840322

Priority:

DE19823238366 19821016 WO1984DE00066 19840322 AU19840027308 19840322 WO1984DE000066 19840322

Probable Assignee: NEUHAUS A

Assignee(s): (std): NEUHAUS A ; NEUHAUS ADOLF ; NEUHAUS ADOLF ING GRAD

Assignee(s): NEUHAUS ADOLF ING ; NEUHAUS ADOLF ING GRAD 5828 ENNEPETAL DE

Inventor(s): (std): ADOLF NEUHAUS ; NEUHAUS ADOLF ; NEUHAUS ADOLF ING GRAD

Inventor(s): NEUHAUS ADOLF ING ; NEUHAUS ADOLF ING GRAD 5828 ENNEPETAL DE

Designated states: AT AU BE CH DE DK FI FR GB JP LI LU NL NO SE SU US

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU198427308 A1	19851101	LSPB	+	published / reissued	
DE3238366 A1	19840419	LSPB	+	published / reissued	
DE3238366 A1	19840419	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE3238366 C2	19850509	LSGT	+	granted / extensions (spc, cpc, pte)	
DE3238366 C2	19850509	LSGT	+D2	GRANT AFTER EXAMINATION	
DE3238366 C2	19851107	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3238366 C2	19941006	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	

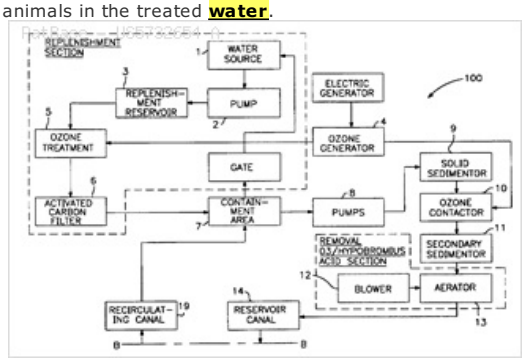
DE3490685 D2	19870611	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	
DE3490685 D2	19870611	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	
EP0175681 A1	19860402	LSPB	+	published / reissued	
EP0175681 A1	19860402		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE FR GB LI LU NL SE
EP0175681 A1	19860924	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 19860225
WO8504306 A1	19851010	LSPB	+	published / reissued	
WO8504306 A1	19851010		+AK	DESIGNATED STATES	Country of Ref document: AT AU CH DE DK FI GB JP LU NL NO SE SU US
WO8504306 A1	19851010		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Country of Ref document: AT BE CH DE FR GB LU NL SE
WO8504306 A1	19860410		+REF	CORRESPONDS TO	Date of Ref document: 19860410 Ref document number: 3490685 Country of Ref document: DE
WO8504306 A1	19860410	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 3490685 Country of Ref document: DE

32) Family number: 11694773 (US5732654 A)

Title: OPEN AIR MARICULTURE SYSTEM AND METHOD OF CULTURING MARINE ANIMALS

Abstract: A mariculture system and method of culturing marine life with polluted source **water**. The system includes a **water** replenishment reservoir, activated carbon and ozone purification devices, a device for removing toxic byproducts of ozonation of salty or brackish (bromine-containing) **water**, and ponds for the culture of marine animals. The method includes obtaining **water** containing compounds and organisms detrimental to marine animal life, treating the **water** so it is suitable for the culture of marine animals, and raising and harvesting marine animals in the treated **water**.

Classifications:
International (IPC 8-9): A01K61/00 A01K63/04
International (IPC 1-7): A01K61/00 A01K63/04 H01R13/64 H01R9/00
CPC: A01K61/00 A01K61/13 A01K63/04 A01K63/10
US: 119/204 119/211



Family:

Publication number	Publication date	Application number	Application date
BRPI9606715 A	19980113	BR1996PI06715	19961018
CN1185714 A	19980624	CN19961091251	19961018
IN02270DE1996 A	20160831	IN1996DE02270	19961018
JP11501524 T2	19990209	JP19970516101T	19961018
MX9704360 A1	19980228	MX19970004360	19961018
PE45098 A1	19980904	PE19960000739	19961025
TH21174 A	19961015	TH19951003302	19951215
TH21181 A	19961015	TH19961000070	19951020
TH9412 B	20000211	TH19961000070	19951020
US5732654 A	19980331	US19960730853	19961017
US5947057 A	19990907	US19980010168	19980121
WO9714301 A2	19970424	WO1996US17895	19961018

Priority:

US19950005723P 19951020 US19960730853 19961017 WO1996US17895 19961018
US19980010168 19980121

Probable Assignee: FIRST REPUBLIC OF AMERICA CORP
Assignee(s): (std): FIRST REPUBLIC CORP OF AMERICA
Assignee(s): FIRST REPUBLIC CORP ; FIRST REPUBLIC OF AMERICA CORP ; FIRST REPUBLIC OF AMERICA INC CORP ; THE FIRST REPUBLIC CORP OF AMERICA
Inventor(s): (std): HUNTER M L ; HUNTER MAX L ; PEREZ C E ; PEREZ CARLOS E
Inventor(s): C E PEREZ ; CARLOS E PEREZ ; M L HUNTER ; MAX L HUNTER
Designated states: BR CN JP MX

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BRPI9606715 A	19980113	LSPB	+	published / reissued	
BRPI9606715 A	20051129	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	Text: REFERENTE A 8A E 9A ANUIDADES.
CN1185714 A	19980624	LSPB	+	published / reissued	
CN1185714 A	19980624	LSPB	+C06	PUBLICATION	
CN1185714 A	19990113		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1185714 A	20050527		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1013767 Ref legal event code: WD Country of Ref document: HK
CN1185714 A	20070221	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	

IN02270DE1996 A	20160831	LSPB	+	published / reissued	
JP11501524 T2	19990209	LSPB	+	published / reissued	
MX9704360 A1	19980228	LSPB	+	published / reissued	
MX9704360 A1	20001124	LSGT	+FG	GRANT OR REGISTRATION	
MX9704360 A1	20161130	LSLE	-MM	ANNULMENT OR LAPSE DUE TO NON-PAYMENT OF FEES	
PE45098 A1	19980904	LSPB	+	published / reissued	
PE45098 A1	20020130	LSGT	+FG	GRANT, REGISTRATION	
PE45098 A1	20040630	LSWD	-FD	APPLICATION DECLARED VOID OR LAPSED	
TH21174 A	19961015	LSPB	+	published / reissued	
TH21181 A	19961015	LSPB	+	published / reissued	
TH9412 B	20000211	LSGT	+	granted / extensions (spc, cpc, pte)	
TH9412 B	20151020	PEXP		Calculated Patent Term Expiry	
US5732654 A	19970224	LSAS	AS	ASSIGNMENT	Effective date: 19970109 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:PEREZ, CARLOS E.;HUNTER, MAX L.;REEL/FRAME:008414/0575 Owner: FIRST REPUBLIC CORPORATION OF AMERICA, INC., THE, PartyType: owner
US5732654 A	19970627	LSAS	AS	ASSIGNMENT	Effective date: 19970109 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE NAME OF THE RECEIVING PARTY PREVIOUSLY RECORDED ON 2/24/97 AT REEL/FRAME 8414;ASSIGNORS:PEREZ, CARLOS E.;HUNTER, MAX L.;REEL/FRAME:008602/0911 Owner: FIRST REPUBLIC CORPORATION OF AMERICA, THE, NEW YO PartyType: owner
US5732654 A	19980331	LSGT	+	granted / extensions (spc, cpc, pte)	
US5732654 A	20010920	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5732654 A	20051019		REMI	MAINTENANCE FEE REMINDER MAILED	
US5732654 A	20060331	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5732654 A	20060503	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5732654 A	20060503	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5732654 A	20060530	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20060331
US5732654 A	20161017	PEXP		Calculated Patent Term Expiry	
US5947057 A	19990907	LSGT	+	granted / extensions (spc, cpc, pte)	
US5947057 A	20030304	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5947057 A	20070328		REMI	MAINTENANCE FEE REMINDER MAILED	
US5947057 A	20070907	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5947057 A	20071008	LSLE	PEX1	Patent Expired Due	

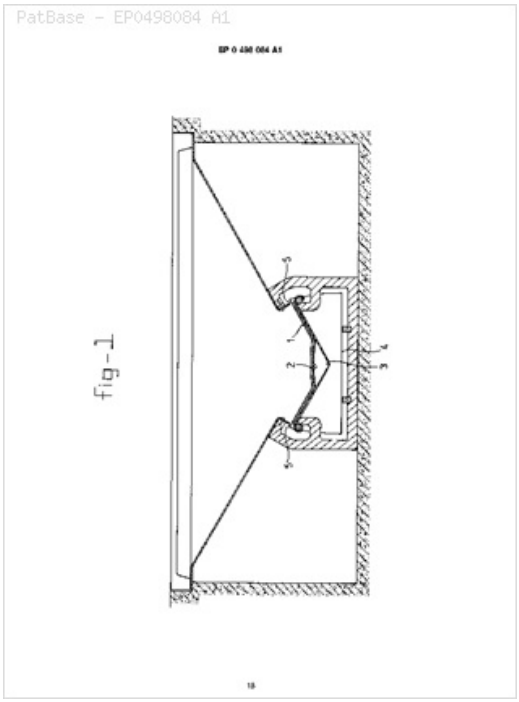
				to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5947057 A	20071008	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5947057 A	20071030	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20070907
US5947057 A	20180121	PEXP		Calculated Patent Term Expiry	
WO9714301 A2	19961018	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 96191251.0 Country of Ref document: CN
WO9714301 A2	19970424	LSPB	+	published / reissued	
WO9714301 A2	19970424		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: BR CN JP MX
WO9714301 A2	19970612	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PA/a/1997/004360 Country of Ref document: MX
WO9714301 A2	19970620	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 1997 516101 Country of Ref document: JP

33) Family number: 3506750 (EP0498084 A1)

Title: A METHOD FOR PROCESSING MANURE.

Abstract: The invention relates to a method for processing manure wherein the manure is separated in the livestock house into a urine and a faeces fraction; the livestock house has controlled ventilation, the ventilation air being used for predrying the manure to a dry solids content of more than 30 percent by weight in the faeces fraction; and the air discharged from the livestock house **exchanges** heat by means of a heat **exchanger** with the fresh air supplied. The invention provides a livestock house constructed for performing the method of the invention. The method of the invention resulting in a considerable lower ammonia emission.

Classifications:
International (IPC 8-9): A01K1/01 C05F3/00
International (IPC 1-7): A01K1/01 C05F3/00
CPC: A01K1/0103 A01K1/0117 C05F3/00 Y02A40/20 Y02P20/145



Family:

Publication number	Publication date	Application number	Application date
AT137482 E	19960515	AT19910200267T	19910207
DE69119218 D1	19960605	DE19916019218T	19910207
DE69119218 T2	19961128	DE19916019218T	19910207
DK0498084 T3	19960812	DK19910200267T	19910207
EP0498084 A1	19920812	EP19910200267	19910207
EP0498084 B1	19960501	EP19910200267	19910207
ES2087960 T3	19960801	ES19910200267T	19910207
GR3020582 T3	19961031	GR19960401940T	19960718

Priority:
EP19910200267 19910207

Probable Assignee: ASPERT VAN BEHEER BV
Assignee(s): (std): ASPERT BEHEER VAN BV ; ASPERT VAN BEHEER BV
Assignee(s): VAN ASPERT BEHEER B V ; VAN ASPERT BEHEER B V UDEN NL
Inventor(s): (std): ASPERT JOSEF A A J VAN ; VAN ASPERT JOSEF ARNOLDUS ADRI
Inventor(s): VAN ASPERT JOSEF ARNOLDUS ADRIANUS JO ; VAN ASPERT JOSEF ARNOLDUS ADRIANUS JOHANNES ; VAN ASPERT JOSEF ARNOLDUS ADRIANUS JOHANNES NL UDEN NL
Designated states: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT137482 E	19960515	LSGT	+	granted / extensions (spc, cpc, pte)	
AT137482 E	20110207	PEXP		Calculated Patent Term Expiry	
DE69119218 D1	19970528	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69119218 D1	20031211	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	

DE69119218 T2	19961128	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69119218 T2	19970528	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69119218 T2	20031211	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69119218 T2	20110207	PEXP		Calculated Patent Term Expiry	
DK0498084 T3	19960812	LSGT	+	granted / extensions (spc, cpc, pte)	
DK0498084 T3	20110207	PEXP		Calculated Patent Term Expiry	
EP0498084 A1	19920812	LSPB	+	published / reissued	
EP0498084 A1	19920812		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
EP0498084 A1	19920909	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19920713
EP0498084 A1	19940223	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19940111
EP0498084 B1	19960501	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0498084 B1	19960501		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
EP0498084 B1	19960501		REF	CORRESPONDS TO:	Ref document number: 137482 Kind code of Ref document: T Date of Ref document: 19960515 Country of Ref document: AT
EP0498084 B1	19960605		REF	CORRESPONDS TO:	Date of Ref document: 19960605 Ref document number: 69119218 Country of Ref document: DE
EP0498084 B1	19960625		REG	REFERENCE TO A NATIONAL CODE	Ref document number: 2087960 Ref country code: ES Kind code of Ref document: T3 Ref legal event code: BA2A Country of Ref document: ES
EP0498084 B1	19960710		+ITF	IT: TRANSLATION FOR A EP PATENT FILED	PartyType: owner Owner: STUDIO FERRARIO
EP0498084 B1	19960726		+ET	FR: TRANSLATION FILED	
EP0498084 B1	19960801	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: ES Ref legal event code: FG2A Ref document number: 2087960 Kind code of Ref document: T3 Country of Ref document: ES
EP0498084 B1	19960812		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: T3 Ref country code: DK
EP0498084 B1	19960930		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4A Text: 3020582 Ref country code: GR
EP0498084 B1	19970423	LSGT	+26N	NO OPPOSITION FILED	
EP0498084 B1	19970804	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19970804 Year of fee payment: 7 Country of Ref document: GB
EP0498084 B1	19970820	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Year of fee payment: 7 Payment date: 19970820 Country of Ref document: AT

				NATIONAL OFFICE TO EPO]	
EP0498084 B1	19970820	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19970820 Year of fee payment: 7 Country of Ref document: CH
EP0498084 B1	19970820	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 19970820 Country of Ref document: LU
EP0498084 B1	19970821	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 19970821 Country of Ref document: SE
EP0498084 B1	19970822	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19970822 Year of fee payment: 7 Country of Ref document: GR
EP0498084 B1	19980207	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 19980207 Country of Ref document: AT
EP0498084 B1	19980207	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19980207 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP0498084 B1	19980207	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 19980207 Country of Ref document: LU
EP0498084 B1	19980208	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 19980208 Country of Ref document: SE
EP0498084 B1	19980228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19980228 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP0498084 B1	19980228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 19980228 Country of Ref document: GR

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	
EP0498084 B1	19980228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 19980228 Country of Ref document: LI
EP0498084 B1	19980930	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 19980207
EP0498084 B1	19981015	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP0498084 B1	19981102	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	Text: 91200267.2 Ref country code: EP
EP0498084 B1	20020227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 12 Payment date: 20020227 Country of Ref document: DE
EP0498084 B1	20020228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20020228 Year of fee payment: 12 Country of Ref document: NL
EP0498084 B1	20030210	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 13 Payment date: 20030210 Country of Ref document: FR
EP0498084 B1	20030214	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 13 Payment date: 20030214 Country of Ref document: DK
EP0498084 B1	20030226	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20030226 Year of fee payment: 13 Country of Ref document: ES
EP0498084 B1	20030425	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20030425 Year of fee payment: 13 Country of Ref document: BE
EP0498084 B1	20030901	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030901 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: NL
EP0498084 B1	20030902	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	Lapsed date: 20030902 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Country of Ref document: DE
EP0498084 B1	20031103	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	Effective date: 20030901 Ref country code: EP
EP0498084 B1	20040209	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20040209 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP0498084 B1	20040228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20040228 Country of Ref document: BE
EP0498084 B1	20040301	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20040301 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DK
EP0498084 B1	20040831	LSLE	-BERE	BE: LAPSED	Effective date: 20040228 PartyType: owner Owner: *VAN ASPERT BEHEER B.V. Ref country code: EP
EP0498084 B1	20040927	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DK Ref legal event code: EBP
EP0498084 B1	20041029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20041029 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP0498084 B1	20041203	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: ST
EP0498084 B1	20050207	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050207 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP0498084 B1	20050207	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050207 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES;WARNING: LAPSES OF ITALIAN PATENTS WITH EFFECTIVE DATE BEFORE 2007 MAY HAVE OCCURRED AT ANY TIME BEFORE 2007. THE CORRECT EFFECTIVE DATE MAY BE DIFFERENT FROM THE ONE RECORDED. Country of Ref document: IT
EP0498084 B1	20050516	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FD2A Ref country code: ES Effective date: 20040209
EP0498084 B1	20110207	PEXP		Calculated Patent Term Expiry	

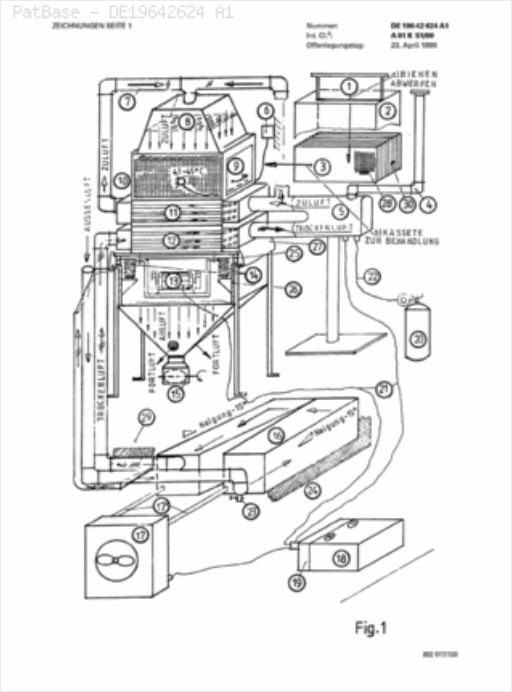
ES2087960 T3	19960801	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2087960 T3	19960801	LSGT	+FG2A	DEFINITIVE PROTECTION	Ref document number: 498084 Country of Ref document: ES
ES2087960 T3	20110207	PEXP		Calculated Patent Term Expiry	
GR3020582 T3	19961031	LSGT	+	granted / extensions (spc, cpc, pte)	
GR3020582 T3	20160718	PEXP		Calculated Patent Term Expiry	

34) Family number: 13263326 (DE19642624 A1)

Title: Method for controlling bee swarms using extra dry-air varroa mite fighting machine

Abstract: The air humidity is removed from the intake outside air through cold and the demoisturised air is then heated to 43 to 45 deg C. The extra dry warm air acts on the varroa mites to affect the function of the suction organs of the varroa so that the latter can no longer fixedly suck on the bees and fall off still alive from the bees. A vibration system accelerates the drop of the varroa mites. It comprises an electric motor (13) with two eccentric discs which vibrate springs (14). A heat recovery heat **exchanger** (12) is incorporated in the unit.

Classifications:
International (IPC 8-9): A01K51/00
International (IPC 1-7): A01K51/00 A01M19/00
CPC: A01K51/00



Family:

Publication number	Publication date	Application number	Application date
DE19642624 A1	19980423	DE19961042624	19961016

Priority:
DE19961042624 19961016

Probable Assignee: HERMANN OTTO DIPL ING FH
Assignee(s): (std): HERMANN OTTO DIPL ING FH
Assignee(s): HERMANN OTTO DIPL ING FH 74538 ROSENGARTEN DE

Legal status (INPADOC)

View legal status timeline

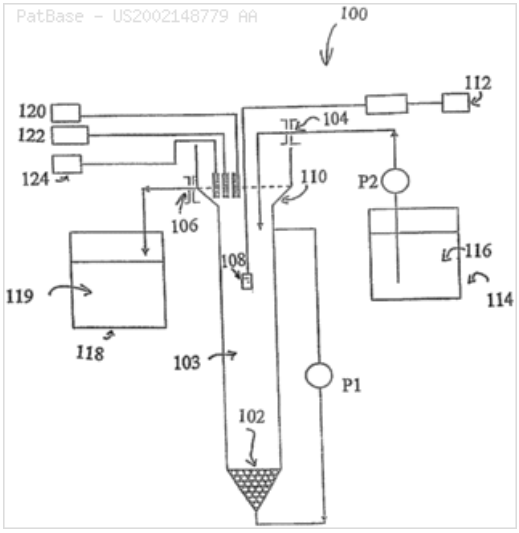
Patent	Date recorded	Event group	Code	Event	Details
DE19642624 A1	19980423	LSPB	+	published / reissued	
DE19642624 A1	19980423	LSES	+OM8	SEARCH REPORT AVAILABLE AS TO PARAGRAPH 43 LIT. 1 SENTENCE 1 PATENT LAW	
DE19642624 A1	19980423	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE19642624 A1	19991209	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	

35) Family number: 29736560 (US2002148779 AA)

Title: METHODS AND APPARATUS FOR BIOLOGICAL **TREATMENT** OF AQUEOUS WASTE

Abstract: A biofilter system of the present invention utilizes an Alternating-Aerobic-Anoxic (AAA) process in a single reactor to provide efficient and cheap removal of carbonaceous materials, nitrogenous materials, and/or mixtures thereof from aqueous waste. The biofilter system of the present invention is particularly suitable for treating aqueous waste from aquaculture, industrial processes and animal husbandry. The biofilter system includes: a main biofilter **chamber** containing therein aerobic and anaerobic bacteria without physical separation; an inlet port and an outlet port connected to the main biofilter **chamber**; and a means for oxygenating the aerobic and anaerobic bacteria in the main biofilter **chamber**, including means for timing the oxygenation of the aerobic and anaerobic bacteria to provide alternating periods of high-oxygen conditions and anoxic conditions.

Classifications:
International (IPC 8-9): C02F3/06 C02F3/08 C02F3/30
International (IPC 1-7): A01K6/304 A01K63/04 B01D21/30 C02F1/32 C02F1/78 C02F3/06 C02F3/08 C02F3/30
CPC: C02F1/78 C02F2103/20 C02F3/06 C02F3/08 C02F3/301 C02F3/302 Y02W10/10 Y10S210/903 Y10S210/906 Y10S210/908 Y10S210/909
US: 119/227 119/260 210/139 210/15 210/150 210/167.3 210/169 210/170 210/170.02 210/170.09 210/170.1 210/170.11 210/209 210/259 210/605 210/614 210/614S 210/615 210/617 210/617S 210/630 210/631 210/747 210/747.5 210/748 210/748.11 210/903 210/906 210/908 210/909



Family:

Publication number	Publication date	Application number	Application date
AU2002310404 AA	20021223	AU20020310404	20020613
US2002148779 AA	20021017	US20010879851	20010613
US6630067 BB	20031007	US20010879851	20010613
US2003213734 AA	20031120	US20030460373	20030613
US6936170 BB	20050830	US20030460373	20030613
US2005252855 AA	20051117	US20050187827	20050725
WO02100785 A1	20021219	WO2002US18617	20020613

Priority:

US20000211302P 20000613 US20010879851 20010613 WO2002US18617 20020613
US20030460373 20030613 US20050187827 20050725

Probable Assignee: TRUSTEES OF UNIV OF PENNSYLVANIA

Assignee(s): (std): SHIEH WEN K ; TAI SHU K ; TRUSTEES OF UNIV OF ; UNIV PENNSYLVANIA ; WEISS LEON

Assignee(s): THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA ; TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA ; TRUSTEES OF UNIV ; TRUSTEES OF UNIV OF PENNSYLVANIA ; TRUSTEES OF UNIV OF PENNSYLVANIA CENTER FOR TECHNO ; TRUSTEES OF UNIV OF PENNSYLVANIA CENTER FOR TECHNOLOGY TRANSFER ; TRUSTEES OF UNIV PENNSYLVANIA ; TRUSTEES OF UNIVERSITY

Inventor(s): (std): SHIEH WEN K ; TAI SHU K ; WEISS LEON

Inventor(s): LEON WEISS ; SHIEH WEN ; SHU K TAI ; TAI SHU ; WEN K SHIEH

Agent(s): STERNE KESSLER GOLDSTEIN AND FOX PLL; STERNE KESSLER GOLDSTEIN AND FOX PLLC

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2002310404 AA	20021223	LSPB	+	published / reissued	
US2002148779 AA	20021017	LSPB	+	published / reissued	
US2002148779 AA	20030918	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2003213734 AA	20031120	LSPB	+	published / reissued	
US2003213734 AA	20050503	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SHIEH, WEN K.;WEISS, LEON;TAI, SHU K.;REEL/FRAME:015973/0416;SIGNING DATES FROM 20020319 TO 20020320

					Owner: THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA, PE PartyType: owner
US2005252855 AA	20050725	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SHIEH, WEN K.;WEISS, LEON;TAI, SHU K.;REEL/FRAME:016811/0726;SIGNING DATES FROM 20020319 TO 20020320 Owner: TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA CENTER PartyType: owner
US2005252855 AA	20051117	LSPB	+	published / reissued	
US2005252855 AA	20060411	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005252855 AA	20060411		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US6630067 BB	20020809	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SHIEH, WEN K.;WEISS, LEON;TAI, SHU K.;REEL/FRAME:013181/0209;SIGNING DATES FROM 20020319 TO 20020320 Owner: TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA, PENNSY PartyType: owner
US6630067 BB	20030918	LSGT	PAT1	Patented Case	
US6630067 BB	20031007	LSGT	+	granted / extensions (spc, cpc, pte)	
US6630067 BB	20070406	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6630067 BB	20110331	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6630067 BB	20150406	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6630067 BB	20210613	PEXP		Calculated Patent Term Expiry	
US6936170 BB	20050810	LSGT	PAT1	Patented Case	
US6936170 BB	20050830	LSGT	+	granted / extensions (spc, cpc, pte)	
US6936170 BB	20090309		REMI	MAINTENANCE FEE REMINDER MAILED	
US6936170 BB	20090828	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6936170 BB	20090828		+SULP	SURCHARGE FOR LATE PAYMENT	
US6936170 BB	20130221	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6936170 BB	20170407		REMI	MAINTENANCE FEE REMINDER MAILED	
US6936170 BB	20170925	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US6936170 BB	20170925	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6936170 BB	20170925	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6936170 BB	20171017	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20170830
US6936170 BB	20210613	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO02100785 A1	20021219	LSPB	+	published / reissued	
WO02100785 A1	20021219		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
WO02100785 A1	20021219		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO02100785 A1	20030226		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP	

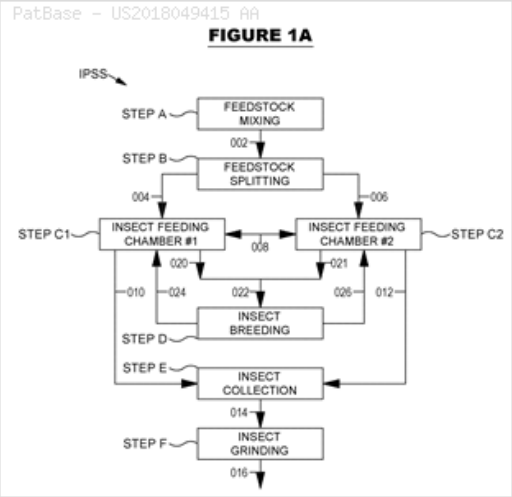
				WAS DESIGNATED IN THIS APPLICATION	
WO02100785 A1	20031009		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO02100785 A1	20040422	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO02100785 A1	20040728	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO02100785 A1	20060425	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO02100785 A1	20060425	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP

36) Family number: 68631253 (US2018049415 AA)

Title: INSECT PRODUCTION SYSTEMS AND METHODS

Abstract: Variable-scale, modular, easily manufacturable, energy efficient, reliable, and computer operated Insect Production Superstructure Systems (IPSS) may be used to produce insects for human and animal consumption, and for the extraction and use of lipids for applications involving medicine, nanotechnology, consumer products, and **chemical** production with minimal **water**, feedstock, and environmental impact. An IPSS may comprise modules including feedstock mixing, feedstock splitting, insect feeding, insect breeding, insect collection, insect grinding, pathogen removal, multifunctional flour mixing, and lipid extraction. An IPSS may be configured to be constructed out of a plurality of containerized modules.

Classifications:
International (IPC 8-9)**:** A01K67/00 A01K67/033 A21D2/02 A21D2/18 A21D2/34 A21D2/36 A23K20/163 A23K20/174 A23K20/20
CPC: A01K67/033 A21D2/34 A23K20/163 A23K20/174 A23K20/20 A23K50/90
US: 1/1 426/2



Family:

Publication number	Publication date	Application number	Application date
US10188084 BB	20190129	US20160242581	20160821
US2018049415 AA	20180222	US20160242581	20160821

Priority:
US20160242581 20160821

Probable Assignee: LEO DANIEL MICHAEL
Assignee(s): (std)**:** LEO DANIEL MICHAEL
Inventor(s): (std)**:** LEO DANIEL MICHAEL

Legal status (INPADOC)

View legal status timeline

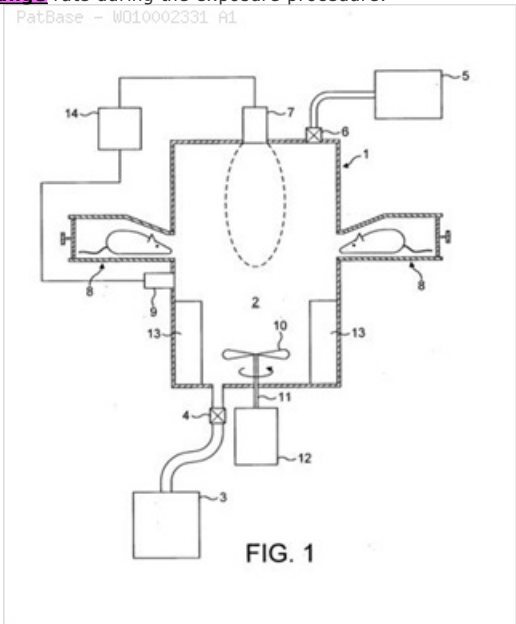
Patent	Date recorded	Event group	Code	Event	Details
US10188084 BB	20190109	LSGT	PAT1	Patented Case	
US10188084 BB	20190129	LSGT	+	granted / extensions (spc, cpc, pte)	
US10188084 BB	20370427	PEXP		Calculated Patent Term Expiry (PTA 249 days)	
US2018049415 AA	20170122		RFE1	Docketed New Case - Ready for Examination	
US2018049415 AA	20180222	LSPB	+	published / reissued	
US2018049415 AA	20180627	LSES	NFA1	Non Final Action Mailed	
US2018049415 AA	20190109	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

37) Family number: 44209218 (WO10002331 A1)

Title: APPARATUS AND METHOD FOR EXPOSING LABORATORY ANIMALS TO A TEST SUBSTANCE

Abstract: An apparatus is designed for exposing laboratory animals to a test substance. The apparatus includes a tank defining a common mixing **chamber** (2). Animal holders (8) are connected to the tank to be in fluid communication with the mixing **chamber** (2). Each animal holder (8) is designed to accommodate a laboratory animal such that the laboratory animal is able to inhale from and exhale into the mixing **chamber** (2). The apparatus further includes an injector (7) which is arranged to inject the test substance into the mixing **chamber** (2), and means (13) for selectively removing at least part of one or more compounds generated by the exhalation of the laboratory animals into the mixing **chamber** (2). In operation, a breathable gas is admitted into the mixing **chamber** (2), and the injector (7) is operated to inject the test substance into the breathable gas in the mixing **chamber** (2), whereby the laboratory animals are simultaneously exposed to the test substance for inhalation. The provision of the selective removal means (13) allow for an acceptable atmosphere to be sustained within the mixing **chamber**, even with no or low gas **exchange** rate during the exposure procedure.

Classifications:
International (IPC 8-9): A01K1/02 A01K1/03 A61D7/00 A61D7/04
CPC: A01K1/031 A01K1/0613 A61D7/04



Family:

Publication number	Publication date	Application number	Application date
WO10002331 A1	20100107	WO2009SE50732	20090615

Priority:
SE20080001607 20080704

Probable Assignee: ASTRAZENECA AB
Assignee(s): (std): ASTRAZENECA AB ; LASTOW OREST
Inventor(s): (std): LASTOW OREST
Agent(s): ASTRAZENECA AB
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR 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 TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

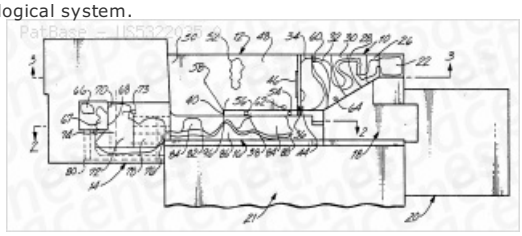
Patent	Date recorded	Event group	Code	Event	Details
WO10002331 A1	20100107	LSPB	+	published / reissued	
WO10002331 A1	20100303		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 09773846 Country of Ref document: EP
WO10002331 A1	20110105	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10002331 A1	20110803	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 09773846 Country of Ref document: EP

38) Family number: 11607712 (US5322035 A)

Title: Hydrological system for a closed ecological system

Abstract: A method for establishing a hydrological cycle in a closed ecological system is disclosed. The hydrological cycle results in the establishment of a variety of different micro-environments which simulate micro-environments of Earth. The hydrological cycle further results in the establishment of a symbiotic interrelation of organisms in that are established within the different micro-environments, where the wastes generated by organisms of one micro-environment are removed by organisms of a second environment and are used as nutrients. This biological purification of the **water** maintains the purity and functionality of the **water** for continual use within the closed ecological system.

Classifications:
International (IPC 8-9): A01G9/00 A01K63/00 A01K63/04
International (IPC 1-7): A01K63/00
CPC: A01G9/00 A01K63/003 A01K63/04
US: 119/211 119/227



Family:

Publication number	Publication date	Application number	Application date
US5322035 A	19940621	US19910734618	19910723

Priority:

US19910734618 19910723

Probable Assignee: DECISIONS INVESTMENTS CORP

Assignee(s): (std): SPACE BIOSPHERES VENTURES

Assignee(s): DECISIONS INVESTMENTS CORP ; SPACE BIOSPHERES VENTURE A TEXAS JOINT VENTURE ; SPACE BIOSPHERES VENTURE A TEXAS JOINT VENTURE HIG

Inventor(s): (std): AUGUSTINE MARGRET ; HAWES PHILIP B

Legal status (INPADOC)

View legal status timeline

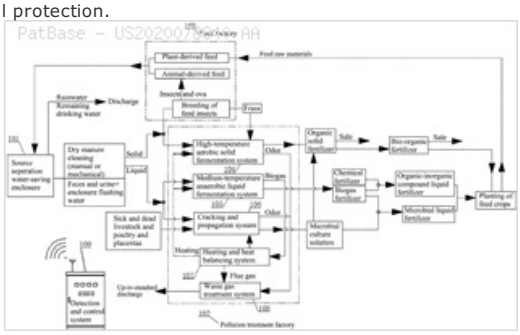
Patent	Date recorded	Event group	Code	Event	Details
US5322035 A	19910723	LSAS	AS	ASSIGNMENT	Effective date: 19910719 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:HAWES, PHILIP B.;AUGUSTINE, MARGRET;REEL/FRAME:005781/0944 Owner: SPACE BIOSPHERES VENTURE A TEXAS JOINT VENTURE, PartyType: owner
US5322035 A	19940613	LSAS	AS	ASSIGNMENT	Effective date: 19940526 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SPACE BIOSPHERES VENTURE;REEL/FRAME:007036/0669 Owner: DECISIONS INVESTMENTS CORP., ARIZONA PartyType: owner
US5322035 A	19940621	LSGT	+	granted / extensions (spc, cpc, pte)	
US5322035 A	19971222	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5322035 A	20020115		REMI	MAINTENANCE FEE REMINDER MAILED	
US5322035 A	20020621	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5322035 A	20020723	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5322035 A	20020723	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5322035 A	20020820	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20020621
US5322035 A	20110723	PEXP		Calculated Patent Term Expiry	

39) Family number: 68783236 (US2020078840 AA)

Title: ECOLOGICAL POLLUTION **TREATMENT** SYSTEM FOR LIVESTOCK AND POULTRY FARMS BASED ON COMBINATION OF PLANTING AND BREEDING

Abstract: An ecological pollution **treatment** system for livestock and poultry farms based on combination of planting and breeding, including a source separation **water** -saving enclosure, a pollution **treatment** factory, a feed factory and a supporting planting land. The pollution **treatment** factory and the feed factory are managed by professional teams for specialized disposal of livestock and poultry manure. The pollution **treatment** factory is composed of a high-temperature aerobic solid fermentation system, a medium-temperature anaerobic liquid fermentation system, a cracking and propagation system, a heating and heat balancing system, a waste gas **treatment** system and a detection and control system. Sensors of the detection and control system are arranged in the above systems. The present invention can carry out comprehensive **treatment** on feces, urine and other wastes and waste gases generated during breeding in large-scale pig farms for resource utilization, and is of great significance to rural environmental protection.

Classifications:
International (IPC 8-9): A01G17/00 A01G22/15 A01G22/20 A01G22/40 A01K67/02 A01K67/033 A23K10/20 A23K10/30 A23K20/20 A23K50/75 B01D53/84 B09B3/00 B09B5/00 C02F103/20 C02F11/02 C02F3/28 C05F17/00 C05F17/02 C05F3/00 C05F3/06 C05G1/00
CPC: A01G17/005 A01K67/02 A01K67/033 A01K67/0332 A23K10/20 A23K10/30 A23K20/30 A23K50/10 A23K50/30 A23K50/75 A23K50/90 B01D2257/90 B01D53/84 B09B3/0083 B09B3/0091 B09B5/00 C02F11/02 C02F2103/20 C02F2209/02 C02F2209/44 C02F2301/106 C02F3/28 C05F17/05 C05F17/50 C05F3/00 C05F3/06 Y02A40/20 Y02A50/20 Y02E50/30 Y02P20/133 Y02P20/145 Y02W10/37 Y02W30/40 C05F17/0009



Family:

Publication number	Publication date	Application number	Application date
CN107759254 A	20180306	CN201710949791	20171012
CN107759254 B	20200814	CN201710949791	20171012
US2020078840 AA	20200312	US20190529304	20190801
WO19071644 A1	20190418	WO2017CN106630	20171018

Priority:
CN201710949791 20171012 WO2017CN106630 20171018 US20190529304 20190801

Probable Assignee: HUNAN SAKAL ENVIRONMENTAL SCIENCE AND TECH CO LTD

Assignee(s): (std): HUNAN SAKAL ENVIRONMENTAL SCIENCE AND TECH CO LTD ; WANG SHEN

Assignee(s): HUNAN SAKAL ENVIRONMENTAL SCIENCE AND TECHNOLOGY CO ; HUNAN SAKAL ENVIRONMENTAL SCIENCE AND TECHNOLOGY CO LTD

Inventor(s): (std): WANG SHEN

Agent(s): CHANGSHA ZONEKEY PATENT LAW FIRM

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 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
CN107759254 A	20180306	LSPB	+	published / reissued	
CN107759254 A	20180306	LSPB	PB01	PUBLICATION	
CN107759254 A	20180306	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN107759254 A	20180330		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN107759254 A	20180330		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN107759254 A	20190920	LSAS	CB02	CHANGE OF APPLICANT INFORMATION	
CN107759254 A	20190920	LSAS	CB02	申请人信息变更	Assignee After Change: 汪深 (WANGSHEN) Assignee Before Change: 汪深 (WANGSHEN) Text: 著录事项变更 (The bibliographic data)
CN107759254 B	20200814	LSGT	+	granted / extensions (spc, cpc, pte)	
CN107759254 B	20200814	LSGT	+GR01	PATENT GRANT	
CN107759254 B	20200814	LSGT	+GR01	授权	Text: 授权 (Authorization)

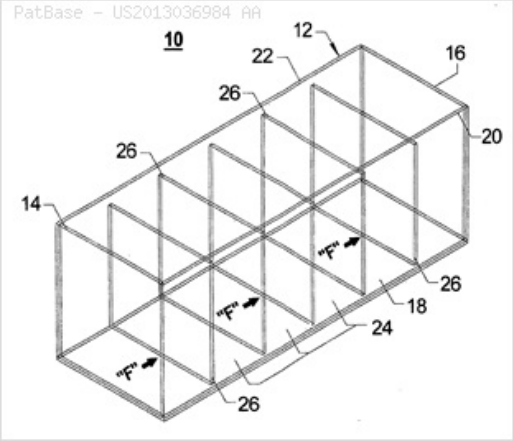
CN107759254 B	20371012	PEXP		Calculated Patent Term Expiry	
US2020078840 AA	20191231		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020078840 AA	20200312	LSPB	+	published / reissued	
US2020078840 AA	20200811		RFE1	Docketed New Case - Ready for Examination	
US2020078840 AA	20200811		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
WO19071644 A1	20190418	LSPB	+	published / reissued	
WO19071644 A1	20190529		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 17928328 Kind code of Ref document: A1 Country of Ref document: EP
WO19071644 A1	20200415	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19071644 A1	20201111	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 17928328 Country of Ref document: EP

40) Family number: 52891622 (US2013036984 AA)

Title: COMPARTMENTALIZED AQUATIC SYSTEM

Abstract: An aquarium or aquatic system such as a fish tank for the safe and clean containment of a plurality of aquatic specimens such as fish, segregated from one another by a series of divider panels aligned within that tank. The divider panels are spaced from the walls and floor of that tank so as to permit a bottom current flow of **water** under those divider panels to sweep away the debris accumulating in each of those **chambers**, and then into a collection unit such as a series of filters, filtration system or **water** processors which thus treats and cleans the **water** and preferably reintroduces that **water** back into the upstream end of that **water** flow.

Classifications:
International (IPC 8-9): A01K63/00 A01K63/04
CPC: A01K61/00 A01K61/10 A01K63/00 A01K63/006 A01K63/04 A01K63/045 A01K63/047
US: 119/248 119/259 119/264



Family:

Publication number	Publication date	Application number	Application date
US2013036984 AA	20130214	US20120507777	20120727
US2015334997 AA	20151126	US20150756060	20150727
WO13016602 A1	20130131	WO2012US48454	20120727

Priority:
US20110574064P 20110727 US20120507777 20120727 US20150756060 20150727

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2013036984 AA	20130214	LSPB	+	published / reissued	
US2013036984 AA	20150324		FRM1	Final Rejection Mailed	
US2013036984 AA	20151226	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2013036984 AA	20151226		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2015334997 AA	20151021	LSES	NFA1	Non Final Action Mailed	
US2015334997 AA	20151126	LSPB	+	published / reissued	
US2015334997 AA	20161028	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015334997 AA	20161028		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO13016602 A1	20130131	LSPB	+	published / reissued	
WO13016602 A1	20130327		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 12817437 Country of Ref document: EP
WO13016602 A1	20140127	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO13016602 A1	20140820	LSNE	-122	EP: PCT APPLICATION NON-	Ref document

ENTRY IN EUROPEAN PHASE

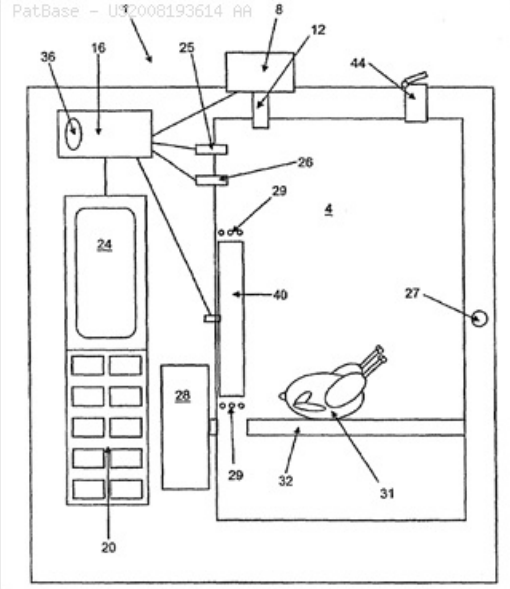
number: 12817437
Kind code of Ref document: A1
Country of Ref document: EP

41) Family number: 42079463 (US2008193614 AA)

Title: METHOD FOR CONDUCTING A **TREATMENT** PROGRAM OF A FOOD PREPARATION APPLIANCE WITH CONSIDERATION OF AROMA PROFILES

Abstract: A method for conducting a **treatment** program in a preparation **chamber** of a food preparation appliance comprises: (a) determining at least one first value of the preparation **chamber** atmosphere and/or of the atmosphere surrounding the food preparation appliance before selection and/or beginning of the **treatment** program, (b) storing the first value, (c) determining at least one second value of the preparation **chamber** atmosphere and/or of the atmosphere surrounding the food preparation appliance after loading the cooking product into the preparation **chamber** or after introduction of a lime removal and/or cleaning agent into the preparation **chamber** and/or after beginning of the **treatment** program, (d) determining at least one third value from the first and second value, (e) comparing the third value with the stored values, and (f) conducting the **treatment** program as a function of the result of the comparison of the third value with stored values.

Classifications:
International (IPC 8-9): A01K43/00 A23L1/01 A23L5/10 B08B7/00 F24C7/08 G01N33/02 G05B19/04 H05B6/68
CPC: F24C7/08
US: 134/18 134/18S 219/707 426/231 426/231P 426/233 426/523 73/23.2



Family:

Publication number	Publication date	Application number	Application date
BRPI0800125 A	20080923	BR2008PI00125	20080208
CN101238862 A	20080813	CN200810004851	20080204
DE502007001898 D1	20091217	DE200750001898T	20070208
EP1956301 A1	20080813	EP20070002699	20070208
EP1956301 B1	20091104	EP20070002699	20070208
US2008193614 AA	20080814	US20080027727	20080207
US8178142 BB	20120515	US20080027727	20080207

Priority:
EP20070002699 20070208

Probable Assignee: RATIONAL AG

Assignee(s): (std): BREUNIG MANFRED ; GREINER MICHAEL ; MERKER OLIVER ; NIELSEN REINHARD ; RATIONAL AG ; RUSCHE STEFAN ; SCHREINER THOMAS

Inventor(s): (std): BREUNIG MANFRED ; GREINER MICHAEL ; GREINER MICHAEL DR ; MANFRED BREUNIG ; MERKER OLIVER ; MERKER OLIVER DR ; MICHAEL GREINER ; NIELSEN REINHARD ; NIELSEN REINHARD DR ; OLIVER MERKER ; REINHARD NIELSEN ; RUSCHE STEFAN ; RUSCHE STEFAN DR ; SCHREINER THOMAS ; SCHREINER THOMAS DR ; STEFAN RUSCHE ; THOMAS SCHREINER

Agent(s): MARSHALL GERSTEIN AND BORUN LLP; WEBER BRULS DOROTHEE

Designated states: AL BA DE FR GB HR IT MK RS

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BRPI0800125 A	20080923	LSPB	+	published / reissued	
BRPI0800125 A	20080923	LSPB	B03A	PUBLICATION OF AN APPLICATION: PUBLICATION OF A PATENT APPLICATION OR OF A CERTIFICATE OF ADDITION OF INVENTION	
BRPI0800125 A	20180403		B06A	NOTIFICATION TO APPLICANT TO REPLY TO THE REPORT FOR NON-	

				PATENTABILITY OR INADEQUACY OF THE APPLICATION ACCORDING ART. 36 INDUSTRIAL PATENT LAW	
BRPI0800125 A	20180807	LSRV	-B11B	DISMISSAL ACC. ART. 36, PAR 1 OF IPL - NO REPLY WITHIN 90 DAYS TO FULLFIL THE NECESSARY REQUIREMENTS	
BRPI0800125 A	20180828	LSAS	B25H	REQUEST FOR CHANGE OF HEADQUARTER REJECTED	OldParty: INDEFERIDO O PEDIDO DE ALTERACAO DE SEDE CONTIDO NA PETICAO 870180065641 DE30/07/2018 , POR AUSENCIA DE CUMPRIMENTO DA EXIGENCIA PUBLICADA NA RPI NO 2483 DE 07/08/2018. Owner: RATIONAL AG (DE) PartyType: owner
CN101238862 A	20080813	LSPB	+	published / reissued	
CN101238862 A	20080813	LSPB	+C06	PUBLICATION	
CN101238862 A	20100414		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101238862 A	20130320	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
DE502007001898 D1	20101125	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE502007001898 D1	20170121	LSLI	R084	DECLARATION OF WILLINGNESS TO LICENCE	
EP1956301 A1	20080813	LSPB	+	published / reissued	
EP1956301 A1	20080813	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070921
EP1956301 A1	20080813		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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
EP1956301 A1	20080813		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK RS
EP1956301 A1	20090422	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: DE FR GB IT
EP1956301 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160218 Year of fee payment: 10 Country of Ref document: DE
EP1956301 A1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170222 Year of fee payment: 11 Country of Ref document: DE
EP1956301 B1	20091104	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1956301 B1	20091104		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: DE FR GB IT
EP1956301 B1	20091104	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D Text: NOT ENGLISH
EP1956301 B1	20091217		REF	CORRESPONDS	Date of Ref document: 20091217

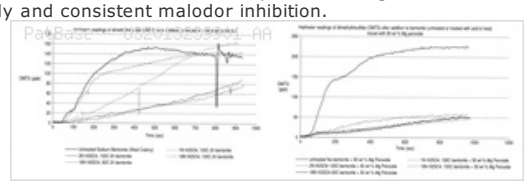
				TO:	Kind code of Ref document: P Ref document number: 502007001898 Country of Ref document: DE
EP1956301 B1	20101013	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20100805
EP1956301 B1	20101119	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20101029 Ref country code: FR Ref legal event code: ST
EP1956301 B1	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100301 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1956301 B1	20110531	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Reinstated date: 20110501 Country of Ref document: IT
EP1956301 B1	20111026	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20110208 Ref country code: EP
EP1956301 B1	20120229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110208 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1956301 B1	20140530	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20140226 Year of fee payment: 8 Country of Ref document: IT
EP1956301 B1	20151231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150208 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP1956301 B1	20170121	LSLI	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 502007001898 Ref legal event code: R084 Country of Ref document: DE
EP1956301 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180221 Year of fee payment: 12 Country of Ref document: DE
EP1956301 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190219 Year of fee payment: 13 Country of Ref document: DE
EP1956301 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200220 Year of fee payment: 14 Country of Ref document: DE
EP1956301 B1	20270208	PEXP		Calculated Patent Term	

				Expiry	
US2008193614 AA	20080814	LSPB	+	published / reissued	
US2008193614 AA	20120425	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8178142 BB	20080228	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GREINER, MICHAEL;MERKER, OLIVER;NIELSEN, REINHARD;AND OTHERS;REEL/FRAME:020577/0404;SIGNING DATES FROM 20080220 TO 20080221 Owner: RATIONAL AG, GERMANY PartyType: owner
US8178142 BB	20080228	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GREINER, MICHAEL;MERKER, OLIVER;NIELSEN, REINHARD;AND OTHERS;SIGNING DATES FROM 20080220 TO 20080221;REEL/FRAME:020577/0404 Owner: RATIONAL AG, GERMANY PartyType: owner
US8178142 BB	20120425	LSGT	PAT1	Patented Case	
US8178142 BB	20120515	LSGT	+	granted / extensions (spc, cpc, pte)	
US8178142 BB	20140909	LSRE	CC	CERTIFICATE OF CORRECTION	
US8178142 BB	20151110	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8178142 BB	20191112	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8178142 BB	20301110	PEXP		Calculated Patent Term Expiry (PTA 1007 days)	

42) Family number: 54755639 (US2013239901 AA)

Title: MODIFIED ANIMAL LITTER

Abstract: A **chemically** modified animal litter that is comprised of at least one acid-activated liquid absorbing material and at least one peroxide, wherein the litter provides a surprisingly steady and consistent malodor inhibition.



Classifications:
International (IPC 8-9): A01K1/015 A01K29/00
CPC: A01K1/015 A01K1/0152 A01K1/0154 A01K1/0155 A01K29/00
US: 1/1 119/171 119/173

Family:

Publication number	Publication date	Application number	Application date
US2013239901 AA	20130919	US20120423417	20120319
US9072276 BB	20150707	US20120423417	20120319

Priority:

US20120423417 20120319

Probable Assignee: CHURCH AND DWIGHT CO INC

Assignee(s): (std): ADAMY STEVEN T ; CHURCH AND DWIGHT CO INC ; CHURCH AND DWIGHT CO LTD ; PECHERA LEILANI D

Assignee(s): CHURCH AND DWIGHT CO

Inventor(s): (std): ADAMY STEVEN T ; PECHERA LEILANI D

Agent(s): FISHMAN AND ASSOCIATES LLC

Legal status (INPADOC)

View legal status timeline

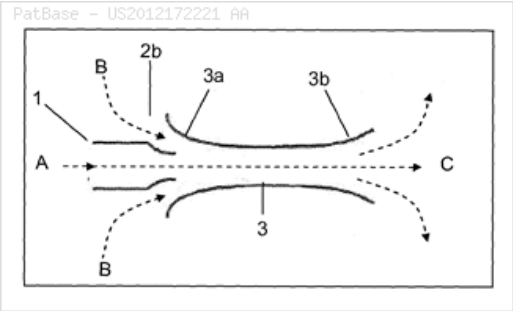
Patent	Date recorded	Event group	Code	Event	Details
US2013239901 AA	20130919	LSPB	+	published / reissued	
US2013239901 AA	20150617	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9072276 BB	20120319	LSAS	AS	ASSIGNMENT	Effective date: 20120315 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:PECHERA, LEILANI;ADAMY, STEVEN T.;REEL/FRAME:027884/0717 Owner: CHURCH & DWIGHT CO., INC., NEW JERSEY PartyType: owner
US9072276 BB	20150617	LSGT	PAT1	Patented Case	
US9072276 BB	20150707	LSGT	+	granted / extensions (spc, cpc, pte)	
US9072276 BB	20181228	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9072276 BB	20330303	PEXP		Calculated Patent Term Expiry (PTA 349 days)	

43) Family number: 48487903 (US2012172221 AA)

Title: PROCESS FOR TREATING WITH A **CHEMICAL** COMPOUND A BODY OF **WATER** USED IN AQUACULTURE

Abstract: A process for treating with at least one **chemical** compound a body of **water** comprising at least one living organism selected from fish, molluscs, crustaceans and aquatic plants, such process comprising adding the **chemical** compound to the body of **water** and agitating the **water** with an agitation system comprising a pump and at least one submerged outlet equipped with an eductor nozzle.

Classifications:
International (IPC 8-9): A01K63/04 A01N59/00 A01P1/00 A01P13/00 A01P3/00 C02F1/50
CPC: A01K63/04 C02F1/50 C02F2201/002 C02F2305/00
US: 1/1 210/749 210/764 424/616 424/616S 504/150 504/150P



Family:

Publication number	Publication date	Application number	Application date
AU2010294639 AA	20110324	AU20100294639	20100910
AU2010294639 BB	20160324	AU20100294639	20100910
CA2773627 AA	20110324	CA20102773627	20100910
CA2773627 C	20180102	CA20102773627	20100910
CL2012000661 A1	20120720	CL20120000661	20120315
CL50561 B	20141231	CL20120000661	20120315
DE602010011560 D1	20140102	DE201060011560T	20100910
EP2477482 A1	20120725	EP20100754318	20100910
EP2477482 B1	20131106	EP20100754318	20100910
NZ598787 A	20130726	NZ20100598787	20100910
US2012172221 AA	20120705	US20100395490	20100910
US8883684 BB	20141111	US20100395490	20100910
US2015027962 AA	20150129	US20140510446	20141009
US9532553 BB	20170103	US20140510446	20141009
WO11032894 A1	20110324	WO2010EP63320	20100910

Priority:

EP20090170361 20090915 WO2010EP63320 20100910 EP20100754318 20100910
US20120395490 20120312 US20140510446 20141009

Probable Assignee: SOLVAY SA

Assignee(s): (std): SKITT PAUL ; SOLVAY ; SOLVAY SA

Inventor(s): (std): SKITT PAUL

Agent(s): ESTUDIO CLARKE MODET; PHILLIPS ORMONDE FITZPATRICK; ROBIC; VANDE GUCHT ANNE; VANDE GUCHT ANNE ET AL; XUPING

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2010294639 AA	20110324	LSPB	+	published / reissued	
AU2010294639 BB	20160324	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2010294639 BB	20160721	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2010294639 BB	20300910	PEXP		Calculated Patent Term Expiry	
CA2773627 AA	20110324	LSPB	+	published / reissued	
CA2773627 AA	20150831	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20150810
CA2773627 C	20180102	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2773627 C	20300910	PEXP		Calculated Patent	

				Term Expiry	
CL2012000661 A1	20120720	LSPB	+	published / reissued	
CL50561 B	20141231	LSGT	+	granted / extensions (spc, cpc, pte)	
CL50561 B	20320315	PEXP		Calculated Patent Term Expiry	
EP2477482 A1	20120725	LSPB	+	published / reissued	
EP2477482 A1	20120725	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20120416
EP2477482 A1	20120725		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP2477482 A1	20120926	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: SOLVAY SA PartyType: owner
EP2477482 A1	20121219		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2477482 A1	20130612	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20130516
EP2477482 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20160907 Country of Ref document: GB
EP2477482 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160909 Year of fee payment: 7 Country of Ref document: NO
EP2477482 B1	20131106	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2477482 B1	20131106		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP2477482 B1	20131106	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP2477482 B1	20131115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2477482 B1	20131215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Ref document number: 638801 Ref legal event code: REF Effective date: 20131215 Kind code of Ref document: T Country of Ref document: AT
EP2477482 B1	20131218	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2477482 B1	20140102	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Effective date: 20140102 Ref country code: DE Ref document number: 602010011560 Country of Ref document: DE
EP2477482 B1	20140312	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20131106 Ref country code: NL Ref legal event code: VDEP
EP2477482 B1	20140315	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Effective date: 20131106 Kind code of Ref document: T Ref document number: 638801 Ref legal event code: MK05 Country of Ref document: AT
EP2477482 B1	20140324	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20131106 Ref legal event code: T2 Ref country code: NO
EP2477482 B1	20140425	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP2477482 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT

EP2477482 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20131106 Country of Ref document: NL
EP2477482 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20140306 Country of Ref document: IS
EP2477482 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20131106 Country of Ref document: HR
EP2477482 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2477482 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2477482 B1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2477482 B1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20131106 Country of Ref document: AT
EP2477482 B1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2477482 B1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20131106 Country of Ref document: ES
EP2477482 B1	20140630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140306 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2477482 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20131106 Country of Ref document: EE
EP2477482 B1	20140807	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R097 Ref country code: DE Ref document number: 602010011560 Country of Ref document: DE
EP2477482 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2477482 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2477482 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2477482 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2477482 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2477482 B1	20140930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2477482 B1	20141015	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20140807
EP2477482 B1	20141113	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R097 Ref country code: DE Ref document number: 602010011560 Effective date: 20140807 Country of Ref document: DE
EP2477482 B1	20150227	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2477482 B1	20150401	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602010011560 Ref legal event code: R119 Ref country code: DE Country of Ref document: DE
EP2477482 B1	20150430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2477482 B1	20150430	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20140910 Country of Ref document: LU
EP2477482 B1	20150430	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2477482 B1	20150626	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150529 Ref country code: FR Ref legal event code: ST
EP2477482 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH

EP2477482 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2477482 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150401 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP2477482 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20140930 Country of Ref document: FR
EP2477482 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2477482 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20131106 Country of Ref document: MT
EP2477482 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20131106 Country of Ref document: CY
EP2477482 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20131106 Country of Ref document: BG
EP2477482 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140207 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2477482 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100910 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2477482 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2477482 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20160909 Country of Ref document: IE
EP2477482 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170911 Year of fee payment: 8 Country of Ref document: NO
EP2477482 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170906 Year of fee payment: 8 Country of Ref document: GB

EP2477482 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170912 Year of fee payment: 8 Country of Ref document: IE
EP2477482 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MK
EP2477482 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2477482 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180913 Year of fee payment: 9 Country of Ref document: NO
EP2477482 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180911 Year of fee payment: 9 Country of Ref document: IE
EP2477482 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180905 Year of fee payment: 9 Country of Ref document: GB
EP2477482 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190910 Country of Ref document: IE
EP2477482 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190910 Country of Ref document: NO
EP2477482 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190906 Year of fee payment: 10 Country of Ref document: GB
EP2477482 B1	20201030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20200902 Country of Ref document: GB
EP2477482 B1	20201030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200909 Year of fee payment: 11 Country of Ref document: IE
EP2477482 B1	20201030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200910 Year of fee payment: 11 Country of Ref document: NO
EP2477482 B1	20300910	PEXP		Calculated Patent Term Expiry	
NZ598787 A	20130726	LSPB	+	published / reissued	
NZ598787 A	20131129	LSGT	+PSEA	PATENT SEALED	
NZ598787 A	20140829	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20140731 Text: PATENT RENEWED FOR 3 YEARS UNTIL 10 SEP 2017 BY CPA GLOBAL
NZ598787 A	20170825	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Text: PATENT RENEWED FOR 1 YEAR UNTIL 10 SEP 2018 BY CPA GLOBAL Effective date: 20170803
NZ598787 A	20180831	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Text: PATENT RENEWED FOR 1 YEAR UNTIL 10 SEP 2019 BY CPA GLOBAL

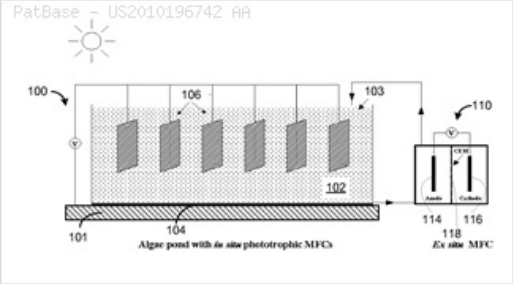
					Effective date: 20180802
NZ598787 A	20190830	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Text: PATENT RENEWED FOR 1 YEAR UNTIL 10 SEP 2020 BY CPA GLOBAL Effective date: 20190801
NZ598787 A	20200731	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Text: PATENT RENEWED FOR 1 YEAR UNTIL 10 SEP 2021 BY CPA GLOBAL Effective date: 20200730
US2012172221 AA	20120705	LSPB	+	published / reissued	
US2012172221 AA	20141022	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015027962 AA	20150129	LSPB	+	published / reissued	
US2015027962 AA	20161214	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8883684 BB	20120312	LSAS	AS	ASSIGNMENT	Owner: SOLVAY SA, BELGIUM Effective date: 20100913 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SKITT, PAUL;REEL/FRAME:027842/0687 PartyType: owner
US8883684 BB	20141022	LSGT	PAT1	Patented Case	
US8883684 BB	20141111	LSGT	+	granted / extensions (spc, cpc, pte)	
US8883684 BB	20180427	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8883684 BB	20300913	PEXP		Calculated Patent Term Expiry (PTA 3 days)	
US9532553 BB	20141118	LSAS	AS	ASSIGNMENT	Effective date: 20141112 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SKITT, PAUL;REEL/FRAME:034200/0400 Owner: SOLVAY SA, BELGIUM PartyType: owner
US9532553 BB	20151215		FRM1	Final Rejection Mailed	
US9532553 BB	20161214	LSGT	PAT1	Patented Case	
US9532553 BB	20170103	LSGT	+	granted / extensions (spc, cpc, pte)	
US9532553 BB	20200618	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9532553 BB	20300910	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO11032894 A1	20110324	LSPB	+	published / reissued	
WO11032894 A1	20110511		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 10754318 Country of Ref document: EP
WO11032894 A1	20120308	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2773627 Country of Ref document: CA
WO11032894 A1	20120309	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010754318 Country of Ref document: EP
WO11032894 A1	20120312	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13395490 Country of Ref document: US
WO11032894 A1	20120315	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO11032894 A1	20120413	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010294639 Country of Ref document: AU
WO11032894 A1	20120510	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20100910 Kind code of Ref document: A Ref document number:

44) Family number: 46421880 (US2010196742 AA)

Title: ELECTRICITY GENERATION USING PHOTOTROPHIC MICROBIAL FUEL CELLS

Abstract: A sediment-type self-sustained phototrophic microbial fuel cell for generating electricity through the syntrophic interaction between photosynthetic microorganisms and heterotrophic bacteria in algae cultivation ponds used for biodiesel production. The microbial fuel cell is operable to continuously produce electricity without the external input of exogenous organics or nutrients.

Classifications:
International (IPC 8-9): A01K61/00 C10L1/00 C10L1/08 C12N7/00 H01M8/16
CPC: H01M8/16 Y02E60/50 Y02P70/50
US: 429/2 429/2P



Family:

Publication number	Publication date	Application number	Application date
US2010196742 AA	20100805	US20100695905	20100128
WO10088626 A2	20100805	WO2010US22773	20100201
WO10088626 A3	20101118	WO2010US22773	20100201

Priority:
US20090148718P 20090130 US20100695905 20100128

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

Legal status (INPADOC)

View legal status timeline

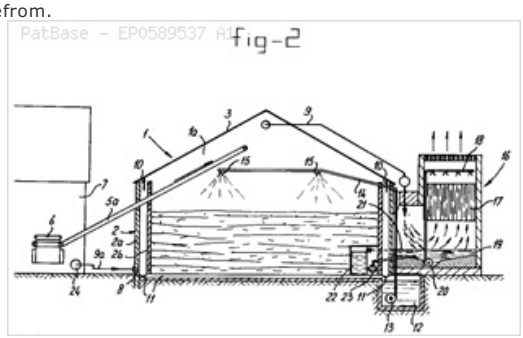
Patent	Date recorded	Event group	Code	Event	Details
US2010196742 AA	20100304	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:NEALSON, KENNETH H.;HE, ZHEN;SIGNING DATES FROM 20100130 TO 20100201;REEL/FRAME:024030/0839 Owner: UNIVERSITY OF SOUTHERN CALIFORNIA, CALIFORNIA PartyType: owner
US2010196742 AA	20100805	LSPB	+	published / reissued	
US2010196742 AA	20121203	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010196742 AA	20121203		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO10088626 A2	20100805	LSPB	+	published / reissued	
WO10088626 A2	20100929		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 10736542 Country of Ref document: EP
WO10088626 A3	20110801	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10088626 A3	20120307	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 10736542 Country of Ref document: EP

45) Family number: 9295450 (EP0589537 A1)

Title: METHOD AND DEVICE FOR INCREASING THE DRY MATTER CONTENT OF MANURE BY STORING STACKABLE MANURE, IN PARTICULAR POULTRY MANURE.

Abstract: For increasing the dry matter content of manure, in particular poulty manure, this manure is stored in at least one essentially closed, roofed **chamber** having cavity walls (2), of which the inner walls (2b) are gas-permeable. Stable air or outside air being admitted to the cavity. In this roofed **chamber** (1) a controlled amount of air is passed over the manure at least partly via the cavity (8). The mixture, produced in the **chamber** by heating, of essentially ammonia, smell and **water** vapour penetrates at least partly via the inner walls into the cavity (8) and is removed from the **chamber** with the ventilation air and is converted into liquid aqueous ammonia in a **chemical** scrubber (16). The pH is kept at a value lower than 6 by metered addition of acid. Condensed **water** formed by condensation on the uninsulated outer walls and fed into the cavity by dripping from the insulated sloping roof is drained therefrom.

Classifications:
International (IPC 8-9): A01C3/00 A01C3/02 A01K31/00 A01K31/04
International (IPC 1-7): A01C3/02 A01K31/04
CPC: A01C3/02 A01K31/04 Y02A40/28



Family:

Publication number	Publication date	Application number	Application date
AT149782 E	19970315	AT19930202751T	19930924
DE69308707 D1	19970417	DE19936008707T	19930924
DE69308707 T2	19971030	DE19936008707T	19930924
EP0589537 A1	19940330	EP19930202751	19930924
EP0589537 B1	19970312	EP19930202751	19930924
NL9201666 A	19940418	NL19920001666	19920925

Priority:

NL19920001666 19920925

Probable Assignee: STICHTING INSTITUUT VOOR MILIE

Assignee(s): (std): STICHTING INST MECH ; STICHTING INSTITUUT VOOR MILIE

Assignee(s): STICHTING INSTITUUT VOOR MECHANISATIE ARBEID EN GE ; STICHTING INSTITUUT VOOR MECHANISATIE ARBEID EN GEBOUWEN ; STICHTING INSTITUUT VOOR MECHANISATIE ARBEID EN GEBOUWEN TE WAGENINGEN ; STICHTING INSTITUUT VOOR MECHANISATIE ARBEID EN GEBOUWEN WAGENINGEN NL ; STICHTING INSTITUUT VOOR MILIEU EN AGRITECHNIEK WA ; STICHTING INSTITUUT VOOR MILIEU EN AGRITECHNIEK WAGENINGEN NL

Inventor(s): (std): KROODSMA WILLEM

Inventor(s): KROODSMA WILLEM NL 3911 MP RHENEN NL

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT149782 E	19970315	LSGT	+	granted / extensions (spc, cpc, pte)	
AT149782 E	19970915	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT149782 E	20130924	PEXP		Calculated Patent Term Expiry	
DE69308707 D1	19970703	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PartyType: owner Owner: STICHTING INSTITUUT VOOR MILIEU-EN AGRITECHNIEK, W
DE69308707 D1	19970703	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: STICHTING INSTITUUT VOOR MILIEU-EN AGRITECHNIEK, W PartyType: owner
DE69308707 D1	19980409	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69308707 D1	19991111	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69308707 T2	19971030	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69308707 T2	19980409	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	

DE69308707 T2	19991111	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69308707 T2	20130924	PEXP		Calculated Patent Term Expiry	
EP0589537 A1	19940330	LSPB	+	published / reissued	
EP0589537 A1	19940330		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP0589537 A1	19941123	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19940927
EP0589537 A1	19960221	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19960108
EP0589537 B1	19970312	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0589537 B1	19970312		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP0589537 B1	19970312	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19970312 Country of Ref document: AT
EP0589537 B1	19970312	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19970312 Country of Ref document: CH
EP0589537 B1	19970312	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19970312 Country of Ref document: DK
EP0589537 B1	19970312	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19970312 Country of Ref document: LI
EP0589537 B1	19970312	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: THE PATENT HAS BEEN ANNULLED BY A DECISION OF A NATIONAL AUTHORITY Lapsed date: 19970312 Country of Ref document: ES
EP0589537 B1	19970312	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 19970312 Country of Ref document: GR
EP0589537 B1	19970312		REF	CORRESPONDS TO:	Date of Ref document: 19970315 Kind code of Ref document: T Ref document number: 149782 Country of Ref document: AT
EP0589537 B1	19970314	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP0589537 B1	19970417		REF	CORRESPONDS TO:	Date of Ref document: 19970417 Ref document number: 69308707 Country of Ref document: DE
EP0589537 B1	19970507	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D Text: 72660
EP0589537 B1	19970528	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	Owner: STICHTING INSTITUUT VOOR MILIEU- EN AGRITECHNIEK PartyType: owner
EP0589537 B1	19970603		+ITF	IT: TRANSLATION FOR A EP PATENT FILED	PartyType: owner Owner: SAMA PATENTS
EP0589537 B1	19970612	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19970612 Country of Ref document: PT

EP0589537 B1	19970612	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19970612 Country of Ref document: SE
EP0589537 B1	19970711		+ET	FR: TRANSLATION FILED	
EP0589537 B1	19970801		NLT2	NL: MODIFICATIONS (OF NAMES), TAKEN FROM THE EUROPEAN PATENT PATENT BULLETIN	PartyType: owner Owner: STICHTING INSTITUUT VOOR MILIEU- EN AGRITECHNIEK
EP0589537 B1	19970915	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP0589537 B1	19970924	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19970924 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP0589537 B1	19970924	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19970924 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP0589537 B1	19970924	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 19970924 Country of Ref document: GB
EP0589537 B1	19970930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19970930 Year of fee payment: 5 Country of Ref document: FR
EP0589537 B1	19971010	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19971010 Year of fee payment: 5 Country of Ref document: DE
EP0589537 B1	19971104	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19971104 Year of fee payment: 5 Country of Ref document: BE
EP0589537 B1	19980304	LSGT	+26N	NO OPPOSITION FILED	
EP0589537 B1	19980331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 19980331 Country of Ref document: MC
EP0589537 B1	19980924	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 19980924 Country of Ref document: GB
EP0589537 B1	19980930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19980930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP0589537 B1	19990331	LSLE	-BERE	BE: LAPSED	Owner: STICHTING INSTITUUT VOOR MILIEU EN AGRITECHNIEK PartyType: owner Ref country code: EP Effective date: 19980930
EP0589537 B1	19990512	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 19980924 Ref country code: EP
EP0589537 B1	19990531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 19990531 Country of Ref document: FR
EP0589537 B1	19990701	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF

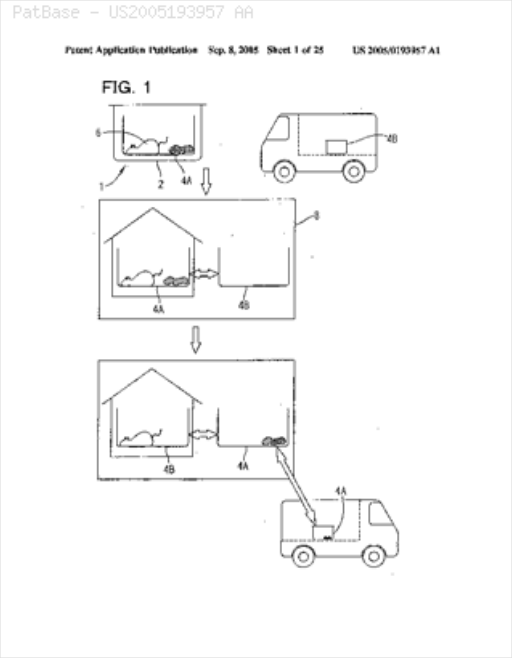
				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	DUE FEES Lapsed date: 19990701 Country of Ref document: DE
EP0589537 B1	19990723	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: ST Ref country code: FR
EP0589537 B1	20000323	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20000323 Year of fee payment: 7 Country of Ref document: NL
EP0589537 B1	20010401	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20010401 Country of Ref document: NL
EP0589537 B1	20010601	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	Effective date: 20010401 Ref country code: EP
EP0589537 B1	20050924	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050924 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP0589537 B1	20130924	PEXP		Calculated Patent Term Expiry	
NL9201666 A	19940418	LSPB	+	published / reissued	
NL9201666 A	19940418	LSES	+A1B	A SEARCH REPORT HAS BEEN DRAWN UP	
NL9201666 A	19950501	LSLE	-BV	THE PATENT APPLICATION HAS LAPSED	

46) Family number: 28691212 (US2005193957 AA)

Title: ANIMAL BREEDING SYSTEM AND UTILIZATION OF THE SYSTEM

Abstract: The present invention has objectives of providing a low-cost, easy-to-handle individual isolation animal breeding unit and a system for using the same, significantly reducing costs of facilities and maintenance for animal experiments and saving on labor, and providing a new animal transportation form (breeding cage having a transportation function). For achieving the objectives, the present invention provides a system for maintaining an animal breeding environment, comprising A) an animal breeding unit capable of comprising an internal tray having a sufficient space for breeding an animal of interest, comprising an external tray capable of accommodating the internal tray, and capable of keeping a predetermined cleanliness degree; B) means for providing the internal tray having the predetermined cleanliness degree; C) an internal tray **exchange** unit capable of accommodating the animal breeding unit and **exchanging** the internal tray while keeping the predetermined cleanliness degree; and D) means for recovering the **exchanged** internal tray.

Classifications:
International (IPC 8-9): A01K1/00 A01K1/01 A01K1/015 A01K1/02 A01K1/03 A01K67/00
International (IPC 1-7): A01K1/01 A01K1/015 A01K1/02 A01K1/03 A01K31/04 A01K31/19 A01K67/00
CPC: A01K1/01 A01K1/0236 A01K1/0245 A01K1/031
US: 119/300 119/302 119/417 119/418 119/479 119/479S



Family:

Publication number	Publication date	Application number	Application date
AU2002366306 AA	20030630	AU20020366306	20021213
CA2469996 AA	20040611	CA20022469996	20021213
CN1617665 A	20050518	CN20028028022	20021213
EP1454523 A1	20040908	EP20020790764	20021213
EP1454523 A4	20050316	EP20020790764	20021213
JP2003051106 A1	20050421	JP20030552045T	20021213
KR100915035 B1	20090902	KR20047009140	20021213
KR20040078112 A	20040908	KR20047009140	20021213
US2005193957 AA	20050908	US20050498583	20050310
US7874267 BB	20110125	US20050498583	20050310
WO03051106 A1	20030626	WO2002JP13108	20021213

Priority:
JP20010402715 20011214 JP20020241110 20020821 WO2002JP13108 20021213 WO2002JP13108 20040611

Probable Assignee: OSAKA UNIV

Assignee(s): (std): KASEDA KAZUHIRO ; KIYONO HIROSHI ; OSAKA IND PROMOTION ORG ; OSAKA IND PROMOTION ORGANIZATI ; OSHIMA SHIGERU ; YOMOGIDA KENTARO

Assignee(s): N A ; OSAKA INDUSTRIAL PROMOTION ORGANIZATION ; OSAKA UNIV

Inventor(s): (std): HIROSHI KIYONO ; KASEDA KAZUHIRO ; KAZUHIRO KASEDA ; KENTARO YOMOGIDA ; KIYONO HIROSHI ; OSHIMA SHIGERU ; SHIGERU OSHIMA ; YOMOGIDA KENTARO

Agent(s): BRINKS HOFER GILSON AND LIONE; SIM AND MCBURNEY

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2002366306 AA	20030630	LSPB	+	published / reissued	
AU2002366306 AA	20040916	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT	

				ENTERING NATIONAL PHASE	
CA2469996 AA	20040611	LSPB	+	published / reissued	
CA2469996 AA	20051019	LSES	+EEER	EXAMINATION REQUEST	
CA2469996 AA	20100824	LSLE	-FZDE	DEAD	
CN1617665 A	20050518	LSPB	+	published / reissued	
CN1617665 A	20050518	LSPB	+C06	PUBLICATION	
CN1617665 A	20050720		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1617665 A	20091230	LSDW	-C20	PATENT RIGHT OR UTILITY MODEL DEEMED TO BE ABANDONED OR IS ABANDONED	
EP1454523 A1	20040908	LSPB	+	published / reissued	
EP1454523 A1	20040908	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20040611
EP1454523 A1	20040908		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SI SK TR
EP1454523 A1	20040908		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO
EP1454523 A1	20050309		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: 7A 01K 1/03 A ClassificationScheme: IPC
EP1454523 A1	20050309		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7A 01K 1/015 B
EP1454523 A1	20050309		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: 7A 01K 67/00 B ClassificationScheme: IPC
EP1454523 A1	20050309		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7A 01K 1/02 B
EP1454523 A4	20050316	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20050131
EP1454523 A4	20090408	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20090305
EP1454523 A4	20100310	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20090916
JP2003051106 A1	20050421	LSPB	+	published / reissued	
JP2003051106 A1	20051025	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20051024 Text: JAPANESE INTERMEDIATE CODE: A621
JP2003051106 A1	20080116	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080115 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003051106 A1	20080315	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20080314
JP2003051106 A1	20080401	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20080314
JP2003051106 A1	20080904	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20080903 Text: JAPANESE INTERMEDIATE CODE: A02
KR100915035 B1	20090902	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100915035 B1	20120826	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100915035 B1	20221213	PEXP		Calculated Patent Term Expiry	

KR20040078112 A	20040908	LSPB	+	published / reissued	
KR20040078112 A	20070730	LSES	A201	REQUEST FOR EXAMINATION	
KR20040078112 A	20081114	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20040078112 A	20090710	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20040078112 A	20090825	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US2005193957 AA	20050908	LSPB	+	published / reissued	
US7874267 BB	20050305	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20040809 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:OSHIMA, SHIGERU;YOMOGIDA, KENTARO;REEL/FRAME:016543/0931 Owner: OSAKA INDUSTRIAL PROMOTION ORGANIZATION, JAPAN
US7874267 BB	20110125	LSGT	+	granted / extensions (spc, cpc, pte)	
US7874267 BB	20110323	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:OSAKA INDUSTRIAL PROMOTION ORGANIZATION;REEL/FRAME:026003/0385 Effective date: 20110316 PartyType: owner Owner: OSAKA UNIVERSITY, JAPAN
US7874267 BB	20130321	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE CONVEYING PARTIES (LISTED ONLY FIRST TWO INVENTORS; ALL FOUR INVENTORS NEED TO BE LISTED) PREVIOUSLY RECORDED ON REEL 016543 FRAME 0931. ASSIGNOR(S) HEREBY CONFIRMS THE CORRECTIVE ASSIGNMENT TO RE-RECORD ASSIGNMENT PREVIOUSLY RECORDED UNDER REEL AND FRAME 016543/0931 TO CORRECT CONVEYING PARTIES;ASSIGNORS:OSHIMA, SHIGERU;YOMOGIDA, KENTARO;KASEDA, KAZUHIRO;AND OTHERS;REEL/FRAME:030057/0914 Effective date: 20040809 Owner: OSAKA INDUSTRIAL PROMOTION ORGANIZATION, JAPAN
US7874267 BB	20140905		REMI	MAINTENANCE FEE REMINDER MAILED	
US7874267 BB	20150125	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7874267 BB	20150223	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7874267 BB	20150223	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7874267 BB	20150317	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150125
US7874267 BB	20240730	PEXP		Calculated Patent Term Expiry (PTA 595 days)	
WO03051106 A1	20030626	LSPB	+	published / reissued	
WO03051106 A1	20030626		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO03051106 A1	20030626		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO03051106 A1	20030820		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	

WO03051106 A1	20040604	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003552045 Country of Ref document: JP
WO03051106 A1	20040611	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2469996 Country of Ref document: CA
WO03051106 A1	20040611	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002790764 Country of Ref document: EP
WO03051106 A1	20040611	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1020047009140 Country of Ref document: KR
WO03051106 A1	20040811	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 20028280229 Country of Ref document: CN
WO03051106 A1	20040908	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2002790764 Country of Ref document: EP
WO03051106 A1	20050310	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10498583 Country of Ref document: US

47) Family number: 30878028 (ZA200306400 A)

Title: METHOD OF AND COMPOSITION FOR USE IN TREATING EGGS.

Abstract: ABSTRACT According to the invention there is provided a method of treating eggs during hatching of the same.In particular, the method provides for applying a mist of electrochemically activated, aqueous solution over the eggs in a process of egg sanitation and incubator decontamination for effecting 5 decontamination of especially eggshells. The electrochemically activated, aqueous solution is prepared by means of electrolysis of a dilute aqueous salt solution through use of an electrolysis device having a through-flow electrochemical cell with two co-axial cylindrical electrodes and with a tubular ceramic diaphragm located co-axially between the two electrodes so as to separate an annular inter-electrode space into a co-axial, annular catholytic and an annular anolytic **chamber** 10 arrangement. The invention extends to the use of an electrochemically activated, aqueous solution in the **treatment** of eggs during hatching of the same.17

Classifications:
International (IPC 8-9): A01K C25F
International (IPC 1-7): A01K C25F

Family:

Publication number	Publication date	Application number	Application date
ZA200306400 A	20040331	ZA20030006400	20030818

Priority:

ZA20020003903 20020516 ZA20030006400 20030818

Probable Assignee: RADICAL WATERS IP PTY LTD

Assignee(s): (std): RADICAL WATERS IP PTY LTD

Assignee(s): RADICAL WATERS (IP) (PTY) LIMITED ; RADICAL WATERS LTD

Inventor(s): (std): HINZE GILBERT THEO

Inventor(s): GILBERT THEO HINZE

Legal status (INPADOC)

View legal status timeline

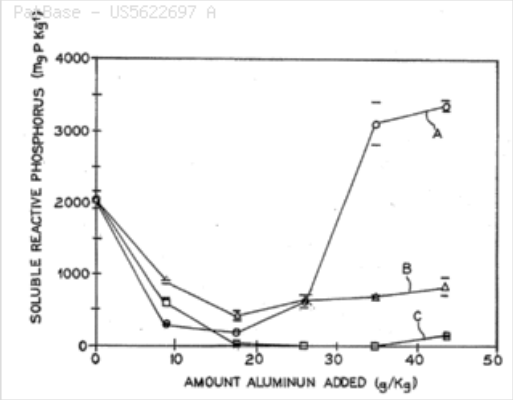
Patent	Date recorded	Event group	Code	Event	Details
ZA200306400 A	20040331	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200306400 A	20230817	PEXP		Calculated Patent Term Expiry	

48) Family number: 11426452 (US5622697 A)

Title: USE OF ALUM TO INHIBIT AMMONIA VOLATILIZATION AND TO DECREASE PHOSPHORUS SOLUBILITY IN POULTRY LITTER

Abstract: A method for treating poultry litter which inhibits ammonia volatilization and reduces soluble phophorus levels in the litter. The method comprises the addition of alum to litter in an amount sufficient to maintain the litter pH at values low enough to inhibit ammonia volatilization. The addition of alum, iron or calcium compounds to litter also effectively precipitates soluble phosphorus in litter, thereby reducing the amount of soluble phosphorus runoff from fields receiving litter.

Classifications:
International (IPC 8-9): A01K1/015 A01K31/00 A01K31/04 A01K31/17 A01K45/00 A61L9/01 A61L9/14 C05D9/00 C05D9/02 C05F3/00
International (IPC 1-7): A01K1/01 A01K31/04 A61L9/00 A61L9/01 C05F3/00
CPC: A01K1/0152 A01K31/04 A01K31/17 A01K45/00 A61L9/01 A61L9/14 C05D9/02 C05F3/00 Y02A40/20 Y02P20/145 Y10S210/906 A01K31/005 A01K1/015
US: 119/171 119/442 119/450 119/458 210/906 239/209 239/210 239/752 239/99 422/4 422/5 424/646 424/647 424/648 424/663 424/682 424/687 424/693 424/698 424/709 424/76.6 588/221 588/224 588/236 588/320 71/21



Family:

Publication number	Publication date	Application number	Application date
US5622697 A	19970422	US19950437991	19950510
US5961968 A	19991005	US19960640623	19960501
US5928403 A	19990727	US19960717067	19960920
US5865143 A	19990202	US19960735103	19961022
US5914104 A	19990622	US19970852273	19970507

Priority:

US19930129742 19930930 US19950437991 19950510 US19960640623 19960501
US19960717067 19960920 US19960735103 19961022 US19970852273 19970507

Probable Assignee: GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC

Assignee(s): (std): UNIV ARKANSAS ; US AGRICULTURE

Assignee(s): BOARD OF TRUSTEES OF UNIV OF ARKANSAS ; FINI ENTERPRISES INC ; GENERAL CHEMICAL CORP ; GENERAL CHEMICAL HOLDING CO ; GENERAL CHEMICAL LLC ; GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC ; GENERAL CHEMICAL WEST LLC ; GENERAL ELECTRIC CAPITAL CORP ; GENTOMA CORP ; GENTOMA HOLDING INC ; OF ARKANSAS AND UNITED STATES OF AMERICA 1123 S UN ; OF ARKANSAS AND UNITED STATES OF AMERICA UNIV ; OF ARKANSAS AND US GOV SECRETARY OF AGRICULTURE AS ; OF ARKANSAS AND US GOV SECRETARY OF AGRICULTURE AS UNIV ; OF ARKANSAS AND US GOV SECRETARY OF AGRICULTURE EV ; OF ARKANSAS AND US SEC AGRICULTURE UNIV ; PRINTING DEVELOPMENTS INC ; SECRETARY OF AGRICULTURE AS US GOV ; THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ARKANSA ; THE BOARD OF TRUSTEES OF THE UNIVERSITY OF ARKANSAS ; THE UNITED STATES OF AMERICA AS REPRESENTED BY THE ; THE UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF AGRICULTURE ; TRUSTEES OF THE UNIVERSITY OF ARKANSAS ; TRUSTEES OF UNIV OF ARKANSAS ; TRUSTEES OF UNIV OF ARKANSAS AND UNITED STATES OF AMERICA ; TRUSTEES OF UNIVERSITY OF ARKANSAS ; TRUSTEES OF UNIVERSITY OF ARKANSAS AND UNITED STAT ; TRUSTEES OF UNIVERSITY OF ARKANSAS AND UNITED STATES OF AMERICA

Inventor(s): (std): MOORE PHILIP A JR

Inventor(s): MOORE JR PHILIP A

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US5622697 A	19970317	LSGT	PAT1	Patented Case	
US5622697 A	19970317	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5622697 A	19970422	LSGT	+	granted / extensions (spc, cpc, pte)	
US5622697 A	20000928	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5622697 A	20040929	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5622697 A	20060908	LSAS	AS	ASSIGNMENT	Effective date: 20060815 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GENTEK HOLDING, LLC;REEL/FRAME:018231/0083 Owner: GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC, NEW JER PartyType: owner

US5622697 A	20080918	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5622697 A	20101007	LSAS	AS	ASSIGNMENT	Effective date: 20101006 OldParty: PATENT SECURITY AGREEMENT;ASSIGNORS:GENERAL CHEMICAL CORPORATION;GENERAL CHEMICAL HOLDING COMPANY;GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC;AND OTHERS;REEL/FRAME:025105/0574 Owner: GENERAL ELECTRIC CAPITAL CORPORATION, ILLINOIS PartyType: owner
US5622697 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL HOLDING COMPANY, CANADA PartyType: owner
US5622697 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC, CANADA PartyType: owner
US5622697 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: FINI ENTERPRISES, INC., CANADA PartyType: owner
US5622697 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL WEST LLC, CANADA PartyType: owner
US5622697 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENTOMA CORPORATION, CANADA PartyType: owner
US5622697 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENTOMA HOLDING INC., CANADA PartyType: owner
US5622697 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL LLC, CANADA PartyType: owner
US5622697 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: PRINTING DEVELOPMENTS, INC., CANADA PartyType: owner
US5622697 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL CORPORATION, CANADA PartyType: owner

US5622697 A	20150510	PEXP		Calculated Patent Term Expiry	
US5865143 A	19990122	LSGT	PAT1	Patented Case	
US5865143 A	19990122	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5865143 A	19990202	LSGT	+	granted / extensions (spc, cpc, pte)	
US5865143 A	20020711	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5865143 A	20060622	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5865143 A	20060908	LSAS	AS	ASSIGNMENT	Effective date: 20060815 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GENTEK HOLDING, LLC;REEL/FRAME:018231/0083 Owner: GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC, NEW JER PartyType: owner
US5865143 A	20100702	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5865143 A	20101007	LSAS	AS	ASSIGNMENT	Effective date: 20101006 OldParty: PATENT SECURITY AGREEMENT;ASSIGNORS:GENERAL CHEMICAL CORPORATION;GENERAL CHEMICAL HOLDING COMPANY;GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC;AND OTHERS;REEL/FRAME:025105/0574 Owner: GENERAL ELECTRIC CAPITAL CORPORATION, ILLINOIS PartyType: owner
US5865143 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENTOMA CORPORATION, CANADA PartyType: owner
US5865143 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL LLC, CANADA PartyType: owner
US5865143 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL HOLDING COMPANY, CANADA PartyType: owner
US5865143 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL WEST LLC, CANADA PartyType: owner
US5865143 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENTOMA HOLDING INC., CANADA PartyType: owner
US5865143 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: FINI ENTERPRISES, INC., CANADA PartyType: owner
US5865143 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT

					REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL CORPORATION, CANADA PartyType: owner
US5865143 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: PRINTING DEVELOPMENTS, INC., CANADA PartyType: owner
US5865143 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC, CANADA PartyType: owner
US5865143 A	20161022	PEXP		Calculated Patent Term Expiry	
US5914104 A	19981015	LSAS	AS	ASSIGNMENT	Effective date: 19970501 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MOORE, PHILIP A., JR.;REEL/FRAME:009518/0770 Owner: UNIVERSITY OF ARKANSAS AND UNITED STATES OF AMERIC PartyType: owner
US5914104 A	19990611	LSGT	PAT1	Patented Case	
US5914104 A	19990611	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5914104 A	19990622	LSGT	+	granted / extensions (spc, cpc, pte)	
US5914104 A	19991214	LSRE	CC	CERTIFICATE OF CORRECTION	
US5914104 A	20020924	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5914104 A	20060908	LSAS	AS	ASSIGNMENT	Effective date: 20060815 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GENTEK HOLDING, LLC;REEL/FRAME:018231/0083 Owner: GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC, NEW JER PartyType: owner
US5914104 A	20061116	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5914104 A	20101122	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5914104 A	20170507	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US5928403 A	19960920	LSAS	AS	ASSIGNMENT	Effective date: 19960919 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MOORE, PHILIP A., JR.;REEL/FRAME:008220/0065 Owner: UNIVERSITY OF ARKANSAS AND THE UNITED STATES OF AM PartyType: owner
US5928403 A	19990716	LSGT	PAT1	Patented Case	
US5928403 A	19990716	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5928403 A	19990727	LSGT	+	granted / extensions (spc, cpc, pte)	
US5928403 A	20021230	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5928403 A	20060908	LSAS	AS	ASSIGNMENT	Effective date: 20060815 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GENTEK HOLDING, LLC;REEL/FRAME:018231/0083

					Owner: GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC, NEW JER PartyType: owner
US5928403 A	20061218	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5928403 A	20101228	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5928403 A	20160920	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US5961968 A	19990923	LSGT	PAT1	Patented Case	
US5961968 A	19990923	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5961968 A	19991005	LSGT	+	granted / extensions (spc, cpc, pte)	
US5961968 A	20030328	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5961968 A	20060908	LSAS	AS	ASSIGNMENT	Effective date: 20060815 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GENTEK HOLDING, LLC;REEL/FRAME:018231/0083 Owner: GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC, NEW JER PartyType: owner
US5961968 A	20070320	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5961968 A	20101007	LSAS	AS	ASSIGNMENT	Effective date: 20101006 OldParty: PATENT SECURITY AGREEMENT;ASSIGNORS:GENERAL CHEMICAL CORPORATION;GENERAL CHEMICAL HOLDING COMPANY;GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC;AND OTHERS;REEL/FRAME:025105/0574 Owner: GENERAL ELECTRIC CAPITAL CORPORATION, ILLINOIS PartyType: owner
US5961968 A	20110323	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5961968 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: FINI ENTERPRISES, INC., CANADA PartyType: owner
US5961968 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL LLC, CANADA PartyType: owner
US5961968 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL HOLDING COMPANY, CANADA PartyType: owner
US5961968 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL PERFORMANCE PRODUCTS LLC, CANADA PartyType: owner
US5961968 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENTOMA HOLDING INC., CANADA PartyType: owner
US5961968 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY

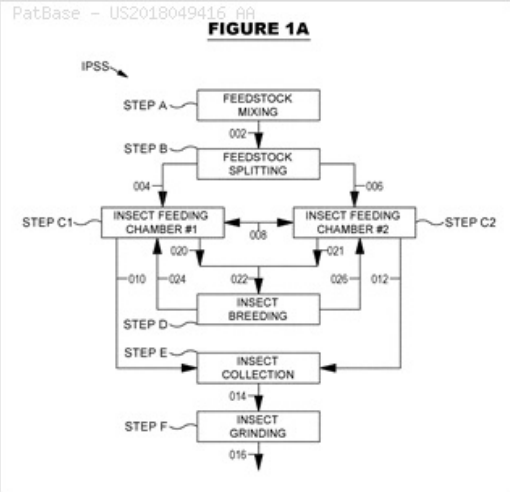
					AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL CORPORATION, CANADA PartyType: owner
US5961968 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENTOMA CORPORATION, CANADA PartyType: owner
US5961968 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: PRINTING DEVELOPMENTS, INC., CANADA PartyType: owner
US5961968 A	20140129	LSAS	AS	ASSIGNMENT	Effective date: 20140123 OldParty: RELEASE OF PATENT SECURITY AGREEMENT AND INTEREST RECORDED AT REEL 025105/FRAME 0574;ASSIGNOR:GENERAL ELECTRIC CAPITAL CORPORATION;REEL/FRAME:032140/0783 Owner: GENERAL CHEMICAL WEST LLC, CANADA PartyType: owner
US5961968 A	20160501	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	

49) Family number: 68631252 (US2018049416 AA)

Title: INSECT PRODUCTION SYSTEMS AND METHODS

Abstract: Variable-scale, modular, easily manufacturable, energy efficient, reliable, and computer operated Insect Production Superstructure Systems (IPSS) may be used to produce insects for human and animal consumption, and for the extraction and use of lipids for applications involving medicine, nanotechnology, consumer products, and **chemical** production with minimal **water**, feedstock, and environmental impact. An IPSS may comprise modules including feedstock mixing, feedstock splitting, insect feeding, insect breeding, insect collection, insect grinding, pathogen removal, multifunctional flour mixing, and lipid extraction. An IPSS may be configured to be constructed out of a plurality of containerized modules.

Classifications:
International (IPC 8-9): A01K67/033 A21D2/02 A21D2/18 A21D2/34 A21D2/36 A23K20/163 A23K20/174 A23K20/20
CPC: A01K67/033 A21D2/34 A23K20/163 A23K20/174 A23K20/20 A23K50/90
US: 1/1 426/2



Family:

Publication number	Publication date	Application number	Application date
US10058080 BB	20180828	US20160242582	20160821
US2018049416 AA	20180222	US20160242582	20160821

Priority:
US20160242582 20160821

Probable Assignee: LEO DANIEL MICHAEL
Assignee(s): (std): LEO DANIEL MICHAEL
Inventor(s): (std): LEO DANIEL MICHAEL

Legal status (INPADOC)

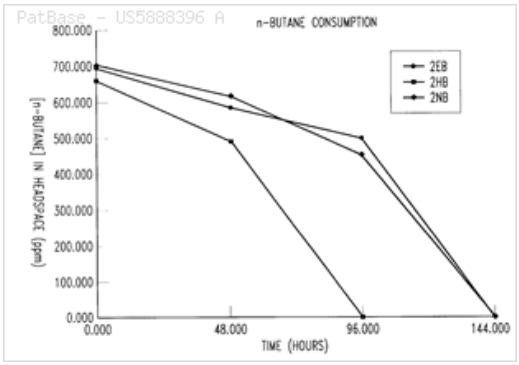
View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US10058080 BB	20180808	LSGT	PAT1	Patented Case	
US10058080 BB	20180828	LSGT	+	granted / extensions (spc, cpc, pte)	
US10058080 BB	20370215	PEXP		Calculated Patent Term Expiry (PTA 178 days and a terminal disclaimer has been filed)	
US2018049416 AA	20170122		RFE1	Docketed New Case - Ready for Examination	
US2018049416 AA	20180222	LSPB	+	published / reissued	
US2018049416 AA	20180413	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2018049416 AA	20180416	LSES	NFA1	Non Final Action Mailed	
US2018049416 AA	20180721	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018049416 AA	20180808	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

50) Family number: 30464474 (US5888396 A)

Title: BIOREMEDIATION OF POLLUTANTS WITH BUTANE-UTILIZING BACTERIA

Abstract: Butane-utilizing bacteria are used to degrade hydrocarbon pollutants such as trichloroethene (TCE). In-situ or ex-situ techniques may be used to reduce or eliminate hydrocarbon pollutants from liquid, gas and solid sources. In a preferred embodiment, TCE concentrations in various aqueous environments are reduced by contacting a contaminated **water** source with butane-utilizing bacteria in the presence of oxygen to degrade the TCE by cometabolism or direct metabolism. Suitable butane-utilizing bacteria include Pseudomonas, Variovorax, Nocardia, Chryseobacterium, Comamonas, Acidovorax, Rhodococcus, Aureobacterium, Micrococcus, Aeromonas, Stenotrophomonas, Sphingobacterium, Shewanella, Phyllobacterium, Clavibacter, Alcaligenes, Gordona, Corynebacterium and Cytophaga. The butane-utilizing bacteria have relatively low TCE toxicity in comparison with conventional methane-utilizing bacteria, and demonstrate an improved ability to degrade TCE.



Classifications:
International (IPC 8-9): A01B79/00 A01B79/02 A01C23/00 A01C23/02 A01G29/00 A01G33/00 A01G7/00 A01G7/06 A01K61/00 A01K61/02 A01K63/04 A01K67/00 A01N A01N27/00 A62D3/00 A62D3/02 B01D53/70 B09C1/10 C02F3/00 C02F3/02 C02F3/28 C02F3/30 C02F3/34 C09K8/52 C12N1/20 C12N1/26 C12N1/28 C12R1/40 E21B37/06
International (IPC 1-7): A01B79/02 A01G33/00 A01G7/00 A01K61/00 A01K61/02 A01K67/00 A01N27/00 A01N43/76 A62D3/00 B01D53/70 B09C1/10 C02F103/06 C02F3/00 C02F3/28 C02F3/30 C02F3/34 C12N1/20 C12N1/26 C12N1/28 E21B3/706 E21B37/06
CPC: B01D2251/102 B01D2251/208 B01D2251/95 B01D2257/2062 B01D2257/2064 B01D2257/7027 B01D53/70 B01D53/85 B09C1/002 B09C1/10 C02F2101/32 C02F2101/36 C02F3/34 Y02A50/20 Y10S210/908 Y10S210/909 C02F3/344 C09K8/52 C02F2103/06 C02F3/286 A01C23/025 A01G7/06 A01N27/00 A01K61/00 A01K61/10 A01K61/20 A01K61/51 A01K63/04 C02F2305/06 C02F3/00 C02F3/348 B09C1/02 C02F2101/20 C02F2101/203 C02F2101/206 C02F2101/22 C02F2103/10 C02F2103/16 C02F3/30 C02F3/341 Y10S210/912 Y10S210/913 Y10S210/914 C02F1/76 C02F11/123 C02F2101/101 C02F2101/16 C02F2101/322 C02F2101/40 C02F2103/005 C02F2103/14 C02F2103/20 C02F2103/22 C02F2103/28 C02F2103/327 C02F2103/346 C02F2303/02 C02F2303/24 C02F3/1221 C02F3/28 C02F9/00 C05F17/50 Y02P20/145 Y02W10/10 Y02W30/40 C05F17/10 A01G29/00 C02F2101/103 C12N1/28
US: 119/231 166/246 166/246S 166/304 166/312 166/312S 166/403 166/403S 210/150 210/170 210/170.07 210/198.1 210/198.100P 210/209 210/220 210/241 210/603 210/605 210/610 210/611 210/62 210/620 210/747 210/747.1 210/747.5 210/747.7 210/747.9 210/908 210/909 210/912 210/913 210/914 405/128.45 405/128.7 405/129.2 435/262 435/262.5 47/58.10R 47/58.1R 47/58.1SC 47/581R

Family:

Publication number	Publication date	Application number	Application date
AT362461 E	20070615	AT19970948231T	19971105
AU199854335 A1	19980715	AU19980054335	19971105
AU733150 B2	20010510	AU19980054335	19971105
AU200039112 A1	20001009	AU20000039112	20000323
AU200039112 A5	20001009	AU20000039112	20000323
AU200044645 A1	20001102	AU20000044645	20000414
AU200044645 A5	20001102	AU20000044645D	20000414
AU200192967 A1	20020402	AU20010092967	20010921
AU200192967 A5	20020402	AU20010092967	20010921
AU2001292967 AA	20020402	AU20010292967	20010921
AU2002342576 AA	20021125	AU20020342576	20020507
AU2002348092 AA	20030512	AU20020348092	20021029
AU2002361823 AA	20030709	AU20020361823	20021219
AU2002361823 AH	20030709	AU20020361823	20021219
BRPI9714946 A	20020108	BR1997PI14946	19971105
BRPI0009273 A	20020416	BR2000PI09273	20000323
BRPI0009806 A	20020115	BR2000PI09806	20000414
CA2275414 AA	19990616	CA19972275414	19971105
CA2275414 C	20070313	CA19972275414	19971105
CA2367601 AA	20011015	CA20002367601	20000414
CA2367931 AA	20010920	CA20002367931	20000323
CN1347391 A	20020501	CN20008006387	20000323
CN1349587 A	20020515	CN20008007043	20000414
DE69737737 D1	20070628	DE19976037737T	19971105
DE69737737 T2	20080207	DE19976037737T	19971105
EA001672 B1	20010625	EA19990000576	19971105
EA199900576 A1	20000424	EA19990000576	19971105
EA200101002 A1	20020425	EA20010001002	20000323
EA200101055 A1	20020425	EA20010001055	20000414
EP0950028 A1	19991020	EP19970948231	19971105
EP0950028 A4	20020327	EP19970948231	19971105
EP0950028 B1	20070516	EP19970948231	19971105
EP1189843 A1	20020327	EP20000918273	20000323
EP1189843 A4	20030618	EP20000918273	20000323
EP1171685 A1	20020116	EP20000926049	20000414
EP1171685 A4	20030521	EP20000926049	20000414
ES2287957 T3	20071216	ES19970948231T	19971105
IN01043KN2001 A	20160826	IN2001KN01043	20011005
JP2001506182 T2	20010515	JP19980527697T	19971105
MXPA01009589 A1	20040421	MX2001PA09589	20000323
MXPA01010446 A1	20030721	MX2001PA10446	20000414
NZ336231 A	20011026	NZ19970336231	19971105
PL334051 A1	20000131	PL19970334051	19971105

PL350546 A1	20021216	PL20000350546	20000323
PL351072 A1	20030310	PL20000351072	20000414
US5888396 A	19990330	US19960767750	19961217
US6051130 A	20000418	US19980215965	19981218
US6245235 BA	20010612	US19990275320	19990324
US6156203 A	20001205	US19990275324	19990324
US6110372 A	20000829	US19990275381	19990324
US6244346 BA	20010612	US19990293088	19990416
US6210579 BA	20010403	US20000551115	20000418
US6488850 BB	20021203	US20000729039	20001204
US2001023847 AA	20010927	US20010729039	20010227
US2002066566 AA	20020606	US20010878656	20010611
US2002195389 AA	20021226	US20010924791	20010808
US6669846 BB	20031230	US20010924791	20010808
US2003062306 AA	20030403	US20020205816	20020726
US6923914 BB	20050802	US20020205816	20020726
US2003084609 AA	20030508	US20020282891	20021029
US7966767 BB	20110628	US20020282891	20021029
US2003136735 AA	20030724	US20020308607	20021202
US7182871 BB	20070227	US20020308607	20021202
US2003167686 AA	20030911	US20020324256	20021219
US6918354 BB	20050719	US20020324256	20021219
US2003234217 AA	20031225	US20020324663	20021220
US6835312 BB	20041228	US20020324663	20021220
US2003201227 AA	20031030	US20030400963	20030327
US2004124137 AA	20040701	US20030674154	20030929
US7192523 BB	20070320	US20030674154	20030929
US2004050764 AA	20040318	US20030677210	20031002
US2005000154 AA	20050106	US20040852752	20040524
US2005199539 AA	20050915	US20050055738	20050210
WO9827015 A1	19980625	WO1997US20515	19971105
WO0056668 A1	20000928	WO2000US07638	20000323
WO0063527 A1	20001026	WO2000US10265	20000414
WO0224584 A1	20020328	WO2001US29677	20010921
WO02092518 A1	20021121	WO2002US14472	20020507
WO03011487 A1	20030213	WO2002US24001	20020726
WO03037066 A2	20030508	WO2002US34432	20021029
WO03037066 A3	20040129	WO2002US34432	20021029
WO03053143 A2	20030703	WO2002US40969	20021219
WO03053143 A3	20040212	WO2002US40969	20021219

Priority:

US19960767750 19961217	WO1997US20515 19971105	US19980215965 19981218
US19990275381 19990324	US19990275320 19990324	US19990275324 19990324
US19990293088 19990416	WO2000US07638 20000323	WO2000US10265 20000414
US20000551115 20000418	US20000234482P 20000922	US20000729039 20001204
US20010729039 20010227	US20010291165P 20010515	US20010878656 20010611
US20010308487P 20010727	US20010308210P 20010727	US20010308212P 20010727
US20010924791 20010808	WO2001US29677 20010921	US20010334981P 20011031
US20010343042P 20011220	US20010344947P 20011221	US20010344868P 20011231
US20020368219P 20020328	WO2002US14472 20020507	US20020205816 20020726
WO2002US34432 20021029	US20020282891 20021029	US20020308607 20021202
WO2002US40969 20021219	US20020324256 20021219	US20020324663 20021220
US20030400963 20030327	US20030473181P 20030523	US20030674154 20030929
US20030677210 20031002	US20040852752 20040524	US20050055738 20050210

Probable Assignee: GLOBAL BIOSCIENCES INC

Assignee(s): (std): FELIX A ; FELIX A PERRIELLO ; FELIX ANTHONY PERRIELLO ; GLOBAL BIOSCIENCES INC ; PERRIELLO FELIX A ; PERRIELLO FELIX ANTHONY

Assignee(s): ANTHONY FELIX ; DICESARE GEORGE A ; PERRIELLO JEANNE M ; PERRIELLO RALPH J

Inventor(s): (std): ANTHONY FELIX ; DICESARE GEORGE A ; FELIX ANTHONY PERRIELLO ; PERRIELLO FELIX A ; PERRIELLO FELIX ANTHONY ; PERRIELLO JEANNE M ; PERRIELLO RALPH J

Inventor(s): DICESARE GEORGE ; FELIX A PERRIELLO ; GEORGE A DICESARE ; JEANNE M PERRIELLO ; PERRIELLO FELIX ; RALPH J PERRIELLO

Agent(s): ALAN G; ALAN G TOWNER; ALAN G TOWNER ESQ; ALAN G TOWNER PIETRAGALLO BOSICK AND GORDON; ECKERT SEAMANS CHERIN AND MELLOTT LLC; LENART ESQ ROBERT P; PIETRAGALLO BOSICK AND GORDON; PIETRAGALLO BOSICK AND GORDON LLP; PIETRAGALLO GORDON ALFANO BOSICK AND RASPANTI LLP; PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; ROBERT P; SMART AND BIGGAR; TARA L PFAEFFLE PIETRAGALLO BOSICK AND GORDON; TOWNER ALAN G; TOWNER ESQ ALAN G

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT362461 E	20070615	LSGT	+	granted / extensions (spc, cpc, pte)	
AT362461 E	20071115	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT.	

				3 LAW INTRODUCING PATENT TREATIES
AT362461 E	20171105	PEXP		Calculated Patent Term Expiry
AU199854335 A1	19980715	LSPB	+	published / reissued
AU200039112 A1	20001009	LSPB	+	published / reissued
AU200044645 A1	20001102	LSPB	+	published / reissued
AU2001292967 AA	20020402	LSPB	+	published / reissued
AU200192967 A1	20020402	LSPB	+	published / reissued
AU2002342576 AA	20021125	LSPB	+	published / reissued
AU2002348092 AA	20030512	LSPB	+	published / reissued
AU2002348092 AA	20040715	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE
AU2002361823 AA	20030709	LSPB	+	published / reissued
AU2002361823 AA	20040909	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE
AU733150 B2	20010510	LSGT	+	granted / extensions (spc, cpc, pte)
AU733150 B2	20010906	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)
AU733150 B2	20171105	PEXP		Calculated Patent Term Expiry
BRPI0009273 A	20020416	LSPB	+	published / reissued
BRPI0009273 A	20031216	LSRV	-FA10	DISMISSAL: DISMISSAL - ARTICLE 33 OF INDUSTRIAL PROPERTY LAW
BRPI0009273 A	20040810	LSRV	-B11Y	DEFINITIVE DISMISSAL ACC. ARTICLE 33 OF IPL - EXTENSION OF TIME LIMIT FOR REQUEST OF EXAMINATION EXPIRED
BRPI0009806 A	20020115	LSPB	+	published / reissued
BRPI0009806 A	20031223	LSRV	-FA10	DISMISSAL: DISMISSAL - ARTICLE 33 OF INDUSTRIAL PROPERTY LAW
BRPI0009806 A	20040817	LSRV	-B11Y	DEFINITIVE DISMISSAL ACC. ARTICLE 33 OF IPL - EXTENSION OF TIME LIMIT FOR REQUEST OF EXAMINATION EXPIRED
BRPI9714946 A	20020108	LSPB	+	published / reissued
BRPI9714946 A	20051116	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)
BRPI9714946 A	20060411		B06A	NOTIFICATION TO APPLICANT TO

				REPLY TO THE REPORT FOR NON-PATENTABILITY OR INADEQUACY OF THE APPLICATION ACCORDING ART. 36 INDUSTRIAL PATENT LAW	
BRPI9714946 A	20060822	LSGT	B09A	DECISION: INTENTION TO GRANT	
BRPI9714946 A	20061205	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	Text: PRAZO DE VALIDADE: 20 (VINTE) ANOS CONTADOS A PARTIR DE 05/11/1997, OBSERVADAS AS CONDICOES LEGAIS.
BRPI9714946 A	20140902	LSLE	-B21F	LAPSE ACC. ART. 78, ITEM IV - ON NON-PAYMENT OF THE ANNUAL FEES IN TIME	Text: REFERENTE A 17A ANUIDADE.
BRPI9714946 A	20151124	LSLE	-B24J	LAPSE BECAUSE OF NON-PAYMENT OF ANNUAL FEES (DEFINITIVELY: ART 78 IV LPI, RESOLUTION 113/2013 ART. 12)	Text: EM VIRTUDE DA EXTINCAO PUBLICADA NA RPI 2278 DE 02-09-2014 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDA A EXTINCAO DA PATENTE E SEUS CERTIFICADOS, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
CA2275414 AA	19990616	LSPB	+	published / reissued	
CA2275414 AA	20021018	LSES	+EEER	EXAMINATION REQUEST	
CA2275414 C	20070313	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2275414 C	20171105	PEXP		Calculated Patent Term Expiry	
CA2275414 C	20171218	LSLE	-MKLA	LAPSED	Effective date: 20171106
CA2367601 AA	20011015	LSPB	+	published / reissued	
CA2367601 AA	20040414	LSLE	-FZDE	DEAD	
CA2367931 AA	20010920	LSPB	+	published / reissued	
CA2367931 AA	20050323	LSLE	-FZDE	DEAD	
CN1347391 A	20020501	LSPB	+	published / reissued	
CN1347391 A	20020501	LSPB	+C06	PUBLICATION	
CN1347391 A	20020508		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1347391 A	20040811	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
CN1349587 A	20020515	LSPB	+	published / reissued	
CN1349587 A	20020515	LSPB	+C06	PUBLICATION	
CN1349587 A	20020605		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1349587 A	20050629	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
DE69737737 D1	20080605	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69737737 D1	20100916	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69737737 T2	20080207	LSGT	+	granted / extensions (spc, cpc, pte)	

DE69737737 T2	20080605	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69737737 T2	20100916	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE69737737 T2	20171105	PEXP		Calculated Patent Term Expiry	
EA001672 B1	20010625	LSGT	+	granted / extensions (spc, cpc, pte)	
EA001672 B1	20100830	LSLE	-MM4A	LAPSE OF A EURASIAN PATENT DUE TO NON-PAYMENT OF RENEWAL FEES WITHIN THE TIME LIMIT IN THE FOLLOWING DESIGNATED STATE(S)	Country of Ref document: AM AZ BY KG KZ MD RU TJ TM
EA001672 B1	20171105	PEXP		Calculated Patent Term Expiry	
EA199900576 A1	20000424	LSPB	+	published / reissued	
EA200101002 A1	20020425	LSPB	+	published / reissued	
EA200101055 A1	20020425	LSPB	+	published / reissued	
EP0950028 A1	19991020	LSPB	+	published / reissued	
EP0950028 A1	19991020	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19990714
EP0950028 A1	19991020		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP0950028 A1	19991020		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Text: AL PAYMENT 19990714;LT PAYMENT 19990714;LV PAYMENT 19990714;MK PAYMENT 19990714;RO PAYMENT 19990714;SI PAYMENT 19990714
EP0950028 A1	20020327	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20020213
EP0950028 A1	20020327		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A4 Country of Ref document: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP0950028 A1	20020327		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	Text: 7C 02F 3/34 A, 7B 09C 1/10 B, 7A 62D 3/00 B
EP0950028 A1	20020918	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20020805
EP0950028 A1	20070516		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP0950028 A1	20070516		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP0950028 A1	20070516	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP0950028 A1	20070516	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP0950028 A1	20070615	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP0950028 A1	20070627	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP0950028 A1	20070628		REF	CORRESPONDS TO:	Date of Ref document: 20070628 Kind code of Ref document: P Ref document number: 69737737 Country of Ref document: DE
EP0950028 A1	20070816	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	Lapsed date: 20070816 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION

				INFORMATION FROM NATIONAL OFFICE TO EPO]	OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP0950028 A1	20071025	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	Effective date: 20070516 Ref country code: EP
EP0950028 A1	20071030		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref country code: CH Ref legal event code: NV Representative: MICHELI & CIE SA
EP0950028 A1	20071101	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	Ref country code: EP
EP0950028 A1	20071109		+ET	FR: TRANSLATION FILED	
EP0950028 A1	20071124	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP0950028 A1	20071216	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2287957 Ref legal event code: FG2A Country of Ref document: ES
EP0950028 A1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP0950028 A1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP0950028 A1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20071016 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP0950028 A1	20080423	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20080219
EP0950028 A1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070817 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP0950028 A1	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081125 Year of fee payment: 12 Country of Ref document: CH
EP0950028 A1	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081125 Year of fee payment: 12 Country of Ref document: IE
EP0950028 A1	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081204 Year of fee payment: 12 Country of Ref document: LU
EP0950028 A1	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081120 Year of fee payment: 12 Country of Ref document: MC
EP0950028 A1	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081126 Year of fee payment: 12 Country of Ref document: ES

EP0950028 A1	20090331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081126 Year of fee payment: 12 Country of Ref document: IT
EP0950028 A1	20090430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081117 Year of fee payment: 12 Country of Ref document: FR
EP0950028 A1	20090529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081223 Year of fee payment: 12 Country of Ref document: DE
EP0950028 A1	20090630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081128 Year of fee payment: 12 Country of Ref document: GB
EP0950028 A1	20090731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20090128 Year of fee payment: 12 Country of Ref document: BE
EP0950028 A1	20100531	LSLE	-BERE	BE: LAPSED	Effective date: 20091130 Owner: PERRIELLO, FELIX A. PartyType: owner Ref country code: EP
EP0950028 A1	20100630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
EP0950028 A1	20100630	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP0950028 A1	20100728	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20091105 Ref country code: EP
EP0950028 A1	20100827	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20100730 Ref country code: FR Ref legal event code: ST
EP0950028 A1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP0950028 A1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP0950028 A1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP0950028 A1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091105 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP0950028 A1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP0950028 A1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL	Lapsed date: 20100601 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE

				OFFICE TO EPO]	
EP0950028 A1	20101231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091105 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP0950028 A1	20110322	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20110310 Ref country code: ES Ref legal event code: FD2A
EP0950028 A1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091105 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP0950028 A1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091105 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP0950028 A1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110309 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP0950028 A1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091106 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP0950028 B1	20070516	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0950028 B1	20171105	PEXP		Calculated Patent Term Expiry	
EP1171685 A1	20020116	LSPB	+	published / reissued	
EP1171685 A1	20020116	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20011022
EP1171685 A1	20020116		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1171685 A1	20020116		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Text: AL PAYMENT 20011022;LT PAYMENT 20011022;LV PAYMENT 20011022;MK PAYMENT 20011022;RO PAYMENT 20011022;SI PAYMENT 20011022
EP1171685 A4	20030521	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20030403
EP1171685 A4	20040114	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20030628
EP1189843 A1	20020327	LSPB	+	published / reissued	
EP1189843 A1	20020327	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20011019
EP1189843 A1	20020327		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1189843 A1	20020327		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Text: AL PAYMENT 20011019;LT PAYMENT 20011019;LV PAYMENT 20011019;MK PAYMENT 20011019;RO PAYMENT 20011019;SI PAYMENT 20011019
EP1189843 A1	20030604		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: 7C 02F 3/34 A ClassificationScheme: IPC
EP1189843 A1	20030604		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7B 09C 1/10 B
EP1189843 A4	20030618	LSES	+A4	SUPPLEMENTARY SEARCH REPORT	Effective date: 20030506

				DRAWN UP AND DESPATCHED	
EP1189843 A4	20040317	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20030722
ES2287957 T3	20071216	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2287957 T3	20171105	PEXP		Calculated Patent Term Expiry	
IN01043KN2001 A	20160826	LSPB	+	published / reissued	
JP2001506182 T2	20010515	LSPB	+	published / reissued	
MXPA01009589 A1	20040421	LSPB	+	published / reissued	
MXPA01010446 A1	20030721	LSPB	+	published / reissued	
NZ336231 A	20011026	LSPB	+	published / reissued	
NZ336231 A	20020301	LSGT	+PSEA	PATENT SEALED	
NZ336231 A	20020328	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ336231 A	20050527	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ336231 A	20071221	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
PL334051 A1	20000131	LSPB	+	published / reissued	
PL350546 A1	20021216	LSPB	+	published / reissued	
PL350546 A1	20070731	LSRV	-REFS	DECISIONS ON REFUSAL TO GRANT PATENTS (TAKEN AFTER THE PUBLICATION OF THE PARTICULARS OF THE APPLICATIONS)	
PL351072 A1	20030310	LSPB	+	published / reissued	
US2001023847 AA	20010927	LSPB	+	published / reissued	
US2002066566 AA	20020606	LSPB	+	published / reissued	
US2002066566 AA	20021118	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2002066566 AA	20021118		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2002195389 AA	20021226	LSPB	+	published / reissued	
US2003062306 AA	20030403	LSPB	+	published / reissued	
US2003062306 AA	20130902	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US2003084609 AA	20030508	LSPB	+	published / reissued	
US2003084609 AA	20110608	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2003136735 AA	20030724	LSPB	+	published / reissued	
US2003167686 AA	20030911	LSPB	+	published / reissued	
US2003167686 AA	20050629	LSGT	PAT1	Patented Case	
US2003201227 AA	20030327	LSAS	AS	ASSIGNMENT	Effective date: 20030326 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:013925/0162

					Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner
US2003201227 AA	20031030	LSPB	+	published / reissued	
US2003201227 AA	20071220	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2003201227 AA	20071220		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2003234217 AA	20031225	LSPB	+	published / reissued	
US2003234217 AA	20041021	LSAS	AS	ASSIGNMENT	Effective date: 20041018 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:PERRIELLO, FELIX ANTHONY;DICESARE, GEORGE A.;PERRIELLO, RALPH J.;REEL/FRAME:015278/0492
US2004050764 AA	20040318	LSPB	+	published / reissued	
US2004050764 AA	20060724	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2004050764 AA	20060724		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2004124137 AA	20040701	LSPB	+	published / reissued	
US2005000154 AA	20040818	LSAS	AS	ASSIGNMENT	Effective date: 20040811 PartyType: owner Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:PERRIELLO, FELIX ANTHONY;DICESARE, GEORGE A.;REEL/FRAME:015681/0222
US2005000154 AA	20050106	LSPB	+	published / reissued	
US2005000154 AA	20100201	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005000154 AA	20100201		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005199539 AA	20050915	LSPB	+	published / reissued	
US2005199539 AA	20060711	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005199539 AA	20060711		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US5888396 A	19990303	LSGT	PAT1	Patented Case	
US5888396 A	19990303	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5888396 A	19990330	LSGT	+	granted / extensions (spc, cpc, pte)	
US5888396 A	20000704	LSRE	CC	CERTIFICATE OF CORRECTION	
US5888396 A	20010129	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:011485/0606 Effective date: 20001218 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner
US5888396 A	20021016		REMI	MAINTENANCE FEE REMINDER MAILED	
US5888396 A	20030109	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5888396 A	20030109		+SULP	SURCHARGE FOR	

				LATE PAYMENT	
US5888396 A	20060929	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5888396 A	20101101		REMI	MAINTENANCE FEE REMINDER MAILED	
US5888396 A	20110330	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5888396 A	20110330		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 11
US5888396 A	20161217	PEXP		Calculated Patent Term Expiry	
US6051130 A	20000418	LSGT	+	granted / extensions (spc, cpc, pte)	
US6051130 A	20010129	LSAS	AS	ASSIGNMENT	Effective date: 20001218 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:011485/0606 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner
US6051130 A	20030430	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6051130 A	20071017	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6051130 A	20111128		REMI	MAINTENANCE FEE REMINDER MAILED	
US6051130 A	20120418	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6051130 A	20120514	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6051130 A	20120514	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6051130 A	20120605	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20120418
US6051130 A	20181218	PEXP		Calculated Patent Term Expiry	
US6110372 A	20000810	LSGT	PAT1	Patented Case	
US6110372 A	20000810	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6110372 A	20000829	LSGT	+	granted / extensions (spc, cpc, pte)	
US6110372 A	20010129	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:011485/0606 Effective date: 20001218 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS
US6110372 A	20031002	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6110372 A	20061114	LSRE	CC	CERTIFICATE OF CORRECTION	
US6110372 A	20080221	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6110372 A	20120409		REMI	MAINTENANCE FEE REMINDER MAILED	
US6110372 A	20120829	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6110372 A	20120829		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 11
US6110372 A	20190324	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6156203 A	20001205	LSGT	+	granted / extensions (spc, cpc, pte)	
US6156203 A	20010129	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:011485/0606 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS

					PartyType: owner Effective date: 20001218
US6156203 A	20040308	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6156203 A	20080616		REMI	MAINTENANCE FEE REMINDER MAILED	
US6156203 A	20081205	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6156203 A	20081205		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7
US6156203 A	20090224	LSRE	CC	CERTIFICATE OF CORRECTION	
US6156203 A	20120716		REMI	MAINTENANCE FEE REMINDER MAILED	
US6156203 A	20121205	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6156203 A	20121231	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6156203 A	20121231	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6156203 A	20130122	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20121205
US6156203 A	20190324	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6210579 BA	20010129	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:011485/0606 Effective date: 20001218 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner
US6210579 BA	20010315	LSGT	PAT1	Patented Case	
US6210579 BA	20010315	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6210579 BA	20010403	LSGT	+	granted / extensions (spc, cpc, pte)	
US6210579 BA	20040602	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6210579 BA	20081013		REMI	MAINTENANCE FEE REMINDER MAILED	
US6210579 BA	20090324	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6210579 BA	20090324		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7
US6210579 BA	20121112		REMI	MAINTENANCE FEE REMINDER MAILED	
US6210579 BA	20130403	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6210579 BA	20130403		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 11
US6210579 BA	20200418	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6244346 BA	20010129	LSAS	AS	ASSIGNMENT	Effective date: 20001218 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:011485/0606 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner
US6244346 BA	20010524	LSGT	PAT1	Patented Case	
US6244346 BA	20010524	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6244346 BA	20010612	LSGT	+	granted / extensions (spc, cpc, pte)	
US6244346 BA	20040928	LSRE	CC	CERTIFICATE OF CORRECTION	
US6244346 BA	20041210	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4

US6244346 BA	20081222		REMI	MAINTENANCE FEE REMINDER MAILED	
US6244346 BA	20090612	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6244346 BA	20090612		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7
US6244346 BA	20130121		REMI	MAINTENANCE FEE REMINDER MAILED	
US6244346 BA	20130612	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6244346 BA	20130612		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 11
US6244346 BA	20190416	PEXP		Calculated Patent Term Expiry	
US6245235 BA	20010129	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:011485/0606 Effective date: 20001218 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner
US6245235 BA	20010524	LSGT	PAT1	Patented Case	
US6245235 BA	20010524	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6245235 BA	20010612	LSGT	+	granted / extensions (spc, cpc, pte)	
US6245235 BA	20041210	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6245235 BA	20060516	LSRE	CC	CERTIFICATE OF CORRECTION	
US6245235 BA	20081222		REMI	MAINTENANCE FEE REMINDER MAILED	
US6245235 BA	20090605	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6245235 BA	20090605		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7
US6245235 BA	20130121		REMI	MAINTENANCE FEE REMINDER MAILED	
US6245235 BA	20130612	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6245235 BA	20130612		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 11
US6245235 BA	20190324	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6488850 BB	20010629	LSAS	AS	ASSIGNMENT	Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner Effective date: 20010212 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:011951/0005
US6488850 BB	20010928	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:012233/0259 PartyType: owner Effective date: 20010212 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS
US6488850 BB	20021203	LSGT	+	granted / extensions (spc, cpc, pte)	
US6488850 BB	20060621		REMI	MAINTENANCE FEE REMINDER MAILED	
US6488850 BB	20060929	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6488850 BB	20060929		+SULP	SURCHARGE FOR LATE PAYMENT	
US6488850 BB	20100712		REMI	MAINTENANCE FEE REMINDER MAILED	
US6488850 BB	20101203	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6488850 BB	20101203		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7
US6488850 BB	20140711		REMI	MAINTENANCE FEE REMINDER MAILED	

US6488850 BB	20141203	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6488850 BB	20141229	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6488850 BB	20141229	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6488850 BB	20150120	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20141203
US6488850 BB	20161217	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6669846 BB	20020107	LSAS	AS	ASSIGNMENT	Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:012439/0135 Effective date: 20011016
US6669846 BB	20020916	LSAS	AS	ASSIGNMENT	Effective date: 20011016 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner OldParty: A CORRECTIVE ASSIGNMENT TO CORRECT THE TITLE OF THE APPLICATION ON REEL 012439, FRAME 0135;ASSIGNOR:PERIELLO, FELIX ANTHONY;REEL/FRAME:013300/0038
US6669846 BB	20031211	LSGT	PAT1	Patented Case	
US6669846 BB	20031230	LSGT	+	granted / extensions (spc, cpc, pte)	
US6669846 BB	20070711		REMI	MAINTENANCE FEE REMINDER MAILED	
US6669846 BB	20071228	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6669846 BB	20071228		+SULP	SURCHARGE FOR LATE PAYMENT	
US6669846 BB	20110808		REMI	MAINTENANCE FEE REMINDER MAILED	
US6669846 BB	20111230	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6669846 BB	20111230		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7
US6669846 BB	20150807		REMI	MAINTENANCE FEE REMINDER MAILED	
US6669846 BB	20151230	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6669846 BB	20160125	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6669846 BB	20160125	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6669846 BB	20160216	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20151230
US6669846 BB	20161217	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6835312 BB	20041228	LSGT	+	granted / extensions (spc, cpc, pte)	
US6835312 BB	20080707		REMI	MAINTENANCE FEE REMINDER MAILED	
US6835312 BB	20081223	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6835312 BB	20081223		+SULP	SURCHARGE FOR LATE PAYMENT	
US6835312 BB	20090224	LSRE	CC	CERTIFICATE OF CORRECTION	

US6835312 BB	20120813		REMI	MAINTENANCE FEE REMINDER MAILED	
US6835312 BB	20121228	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6835312 BB	20130128	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6835312 BB	20130128	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6835312 BB	20130219	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20121228
US6835312 BB	20210515	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6918354 BB	20030319	LSAS	AS	ASSIGNMENT	Effective date: 20030311 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:013859/0973 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner
US6918354 BB	20050719	LSGT	+	granted / extensions (spc, cpc, pte)	
US6918354 BB	20090126		REMI	MAINTENANCE FEE REMINDER MAILED	
US6918354 BB	20090717	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6918354 BB	20090717		+SULP	SURCHARGE FOR LATE PAYMENT	
US6918354 BB	20130304		REMI	MAINTENANCE FEE REMINDER MAILED	
US6918354 BB	20130718	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6918354 BB	20130718		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7
US6918354 BB	20170224		REMI	MAINTENANCE FEE REMINDER MAILED	
US6918354 BB	20170719	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6918354 BB	20170814	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6918354 BB	20170814	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6918354 BB	20170905	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20170719
US6918354 BB	20221029	PEXP		Calculated Patent Term Expiry	
US6923914 BB	20021113	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:013476/0650 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS Effective date: 20021017 PartyType: owner
US6923914 BB	20050802	LSGT	+	granted / extensions (spc, cpc, pte)	
US6923914 BB	20090209		REMI	MAINTENANCE FEE REMINDER MAILED	
US6923914 BB	20090731	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6923914 BB	20090731		+SULP	SURCHARGE FOR LATE PAYMENT	
US6923914 BB	20090915	LSRE	CC	CERTIFICATE OF CORRECTION	
US6923914 BB	20091006	LSRE	CC	CERTIFICATE OF CORRECTION	
US6923914 BB	20130320		REMI	MAINTENANCE FEE	

				REMINDER MAILED	
US6923914 BB	20130802	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6923914 BB	20130902	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6923914 BB	20130924	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20130802
US6923914 BB	20170324	PEXP		Calculated Patent Term Expiry (PTA 97 days and a terminal disclaimer has been filed)	
US7182871 BB	20030401	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:013902/0695 Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS PartyType: owner Effective date: 20030224
US7182871 BB	20070227	LSGT	+	granted / extensions (spc, cpc, pte)	
US7182871 BB	20101004		REMI	MAINTENANCE FEE REMINDER MAILED	
US7182871 BB	20110225	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7182871 BB	20110225		+SULP	SURCHARGE FOR LATE PAYMENT	
US7182871 BB	20141010		REMI	MAINTENANCE FEE REMINDER MAILED	
US7182871 BB	20150227	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7182871 BB	20150330	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7182871 BB	20150330	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7182871 BB	20150421	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150227
US7182871 BB	20170125	PEXP		Calculated Patent Term Expiry (PTA 39 days and a terminal disclaimer has been filed)	
US7192523 BB	20040130	LSAS	AS	ASSIGNMENT	Effective date: 20040121 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:PERRIELLO, FELIX ANTHONY;REEL/FRAME:014931/0767 PartyType: owner Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS
US7192523 BB	20070320	LSGT	+	granted / extensions (spc, cpc, pte)	
US7192523 BB	20080325	LSRE	CC	CERTIFICATE OF CORRECTION	
US7192523 BB	20101025		REMI	MAINTENANCE FEE REMINDER MAILED	
US7192523 BB	20110318	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7192523 BB	20110318		+SULP	SURCHARGE FOR LATE PAYMENT	
US7192523 BB	20141031		REMI	MAINTENANCE FEE REMINDER MAILED	
US7192523 BB	20150320	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7192523 BB	20150420	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7192523 BB	20150420	LSLE	-STCH	INFORMATION ON	Text: PATENT EXPIRED DUE TO

				STATUS: PATENT DISCONTINUATION	NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7192523 BB	20150512	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150320
US7192523 BB	20170503	PEXP		Calculated Patent Term Expiry (PTA 137 days)	
US7966767 BB	20021029	LSAS	AS	ASSIGNMENT	Owner: GLOBAL BIOSCIENCES, INC., MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:PERRIELLO, FELIX ANTHONY;DICESARE, GEORGE A.;PERRIELLO, JEANNE M.;REEL/FRAME:013454/0661 PartyType: owner Effective date: 20021028
US7966767 BB	20110608	LSGT	PAT1	Patented Case	
US7966767 BB	20110628	LSGT	+	granted / extensions (spc, cpc, pte)	
US7966767 BB	20150206		REMI	MAINTENANCE FEE REMINDER MAILED	
US7966767 BB	20150627	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7966767 BB	20150627		+SULP	SURCHARGE FOR LATE PAYMENT	
US7966767 BB	20190218	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7966767 BB	20190805	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
US7966767 BB	20190805	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7966767 BB	20190805	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7966767 BB	20190827	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20190628
US7966767 BB	20280906	PEXP		Calculated Patent Term Expiry (PTA 2139 days)	
WO0056668 A1	20000323	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 00806387.7 Country of Ref document: CN
WO0056668 A1	20000928	LSPB	+	published / reissued	
WO0056668 A1	20000928		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
WO0056668 A1	20000928		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SL SN SZ TD TG TJ TM TZ UG ZW
WO0056668 A1	20001122		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0056668 A1	20010118		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0056668 A1	20010726	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0056668 A1	20010920	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2367931 Country of Ref document: CA

WO0056668 A1	20010920	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2367931 Country of Ref document: CA
WO0056668 A1	20010924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 514360 Country of Ref document: NZ
WO0056668 A1	20010924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PA/a/2001/009589 Country of Ref document: MX
WO0056668 A1	20010924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: IN/PCT/2001/990/KOL Country of Ref document: IN
WO0056668 A1	20011003	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 39112/00 Country of Ref document: AU
WO0056668 A1	20011016	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2000918273 Country of Ref document: EP
WO0056668 A1	20011024	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200101002 Country of Ref document: EA
WO0056668 A1	20020327	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2000918273 Country of Ref document: EP
WO0056668 A1	20030722	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 2000918273 Country of Ref document: EP
WO0056668 A1	20031226	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO0063527 A1	20000414	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 00807043.1 Country of Ref document: CN
WO0063527 A1	20001026	LSPB	+	published / reissued	
WO0063527 A1	20001026		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
WO0063527 A1	20001026		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SL SN SZ TD TG TJ TM TZ UG ZW
WO0063527 A1	20001220		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0063527 A1	20010201		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0063527 A1	20011005	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: IN/PCT/2001/1043/KOL Country of Ref document: IN
WO0063527 A1	20011015	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2367601 Country of Ref document: CA
WO0063527 A1	20011015	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2367601 Kind code of Ref document: A Country of Ref document: CA
WO0063527 A1	20011016	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PA/a/2001/010446 Country of Ref document: MX
WO0063527 A1	20011017	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2000926049 Country of Ref document: EP

WO0063527 A1	20011031	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 515150 Country of Ref document: NZ
WO0063527 A1	20011106	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200101055 Country of Ref document: EA
WO0063527 A1	20020116	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2000926049 Country of Ref document: EP
WO0063527 A1	20020221	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref legal event code: 8642 Ref country code: DE
WO0063527 A1	20030628	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 2000926049 Country of Ref document: EP
WO0063527 A1	20040119	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO02092518 A1	20021121	LSPB	+	published / reissued	
WO02092518 A1	20021121		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
WO02092518 A1	20021121		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO02092518 A1	20030115		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO02092518 A1	20030410		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO02092518 A1	20040325	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref legal event code: 8642 Ref country code: DE
WO02092518 A1	20040714	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO02092518 A1	20060419	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO02092518 A1	20060419	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP
WO0224584 A1	20020328	LSPB	+	published / reissued	
WO0224584 A1	20020328		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
WO0224584 A1	20020328		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZW
WO0224584 A1	20021016		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0224584 A1	20030116		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE	

				20040101)	
WO0224584 A1	20030731	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0224584 A1	20031203	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO0224584 A1	20050913	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO03011487 A1	20030213	LSPB	+	published / reissued	
WO03011487 A1	20030213		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VN YU ZA ZM ZW
WO03011487 A1	20030213		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO03011487 A1	20030409		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO03011487 A1	20040609	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO03011487 A1	20040908	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO03011487 A1	20060509	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO03011487 A1	20060509	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP
WO03037066 A2	20030508	LSPB	+	published / reissued	
WO03037066 A2	20030508		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
WO03037066 A2	20030508		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO03037066 A2	20030702		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO03037066 A3	20041215	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO03037066 A3	20060526	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO03037066 A3	20060526	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP
WO03053143 A2	20030703	LSPB	+	published / reissued	
WO03053143 A2	20030703		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
WO03053143 A2	20030703		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO03053143 A2	20030827		121	EP: THE EPO HAS BEEN INFORMED BY	

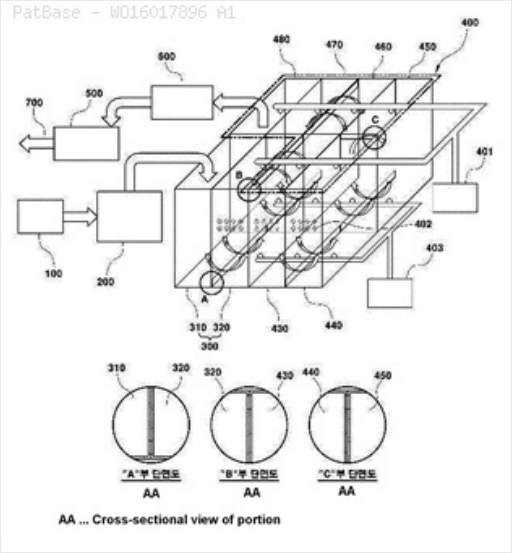
				WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO03053143 A3	20050223	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO03053143 A3	20060607	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO03053143 A3	20060607	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP
WO9827015 A1	19980625	LSPB	+	published / reissued	
WO9827015 A1	19980625		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW
WO9827015 A1	19980625		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FI FR GB GH GR IE IT KE LS LU MC MW NL SD SZ UG ZW
WO9827015 A1	19980806		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9827015 A1	19981125		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9827015 A1	19990610	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 54335/98 Country of Ref document: AU
WO9827015 A1	19990614	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 336231 Country of Ref document: NZ
WO9827015 A1	19990616	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2275414 Country of Ref document: CA
WO9827015 A1	19990616	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2275414 Country of Ref document: CA
WO9827015 A1	19990617	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 1998 527697 Kind code of Ref document: A Country of Ref document: JP
WO9827015 A1	19990617	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PA/a/1999/005636 Country of Ref document: MX
WO9827015 A1	19990714	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1997948231 Country of Ref document: EP
WO9827015 A1	19990719	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 199900576 Country of Ref document: EA
WO9827015 A1	19991020	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1997948231 Country of Ref document: EP
WO9827015 A1	19991021	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO9827015 A1	20010823	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 54335/98 Country of Ref document: AU
WO9827015 A1	20070516	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1997948231 Country of Ref document: EP

51) Family number: 58644514 (WO16017896 A1)

Title: METHOD OF PRODUCING STERILE AQUACULTURE **WATER**, AND METHOD USING SAME OF FISH AQUACULTURE USING FLOWING STERILE **WATER**

Abstract: The present invention relates to a method of producing sterile aquaculture **water** and a fish aquaculture method using flowing sterile **water** and, more particularly, to a novel fish aquaculture method using flowing sterile **water**, in which: sterile aquaculture **water** is produced having a level of harmful ingredients that is lower than potable **water**, by producing oxidants through electrolysis **treatment** of fresh **water** or seawater for fish aquaculture using freshwater or seawater, and by killing pathogenic viruses, germs, and parasites; and a novel sterile aquaculture system (SAS) is employed which removes residual oxidants harmful to fish by neutralizing the sterile aquaculture **water** when farming fish by using the sterile aquaculture **water**, and then using the neutralized sterile aquaculture **water** as fish aquaculture **water**, so as to be able to minimize the mortality rate of fish due to various pathogenic microorganisms, while not using antibiotics and vaccines.

Classifications:
International (IPC 8-9): A01K61/00 A01K61/02 A01K61/10 A01K61/13 A01K63/00 A01K63/04 C02F1/46 C02F1/50 C02F1/66 C02F1/70
CPC: A01K61/13 A01K63/04 Y02A40/81 A01K61/10 A01K61/80 C02F1/50 C02F1/66 A01K61/00 C02F1/467



Family:

Publication number	Publication date	Application number	Application date
CN105555131 A	20160504	CN201580000669	20150331
CN105555131 B	20170901	CN201580000669	20150331
DE602015014430 D1	20180830	DE201560014430T	20150331
EP3017696 A1	20160511	EP20150790808	20150331
EP3017696 A4	20170524	EP20150790808	20150331
EP3017696 B1	20180801	EP20150790808	20150331
ES2693338 T3	20181211	ES20150790808T	20150331
JP2016535975 T2	20161124	JP20150563048T	20150331
JP6131342 B2	20170517	JP20150563048T	20150331
KR101498990 B1	20150305	KR20140098350	20140731
KR101547566 B1	20150827	KR20150016084	20150202
PT3017696 T	20181114	PT20150790808T	20150331
WO16017896 A1	20160204	WO2015KR03159	20150331

Priority:

KR20140098350 20140731 KR20150016084 20150202 WO2015KR03159 20150331
EP20150790808 20150331

Probable Assignee: DAEBONG LS LTD

Assignee(s): (std): DAEBONG LIVE FEED FISHERY ASS CORP ; DAEBONG LS LTD

Assignee(s): DAEBONG LIVE FEED FISHERY ASSOCIATION CORP ; DAEBONG LIVE FEED FISHERY ASSOCIATION CORP SEOGWIPO SI ; DAEBONG LS CO LTD ; DAEBONG LS LTD INCHEON ; EL F ENGLISH DAEBONG ACT

Inventor(s): (std): GYEONG JU KIM ; HAN JUNG KYUN ; HONG GYUN KIM ; JONG HO PARK ; JUNG KYUN HAN ; KI CHEON SONG ; KIM GYEONG JU ; KIM HONG GYUN ; KIM YONG GIL ; PARK JONG HO ; PARK SE HYUN ; PARK SE IN ; SE HYUN PARK ; SE IN PARK ; SONG KI CHEON ; YONG GIL KIM

Inventor(s): HAN JUNG KYUN JEJU SI ; KIM HONG GYUN SEOGWIPO SI

Agent(s): HALLA PATENT AND LAW FIRM; ISEKI KATSUMORI; LLAGOSTERA MARIA DEL CARMEN; VIERING JENTSCHURA AND PARTNER MBB PATENT U RECHTSANWAELTE

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN105555131 A	20160504	LSPB	+	published / reissued	
CN105555131 A	20160504	LSPB	+C06	PUBLICATION	

CN105555131 A	20160601		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN105555131 A	20170901	LSGT	+GR01	PATENT GRANT	
CN105555131 B	20170901	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105555131 B	20350331	PEXP		Calculated Patent Term Expiry	
DE602015014430 D1	20170419		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: A01K0061000000 Text: PREVIOUS MAIN CLASS: A01K0061000000
EP3017696 A1	20160511	LSPB	+	published / reissued	
EP3017696 A1	20160511	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20151117
EP3017696 A1	20160511		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3017696 A1	20160511		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA
EP3017696 A1	20160511		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3017696 A4	20170524	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20170426
EP3017696 A4	20170524		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 63/04 20060101ALI20170419BHEP
EP3017696 A4	20170524		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 61/00 20170101AFI20170419BHEP
EP3017696 A4	20170524		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 61/13 20170101ALI20170419BHEP
EP3017696 A4	20170705		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SONG, KI CHEON PartyType: inventor
EP3017696 A4	20170705		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KIM, HONG GYUN PartyType: inventor
EP3017696 A4	20170705		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PARK, SE HYUN PartyType: inventor
EP3017696 A4	20170705		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PARK, SE IN PartyType: inventor
EP3017696 A4	20170705		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HAN, JUNG KYUN PartyType: inventor
EP3017696 A4	20170705		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KIM, GYEONG JU PartyType: inventor
EP3017696 A4	20170705		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KIM, YONG GIL PartyType: inventor
EP3017696 A4	20170705		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PARK, JONG HO PartyType: inventor
EP3017696 A4	20171108		DAV	REQUEST FOR	

				VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3017696 A4	20171108		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3017696 A4	20180321	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180223
EP3017696 B1	20180801	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3017696 B1	20180801		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3017696 B1	20180801	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP3017696 B1	20180815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP3017696 B1	20180815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180815 Kind code of Ref document: T Ref country code: AT Ref document number: 1023217 Ref legal event code: REF Country of Ref document: AT
EP3017696 B1	20180822	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP3017696 B1	20180830	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602015014430 Ref legal event code: R096 Country of Ref document: DE
EP3017696 B1	20181114		REG	REFERENCE TO A NATIONAL CODE	Date of Ref document: 20181114 Effective date: 20181023 Kind code of Ref document: T Ref country code: PT Ref document number: 3017696 Ref legal event code: SC4A Text: AVAILABILITY OF NATIONAL TRANSLATION Country of Ref document: PT
EP3017696 B1	20181205		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180801 Ref country code: NL Ref legal event code: MP
EP3017696 B1	20181211	LSGT	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20181211 Kind code of Ref document: T3 Ref country code: ES Ref document number: 2693338 Ref legal event code: FG2A Country of Ref document: ES
EP3017696 B1	20181214	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PK Text: BERICHTIGUNGEN
EP3017696 B1	20181227	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180801 Ref country code: NO Ref legal event code: T2
EP3017696 B1	20181227	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP3017696 B1	20190102		RIC2	INFORMATION PROVIDED ON IPC CODE ASSIGNED AFTER GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 63/04 20060101ALI20170419BHEP
EP3017696 B1	20190102		RIC2	INFORMATION PROVIDED ON IPC CODE ASSIGNED AFTER GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 61/00 20170101AFI20170419BHEP
EP3017696 B1	20190102		RIC2	INFORMATION PROVIDED ON IPC CODE ASSIGNED AFTER GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 61/13 20170101ALI20170419BHEP
EP3017696 B1	20190115	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180801 Kind code of Ref document: T Ref country code: AT Ref document number: 1023217 Ref legal event code: MK05 Country of Ref document: AT
EP3017696 B1	20190131	LSLE	-PG25	LAPSED IN A	Lapsed date: 20181102

				CONTRACTING 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 Country of Ref document: GR
EP3017696 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181101 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP3017696 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP3017696 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP3017696 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP3017696 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP3017696 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP3017696 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP3017696 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181201 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP3017696 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP3017696 B1	20190131	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PK Text: BERICHTIGUNGEN
EP3017696 B1	20190213		RIC2	INFORMATION PROVIDED ON IPC CODE ASSIGNED AFTER GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 63/04 20060101ALI20170419BHEP
EP3017696 B1	20190213		RIC2	INFORMATION PROVIDED ON IPC CODE ASSIGNED AFTER GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 61/13 20170101ALI20170419BHEP
EP3017696 B1	20190213		RIC2	INFORMATION PROVIDED ON IPC CODE ASSIGNED AFTER GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 61/00 20170101AFI20170419BHEP
EP3017696 B1	20190228	LSLE	-PG25	LAPSED IN A	Lapsed date: 20180801

				CONTRACTING 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 Country of Ref document: AL
EP3017696 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP3017696 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP3017696 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP3017696 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP3017696 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP3017696 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP3017696 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190325 Year of fee payment: 5 Country of Ref document: GB
EP3017696 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190321 Year of fee payment: 5 Country of Ref document: NO
EP3017696 B1	20190503	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602015014430 Ref legal event code: R097 Country of Ref document: DE
EP3017696 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP3017696 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP3017696 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP3017696 B1	20190710	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190503

EP3017696 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190325 Year of fee payment: 5 Country of Ref document: PT
EP3017696 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190424 Year of fee payment: 5 Country of Ref document: ES
EP3017696 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP3017696 B1	20191001	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602015014430 Ref legal event code: R119 Country of Ref document: DE
EP3017696 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP3017696 B1	20191031	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP3017696 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP3017696 B1	20191205		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190331 Ref country code: BE Ref legal event code: MM
EP3017696 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191001 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP3017696 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP3017696 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP3017696 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP3017696 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP3017696 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP3017696 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR

EP3017696 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200323 Year of fee payment: 6 Country of Ref document: NO
EP3017696 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200319 Year of fee payment: 6 Country of Ref document: PT
EP3017696 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200325 Year of fee payment: 6 Country of Ref document: GB
EP3017696 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP3017696 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200421 Year of fee payment: 6 Country of Ref document: ES
EP3017696 B1	20350331	PEXP		Calculated Patent Term Expiry	
ES2693338 T3	20181211	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2693338 T3	20350331	PEXP		Calculated Patent Term Expiry	
JP2016535975 T2	20161124	LSPB	+	published / reissued	
JP2016535975 T2	20170406	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2016535975 T2	20170411	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20170411 Text: JAPANESE INTERMEDIATE CODE: A01
JP2016535975 T2	20170420	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20170417 Text: JAPANESE INTERMEDIATE CODE: A61
JP2016535975 T2	20170421	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Ref document number: 6131342 Text: JAPANESE INTERMEDIATE CODE: R150 Country of Ref document: JP
JP6131342 B2	20160824		A975	REPORT ON ACCELERATED EXAMINATION	Effective date: 20160823 Text: JAPANESE INTERMEDIATE CODE: A971005
JP6131342 B2	20160906	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20160906 Text: JAPANESE INTERMEDIATE CODE: A131
JP6131342 B2	20161101	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20161101 Text: JAPANESE INTERMEDIATE CODE: A523
JP6131342 B2	20170413	LSGT	+A01	特許査定書	
JP6131342 B2	20170418	LSFE	R100	特許料納付書	
JP6131342 B2	20170421	LSGT	+R150	特許証	
JP6131342 B2	20170517	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6131342 B2	20200204	LSFE	R20	特許料納付書	Effective date: 20200203
JP6131342 B2	20200205	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP6131342 B2	20200205	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20200221
JP6131342 B2	20350331	PEXP		Calculated Patent Term Expiry	
KR101498990 B1	20140731	LSES	A201	REQUEST FOR EXAMINATION	
KR101498990 B1	20140731	LSES	A302	REQUEST FOR ACCELERATED EXAMINATION	
KR101498990 B1	20140818	LSAS	N231	NOTIFICATION OF	

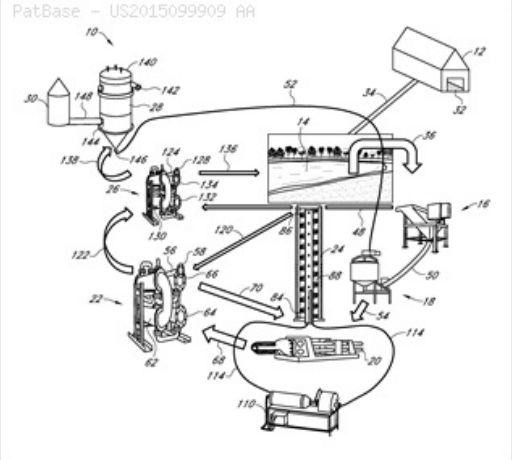
				CHANGE OF APPLICANT	
KR101498990 B1	20141217	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101498990 B1	20150123	LSRE	AMND	AMENDMENT	
KR101498990 B1	20150213	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR101498990 B1	20150213		-X091	APPLICATION REFUSED [PATENT]	
KR101498990 B1	20150216	LSRE	AMND	AMENDMENT	
KR101498990 B1	20150226	LSGT	+X701	DECISION TO GRANT (AFTER RE-EXAMINATION)	
KR101498990 B1	20150227	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101498990 B1	20150305	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101498990 B1	20180223	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180223 Year of fee payment: 4
KR101498990 B1	20180226	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180227 Year of fee payment: 5
KR101498990 B1	20191231	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20191231 Year of fee payment: 6
KR101498990 B1	20340731	PEXP		Calculated Patent Term Expiry	
KR101547566 B1	20150706		A107	DIVISIONAL APPLICATION OF PATENT	
KR101547566 B1	20150813	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101547566 B1	20150820	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101547566 B1	20150827	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101547566 B1	20180820	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20180820 Year of fee payment: 4
KR101547566 B1	20350202	PEXP		Calculated Patent Term Expiry	
PT3017696 T	20181114	LSGT	+	granted / extensions (spc, cpc, pte)	
PT3017696 T	20350331	PEXP		Calculated Patent Term Expiry	
WO16017896 A1	20141203	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201580000669.3 Country of Ref document: CN
WO16017896 A1	20150918	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2015563048 Country of Ref document: JP
WO16017896 A1	20151117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2015790808 Country of Ref document: EP
WO16017896 A1	20160204	LSPB	+	published / reissued	
WO16017896 A1	20160316		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 15790808 Country of Ref document: EP
WO16017896 A1	20170131	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

52) Family number: 58903769 (US2015099909 AA)

Title: SYSTEM AND METHOD FOR CONVERTING BIOMASS INTO FUEL, OIL AND OTHER USEFUL PRODUCTS

Abstract: A system for converting animal waste into fuel, oil and other useful products is presented and includes a confinement building, a waste storage facility or lagoon for holding animal waste, a solids separating system for separating solids from liquids, a mixing and macerating unit for mixing the proper combination of fluids and solids and for managing the particle size, a pumping unit for pressurizing the system, a first heat **exchanger** unit, a reactor vessel, a second heat **exchanger** unit, an oil and **water** separating unit and an oil storage facility. The reactor vessel includes at least one auger blade that extend around a centrally positioned column that conducts heat into the reactor vessel. The animal waste is pumped through the reactor vessel as heated is applied. The heat and pressure converts the animal waste to oil and **water** which is later separated.

Classifications:
International (IPC 8-9): A01C3/00 A01K1/01 A01K1/015 B01J19/00 B01J19/18 B01J19/20 C10G1/00 C10G1/02 C10L1/00 C10L1/02 C10L1/04
CPC: B01J19/20 C10G1/02 C10G2300/1011 C10L1/02 C10L1/04 Y02P30/20
US: 422/200 585/240 1/1



Family:

Publication number	Publication date	Application number	Application date
US2015099909 AA	20150409	US20140509084	20141008
US9504983 BB	20161129	US20140509084	20141008

Priority:

US20130888657P 20131009 US20140509084 20141008

Probable Assignee: KRAUSE KARLTON D
Assignee(s): (std): KRAUSE KARLTON D
Inventor(s): (std): KRAUSE KARLTON D
Agent(s): BROWNWINICK LAW FIRM; CHRISTOPHER A

Legal status (INPADOC)

View legal status timeline

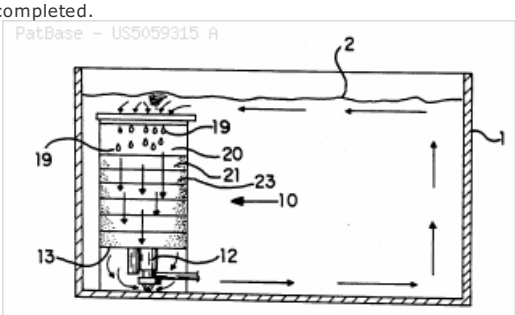
Patent	Date recorded	Event group	Code	Event	Details
US2015099909 AA	20150409	LSPB	+	published / reissued	
US2015099909 AA	20161109	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9504983 BB	20150115		RFE1	Docketed New Case - Ready for Examination	
US9504983 BB	20161109	LSGT	PAT1	Patented Case	
US9504983 BB	20161129	LSGT	+	granted / extensions (spc, cpc, pte)	
US9504983 BB	20200526	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9504983 BB	20350417	PEXP		Calculated Patent Term Expiry (PTA 191 days)	

53) Family number: 4817055 (US5059315 A)

Title: AQUARIUM **WATER** AERATION AND FILTERING SYSTEM

Abstract: A compact device for filtering and aerating aquarium **water** to sustain diverse aquatic species which comprises a suction pump and a non-submerged column of different filtering layers and in which **water** is initially dispersed into fine droplets that are given room to fall freely till **water** degasification is completed.

Classifications:
International (IPC 8-9): A01K63/04 C02F3/06 C02F3/10
International (IPC 1-7): C02F9/00
CPC: A01K63/045 C02F3/06 C02F3/10 Y02W10/10
US: 210/167.25 210/169 210/282 210/290 210/416.2



Family:

Publication number	Publication date	Application number	Application date
US5059315 A	19911022	US19890420886	19891013

Priority:
US19890340786 19890420 US19890420886 19891013

Probable Assignee: SENAPE SAVERIO
Assignee(s): (std): SENAPE SAVERIO
Inventor(s): (std): SENAPE SAVERIO

Legal status (INPADOC)

View legal status timeline

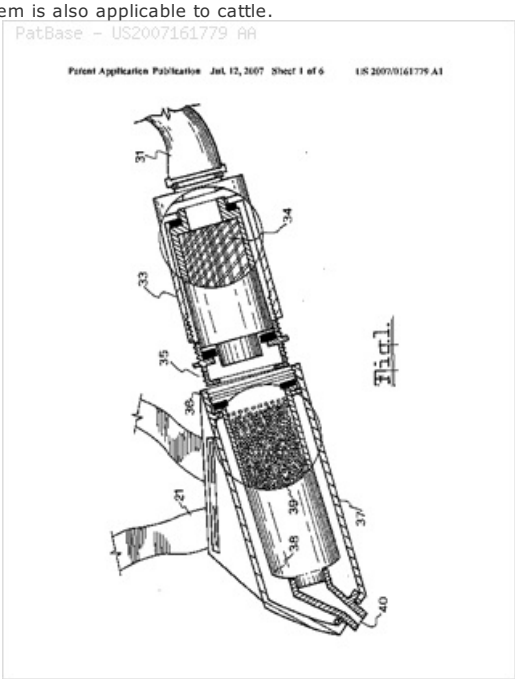
Patent	Date recorded	Event group	Code	Event	Details
US5059315 A	19910821	LSGT	PAT1	Patented Case	
US5059315 A	19911022	LSGT	+	granted / extensions (spc, cpc, pte)	
US5059315 A	19950530		REMI	MAINTENANCE FEE REMINDER MAILED	
US5059315 A	19951022	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5059315 A	19960102	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19951025
US5059315 A	20091013	PEXP		Calculated Patent Term Expiry	
US5059315 A	20180128	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5059315 A	20180128	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

54) Family number: 31876336 (US2007161779 AA)

Title: ESTROGEN EXTRACTION FROM PREGNANT ANIMAL URINE

Abstract: A method of extracting oestrogens, conjugated estrogens, equine gonadotropin and equine follicle stimulant from pregnant mares urine which includes the steps of contacting the urine with dispersed particles of adsorber materials of a particle size above 200 microns and subsequently removing the species by washing the adsorber materials in a buffered aqueous solution of pH between 7.5 and 9.5. The compounds are extracted in situ on the mare using an apparatus which consists of a urine holding vessel suspended beneath the belly of the mare and a urine collection device attached to the perineurn of the mare and communicating with the holding vessel in which the urine collection device and/or the holding vessel incorporates a removable urine permeable container of an adsorbent material for said **chemical** species. Alternatively the holding container can contain a **water** immiscible solvent such as hexanol for the in situ extraction of estrogens. An initial filter is incorporated into the urine collection device upstream of the adsorber container. The filter removes mucous and other viscous component of the urine. The system is also applicable to cattle.

Classifications:
International (IPC 8-9): A01K23/00 A61K35/22 A61P5/00 A61P5/24 C07J1/00 C07J75/00
International (IPC 1-7): A01K23/00 A61K35/22 A61P5/24 C07J75/00
CPC: A01K23/00 A61P5/24 C07J75/00
US: 530/326 530/398 552/625



Family:

Publication number	Publication date	Application number	Application date
AU2004283763 AA	20050506	AU20040283763	20041025
AU2004283763 BB	20090108	AU20040283763	20041025
CA2542515 AA	20060412	CA20042542515	20041025
CA2542515 C	20120814	CA20042542515	20041025
EP1675867 A1	20060705	EP20040761459	20041025
EP1675867 A4	20130410	EP20040761459	20041025
NZ545926 A	20081128	NZ20040545926	20041025
US2007161779 AA	20070712	US20040576726	20041025
WO05040190 A1	20050506	WO2004AU01454	20041025

Priority:
AU20030905834 20031024 WO2004AU01454 20041025 AU20040283763 20041025

Probable Assignee: THORGARD PHARMACEUTICALS AUST PTY LTD

Assignee(s): (std): THORGARD PHARMACEUTICALS ASUT ; THORGARD PHARMACEUTICALS ASUT PTY LTD ; THORGARD PHARMACEUTICALS AUST ; THORGARD PHARMACEUTICALS AUST PTY LTD ; TOMLINSON DAVID JOHN ; VELLA JOSEPH A

Assignee(s): THORGARD PHARMACEUTICALS (ASUT) PTY LTD ; THORGARD PHARMACEUTICALS (AUST) PTY LTD ; THORGARD PHARMACEUTICALS PTY LTD

Inventor(s): (std): TOMLINSON DAVID ; TOMLINSON DAVID JOHN ; VELLA JOSEPH A ; VELLA JOSEPH ANTHONY

Inventor(s): DAVID JOHN TOMLINSON ; JOSEPH A VELLA ; VELLA JOSEPH

Agent(s): CONNOLLY BOVE LODGE AND HUTZ LLP; IP STRATEGIES; OSLER HOSKIN AND HARCOURT LLP

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
AU2004283763 AA	20050506	LSPB	+	published / reissued	
AU2004283763 AA	20090507	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD	

				PATENT)	
AU2004283763 AA	20170525	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2004283763 BB	20090108	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2004283763 BB	20241025	PEXP		Calculated Patent Term Expiry	
CA2542515 AA	20060412	LSPB	+	published / reissued	
CA2542515 AA	20090925	LSES	+EEER	EXAMINATION REQUEST	
CA2542515 C	20120814	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2542515 C	20181206	LSLE	-MKLA	LAPSED	Effective date: 20181025
CA2542515 C	20241025	PEXP		Calculated Patent Term Expiry	
EP1675867 A1	20060705	LSPB	+	published / reissued	
EP1675867 A1	20060705	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060328
EP1675867 A1	20060705		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
EP1675867 A1	20070131		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1675867 A1	20130410	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20130307
EP1675867 A1	20130410		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 35/22 20060101ALI20130301BHEP
EP1675867 A1	20130410		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C07J 75/00 20060101AFI20130301BHEP
EP1675867 A1	20130410		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 23/00 20060101ALI20130301BHEP
EP1675867 A1	20130410		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61P 5/24 20060101ALI20130301BHEP
EP1675867 A1	20130717	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: THORGARD PHARMACEUTICALS (ASUT.) PTY LTD. PartyType: owner
EP1675867 A1	20171011	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20170503
NZ545926 A	20081128	LSPB	+	published / reissued	
NZ545926 A	20090430	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ545926 A	20111028	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ545926 A	20141031	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20141006 Text: PATENT RENEWED FOR 1 YEAR UNTIL 25 OCT 2015 BY DARRYL MISCHLEWSKI
NZ545926 A	20160429	LSLE	-LAPS	PATENT LAPSED	
US2007161779 AA	20060512	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VELLA, JOSEPH A.;TOMLINSON, DAVID J.;REEL/FRAME:017620/0863;SIGNING DATES FROM 20060208 TO 20060307 Owner: THORGARD PHARMACEUTICALS (AUST) PTY LTD, AUSTRALIA PartyType: owner
US2007161779 AA	20070712	LSPB	+	published /	

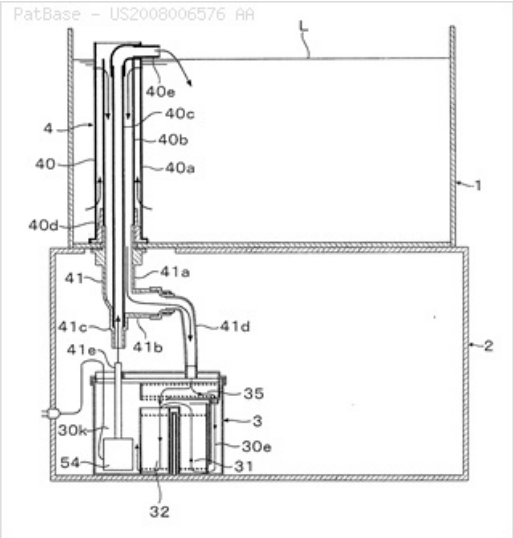
				reissued	
US2007161779 AA	20101106	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007161779 AA	20101106		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO05040190 A1	20050506	LSPB	+	published / reissued	
WO05040190 A1	20050506		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05040190 A1	20050506		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05040190 A1	20050629		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05040190 A1	20060315	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 545926 Country of Ref document: NZ
WO05040190 A1	20060328		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2004761459 Country of Ref document: EP
WO05040190 A1	20060328	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004283763 Country of Ref document: AU
WO05040190 A1	20060328	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004761459 Country of Ref document: EP
WO05040190 A1	20060412	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2542515 Country of Ref document: CA
WO05040190 A1	20060413	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20041025 Kind code of Ref document: A Ref document number: 2004283763 Country of Ref document: AU
WO05040190 A1	20060413	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004283763 Country of Ref document: AU
WO05040190 A1	20060705	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004761459 Country of Ref document: EP
WO05040190 A1	20061010	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10576726 Country of Ref document: US
WO05040190 A1	20061010	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007161779 Country of Ref document: US
WO05040190 A1	20070712	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 10576726 Country of Ref document: US

55) Family number: 41037917 (US2008006576 AA)

Title: AQUARIUM PURIFIER AND AQUARIUM PURIFICATION METHOD

Abstract: The aquarium purifier of the invention includes a microaerophilic **treatment** tank and an aerobic **treatment** tank which microbiologically treat discharged **water** from an aquarium. Air in the discharged **water** is naturally deaerated in an introduction passage for the discharged **water** of the aquarium, the introduction passage communicating with the microaerophilic **treatment** tank. The discharged **water** of the aquarium is introduced from a lower section of the microaerophilic **treatment** tank. The microaeorphilic **treatment** tank and the aerobic **treatment** tank both are stored in an outer case. The microaerophilic **treatment** tank is provided with a culture bed container for denitrifiers placed therein and the aerobic **treatment** tank is provided with a pH control materials container placed therein. Above those, a physical filtering medium container for an ion **exchange** material is placed. The outer case is covered with a cover.

Classifications:
International (IPC 8-9): A01K63/04 B01D35/00 B01D35/027 C02F1/28 C02F1/42 C02F3/00 C02F3/02 C02F3/34 C12M1/00 C12N1/00
CPC: A01K63/042 A01K63/045 C02F3/06 C02F3/302 Y02W10/10
US: 210/137 210/167.22 210/167.220 210/620



Family:

Publication number	Publication date	Application number	Application date
JP2008029324 A2	20080214	JP20070099897	20070405
US2008006576 AA	20080110	US20070819585	20070628

Priority:
JP20060179610 20060629 JP20070099897 20070405

Probable Assignee: IRIS OHYAMA INC
Assignee(s): (std): CHIYODA YOSHIO ; HORITSU KENJI ; IRIS OHYAMA INC ; SUZUKI YOSHIFUMI
Inventor(s): (std): CHIYODA YOSHIO ; HORITSU KENJI ; SUZUKI YOSHIBUMI ; SUZUKI YOSHIFUMI
Agent(s): JACOBSON HOLMAN PLLC

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
JP2008029324 A2	20080214	LSPB	+	published / reissued	
JP2008029324 A2	20100402	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20100401
JP2008029324 A2	20111107		A977	REPORT ON RETRIEVAL	Effective date: 20111107 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2008029324 A2	20120215	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20120214 Text: JAPANESE INTERMEDIATE CODE: A131
JP2008029324 A2	20120817	LSRV	-A02	DECISION OF REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A02 Effective date: 20120816
US2008006576 AA	20070628	LSAS	AS	ASSIGNMENT	Owner: IRIS OHYAMA, INC., JAPAN OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SUZUKI, YOSHIFUMI;HORITSU, KENJI;CHIYODA, YOSHIO;REEL/FRAME:019523/0385 Effective date: 20070612 PartyType: owner
US2008006576 AA	20080110	LSPB	+	published / reissued	
US2008006576 AA	20090914	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008006576 AA	20090914		-STCB	INFORMATION ON	Text: ABANDONED -- FAILURE TO

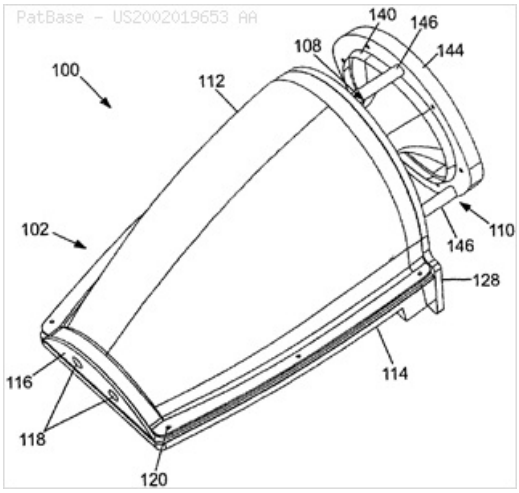
	STATUS: APPLICATION DISCONTINUATION	RESPOND TO AN OFFICE ACTION

56) Family number: 29220295 (US2002019653 AA)

Title: METHODS AND DEVICES FOR MANIPULATING THERMOREGULATORY STATUS OF A MAMMAL

Abstract: Methods and devices for manipulating the thermoregulatory status of a mammal are provided. In the subject methods, thermal energy is transferred between the environment and both of the thoracic/abdominal core body and head of the mammal. In general, thermal energy transfer between thoracic/abdominal core body and the environment occurs under negative pressure conditions. The subject methods and devices can be used to increase the thoracic/abdominal core body temperature of a mammal, in which case thermal energy is introduced into the thoracic/abdominal core body of the mammal and removed from the head of the mammal. The subject methods and devices can also be used to reduce the thoracic/abdominal core body temperature of a mammal, in which case thermal energy is removed from the thoracic/abdominal core body of the mammal and introduced into the head of the mammal. The subject devices include at least the following components: (a) a means for causing a transfer of thermal energy with the thoracic/abdominal core body of a mammal under negative pressure conditions; and (b) a means for causing a transfer of thermal energy with the head of the mammal. The subject methods and devices find use in a variety of applications, and are particularly suited for use in causing the temperature of one or more regions of the core body of the mammal and/or temperature gradients present in the mammal to deviate from normal.

Classifications:
International (IPC 8-9): A01K67/00 A61B A61B5/00 A61F A61F7/00 A61F7/02 A61F7/03 A61F7/12 A61H33/06 A61H35/00 A61H9/00 A61H99/00
International (IPC 1-7): A01K67/00 A61F7/00 A61F7/12
CPC: A61F2007/0029 A61F2007/0036 A61F2007/0039 A61F2007/0054 A61F2007/0075 A61F7/02 A61F7/03 A61F7/034 A61H2033/061 A61H2033/062 A61H2205/065 A61H35/00 A61H35/006 A61H9/005 A61F7/12 A61H99/00
US: 128/898 601/11 601/16 607/104 607/107 607/108 607/108P 607/109 607/113 607/96



Family:

Publication number	Publication date	Application number	Application date
AU200175429 A1	20011217	AU20010075429	20010607
AU200175429 A5	20011217	AU20010075429	20010607
AU2001275429 AA	20011217	AU20010275429	20010607
AU2001275429 BB	20051208	AU20010275429	20010607
AU2002311789 AA	20031020	AU20020311789	20020329
AU2002311789 BB	20080110	AU20020311789	20020329
CA2411517 AA	20021209	CA20012411517	20010607
CA2411517 C	20111025	CA20012411517	20010607
CA2478665 AA	20040908	CA20022478665	20020329
CA2478665 C	20121106	CA20022478665	20020329
EP1286632 A2	20030305	EP20010942138	20010607
EP1286632 A4	20061004	EP20010942138	20010607
EP1494631 A1	20050112	EP20020739116	20020329
EP1494631 A4	20100908	EP20020739116	20020329
IL153321 A0	20030706	IL20010153321	20010607
IL153321 A1	20100630	IL20010153321	20010607
IL163947 A0	20051218	IL20020163947	20020329
IL163947 A1	20150730	IL20020163947	20020329
JP2003534865 T2	20031125	JP20020501324T	20010607
JP2005521517 T2	20050721	JP20030581691T	20020329
JP2011087967 A2	20110506	JP20110000294	20110105
JP2014140763 A2	20140807	JP20140059600	20140324
US2002019653 AA	20020214	US20010878129	20010607
US6602277 BB	20030805	US20010878129	20010607
US2005085882 AA	20050421	US20040932344	20040831
US7182776 BB	20070227	US20040932344	20040831
US2007123962 AA	20070531	US20070657188	20070123
US8277496 BB	20121002	US20070657188	20070123
US2013102933 AA	20130425	US20120633805	20121002
WO01093749 A9	20150305	WO2001US18681	20010607
WO0193749 A2	20011213	WO2001US18681	20010607
WO0193749 A3	20020808	WO2001US18681	20010607
WO0193749 A9	20150305	WO2001US18681	20010607
WO03084447 A1	20031016	WO2002US09772	20020329

Priority:

US20000210659P 20000609
JP20020501324T 20010607
WO2002US09772 20020329
US20120633805 20121002
WO2001US18681 20010607
JP20110000294 20010607
US20040932344 20040831
JP20020501324 20010607
US20010878129 20010607
US20070657188 20070123

Probable Assignee: BOARD OF TRUSTEES OF LELAND STANFORD JUNIOR UNIV

Assignee(s): (std): GRAHN DENNIS A ; HELLER H C ; HELLER H CRAIG ; UNIV LELAND STANFORD JUNIOR

Assignee(s):	BOARD OF TRUSTEES OF LELAND STANFORD JR UNIV ; BOARD OF TRUSTEES OF LELAND STANFORD JUNIO ; BOARD OF TRUSTEES OF LELAND STANFORD JUNIOR ; BOARD OF TRUSTEES OF LELAND STANFORD JUNIOR UNIV ; BOARD OF TRUSTEES OF THE LELAND STANFORD JR UNIV ; BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIV ; HELLER H ; THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIO ; THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY ; US ARMY SECRETARY OF ARMY
Inventor(s): (std):	GRAHN DENNIS A ; HELLER H C ; HELLER H CRAIG
Inventor(s):	DENNIS A GRAHN ; GRAHN DENNIS ; H ; H CRAIG HELLER ; HELLER H
Agent(s):	BOZICEVIC FIELD AND FRANCIS LLP; BRET E; BRET E FIELD; FETHERSTONHAUGH AND CO; FIELD BRET E; FRANK P BECKING; JAMES S; KAWAMOTO KAZUYA; OSAKABE SUGURU; PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; SANFORD TCOLB AND CO; SHIMIZU HATSUSHI
Designated states:	AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2001275429 AA	20011217	LSPB	+	published / reissued	
AU2001275429 BB	20051208	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2001275429 BB	20060406	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2001275429 BB	20170105	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2001275429 BB	20210607	PEXP		Calculated Patent Term Expiry	
AU200175429 A1	20011217	LSPB	+	published / reissued	
AU2002311789 AA	20031020	LSPB	+	published / reissued	
AU2002311789 BB	20080110	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2002311789 BB	20080508	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2002311789 BB	20161027	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2002311789 BB	20220329	PEXP		Calculated Patent Term Expiry	
CA2411517 AA	20021209	LSPB	+	published / reissued	
CA2411517 AA	20060605	LSES	+EEER	EXAMINATION REQUEST	
CA2411517 AA	20170719	LSLE	-MKLA	LAPSED	Effective date: 20170607
CA2411517 C	20111025	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2411517 C	20210607	PEXP		Calculated Patent Term Expiry	
CA2478665 AA	20040908	LSPB	+	published / reissued	
CA2478665 AA	20060426	LSES	+EEER	EXAMINATION REQUEST	
CA2478665 AA	20170510	LSLE	-MKLA	LAPSED	Effective date: 20170329
CA2478665 C	20121106	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2478665 C	20220329	PEXP		Calculated Patent Term Expiry	
EP1286632 A2	20030305	LSPB	+	published / reissued	
EP1286632 A2	20030305	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20021209

EP1286632 A2	20030305		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1286632 A2	20030305		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1286632 A2	20030305		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1286632 A4	20061004	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20060901
EP1286632 A4	20081015	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20080912
EP1286632 A4	20151028	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20150930
EP1286632 A4	20160810	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20160211
EP1494631 A1	20050112	LSPB	+	published / reissued	
EP1494631 A1	20050112	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20040916
EP1494631 A1	20050112		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1494631 A1	20050112		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1494631 A4	20100908	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20100811
EP1494631 A4	20101229	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20101126
EP1494631 A4	20120720	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R003
EP1494631 A4	20121128	LSRV	-18R	APPLICATION REFUSED	Effective date: 20120720
IL153321 A1	20100630	LSPB	+	published / reissued	
IL153321 A1	20101230	LSGT	+FF	PATENT GRANTED	
IL153321 A1	20110131	LSFE	+KB	PATENT RENEWED	
IL153321 A1	20150630	LSFE	+KB	PATENT RENEWED	
IL153321 A1	20190630	LSFE	+KB	PATENT RENEWED	
IL163947 A1	20150730	LSPB	+	published / reissued	
IL163947 A1	20151130	LSGT	+FF	PATENT GRANTED	
IL163947 A1	20160831	LSLE	-MM9K	PATENT NOT IN FORCE DUE TO NON-PAYMENT OF RENEWAL FEES	
JP2003534865 T2	20031125	LSPB	+	published / reissued	
JP2003534865 T2	20050412		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20050411 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2003534865 T2	20080520	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20080519 Text: JAPANESE INTERMEDIATE CODE: A621
JP2003534865 T2	20091201	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20091130 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003534865 T2	20100227		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20100226 Text: JAPANESE INTERMEDIATE CODE: A601
JP2003534865 T2	20100308		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20100305 Text: JAPANESE INTERMEDIATE CODE: A602
JP2003534865 T2	20100601	LSRE	A521	WRITTEN	Effective date: 20100531

				AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523
JP2003534865 T2	20100907	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20100906 Text: JAPANESE INTERMEDIATE CODE: A02
JP2003534865 T2	20110106	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20110105 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003534865 T2	20110205	LSWD	-A761	WRITTEN WITHDRAWAL OF APPLICATION	Effective date: 20110204 Text: JAPANESE INTERMEDIATE CODE: A761
JP2005521517 T2	20050413		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20050412 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2005521517 T2	20050721	LSPB	+	published / reissued	
JP2005521517 T2	20080516	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080515 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005521517 T2	20080628		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20080627 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005521517 T2	20080707		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20080704 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005521517 T2	20081118	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20081117 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005521517 T2	20081216	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20081215 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005521517 T2	20090204		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20090203 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005521517 T2	20090212		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20090210 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005521517 T2	20090806	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20090805 Text: JAPANESE INTERMEDIATE CODE: A02
JP2011087967 A2	20110506	LSPB	+	published / reissued	
JP2011087967 A2	20120203	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20120202 Text: JAPANESE INTERMEDIATE CODE: A523
JP2011087967 A2	20121004	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20121003 Text: JAPANESE INTERMEDIATE CODE: A131
JP2011087967 A2	20121228		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20121227 Text: JAPANESE INTERMEDIATE CODE: A601
JP2011087967 A2	20130108		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20130107 Text: JAPANESE INTERMEDIATE CODE: A602
JP2011087967 A2	20131126	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20131125 Text: JAPANESE INTERMEDIATE CODE: A02
JP2011087967 A2	20140325	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20140324 Text: JAPANESE INTERMEDIATE CODE: A523
JP2011087967 A2	20140426	LSWD	-A761	WRITTEN WITHDRAWAL OF APPLICATION	Effective date: 20140425 Text: JAPANESE INTERMEDIATE CODE: A761
JP2014140763 A2	20140807	LSPB	+	published / reissued	
JP2014140763 A2	20150317		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20150317 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2014140763 A2	20150929	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20150928 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014140763 A2	20160308	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20160307 Text: JAPANESE INTERMEDIATE CODE: A02
US2002019653 AA	20020214	LSPB	+	published / reissued	
US2002019653 AA	20030717	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2005085882 AA	20050421	LSPB	+	published /	

				reissued	
US2005085882 AA	20070207	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2007123962 AA	20070531	LSPB	+	published / reissued	
US2007123962 AA	20120307	LSAS	AS	ASSIGNMENT	Effective date: 20120106 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY;REEL/FRAME:027824/0165 Owner: US ARMY, SECRETARY OF THE ARMY, MARYLAND PartyType: owner
US2007123962 AA	20120912	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013102933 AA	20130115	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GRAHN, DENNIS A.;HELLER, H. CRAIG;SIGNING DATES FROM 20041223 TO 20041227;REEL/FRAME:029633/0794 Owner: THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIO PartyType: owner
US2013102933 AA	20130425	LSPB	+	published / reissued	
US2013102933 AA	20130620	LSAS	AS	ASSIGNMENT	Effective date: 20130612 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY;REEL/FRAME:030663/0808 Owner: US ARMY, SECRETARY OF THE ARMY, MARYLAND PartyType: owner
US2013102933 AA	20151022		RFE1	Docketed New Case - Ready for Examination	
US2013102933 AA	20161026	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2013102933 AA	20161026		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US6602277 BB	20011005	LSAS	AS	ASSIGNMENT	Effective date: 20010814 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GRAHN, DENNIS A.;HELLER, H. CRAIG;REEL/FRAME:012236/0095 Owner: BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UN PartyType: owner
US6602277 BB	20030717	LSGT	PAT1	Patented Case	
US6602277 BB	20030805	LSGT	+	granted / extensions (spc, cpc, pte)	
US6602277 BB	20070202	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6602277 BB	20070221		REMI	MAINTENANCE FEE REMINDER MAILED	
US6602277 BB	20110121	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6602277 BB	20111122	LSRE	CC	CERTIFICATE OF CORRECTION	
US6602277 BB	20120306	LSAS	AS	ASSIGNMENT	Effective date: 20120106 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY;REEL/FRAME:027818/0565 Owner: US ARMY, SECRETARY OF THE ARMY, MARYLAND PartyType: owner
US6602277 BB	20150114	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6602277 BB	20210607	PEXP		Calculated Patent Term Expiry	
US7182776 BB	20050106	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GRAHN, DENNIS A.;HELLER, H. CRAIG;REEL/FRAME:015529/0947;SIGNING DATES FROM 20041223 TO 20041227 Owner: THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIO PartyType: owner
US7182776 BB	20070207	LSGT	PAT1	Patented Case	
US7182776 BB	20070227	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
US7182776 BB	20070626	LSRE	CC	CERTIFICATE OF CORRECTION	
US7182776 BB	20100811	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7182776 BB	20111011	LSRE	CC	CERTIFICATE OF CORRECTION	
US7182776 BB	20120307	LSAS	AS	ASSIGNMENT	Effective date: 20120106 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY;REEL/FRAME:027824/0157 Owner: US ARMY, SECRETARY OF THE ARMY, MARYLAND PartyType: owner
US7182776 BB	20140813	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7182776 BB	20151014	LSAS	AS	ASSIGNMENT	Effective date: 20120106 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY;REEL/FRAME:036865/0828 Owner: US ARMY, SECRETARY OF THE ARMY, MARYLAND PartyType: owner
US7182776 BB	20151021	LSAS	AS	ASSIGNMENT	Effective date: 20120106 OldParty: CONFIRMATORY LICENSE;ASSIGNOR:THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY;REEL/FRAME:036910/0756 Owner: US ARMY, SECRETARY OF THE ARMY, MARYLAND PartyType: owner
US7182776 BB	20190201	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: 11.5 YR SURCHARGE- LATE PMT W/IN 6 MO, SMALL ENTITY (ORIGINAL EVENT CODE: M2556); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7182776 BB	20190201	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7182776 BB	20211123	PEXP		Calculated Patent Term Expiry (PTA 169 days and a terminal disclaimer has been filed)	
US8277496 BB	20070226	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GRAHN, DENNIS A.;HELLER, H. CRAIG;REEL/FRAME:018931/0768;SIGNING DATES FROM 20041223 TO 20041227 Owner: THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIO PartyType: owner
US8277496 BB	20070226	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GRAHN, DENNIS A.;HELLER, H. CRAIG;SIGNING DATES FROM 20041223 TO 20041227;REEL/FRAME:018931/0768 Owner: THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIO PartyType: owner
US8277496 BB	20120912	LSGT	PAT1	Patented Case	
US8277496 BB	20121002	LSGT	+	granted / extensions (spc, cpc, pte)	
US8277496 BB	20160513		REMI	MAINTENANCE FEE REMINDER MAILED	
US8277496 BB	20160929	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8277496 BB	20160929		+SULP	SURCHARGE FOR LATE PAYMENT	
US8277496 BB	20200319	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8277496 BB	20250917	PEXP		Calculated Patent Term Expiry (PTA 1563 days)	
WO0193749 A2	20011213	LSPB	+	published / reissued	
WO0193749 A2	20011213		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
WO0193749 A2	20011213		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZW

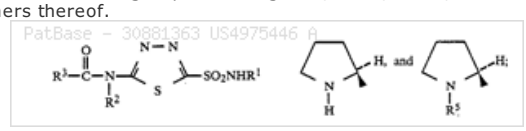
WO0193749 A2	20020213		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0193749 A2	20020627		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0193749 A2	20020808		+AK	DESIGNATED STATES	Kind code of Ref document: A3 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
WO0193749 A2	20020808		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A3 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZW
WO0193749 A2	20021121	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0193749 A2	20021208	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 153321 Country of Ref document: IL
WO0193749 A2	20021209	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2002 501324 Country of Ref document: JP
WO0193749 A2	20021209		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2001942138 Country of Ref document: EP
WO0193749 A2	20021209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2001275429 Country of Ref document: AU
WO0193749 A2	20021209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2411517 Country of Ref document: CA
WO0193749 A2	20021209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2001942138 Country of Ref document: EP
WO0193749 A2	20030305	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2001942138 Country of Ref document: EP
WO0193749 A2	20060323	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 2001275429 Country of Ref document: AU
WO0193749 A2	20150226		DPE2	REQUEST FOR PRELIMINARY EXAMINATION FILED BEFORE EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO03084447 A1	20031016	LSPB	+	published / reissued	
WO03084447 A1	20031016		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
WO03084447 A1	20031016		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO03084447 A1	20031113		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO03084447 A1	20031210		121	EP: THE EPO HAS	

				BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO03084447 A1	20040831	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10932344 Country of Ref document: US
WO03084447 A1	20040907	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002311789 Country of Ref document: AU
WO03084447 A1	20040907	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 163947 Country of Ref document: IL
WO03084447 A1	20040908	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2478665 Country of Ref document: CA
WO03084447 A1	20040916	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002739116 Country of Ref document: EP
WO03084447 A1	20040929	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003581691 Country of Ref document: JP
WO03084447 A1	20050112	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2002739116 Country of Ref document: EP
WO03084447 A1	20080110	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20020329 Kind code of Ref document: B Ref document number: 2002311789 Country of Ref document: AU

57) Family number: 30881363 (US4975446 A)

Title: **Treatment** of glaucoma

Abstract: Method and formulation useful in **treatment** of glaucoma in a mammal wherein an effective amount of an active **water** soluble carbonic anhydrase inhibitor is administered, said inhibitor being a compound having the formula or a pharmaceutically acceptable salt thereof, wherein R1 is selected from the group consisting of H, -OH, -CN and -OCH3; R2 is hydrogen or a lower alkyl having from one to about 5 carbon atoms; R3 is selected from the group consisting of HNHCHR4-, R5NHCHR4-, R5NHCHR4, CONHCR4-, R5NHCH2CHR4-, R4 is selected from lower alkyl having from one to about 5 carbon atoms; or a naturally occurring amino acid side chain; and R5 is selected from the group consisting of H, CH3-, HCO-, CH3CO- and XCH2CO- wherein X is a halogen atom; and stereoisomers thereof.



Classifications:
International (IPC 8-9): A61K31/41 A61K31/425 A61K31/433 A61P27/00 A61P27/02 A61P27/06 A61P43/00 C07D285/00 C07D285/12 C07D285/135 C07D417/00 C07D417/12 C12N9/99
International (IPC 1-7): A01K31/41 A61K31/41 A61K31/425 C07D285/135 C07D417/12 C12N9/99
CPC: A61P27/02 A61P27/06 A61P43/00 C07D285/135 C07D417/12
US: 514/363 548/139

Family:

Publication number	Publication date	Application number	Application date
AU199054615 A1	19901108	AU19900054615	19900501
AU641157 B2	19930916	AU19900054615	19900501
CA2015767 AA	19901102	CA19902015767	19900430
EP0396201 A1	19901107	EP19900201115	19900502
JP3128370 A2	19910531	JP19900115289	19900502
US4975446 A	19901204	US19890346493	19890502
US4975446 B1	19930608	US19890346493	19890502
US5288735 A	19940222	US19920899176	19920615

Priority:

US19890346493 19890502 US19890432994 19891108 CA19902015767 19900430
US19910666489 19910306 US19920899176 19920615

Probable Assignee: TRAGER SEYMOUR F

Assignee(s): (std): BLACKBURN G MICHAEL ; MICHAEL BLACKBURN ; MICHAEL BLACKBURN G ; OPT REIDEIEISHIYON CORP ; OPTICAL RADIATION CORP ; SEMOUR F TRAGER ; SEYMOUR F TRAGER ; TRAGER SEYMOUR F

Inventor(s): (std): BLACKBURN G MICHAEL ; BLACKBURN GEORGE MICHAEL ; JII MAIKERU BURATSUKUBAAN ; MICHAEL BLACKBURN ; SEIMOA EFU TOREIGAA ; SEYMOUR F TRAGER ; TRAGER SEYMOUR F

Inventor(s): G MICHAEL BLACKBURN

Agent(s): GRIFFITH HACK; WATERMARK INTELLECTUAL PROPERTY PTY LTD; WATERMARK PATENT AND TRADE MARKS ATTORNEYS; WILBUR JAMES T

Designated states: BE DE ES FR GB IT NL

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU199054615 A1	19901108	LSPB	+	published / reissued	
AU641157 B2	19930916	LSGT	+	granted / extensions (spc, cpc, pte)	
AU641157 B2	20100501	PEXP		Calculated Patent Term Expiry	
CA2015767 AA	19901102	LSPB	+	published / reissued	
CA2015767 AA	19970430	LSLE	-FZDE	DEAD	
EP0396201 A1	19901107	LSPB	+	published / reissued	
EP0396201 A1	19901107		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: BE DE ES FR GB IT NL
EP0396201 A1	19910109	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: TRAGER, SEYMOUR F.
EP0396201 A1	19910109	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: BLACKBURN, GEORGE MICHAEL
EP0396201 A1	19910109		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: TRAGER, SEYMOUR F. PartyType: inventor
EP0396201 A1	19910109		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: BLACKBURN, GEORGE MICHAEL
EP0396201 A1	19910703	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19910506
EP0396201 A1	19911113	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19910925

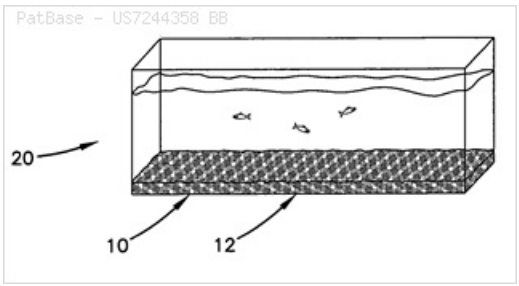
EP0396201 A1	19940608	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 19931202
JP3128370 A2	19910531	LSPB	+	published / reissued	
US4975446 A	19901003	LSGT	PAT1	Patented Case	
US4975446 A	19901204	LSGT	+	granted / extensions (spc, cpc, pte)	
US4975446 A	19920901	LSRX	+RR	REQUEST FOR REEXAMINATION FILED	Effective date: 19920706
US4975446 A	19921020	LSRE	CC	CERTIFICATE OF CORRECTION	
US4975446 A	20090502	PEXP		Calculated Patent Term Expiry	
US4975446 A	20180129	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4975446 B1	19930608	LSRX	+B1	REEXAMINATION CERTIFICATE FIRST REEXAMINATION	
US4975446 B1	19940603	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4975446 B1	19980630		REMI	MAINTENANCE FEE REMINDER MAILED	
US4975446 B1	19981206	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4975446 B1	19990216	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19981204
US4975446 B1	20180129	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5288735 A	19940209	LSGT	PAT1	Patented Case	
US5288735 A	19940222	LSGT	+	granted / extensions (spc, cpc, pte)	
US5288735 A	19970930		REMI	MAINTENANCE FEE REMINDER MAILED	
US5288735 A	19980222	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5288735 A	19980505	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19980225
US5288735 A	20120615	PEXP		Calculated Patent Term Expiry	
US5288735 A	20180126	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5288735 A	20180126	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

58) Family number: 23991033 (US2004206696 AA)

Title: DENITRIFICATION OF AQUARIUM **WATER**

Abstract: The invention relates to agents for the removal or reduction of inorganic nitrogen compounds, especially nitrate, from biological aquarium **waters**, containing a biologically degradable polymer, preferably polycaprolactone (PCL) and to the utilization of said agents.

Classifications:
International (IPC 8-9): A01K A01K63/04 C02F C02F1/00 C02F1/28 C02F1/70 C02F3/00 C02F3/02 C02F3/10 C02F3/28 C02F3/30 C02F3/34
International (IPC 1-7): A01K63/04 B01D1/00 C02F1/00 C02F3/28 C02F3/34 C08G69/08
CPC: A01K63/04 C02F2101/38 C02F2103/00 C02F2103/20 C02F3/306
US: 210/600 210/600P 210/610 210/615 210/616 210/617 210/620 528/31 528/310 528/310S



Family:

Publication number	Publication date	Application number	Application date
AU2002317734 AA	20021203	AU20020317734	20020424
AU2002317734 BB	20071122	AU20020317734	20020424
AU2002317734 BH	20021203	AU20020317734	20020424
BRPI0209243 A	20040615	BR2002PI09243	20020424
CA2445600 AA	20031027	CA20022445600	20020424
CA2445600 C	20070327	CA20022445600	20020424
CN1520255 A	20040811	CN20028012164	20020424
CN1520255 B	20101208	CN20028012164	20020424
CZ20033213 A3	20041013	CZ20030003213	20020424
CZ302355 B6	20110330	CZ20030003213	20020424
DE10120421 A1	20021031	DE20011020421	20010426
DE10120421 B4	20190221	DE20011020421	20010426
DK1406488 T3	20171127	DK20020747293T	20020424
EP1406488 A2	20040414	EP20020747293	20020424
EP1406488 B1	20170816	EP20020747293	20020424
ES2647265 T3	20171220	ES20020747293T	20020424
HK1068516 A1	20050429	HK20050101088	20050208
HK1068516 A3	20050429	HK20050101088	20050208
HK1068516 B	20110429	HK20050101088	20050208
JP2004526460 T2	20040902	JP20020590744T	20020424
JP4733339 B2	20110727	JP20020590744T	20020424
KR100920259 B1	20091005	KR20037014107	20020424
KR20030096338 A	20031224	KR20037014107	20020424
PL208365 B1	20110429	PL20020363467	20020424
PL363467 A1	20041115	PL20020363467	20020424
PT1406488 T	20171117	PT20020747293T	20020424
RU2003134361 A	20050210	RU20030134361	20020424
RU2348584 C2	20090310	RU20030134361	20020424
TR201717153 T4	20171221	TR20170017153T	20020424
US2004206696 AA	20041021	US20040475482	20040507
US7244358 BB	20070717	US20040475482	20040507
WO02094015 A2	20021128	WO2002EP04478	20020424
WO02094015 A3	20040122	WO2002EP04478	20020424
ZA200308845 A	20050223	ZA20030008845	20031113

Priority:
DE20011020421 20010426 WO2002EP04478 20020424 EP20020747293 20020424

Probable Assignee: TETRA GMBH

Assignee(s): (std): RITTER GUENTER ; TETRA GMBH ; TETRA GMBKH

Assignee(s): RITTER GUNTER ; TETRA GMBH HERRENTEICH 78 D 49304 MELLE GERMANY ; WELLS FARGO BANK NATIONAL ASSOCIATION

Inventor(s): (std): GUENTER RITTER ; GUNTER RITTER ; RITTER G ; RITTER GJUNTER ; RITTER GRUENTER ; RITTER GUENTER ; RITTER GUENTER DR ; RITTER GUNTER

Inventor(s): G RITTER ; GRUENTER RITTER

Agent(s): CALLINANS; CANAN OEZTUERKER; CARPINTERO MARIO; CHINA PATENT AGENT HK LTD; CHINA PATENT AGENT HK LTD 22 F GREAT EAGLE CENTRE 23 HARBOUR ROAD; FISHER ADAMS KELLY CALLINANS; MERCHANT AND GOULD; SMART AND BIGGAR; SPRUSON AND FERGUSON; ZIMMERMANN AND PARTNER PATENTANWAELTE MBB

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details

AU2002317734 AA	20021203	LSPB	+	published / reissued	
AU2002317734 BB	20071122	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2002317734 BB	20071220		TH	CORRIGENDA	Text: IN VOL 21, NO 46, PAGE(S) 5326 UNDER THE HEADING APPLICATIONS ACCEPTED - NAME INDEX UNDER THE NAME TETRA GMBH, APPLICATION NO. 2002317734, UNDER INID (54), CORRECT THE INVENTION TITLE TO READ DENITRIFICATION OF AQUARIUM WATER
AU2002317734 BB	20080320	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2002317734 BB	20191121	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2002317734 BB	20220424	PEXP		Calculated Patent Term Expiry	
BRPI0209243 A	20040615	LSPB	+	published / reissued	
BRPI0209243 A	20100817	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
BRPI0209243 A	20110426	LSRV	B09B	DECISION: REFUSAL	Text: INDEFIRO O PEDIDO DE ACORDO COM O(S) ARTIGO(S) 8O, 13 E 32 DA LPI.
BRPI0209243 A	20130730	LSRV	B09B	DECISION: REFUSAL	Text: MANTIDO O INDEFERIMENTO UMA VEZ QUE NAO FOI APRESENTADO RECURSO DENTRO DO PRAZO LEGAL.
CA2445600 AA	20031027	LSPB	+	published / reissued	
CA2445600 AA	20031229	LSES	+EEER	EXAMINATION REQUEST	
CA2445600 C	20070327	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2445600 C	20201013	LSLE	-MKLA	LAPSED	Effective date: 20200831
CA2445600 C	20220424	PEXP		Calculated Patent Term Expiry	
CN1520255 A	20040811	LSPB	+	published / reissued	
CN1520255 A	20040811	LSPB	+C06	PUBLICATION	
CN1520255 A	20040811	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN1520255 A	20041020		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1520255 A	20041020		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN1520255 A	20050429		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1068516 Ref legal event code: DE Country of Ref document: HK
CN1520255 B	20101208	LSGT	+	granted / extensions (spc, cpc, pte)	
CN1520255 B	20101208	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN1520255 B	20101208	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN1520255 B	20110429		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1068516 Ref legal event code: GR Country of Ref document: HK
CN1520255 B	20200414	LSLE	-CF01	TERMINATION OF PATENT RIGHT DUE TO NON-PAYMENT OF ANNUAL FEE	
CN1520255 B	20200414	LSLE	-CF01	未缴年费专利权终止	Text: 专利权的终止 (Termination of Patent Right) Effective date: 20190424
CN1520255 B	20220424	PEXP		Calculated Patent	

				Term Expiry	
CZ20033213 A3	20041013	LSPB	+	published / reissued	
CZ302355 B6	20110330	LSGT	+	granted / extensions (spc, cpc, pte)	
CZ302355 B6	20130116	LSLE	-MM4A	PATENT LAPSED DUE TO NON-PAYMENT OF FEE	Effective date: 20120424
CZ302355 B6	20220424	PEXP		Calculated Patent Term Expiry	
DE10120421 A1	20021031	LSPB	+	published / reissued	
DE10120421 A1	20080508	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE10120421 A1	20130903	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE10120421 A1	20160211	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE10120421 A1	20181106	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE10120421 A1	20181113	LSGT	+R018	GRANT DECISION BY EXAMINATION SECTION/EXAMINING DIVISION	
DE10120421 B4	20190221	LSGT	+	granted / extensions (spc, cpc, pte)	
DE10120421 B4	20191101	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
DE10120421 B4	20210426	PEXP		Calculated Patent Term Expiry	
DK1406488 T3	20171127	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1406488 T3	20220424	PEXP		Calculated Patent Term Expiry	
EP1406488 A2	20040414	LSPB	+	published / reissued	
EP1406488 A2	20040414	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20031103
EP1406488 A2	20040414		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1406488 A2	20040414		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1406488 A2	20070620	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20050707
EP1406488 A2	20170405	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20170308
EP1406488 B1	20170816	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1406488 B1	20170816		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1406488 B1	20170816	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Text: NOT ENGLISH Ref legal event code: FG4D
EP1406488 B1	20170831	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP1406488 B1	20170906	LSGT	REG	REFERENCE TO A NATIONAL CODE	Text: LANGUAGE OF EP DOCUMENT: GERMAN Ref legal event code: FG4D Ref country code: IE
EP1406488 B1	20170915	LSNP	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Ref country code: AT Ref legal event code: REF Ref document number: 918180 Effective date: 20170915 Country of Ref document: AT

EP1406488 B1	20170928	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Ref country code: DE Ref document number: 50216246 Country of Ref document: DE
EP1406488 B1	20171117		REG	REFERENCE TO A NATIONAL CODE	Date of Ref document: 20171117 Ref document number: 1406488 Text: AVAILABILITY OF NATIONAL TRANSLATION Effective date: 20171113 Kind code of Ref document: T Ref legal event code: SC4A Ref country code: PT Country of Ref document: PT
EP1406488 B1	20171127		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: T3 Effective date: 20171122 Ref country code: DK
EP1406488 B1	20171213		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: FP
EP1406488 B1	20171220	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: ES Ref legal event code: FG2A Effective date: 20171220 Ref document number: 2647265 Kind code of Ref document: T3 Country of Ref document: ES
EP1406488 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170816 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1406488 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170816 Country of Ref document: SE
EP1406488 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171117 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1406488 B1	20180420	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 17
EP1406488 B1	20180517	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 50216246 Ref legal event code: R097 Ref country code: DE Country of Ref document: DE
EP1406488 B1	20180629	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 17 Payment date: 20180418 Country of Ref document: NL
EP1406488 B1	20180725	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20180517
EP1406488 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180420 Year of fee payment: 17 Country of Ref document: DE
EP1406488 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 17 Payment date: 20180525 Country of Ref document: ES
EP1406488 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180423 Year of fee payment: 17 Country of Ref document: IT
EP1406488 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180420 Year of fee payment: 17 Country of Ref document: FR
EP1406488 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 17 Payment date: 20180418 Country of Ref document: BE
EP1406488 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 17 Payment date: 20180420 Country of Ref document: TR

EP1406488 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180418 Year of fee payment: 17 Country of Ref document: GB
EP1406488 B1	20181126	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180430 Ref legal event code: EBP Ref country code: DK
EP1406488 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170816 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP1406488 B1	20181130	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP1406488 B1	20190123	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM4A Ref country code: IE
EP1406488 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20180424 Country of Ref document: LU
EP1406488 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180430 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1406488 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180430 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1406488 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180424 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1406488 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20180430 Country of Ref document: DK
EP1406488 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190124 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: PT
EP1406488 B1	20190615	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Ref legal event code: MM01 Ref document number: 918180 Effective date: 20180424 Kind code of Ref document: T Country of Ref document: AT
EP1406488 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 18 Payment date: 20190429 Country of Ref document: IT
EP1406488 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 18 Payment date: 20190418 Country of Ref document: DE
EP1406488 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 18 Payment date: 20190418 Country of Ref document: FR
EP1406488 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180424 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: AT
EP1406488 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	Payment date: 20190418 Year of fee payment: 18

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: GB
EP1406488 B1	20191204		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Effective date: 20190501 Ref legal event code: MM
EP1406488 B1	20191219		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM Ref country code: BE Effective date: 20190430
EP1406488 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190501 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: NL
EP1406488 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190430 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP1406488 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20170816 Country of Ref document: CY
EP1406488 B1	20200901	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FD2A Ref country code: ES Effective date: 20200901
EP1406488 B1	20201030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190425 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP1406488 B1	20220424	PEXP		Calculated Patent Term Expiry	
ES2647265 T3	20171220	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2647265 T3	20200901	LSLE	-FD2A	ANNOUNCEMENT OF LAPSE IN SPAIN	Effective date: 20200901 Lapsed date: 20200901
ES2647265 T3	20220424	PEXP		Calculated Patent Term Expiry	
HK1068516 A1	20050429	LSPB	+	published / reissued	
HK1068516 A1	20181116	LSLE	-PC	PATENT CEASED (I.E. PATENT HAS LAPSED DUE TO THE FAILURE TO PAY THE RENEWAL FEE)	Effective date: 20180424
HK1068516 A1	20250208	PEXP		Calculated Patent Term Expiry	
HK1068516 A3	20050429	LSPB	+	published / reissued	
HK1068516 B	20110429	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1068516 B	20250208	PEXP		Calculated Patent Term Expiry	
JP2004526460 T2	20040902	LSPB	+	published / reissued	
JP2004526460 T2	20050310	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20050309
JP2004526460 T2	20080123	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20080122
JP2004526460 T2	20080417		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20080416
JP2004526460 T2	20080424		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20080423 Text: JAPANESE INTERMEDIATE CODE: A602
JP2004526460 T2	20080520	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20080519 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004526460 T2	20080520	LSRE	A524	WRITTEN SUBMISSION OF	Effective date: 20080519 Text: JAPANESE INTERMEDIATE

				COPY OF AMENDMENT UNDER SECTION 19 (PCT)	CODE: A524
JP2004526460 T2	20090107	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20090106
JP2004526460 T2	20090404		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20090403
JP2004526460 T2	20090413		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20090410 Text: JAPANESE INTERMEDIATE CODE: A602
JP2004526460 T2	20090502	LSRE	A524	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 19 (PCT)	Effective date: 20090501 Text: JAPANESE INTERMEDIATE CODE: A524
JP2004526460 T2	20091105	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20091104 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004526460 T2	20100121	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20100120 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004526460 T2	20100625		RD03	NOTIFICATION OF APPOINTMENT OF POWER OF ATTORNEY	Text: JAPANESE INTERMEDIATE CODE: A7423 Effective date: 20100624
JP2004526460 T2	20100707	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20100706 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004526460 T2	20101002	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20101001 Text: JAPANESE INTERMEDIATE CODE: A523
JP2004526460 T2	20110401	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2004526460 T2	20110406	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20110405
JP2004526460 T2	20110407	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2004526460 T2	20110428	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20110422
JP2004526460 T2	20110428	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP2004526460 T2	20110428	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Text: JAPANESE INTERMEDIATE CODE: R150
JP2004526460 T2	20110428	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Ref document number: 4733339 Text: JAPANESE INTERMEDIATE CODE: R150 Country of Ref document: JP
JP4733339 B2	20110407	LSGT	+A01	特許査定書	
JP4733339 B2	20110426	LSFE	R100	特許料納付書	
JP4733339 B2	20110428	LSGT	+R150	特許証	
JP4733339 B2	20110727	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4733339 B2	20140403	LSFE	R20	特許料納付書	
JP4733339 B2	20140408	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4733339 B2	20140408	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4733339 B2	20150423	LSFE	R20	特許料納付書	
JP4733339 B2	20150428	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4733339 B2	20150428	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4733339 B2	20160421	LSFE	R20	特許料納付書	
JP4733339 B2	20160426	LSFE	+R250	RECEIPT OF ANNUAL	Text: JAPANESE INTERMEDIATE

				FEES	CODE: R250
JP4733339 B2	20160426	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4733339 B2	20170420	LSFE	R20	特許料納付書	
JP4733339 B2	20170425	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4733339 B2	20170425	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4733339 B2	20180419	LSFE	R20	特許料納付書	
JP4733339 B2	20180424	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4733339 B2	20180424	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4733339 B2	20190428	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4733339 B2	20220424	PEXP		Calculated Patent Term Expiry	
KR100920259 B1	20091005	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100920259 B1	20120830	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20120830 Year of fee payment: 4
KR100920259 B1	20130929	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR100920259 B1	20220424	PEXP		Calculated Patent Term Expiry	
KR20030096338 A	20031224	LSPB	+	published / reissued	
KR20030096338 A	20070419	LSES	A201	REQUEST FOR EXAMINATION	
KR20030096338 A	20080429	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20030096338 A	20081128	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20030096338 A	20090630	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20030096338 A	20090928	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
PL208365 B1	20110429	LSGT	+	granted / extensions (spc, cpc, pte)	
PL363467 A1	20041115	LSPB	+	published / reissued	
PT1406488 T	20171117	LSGT	+	granted / extensions (spc, cpc, pte)	
PT1406488 T	20220424	PEXP		Calculated Patent Term Expiry	
RU2003134361 A	20050210	LSPB	+	published / reissued	
RU2348584 C2	20090310	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2348584 C2	20200318	LSLE	-MM4A	THE PATENT IS INVALID DUE TO NON-PAYMENT OF FEES	Effective date: 20190425
RU2348584 C2	20220424	PEXP		Calculated Patent Term Expiry	
TR201717153 T4	20171221	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201717153 T4	20220424	PEXP		Calculated Patent Term Expiry	
US2004206696 AA	20041021	LSPB	+	published / reissued	
US2004206696 AA	20070627	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7244358 BB	20040507	LSAS	AS	ASSIGNMENT	Effective date: 20040316 OldParty: ASSIGNMENT OF

					ASSIGNORS INTEREST;ASSIGNOR:RITTER, GUNTER;REEL/FRAME:015501/0315 Owner: TETRA GMBH, GERMANY PartyType: owner
US7244358 BB	20070627	LSGT	PAT1	Patented Case	
US7244358 BB	20070717	LSGT	+	granted / extensions (spc, cpc, pte)	
US7244358 BB	20101228	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7244358 BB	20150108	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7244358 BB	20150507	LSAS	AS	ASSIGNMENT	Effective date: 20150331 OldParty: SECURITY INTEREST;ASSIGNORS:SPECTRUM BRANDS, INC.;UNITED INDUSTRIES CORPORATION;TELL MANUFACTURING, INC.;AND OTHERS;REEL/FRAME:035614/0356 Owner: WELLS FARGO BANK, NATIONAL ASSOCIATION, GEORGIA PartyType: owner
US7244358 BB	20190107	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7244358 BB	20220723	PEXP		Calculated Patent Term Expiry (PTA 90 days)	
WO02094015 A2	20021128	LSPB	+	published / reissued	
WO02094015 A2	20021128		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AU BA BB BG BR BZ CA CN CO CR CU CZ DM DZ EC EE GD GE HR HU ID IL IN IS JP KP KR LC LK LR LT LV MA MG MK MN MX NO NZ OM PH PL RO SG SI SK TN TT UA US UZ VN YU ZA
WO02094015 A2	20021128		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO02094015 A2	20030122		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO02094015 A2	20030320		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO02094015 A2	20031027	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2445600 Country of Ref document: CA
WO02094015 A2	20031027	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002590744 Country of Ref document: JP
WO02094015 A2	20031027	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1020037014107 Country of Ref document: KR
WO02094015 A2	20031031		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2002747293 Country of Ref document: EP
WO02094015 A2	20031031	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002747293 Country of Ref document: EP
WO02094015 A2	20031112	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002317734 Country of Ref document: AU
WO02094015 A2	20031113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200308845 Country of Ref document: ZA
WO02094015 A2	20031113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003/08845 Country of Ref document: ZA
WO02094015 A2	20031125	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PV2003-3213 Country of Ref document: CZ

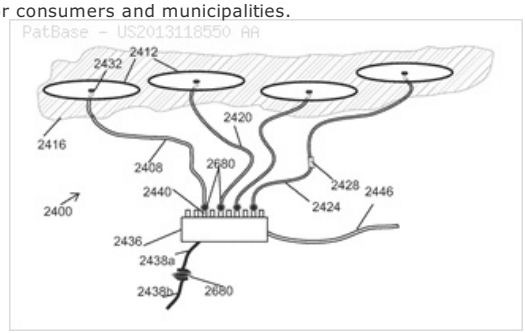
WO02094015 A2	20031217	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 028121643 Country of Ref document: CN
WO02094015 A3	20040414	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2002747293 Country of Ref document: EP
WO02094015 A3	20040507	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10475482 Country of Ref document: US
WO02094015 A3	20041013	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: PV2003-3213 Country of Ref document: CZ
WO02094015 A3	20071122	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20020424 Kind code of Ref document: B Ref document number: 2002317734 Country of Ref document: AU
ZA200308845 A	20041115	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200308845 A	20231112	PEXP		Calculated Patent Term Expiry	

59) Family number: 53487012 (US2013118550 AA)

Title: INFRASTRUCTURE FOR SOLAR POWER INSTALLATIONS

Abstract: The technology provides a plurality of examples for implementing solar cell, solar panels, and solar collection devices on natural looking installations such as faux trees and plants as well as objects mimicking natural ones. The technology allows the installation of solar power generating installations in a distributed manner on land and **water**. The installation of, for example, artificial plants as carriers of solar cells provides a number of benefits to society in addition to the generation of power. The aesthetics of a community are maintained, while at the same time the need for maintain natural plants is eliminated, providing financial and environmental savings for consumers and municipalities.

Classifications:
International (IPC 8-9): A01K63/06 H01L31/042 H02N6/00 H02S40/38
CPC: A01K63/065 H01L31/042 H02S40/38 Y02E10/50
US: 136/246 1/1



Family:

Publication number	Publication date	Application number	Application date
AU2012318379 AA	20130411	AU20120318379	20121005
AU2012318379 BB	20160317	AU20120318379	20121005
US2013118550 AA	20130516	US20120646082	20121005
US9730433 BB	20170815	US20120646082	20121005
WO13052921 A2	20130411	WO2012US59134	20121005
WO13052921 A3	20130704	WO2012US59134	20121005

Priority:
US20110545028P 20111007 WO2012US59134 20121005 US20120646082 20121005

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2012318379 AA	20130411	LSPB	+	published / reissued	
AU2012318379 BB	20160317	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2012318379 BB	20160714	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012318379 BB	20321005	PEXP		Calculated Patent Term Expiry	
US2013118550 AA	20130516	LSPB	+	published / reissued	
US2013118550 AA	20170417	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2013118550 AA	20170710	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2013118550 AA	20170711	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2013118550 AA	20170726	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9730433 BB	20150930	LSES	NFA1	Non Final Action Mailed	
US9730433 BB	20170726	LSGT	PAT1	Patented Case	
US9730433 BB	20170815	LSGT	+	granted / extensions (spc, cpc, pte)	
US9730433 BB	20350220	PEXP		Calculated Patent Term Expiry (PTA 868 days)	
WO13052921 A2	20130411	LSPB	+	published / reissued	
WO13052921 A2	20130529		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN	Kind code of Ref

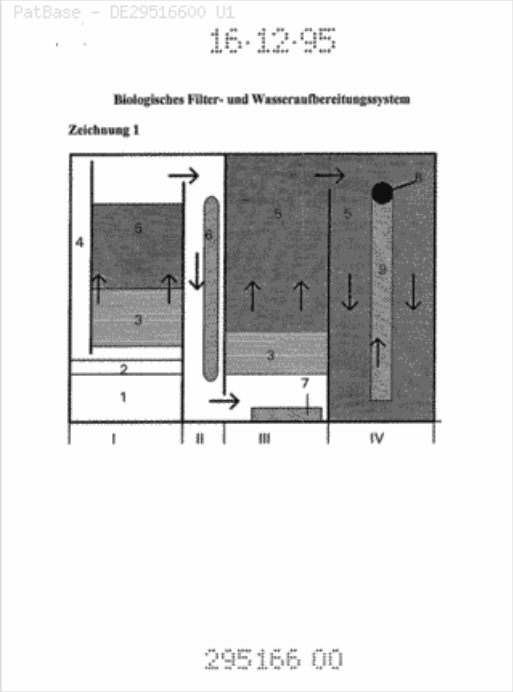
				THIS APPLICATION	document: A2 Ref document number: 12838730 Country of Ref document: EP
WO13052921 A3	20140407	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2014534809 Country of Ref document: JP
WO13052921 A3	20140529	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20121005 Kind code of Ref document: A Ref document number: 2012318379 Country of Ref document: AU
WO13052921 A3	20140812	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO13052921 A3	20141029	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref document number: 12838730 Kind code of Ref document: A2 Country of Ref document: EP

60) Family number: 17721795 (DE29516600 U1)

Title: Biological filter and **water** purification system for aquariums

Abstract: Source: DE29516600 U1 **Machine translation:** (Claim 1) biological filter and **water** purification system for aquariums of requirements for protection biological filter and **water** purification system for aquariums the fact that within or outside of it draws or can be festmontiert.

Classifications:
International (IPC 8-9): A01K63/04
International (IPC 1-7): A01K63/04
CPC: A01K63/045



Family:

Publication number	Publication date	Application number	Application date
DE29516600 U1	19960307	DE19952016600U	19951020

Priority:
DE19952016600U 19951020

Probable Assignee: MIKA HANS JOACHIM
Assignee(s) (std)**:** MIKA HANS JOACHIM
Assignee(s): MIKA HANS JOACHIM 35440 LINDEN DE

Legal status (INPADOC)

View legal status timeline

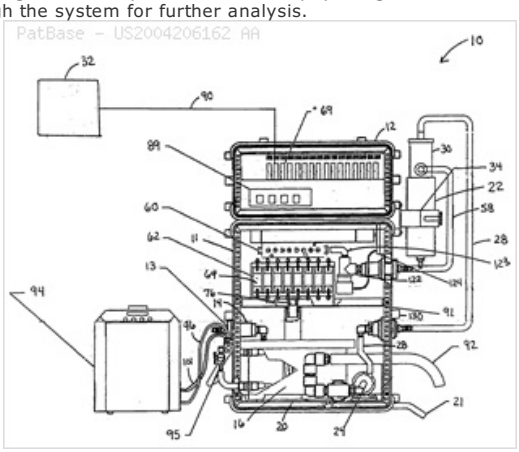
Patent	Date recorded	Event group	Code	Event	Details
DE29516600 U1	19960307	LSGT	+	granted / extensions (spc, cpc, pte)	
DE29516600 U1	19960307	LSGT	R207	UTILITY MODEL SPECIFICATION	Effective date: 19960307
DE29516600 U1	19990812	LSGT	+R150	UTILITY MODEL MAINTAINED AFTER PAYMENT OF FIRST MAINTENANCE FEE AFTER THREE YEARS	Effective date: 19990609
DE29516600 U1	20021107	LSLE	-R157	LAPSE OF IP RIGHT AFTER 6 YEARS	Effective date: 20020702
DE29516600 U1	20051020	PEXP		Calculated Patent Term Expiry	

61) Family number: 30788608 (US2004206162 AA)

Title: APPARATUS AND METHOD OF PORTABLE AUTOMATED BIOMONITORING OF **WATER** QUALITY

Abstract: A portable automated biomonitoring system for monitoring **water** quality includes an exposure **chamber** for housing an aquatic organism and a **water** inlet for directing **water** to the exposure **chamber**. The aquatic organism has ventilatory behavior and body movement sensitive to **water** quality. Electrodes sense electrical signals produced by the organism during its ventilatory behavior and body movement, and a controller responsive to signals from the electrodes determines a plurality of ventilatory parameters based on the signals. The ventilatory parameters are compared with corresponding thresholds to determine when the **water** to which the organism is exposed has caused physiological stress to the organism. The **water** being evaluated may be recirculated through the system for further analysis.

Classifications:
International (IPC 8-9): A01K63/00 G01N33/00 G01N33/18
International (IPC 1-7): A01K63/00 C02F G01N33/00 G01N33/18
CPC: G01N33/186
US: 119/224 119/226 340/573.1 340/573.6 73/53.01 73/53.010P 73/61.41 73/64.56 73/64.560S 73/864.91



Family:

Publication number	Publication date	Application number	Application date
CA2515062 AA	20050803	CA20042515062	20040203
CA2515062 C	20120417	CA20042515062	20040203
EP1597575 A2	20051123	EP20040707729	20040203
EP1597575 A4	20070808	EP20040707729	20040203
US2004206162 AA	20041021	US20040774639	20040203
US6988394 BB	20060124	US20040774639	20040203
WO04069751 A2	20040819	WO2004US02984	20040203
WO04069751 A3	20050519	WO2004US02984	20040203

Priority:
US20030444202P 20030203 WO2004US02984 20040203 US20040774639 20040203

Probable Assignee: ARMY UNITED STATES

Assignee(s): (std): BROWN MARK W ; SHEDD TOMMY R ; SWANSON MURRAY S ; U S GOVERNMENT AS REPRESENTED ; U S GOVERNMENT AS REPRESENTED BY THE SECRETARY OF ; U S GOVERNMENT REPRESENTED AS ; US ARMY ; US GOV SEC ARMY ; WIDDER MARK W

Assignee(s): ARMY UNITED STATES ; SECRETARY OF ARMY AS US GOV ; SECRETARY OF ARMY US GOV AS ; THE UNITED STATES OF AMERICA AS REPRESENTED BY THE ; THE UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF THE ARMY ; U S GOVERNMENT AS REPRESENTED BY THE SECRETARY OF THE ARMY ; U S GOVERNMENT AS REPRESENTED BY THE SECRETARY OF THE U S ARMY ; U S GOVERNMENT AS REPRESENTED BY THE SECRETARY OFT ; US GOVERNMENT REPRESENTED BY SECRETARY OF ARMY AS ; US GOVERNMENT REPRESENTED BY SECRETARY OF US ARMY ; US GOVERNMENT REPRESENTED BY SECRETARY OF US ARMY AS ; US GOVERNMENT REPRESENTED BY SECRETARY OFTHE US AR ; US GOVERNMENT REPRESENTED BY SECRETARY OFTHE US ARMY AS

Inventor(s): (std): BROWN MARK W ; SHEDD TOMMY R ; SWANSON MURRAY S ; WIDDER MARK W

Inventor(s): MARK W BROWN ; MARK W WIDDER ; MURRAY S SWANSON ; TOMMY R SHEDD

Agent(s): BLAKE CASSELS AND GRAYDON LLP; ELIZABETH

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
CA2515062 AA	20050803	LSPB	+	published / reissued	
CA2515062 AA	20090203	LSES	+EEER	EXAMINATION REQUEST	
CA2515062 C	20120417	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2515062 C	20240203	PEXP		Calculated Patent Term Expiry	
EP1597575 A2	20051123	LSPB	+	published / reissued	
EP1597575 A2	20051123	LSES	+17P	REQUEST FOR	Effective date: 20050902

				EXAMINATION FILED	
EP1597575 A2	20051123		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
EP1597575 A2	20051123		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK
EP1597575 A2	20060524		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1597575 A4	20070808	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20070705
EP1597575 A4	20100310	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20100208
EP1597575 A4	20110216	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20100819
US2004206162 AA	20041021	LSPB	+	published / reissued	
US2004206162 AA	20050809	LSAS	AS	ASSIGNMENT	Effective date: 20040617 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SHEDD, TOMMY R.;WIDDER, MARK W.;BROWN, MARK W.;AND OTHERS;REEL/FRAME:016623/0647 Owner: ARMY, UNITED STATES, MARYLAND PartyType: owner
US2004206162 AA	20060104	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6988394 BB	20060104	LSGT	PAT1	Patented Case	
US6988394 BB	20060124	LSGT	+	granted / extensions (spc, cpc, pte)	
US6988394 BB	20090729	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6988394 BB	20090729		+SULP	SURCHARGE FOR LATE PAYMENT	
US6988394 BB	20130312	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6988394 BB	20170516	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6988394 BB	20240203	PEXP		Calculated Patent Term Expiry	
WO04069751 A2	20040819	LSPB	+	published / reissued	
WO04069751 A2	20040819		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO04069751 A2	20040819		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO04069751 A2	20041013		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO04069751 A2	20050421		DPEN	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO04069751 A3	20050803	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2515062 Country of Ref document: CA

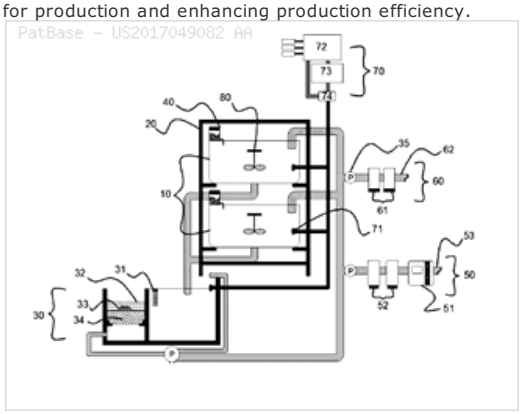
WO04069751 A3	20050902	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004707729 Country of Ref document: EP
WO04069751 A3	20051123	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004707729 Country of Ref document: EP

62) Family number: 58818917 (US2017049082 AA)

Title: INLAND AQUAPONICS SYSTEM USING BIOFLOC TECHNOLOGY

Abstract: A closed recirculating aquaponics system combined with a biofloc tank for symbiotic breeding of aquatic species and plant species, wherein the culture **water** for growing aquatic species is transferred to a plant growing apparatus, organic material in the culture **water** is used as nutrients for plant species and the **water** is purified in the plant growing apparatus, and purified **water** is reused as culture **water** for aquatic species to facilitate symbiotic breeding of aquatic species and plant species without any need of culture **water** **exchange**, reducing cost for production and enhancing production efficiency.

Classifications:
International (IPC 8-9): A01G27/00 A01G31/00 A01G31/02 A01G31/06 A01G9/02 A01K61/00 A01K63/00 A01K63/04 A01K63/06 C02F3/32
CPC: A01G2031/006 A01G27/008 A01G31/02 A01G9/02 A01K61/00 A01K61/10 A01K61/85 A01K63/006 A01K63/04 A01K63/042 A01K63/045 A01K63/065 C02F2103/20 C02F2203/00 C02F3/32 Y02A40/81 Y02P60/21 Y02P60/60 Y02W10/10 A01G27/005 A01G31/06 A01K63/003
US: 1/1 119/246



Family:

Publication number	Publication date	Application number	Application date
CN105472980 A	20160406	CN201580001024	20150622
CN105472980 B	20171205	CN201580001024	20150622
EP3005866 A1	20160413	EP20150800704	20150622
EP3005866 A4	20161012	EP20150800704	20150622
JP2017503525 T2	20170202	JP20160548357T	20150622
JP6150413 B2	20170621	JP20160548357T	20150622
KR101507057 B1	20150330	KR20140104897	20140813
KR101549217 B1	20150902	KR20140153766	20141106
US2017049082 AA	20170223	US20150895885	20150622
WO16024713 A1	20160218	WO2015KR06284	20150622

Priority:

KR20140104897 20140813 KR20140153766 20141106 WO2015KR06284 20150622

Probable Assignee: NATIONAL INST OF FISHERIES SCIENCE

Assignee(s): (std): NFRDI ; REPUBLIC OF KOREA ; REPUBLIC OF KOREA NAT FISHERIES RES AND DEV ; REPUBLIE OF KOREA NAT FISHERIES RES AND DEV INST ; REPUBLIE OF KOREA NATIONAL FISHERIES RES AND DEV INSTITUTE

Assignee(s): NATIONAL INST OF FISHERIES SCIENCE ; REPUBLIC OF KOREA NATIONAL FISHERIES RESEARCH AND DEVELOPMENT ; REPUBLIC OF KOREA NATIONAL FISHERIES RESEARCH AND DEVELOPMENT INSTITUTE ; REPUBLIC OF KOREA NATIONAL INST OF FISHERIES SCIENCE ; REPUBLIE OF KOREA NATIONAL FISHERIES RESEARCH AND DEVELOPMENT INSTITUTE

Inventor(s): (std): CHO YEONG ROK ; JANG IN KWON ; JO SEUL GI ; KIM SU KYOUNG ; KIM YEONG MIN ; LEE KYOUNG RAE ; LIM HYUN JEONG ; SEO HYUNG CHUL ; SHIM NA YOUNG

Agent(s): CHOI SOKJIN; REGIMBEAU

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN105472980 A	20160406	LSPB	+	published / reissued	
CN105472980 A	20160406	LSPB	+C06	PUBLICATION	
CN105472980 A	20160504		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN105472980 B	20171205	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105472980 B	20171205	LSGT	+GR01	PATENT GRANT	
CN105472980 B	20350622	PEXP		Calculated Patent Term Expiry	
EP3005866 A1	20160413	LSPB	+	published / reissued	
EP3005866 A1	20160413	LSES	+17P	REQUEST FOR EXAMINATION	Effective date: 20151204

				FILED	
EP3005866 A1	20160413		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3005866 A1	20160413		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA
EP3005866 A1	20160413		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3005866 A4	20161012	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20160909
EP3005866 A4	20161012		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 61/00 20060101AFI20160905BHEP
EP3005866 A4	20161012		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 63/04 20060101ALI20160905BHEP
EP3005866 A4	20161012		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01G 31/02 20060101ALI20160905BHEP
EP3005866 A4	20170906		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 63/04 20060101ALI20170801BHEP
EP3005866 A4	20170906		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 61/00 20170101AFI20170801BHEP
EP3005866 A4	20170906		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01G 31/02 20060101ALI20170801BHEP
EP3005866 A4	20171011	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20170912
EP3005866 A4	20171122		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3005866 A4	20171122		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3005866 A4	20180718	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20180123
JP2017503525 T2	20170202	LSPB	+	published / reissued	
JP2017503525 T2	20170206	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20170206 Text: JAPANESE INTERMEDIATE CODE: A131
JP2017503525 T2	20170310	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170310 Text: JAPANESE INTERMEDIATE CODE: A523
JP2017503525 T2	20170510	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2017503525 T2	20170517	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20170517 Text: JAPANESE INTERMEDIATE CODE: A01
JP2017503525 T2	20170601	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20170519 Text: JAPANESE INTERMEDIATE CODE: A61
JP2017503525 T2	20170602	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Ref document number: 6150413 Text: JAPANESE INTERMEDIATE CODE: R150 Country of Ref document: JP
JP6150413 B2	20161109	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160726 Text: JAPANESE INTERMEDIATE CODE: A523
JP6150413 B2	20161201	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20161201 Text: JAPANESE INTERMEDIATE CODE: A523

JP6150413 B2	20170119		A975	REPORT ON ACCELERATED EXAMINATION	Effective date: 20170119 Text: JAPANESE INTERMEDIATE CODE: A971005
JP6150413 B2	20170525	LSGT	+A01	特許査定書	
JP6150413 B2	20170525	LSGT	+A01	特許査定書	Effective date: 20170517
JP6150413 B2	20170530	LSFE	R100	特許料納付書	
JP6150413 B2	20170530	LSFE	R100	特許料納付書	Effective date: 20170519 Text: 51701068758
JP6150413 B2	20170602	LSGT	+R150	特許証	
JP6150413 B2	20170602	LSGT	+R150	特許証	Effective date: 20170613
JP6150413 B2	20170621	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6150413 B2	20200408	LSFE	R20	特許料納付書	Effective date: 20200407
JP6150413 B2	20200408	LSFE	R20	特許料納付書	Effective date: 20200407 Text: 52000751388
JP6150413 B2	20200409	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP6150413 B2	20200409	LSFE	+R250	年金領収書, 年金領収書(分納)	Effective date: 20200424
JP6150413 B2	20350622	PEXP		Calculated Patent Term Expiry	
KR101507057 B1	20150217	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101507057 B1	20150330	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101507057 B1	20340813	PEXP		Calculated Patent Term Expiry	
KR101549217 B1	20150826	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101549217 B1	20150902	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101549217 B1	20341106	PEXP		Calculated Patent Term Expiry	
US2017049082 AA	20151203	LSAS	AS	ASSIGNMENT	Effective date: 20151201 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KIM, SU KYOUNG;JANG, IN KWON;LIM, HYUN JEONG;REEL/FRAME:037205/0527 Owner: NATIONAL INSTITUTE OF FISHERIES SCIENCE, KOREA, RE PartyType: owner
US2017049082 AA	20161107	LSAS	AS	ASSIGNMENT	Effective date: 20151201 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE THIRD INVENTOR'S NAME PREVIOUSLY RECORDED ON REEL 037205 FRAME 0527. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT;ASSIGNORS:KIM, SU KYOUNG;JANG, IN KWON;LIM, HYUNJEONG;REEL/FRAME:040575/0105 Owner: NATIONAL INSTITUTE OF FISHERIES SCIENCE, KOREA, RE PartyType: owner
US2017049082 AA	20170201	LSES	NFA1	Non Final Action Mailed	
US2017049082 AA	20170223	LSPB	+	published / reissued	
US2017049082 AA	20170825	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2017049082 AA	20170825		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO16024713 A1	20150622	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201580001024.1 Country of Ref document: CN
WO16024713 A1	20151203	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 14895885 Country of Ref document: US
WO16024713 A1	20151204	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2015800704 Country of Ref document: EP

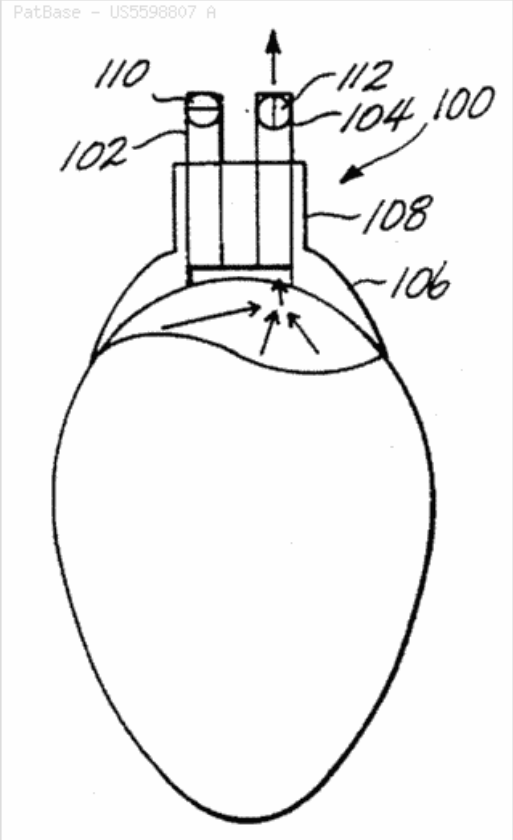
WO16024713 A1	20160218	LSPB	+	published / reissued	
WO16024713 A1	20160330		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 15800704 Country of Ref document: EP
WO16024713 A1	20160726	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2016548357 Country of Ref document: JP
WO16024713 A1	20170213	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

63) Family number: 11845182 (US5598807 A)

Title: APPARATUS FOR NON-INVASIVE FORCED OXYGEN ENRICHMENT OF AVIAN EGGS

Abstract: Apparatus, methods and products in which an egg is non-invasively infused with oxygen such that the structural integrity of the shell of the egg is not compromised. The method comprises the step of subjecting the external surface of the egg shell to the oxygen under a condition of at least one of vacuum and positive pressure. The oxygen is from a substance selected from the group consisting of oxygen, nascent oxygen, liquid oxygen, oxone, ozone, hydrogen peroxide, and potassium permanganate.

Classifications:
International (IPC 8-9): A01K45/00
International (IPC 1-7): A01K45/00
CPC: A01K45/007
US: 119/6.8



Family:

Publication number	Publication date	Application number	Application date
US5598807 A	19970204	US19950485091	19950607
US5967080 A	19991019	US19960746903	19961119
US5983830 A	19991116	US19980210346	19981211

Priority:
US19950485091 19950607 US19960746903 19961119 US19980210346 19981211

Probable Assignee: COX ROBERT W D
Assignee(s): (std): COX ROBERT W D
Assignee(s): COX JAMES P ; COX ROBERT W DUFFY ; NATIONAL PASTEURIZED EGGS LLC
Inventor(s): (std): COX JAMES P ; COX ROBERT W D ; COX ROBERT W DUFFY

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US5598807 A	19970204	LSGT	+	granted / extensions (spc, cpc, pte)	
US5598807 A	20000413	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5598807 A	20040825		REMI	MAINTENANCE FEE REMINDER MAILED	
US5598807 A	20050204	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5598807 A	20050309	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5598807 A	20050309	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

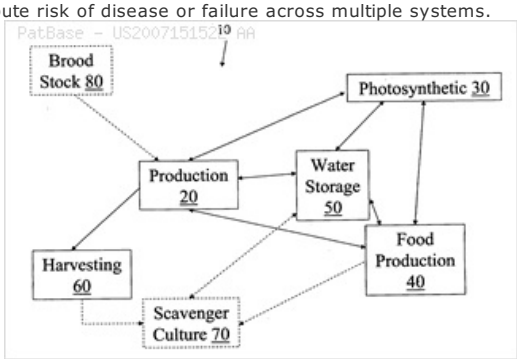
US5598807 A	20050405	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20050204
US5598807 A	20060601	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS Effective date: 20030725 OldParty: BANKRUPTCY ORDER APPROVING SALE ALL RIGHT, TITLE AND OWNERSHIP INTEREST OF PASTEURIZED EGGS DATED JULY 22, 1995, SUBJECT ONLY TO TERM OF ORDER AND OCTOBER 23, 2003 ASSIGNMENT & LICENSE AGREEMENT BETWEEN BON DENTE JOINT VENTURE AND NATIONAL PASTEUTRIZED EGGS, INCLUDING REVERSIONARY RIGHTS OF BON DENTE JOINT VENTURE UPON DEFAULT.;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:017971/0724
US5598807 A	20150607	PEXP		Calculated Patent Term Expiry	
US5967080 A	19991019	LSGT	+	granted / extensions (spc, cpc, pte)	
US5967080 A	20030507		REMI	MAINTENANCE FEE REMINDER MAILED	
US5967080 A	20031020	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5967080 A	20031119	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5967080 A	20031119	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5967080 A	20031216	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20031019
US5967080 A	20060601	LSAS	AS	ASSIGNMENT	OldParty: BANKRUPTCY ORDER APPROVING SALE ALL RIGHT, TITLE AND OWNERSHIP INTEREST OF PASTEURIZED EGGS DATED JULY 22, 1995, SUBJECT ONLY TO TERM OF ORDER AND OCTOBER 23, 2003 ASSIGNMENT & LICENSE AGREEMENT BETWEEN BON DENTE JOINT VENTURE AND NATIONAL PASTEUTRIZED EGGS, INCLUDING REVERSIONARY RIGHTS OF BON DENTE JOINT VENTURE UPON DEFAULT.;ASSIGNOR:PASTEURIZED EGGS CORPORATION;REEL/FRAME:017971/0724 Effective date: 20030725 Owner: NATIONAL PASTEURIZED EGGS, LLC, ILLINOIS PartyType: owner
US5967080 A	20161119	PEXP		Calculated Patent Term Expiry	
US5983830 A	19991108	LSGT	PAT1	Patented Case	
US5983830 A	19991116	LSGT	+	granted / extensions (spc, cpc, pte)	
US5983830 A	20030604		REMI	MAINTENANCE FEE REMINDER MAILED	
US5983830 A	20031117	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5983830 A	20040113	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20031116
US5983830 A	20180123	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5983830 A	20180123	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5983830 A	20181211	PEXP		Calculated Patent Term Expiry	

64) Family number: 32120936 (US2007151522 AA)

Title: METHOD AND SYSTEM FOR AQUACULTURE PRODUCTION

Abstract: A system and method provide an intensive aquaculture system for producing caviar or other goods. The system has a photosynthetic subsystem to consume waste from a production species, a food production subsystem to consume the photosynthetic species and be eaten by the production species. Optionally, the food production species may be pelletized or otherwise refined before being consumed by the production species. While each subsystem may have its own **water** chemistry, gas scrubbers may be used to control gas levels among the subsystems. In one implementation, an enclosure is used with a sensor to measure the gas above the **water** in the photosynthetic species. **Water** and species may be transferred among the subsystems as desired. Multiple aquaculture systems may be used in combination to provide age-specific systems operating in conjunction with one another and distribute risk of disease or failure across multiple systems.

Classifications:
International (IPC 8-9): A01G7/00 A01K61/00 A01K61/02 A01K61/95 A01K63/00 A01K63/04
CPC: A01K61/00 A01K61/10 A01K61/20 A01K61/80 A01K63/00 A01K63/04 Y02A40/81
US: 119/215 119/224 119/224S 119/228 119/230 452/110 452/110S 47/1.01R 47/1.01RS 47/1.1R



Family:

Publication number	Publication date	Application number	Application date
AU2005206778 AA	20050804	AU20050206778	20050110
CA2553210 AA	20060707	CA20052553210	20050110
CL2005000044 A1	20060203	CL20050000044	20050110
EP1705986 A2	20061004	EP20050705398	20050110
EP1705986 A4	20091223	EP20050705398	20050110
MXPA06007857 A1	20070126	MX2006PA07857	20050110
US2007151522 AA	20070705	US20050537680	20050110
US7467601 BB	20081223	US20050537680	20050110
US2009145368 AA	20090611	US20080341482	20081222
WO05070121 A2	20050804	WO2005US00713	20050110
WO05070121 A3	20060526	WO2005US00713	20050110

Priority:

US20040535727P 20040109 WO2005US00713 20050110 US20050537680 20050110
US20050537680 20050603 US20080341482 20081222

Probable Assignee: RICHARD BRAUMAN

Assignee(s): (std): BRAUMAN RICHARD S ; RICHARD BRAUMAN

Assignee(s): BROWN RUDNICK LLP ; RICHARD S BRAUMAN

Inventor(s): (std): BRAUMAN RICHARD S

Inventor(s): BRAUMAN RICHARD ; RICHARD S BRAUMAN

Agent(s): BROWN RUDNICK BERLACK AND ISRAELS LLP; BROWN RUDNICK LLP; CLARKE MODET; LEONARDO MARK S; MARK S; RIDOUT AND MAYBEE LLP; SPRUSON AND FERGUSON

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2005206778 AA	20050804	LSPB	+	published / reissued	
AU2005206778 AA	20100805	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
CA2553210 AA	20060707	LSPB	+	published / reissued	
CA2553210 AA	20110110	LSLE	-FZDE	DEAD	
CL2005000044 A1	20060203	LSPB	+	published / reissued	
EP1705986 A2	20061004	LSPB	+	published / reissued	
EP1705986 A2	20061004	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060803
EP1705986 A2	20061004		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

EP1705986 A2	20061004		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR LV MK YU
EP1705986 A2	20070418		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1705986 A4	20091223	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20091124
EP1705986 A4	20110126	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20100803
MXPA06007857 A1	20070126	LSPB	+	published / reissued	
US2007151522 AA	20070705	LSPB	+	published / reissued	
US2009145368 AA	20090611	LSPB	+	published / reissued	
US2009145368 AA	20091125	LSAS	AS	ASSIGNMENT	Effective date: 20091003 OldParty: NOTICE OF ATTORNEY'S LIEN;ASSIGNOR:BRAUMAN, RICHARD S.;REEL/FRAME:023569/0167 Owner: BROWN RUDNICK LLP, MASSACHUSETTS PartyType: owner
US2009145368 AA	20100216	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009145368 AA	20100216		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US7467601 BB	20081223	LSGT	+	granted / extensions (spc, cpc, pte)	
US7467601 BB	20091125	LSAS	AS	ASSIGNMENT	Effective date: 20091003 Owner: BROWN RUDNICK LLP, MASSACHUSETTS PartyType: owner OldParty: NOTICE OF ATTORNEY'S LIEN;ASSIGNOR:BRAUMAN, RICHARD S.;REEL/FRAME:023569/0167
US7467601 BB	20120806		REMI	MAINTENANCE FEE REMINDER MAILED	
US7467601 BB	20121223	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7467601 BB	20130121	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7467601 BB	20130121	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7467601 BB	20130212	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20121223
US7467601 BB	20260521	PEXP		Calculated Patent Term Expiry (PTA 496 days)	
WO05070121 A2	20050603	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10537680 Country of Ref document: US
WO05070121 A2	20050804	LSPB	+	published / reissued	
WO05070121 A2	20050804		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05070121 A2	20050804		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05070121 A2	20060330		DPEN	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM	

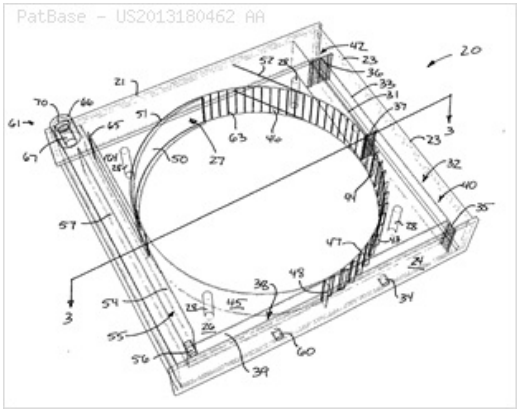
				PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO05070121 A3	20060707	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2553210 Country of Ref document: CA
WO05070121 A3	20060707	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PA/a/2006/007857 Country of Ref document: MX
WO05070121 A3	20060711	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05070121 A3	20060711	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO05070121 A3	20060721	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005206778 Country of Ref document: AU
WO05070121 A3	20060803	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005705398 Country of Ref document: EP
WO05070121 A3	20060810	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20050110 Kind code of Ref document: A Ref document number: 2005206778 Country of Ref document: AU
WO05070121 A3	20060810	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005206778 Country of Ref document: AU
WO05070121 A3	20061004	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005705398 Country of Ref document: EP
WO05070121 A3	20070705	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 10537680 Country of Ref document: US

65) Family number: 54311786 (US2013180462 AA)

Title: JELLYFISH AQUARIUM

Abstract: An aquarium is disclosed that includes a plurality of exterior walls that define a tank, a cylindrical wall within the tank that defines a cylindrical viewing area, a first upright interior wall adjacent the cylindrical wall that defines a **water** inlet **chamber** between the cylindrical wall and the one of said exterior walls, a spillover riser in the **water** inlet **chamber**, and a **water** inlet in communication with one side of the spillover barrier.

Classifications:
International (IPC 8-9)**:** A01K61/00 A01K63/00 A01K63/04
CPC: A01K61/20 A01K61/54 A01K63/003 A01K63/04 A01K63/045 Y02A40/81 A01K63/042
US: 119/245 119/259 119/260 119/261



Family:

Publication number	Publication date	Application number	Application date
US2013180462 AA	20130718	US20130739553	20130111
US8726840 BB	20140520	US20130739553	20130111
US2014123904 AA	20140508	US20140152475	20140110
US8851015 BB	20141007	US20140152475	20140110

Priority:
US20120585675P 20120112 US20130739553 20130111 US20140152475 20140110

Probable Assignee: FURGALUS TODD
Assignee(s): (std)**:** FURGALUS TODD
Inventor(s): (std)**:** FURGALUS TODD
Agent(s): HAMMER AND ASSOCIATES PC

Legal status (INPADOC)

View legal status timeline

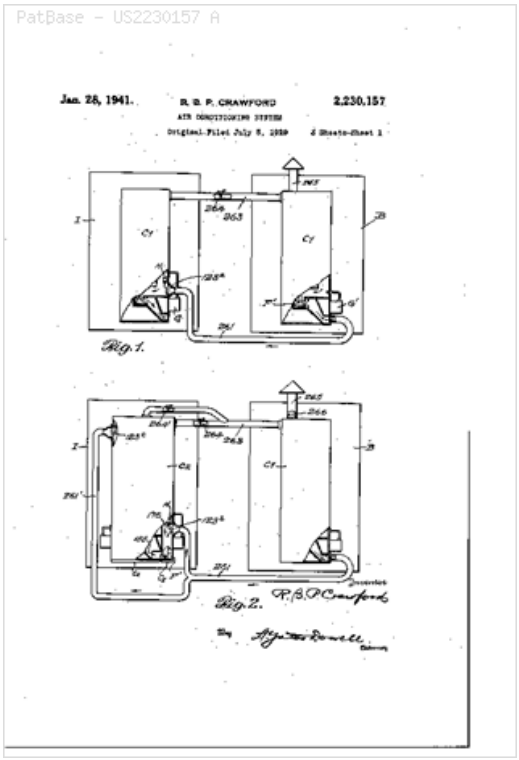
Patent	Date recorded	Event group	Code	Event	Details
US2013180462 AA	20130718	LSPB	+	published / reissued	
US2013180462 AA	20140430	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2014123904 AA	20140508	LSPB	+	published / reissued	
US2014123904 AA	20140917	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8726840 BB	20140430	LSGT	PAT1	Patented Case	
US8726840 BB	20140520	LSGT	+	granted / extensions (spc, cpc, pte)	
US8726840 BB	20171113	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8726840 BB	20330111	PEXP		Calculated Patent Term Expiry	
US8851015 BB	20140917	LSGT	PAT1	Patented Case	
US8851015 BB	20141007	LSGT	+	granted / extensions (spc, cpc, pte)	
US8851015 BB	20180330	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8851015 BB	20330111	PEXP		Calculated Patent Term Expiry	

66) Family number: 21672126 (US2230157 A)

Title: Air conditioning system

Abstract: 1. In a brooding and incubating arrangement, a brooding system and an incubating system, each system including an enclosure and a. conditioner therefor, each of said conditioners including a **water** diffusing means, an aerator, means for passing **Water** from the **Water** diffusing means of one of the systems to the aerator, means for pasing **water** from the aerator back to the said system, and means for providing iiuid interflow between said brooding system and said incubating system to affect the psychrometric condition of one of said systems, whereby both of said systems will ,cooperate with each other to edect a relatively high thermal emclency.

Classifications:
International (IPC 8-9): A01K31/00 A01K31/20 A01K41/00 F24F3/12 F24F3/14
International (IPC 1-7): A01K41/00
CPC: A01K41/02 A01K31/20 F24F3/14 A01K41/00
US: 119/300 119/306 119/317 119/319 119/321 165/223 165/234 165/253 165/59 165/60 165/66 236/1B 236/2 236/44R 237/3 261/39.1 34/535 62/171 62/176.4 62/309 62/310 62/317 62/62 62/78 95/170 95/231 95/236 236/44.00R 236/1.00B



Family:

Publication number	Publication date	Application number	Application date
US2137996 A	19381122	US19290375952	19290705
US2230157 A	19410128	US19370154314	19370717
US2230158 A	19410128	US19370154315	19370717
US2137769 A	19381122	US19370154316	19370717

Priority:

US19290375952 19290705 US19370154316 19370717 US19370154314 19370717 US19370154315 19370717

Probable Assignee: FRICK CO
Assignee(s): (std): FRICK CO
Assignee(s): FRICK COMPANY
Inventor(s): (std): CRAWFORD ROBERT B P

Legal status (INPADOC)

View legal status timeline

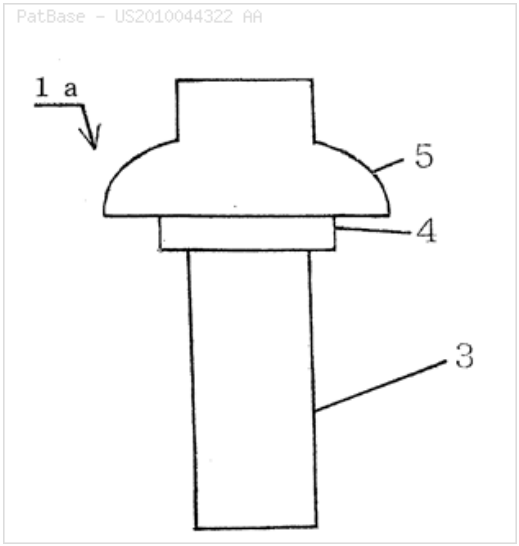
Patent	Date recorded	Event group	Code	Event	Details
US2137769 A	19381122	LSGT	+	granted / extensions (spc, cpc, pte)	
US2137996 A	19381122	LSGT	+	granted / extensions (spc, cpc, pte)	
US2230157 A	19410128	LSGT	+	granted / extensions (spc, cpc, pte)	
US2230158 A	19410128	LSGT	+	granted / extensions (spc, cpc, pte)	

67) Family number: 42380389 (US2010044322 AA)

Title: AERATION UNIT, AERATION APPARATUS EQUIPPED THEREWITH AND METHOD OF AERATION

Abstract: An aeration unit, an aeration apparatus and a method of aeration are provided that can quickly realize **water** quality with gas dissolution balance appropriate for living creatures in **water**, and that can be utilized for treating polluted **water** at sewage **treatment** facilities and used in a gas-liquid contact step at **chemical** plants or others. A multiple stage aeration apparatus 6a constituted with an air diffuser 2 for producing bubbles in **water**, a liquid foam generating channel part 3 for changing bubbles in **water** into liquid foam bodies (soap-bubble-like bubble aggregate), a gas retention **chamber** 4 having a space capable of retaining gas in **water** and a bubble accumulating part 5 for collecting bubbles newly released from below the gas retention **chamber** 4 and feeding the bubbles to the liquid foam generating channel part 3 connected to the upper part thereof is disclosed.

Classifications:
International (IPC 8-9): A01K A01K63/04 B01F B01F1/00 B01F3/04 B01F5/00 B01F5/06 B01J B01J10/00 C02F C02F1/74 C02F3/20
CPC: A01K63/042 B01F2003/04141 B01F2003/04148 B01F2003/04361 B01F3/04262 B01F3/04517 B01F3/04524 C02F1/74 C02F3/20 C02F7/00 Y02W10/10
US: 210/220 210/221.2 210/758 261/116 261/121.1 261/121.100S 261/124 261/124S



Family:

Publication number	Publication date	Application number	Application date
CN101754799 A	20100623	CN200880013349	20080328
CN101754799 B	20131030	CN200880013349	20080328
DE602008029510 D1	20140213	DE200860029510T	20080328
EP2143483 A1	20100113	EP20080739350	20080328
EP2143483 A4	20120912	EP20080739350	20080328
EP2143483 B1	20131225	EP20080739350	20080328
HK1145663 A1	20110715	HK20100111871	20101220
HK1145663 B	20140530	HK20100111871	20101220
JP2008123467 A1	20100715	JP20090509237T	20080328
JP5269768 B1	20130821	JP20090509237T	20080328
JP5269768 B2	20130821	JP20090509237T	20080328
KR101179313 B1	20120903	KR20097020580	20080328
KR20100015333 A	20100212	KR20097020580	20080328
US2010044322 AA	20100225	US20080450546	20080328
US8292271 BB	20121023	US20080450546	20080328
WO08123467 A1	20081016	WO2008JP56232	20080328

Priority:
JP20070117706 20070330 WO2008JP56232 20080328 EP20080739350 20080328
JP20090509237 20080328

Probable Assignee: FUJISATO TETSUHIKO

Assignee(s): (std): FUJISATO TETSUHIKO ; IKEDA YOSHIAKI ; LEE SE HAN ; MA JUN ; NAKANO YOUICHI ; TETSUHIKO FUJISATO ; YOO YUNG KYUN ; ZHANG ZHENJIA

Assignee(s): FUJISATO TETSUHIKO UBE SHI ; IKEDA YOSHIAKI UBE SHI ; LEE SE HAN SUSEONG GU ; MA JUN UBE SHI

Inventor(s): (std): FUJISATO TETSUHIKO ; MA JUN ; TETSUHIKO FUJISATO

Agent(s): AGNES LEUNG; CHAN TANG AND KWOK; INOUE HIROSHI; MUELLER BORE AND PARTNER PATENTANWAELTE PARTG MBB; MURAMATSU AND ASSOCIATES; UCHIDA KENJI

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)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN101754799 A	20100623	LSPB	+	published / reissued	
CN101754799 A	20100623	LSPB	+C06	PUBLICATION	
CN101754799 A	20100818		C10	ENTRY INTO	

				SUBSTANTIVE EXAMINATION	
CN101754799 A	20110715		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1145663 Ref legal event code: DE Country of Ref document: HK
CN101754799 B	20131030	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101754799 B	20131030	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101754799 B	20140530		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1145663 Ref legal event code: GR Country of Ref document: HK
CN101754799 B	20280328	PEXP		Calculated Patent Term Expiry	
DE602008029510 D1	20120808		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: B01F0003040000 Text: PREVIOUS MAIN CLASS: B01F0003040000
EP2143483 A1	20100113	LSPB	+	published / reissued	
EP2143483 A1	20100113	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20091030
EP2143483 A1	20100113		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2143483 A1	20100310	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: IKEDA, YOSHIAKI PartyType: owner
EP2143483 A1	20100310	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: FUJISATO, TETSUHIKO PartyType: owner
EP2143483 A1	20100310	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: MA, JUN PartyType: owner
EP2143483 A1	20100310	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: LEE, SE HAN PartyType: owner
EP2143483 A1	20100310	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: LEE, SHUN HWA PartyType: owner
EP2143483 A1	20100707		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2143483 A1	20100825	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: IKEDA, YOSHIAKI PartyType: owner
EP2143483 A1	20100825	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: FUJISATO, TETSUHIKO PartyType: owner
EP2143483 A1	20100825	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: MA, JUN PartyType: owner
EP2143483 A1	20100825	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: LEE, SE HAN
EP2143483 A1	20100825	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: YOO, YUNG-KYUN PartyType: owner
EP2143483 A1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2143483 A1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20140425 Country of Ref document: IS
EP2143483 A1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING	Lapsed date: 20131225 NotificationOfLapse: LAPSE

				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 Country of Ref document: EE
EP2143483 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160321 Year of fee payment: 9 Country of Ref document: NL
EP2143483 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160321 Year of fee payment: 9 Country of Ref document: GB
EP2143483 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20160321 Country of Ref document: FR
EP2143483 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160330 Year of fee payment: 9 Country of Ref document: DE
EP2143483 A4	20120912	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20120814
EP2143483 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B01F 3/04 20060101AFI20120808BHEP ClassificationScheme: IPC
EP2143483 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A01K 63/04 20060101ALI20120808BHEP ClassificationScheme: IPC
EP2143483 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/20 20060101ALI20120808BHEP ClassificationScheme: IPC
EP2143483 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01F 1/00 20060101ALI20120808BHEP
EP2143483 A4	20120912		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: B01J 10/00 20060101ALI20120808BHEP ClassificationScheme: IPC
EP2143483 A4	20130821	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20130722
EP2143483 B1	20131225	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2143483 B1	20131225		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2143483 B1	20131225	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2143483 B1	20131231	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2143483 B1	20140115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140115 Kind code of Ref document: T Ref country code: AT Ref document number: 646276 Ref legal event code: REF Country of Ref document: AT
EP2143483 B1	20140129	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2143483 B1	20140213	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140213 Ref country code: DE Ref document number: 602008029510 Ref legal event code: R096 Country of Ref document: DE
EP2143483 B1	20140319	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: T3

EP2143483 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2143483 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2143483 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2143483 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2143483 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140325 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2143483 B1	20140515	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20131225 Kind code of Ref document: T Ref country code: AT Ref document number: 646276 Ref legal event code: MK05 Country of Ref document: AT
EP2143483 B1	20140526	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2143483 B1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2143483 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2143483 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140425 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2143483 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2143483 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2143483 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT

EP2143483 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2143483 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2143483 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140428 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2143483 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2143483 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2143483 B1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2143483 B1	20140926	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602008029510 Ref legal event code: R097 Country of Ref document: DE
EP2143483 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2143483 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140328 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LU
EP2143483 B1	20141031	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2143483 B1	20141203	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20140926
EP2143483 B1	20141231	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2143483 B1	20150108	LSRE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140926 Ref country code: DE Ref document number: 602008029510 Ref legal event code: R097 Country of Ref document: DE
EP2143483 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2143483 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	Lapsed date: 20140328 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE

				INFORMATION FROM NATIONAL OFFICE TO EPO]	
EP2143483 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2143483 B1	20150529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2143483 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MT
EP2143483 B1	20160321	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 9 Country of Ref document: FR
EP2143483 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2143483 B1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2143483 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2143483 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20140326 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2143483 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20080328 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2143483 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131225 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2143483 B1	20170322	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 10 Country of Ref document: FR
EP2143483 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170321 Year of fee payment: 10 Country of Ref document: NL
EP2143483 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170322 Year of fee payment: 10 Country of Ref document: DE

EP2143483 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170322 Year of fee payment: 10 Country of Ref document: FR
EP2143483 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170322 Year of fee payment: 10 Country of Ref document: GB
EP2143483 B1	20180328	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 11
EP2143483 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180322 Year of fee payment: 11 Country of Ref document: DE
EP2143483 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180321 Year of fee payment: 11 Country of Ref document: GB
EP2143483 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180321 Year of fee payment: 11 Country of Ref document: NL
EP2143483 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180328 Year of fee payment: 11 Country of Ref document: FR
EP2143483 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190322 Year of fee payment: 12 Country of Ref document: FR
EP2143483 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190320 Year of fee payment: 12 Country of Ref document: GB
EP2143483 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190321 Year of fee payment: 12 Country of Ref document: DE
EP2143483 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200323 Year of fee payment: 13 Country of Ref document: GB
EP2143483 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200319 Year of fee payment: 13 Country of Ref document: NL
EP2143483 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200320 Year of fee payment: 13 Country of Ref document: DE
EP2143483 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200320 Year of fee payment: 13 Country of Ref document: FR
EP2143483 B1	20280328	PEXP		Calculated Patent Term Expiry	
HK1145663 A1	20110715	LSPB	+	published / reissued	
HK1145663 A1	20301220	PEXP		Calculated Patent Term Expiry	
HK1145663 B	20140530	LSGT	+	granted / extensions (spc,	

				cpc, pte)	
HK1145663 B	20301220	PEXP		Calculated Patent Term Expiry	
JP2008123467 A1	20100715	LSPB	+	published / reissued	
JP2008123467 A1	20101126	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20101125 Text: JAPANESE INTERMEDIATE CODE: A621
JP2008123467 A1	20130412	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2008123467 A1	20130417	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20130416 Text: JAPANESE INTERMEDIATE CODE: A01
JP2008123467 A1	20130516	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20130508 Text: JAPANESE INTERMEDIATE CODE: A61
JP5269768 B1	20130418	LSGT	+A01	特許査定書	
JP5269768 B1	20130514	LSFE	R100	特許料納付書	
JP5269768 B1	20130517	LSGT	+R150	特許証	
JP5269768 B1	20130821	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5269768 B1	20160331	LSFE	R20	特許料納付書	
JP5269768 B1	20160405	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5269768 B1	20190509	LSFE	R20	特許料納付書	
JP5269768 B1	20190514	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5269768 B1	20280328	PEXP		Calculated Patent Term Expiry	
JP5269768 B2	20130821	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5269768 B2	20160405	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5269768 B2	20190514	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5269768 B2	20280328	PEXP		Calculated Patent Term Expiry	
KR101179313 B1	20090930	LSES	A201	REQUEST FOR EXAMINATION	
KR101179313 B1	20091120	LSAS	N231	NOTIFICATION OF CHANGE OF APPLICANT	
KR101179313 B1	20110506	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101179313 B1	20120228	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101179313 B1	20120823	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101179313 B1	20120828	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101179313 B1	20120903	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101179313 B1	20160822	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20160822 Year of fee payment: 5
KR101179313 B1	20170729	LSFE	FPAY	ANNUAL FEE PAYMENT	Payment date: 20170729 Year of fee payment: 6
KR101179313 B1	20280328	PEXP		Calculated Patent Term Expiry	

KR20100015333 A	20100212	LSPB	+	published / reissued	
US2010044322 AA	20100225	LSPB	+	published / reissued	
US2010044322 AA	20121003	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8292271 BB	20090929	LSAS	AS	ASSIGNMENT	Effective date: 20090915 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FUJISATO, TETSUHIKO;MA, JUN;REEL/FRAME:023325/0461 Owner: MA, JUN,JAPAN PartyType: owner
US8292271 BB	20090929	LSAS	AS	ASSIGNMENT	Effective date: 20090915 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FUJISATO, TETSUHIKO;MA, JUN;REEL/FRAME:023325/0461 Owner: FUJISATO, TETSUHIKO,JAPAN PartyType: owner
US8292271 BB	20090929	LSAS	AS	ASSIGNMENT	Effective date: 20090915 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FUJISATO, TETSUHIKO;MA, JUN;REEL/FRAME:023325/0461 Owner: IKEDA, YOSHIAKI,JAPAN PartyType: owner
US8292271 BB	20090929	LSAS	AS	ASSIGNMENT	Effective date: 20090915 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FUJISATO, TETSUHIKO;MA, JUN;REEL/FRAME:023325/0461 Owner: IKEDA, YOSHIAKI, JAPAN PartyType: owner
US8292271 BB	20090929	LSAS	AS	ASSIGNMENT	Effective date: 20090915 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FUJISATO, TETSUHIKO;MA, JUN;REEL/FRAME:023325/0461 Owner: MA, JUN, JAPAN PartyType: owner
US8292271 BB	20090929	LSAS	AS	ASSIGNMENT	Effective date: 20090915 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FUJISATO, TETSUHIKO;MA, JUN;REEL/FRAME:023325/0461 Owner: FUJISATO, TETSUHIKO, JAPAN PartyType: owner
US8292271 BB	20121003	LSGT	PAT1	Patented Case	
US8292271 BB	20121023	LSGT	+	granted / extensions (spc, cpc, pte)	
US8292271 BB	20160411	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8292271 BB	20200414	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8292271 BB	20290603	PEXP		Calculated Patent Term Expiry (PTA 432 days)	
WO08123467 A1	20080328	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200880013349.1 Country of Ref document: CN
WO08123467 A1	20081016	LSPB	+	published / reissued	
WO08123467 A1	20081203		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 08739350 Kind code of Ref document: A1 Country of Ref document: EP
WO08123467 A1	20090326		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM	

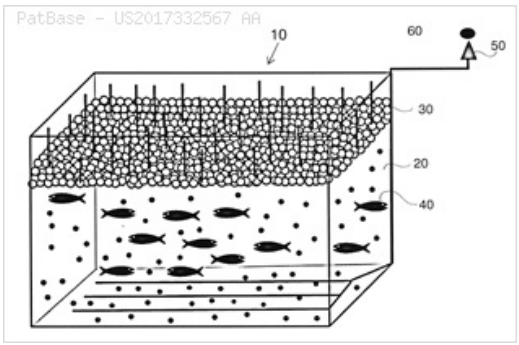
				20040101)	
WO08123467 A1	20090918	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2009509237 Kind code of Ref document: A Country of Ref document: JP
WO08123467 A1	20090929	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 12450546 Country of Ref document: US
WO08123467 A1	20090930	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1020097020580 Country of Ref document: KR
WO08123467 A1	20091001	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO08123467 A1	20091028	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008739350 Country of Ref document: EP

68) Family number: 67555633 (US2017332567 AA)

Title: AEROBIC, BIOREMEDIATION **TREATMENT** SYSTEM COMPRISING FLOATING INERT MEDIA IN AN AQUEOUS ENVIRONMENT

Abstract: An aerobic **treatment** system includes a plurality of highly porous, high surface area, inert, synthetic, inorganic, or natural material particles, having a specific gravity of less than 1.0 that float on an enclosed aqueous environment whereby plants and/or microbes can be grown thereon and/or animals such as fish can be raised therein. The inert particles trap air bubbles and nutrients for the growth of diverse types of plants, animals, or microbial systems, which enable phyto **treatment** of an aqueous waterbody with the ability to limit the growth of unwanted plant and algae such as blue-green algae. The above aerobic bio **treatment** system contains desirably bioremediation media having one or more microorganisms that are able to withstand system shocks while minimizing energy usage associated with aeration. The system can generally be utilized in any aqueous environment such as waste **water** and/or polluted **water** in an enclosed area such as a container, tank, pond, lake, or the like.

Classifications:
International (IPC 8-9): A01G31/00 A01G33/00 A01H4/00 A01K1/01 A01K31/04 A01K61/10 A01K63/00 A01K63/04 A01N25/08 B01D17/04 C02F101/32 C02F103/20 C02F103/32 C02F3/00 C02F3/08 C02F3/10 C02F3/30 C02F3/32 C02F3/34 C12N1/26 C12N1/38 C12R1/01 C12R1/645
CPC: A01G31/00 A01G33/00 A01H4/001 A01K1/01 A01K31/04 A01K61/10 A01K63/006 A01K63/04 A01K63/042 C02F2003/001 C02F2101/32 C02F2103/20 C02F2103/32 C02F2303/04 C02F2305/06 C02F3/087 C02F3/104 C02F3/105 C02F3/106 C02F3/107 C02F3/327 C02F3/34 Y02A40/80 Y02P60/60 Y02W10/10 Y02W10/37
US: 1/1 210/170.05



Family:

Publication number	Publication date	Application number	Application date
EP3457845 A1	20190327	EP20170799890	20170510
EP3457845 A4	20200115	EP20170799890	20170510
IN201817043485 A	20190201	IN201817043485	20181119
US10342189 BB	20190709	US20170472854	20170329
US2017332567 AA	20171123	US20170472854	20170329
WO17200815 A1	20171123	WO2017US31926	20170510

Priority:
US20160337453P 20160517 US20170472854 20170329 WO2017US31926 20170510

Probable Assignee: BUBBLECLEAR
Assignee(s): (std): BUBBLECLEAR
Inventor(s): (std): GENCER KAAN E ; GENCER MEHMET A ; LANGMACK CLARK B ; SCHABEL JAY L ; ZAKRISKI PAUL M
Agent(s): FUCHS PATENTANWAELTE PARTNERSCHAFT MBB; HUDAK DANIEL J ET AL; HUDAK SHUNK AND FARINE CO LPA
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 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
EP3457845 A1	20190327	LSPB	+	published / reissued	
EP3457845 A1	20190327	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20181213
EP3457845 A1	20190327		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3457845 A1	20190327		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3457845 A1	20190327		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3457845 A1	20190821		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3457845 A1	20190821		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	

EP3457845 A4	20200115	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20191213
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C12R 1/01 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C12N 1/38 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 103/32 20060101ALN20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/34 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C12R 1/645 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01G 31/00 20180101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/08 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 103/20 20060101ALN20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C12N 1/26 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01N 25/08 20060101AFI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/10 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/32 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A01K 63/04 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 101/32 20060101ALN20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/30 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B01D 17/04 20060101ALI20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 3/00 20060101ALN20191209BHEP
EP3457845 A4	20200115		RIC1	INFORMATION	ClassificationScheme: IPC

				PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A01G 33/00 20060101ALI20191209BHEP
IN201817043485 A	20190201	LSPB	+	published / reissued	
US10342189 BB	20190709	LSGT	+	granted / extensions (spc, cpc, pte)	
US10342189 BB	20370513	PEXP		Calculated Patent Term Expiry (PTA 45 days)	
US2017332567 AA	20170329	LSAS	AS	ASSIGNMENT	Effective date: 20170329 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GENCER, MEHMET A.;GENCER, KAAN E.;ZAKRISKI, PAUL M.;AND OTHERS;REEL/FRAME:041786/0390 Owner: BUBBLECLEAR, OHIO PartyType: owner
US2017332567 AA	20170608		RFE1	Docketed New Case - Ready for Examination	
US2017332567 AA	20171123	LSPB	+	published / reissued	
US2017332567 AA	20181119		FRM1	Final Rejection Mailed	
US2017332567 AA	20190319		RFE1	Docketed New Case - Ready for Examination	
US2017332567 AA	20190319		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017332567 AA	20190415	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017332567 AA	20190415		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017332567 AA	20190528	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017332567 AA	20190528		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017332567 AA	20190619	LSGT	PAT1	Patented Case	
US2017332567 AA	20190619	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
WO17200815 A1	20171123	LSPB	+	published / reissued	
WO17200815 A1	20180329		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO17200815 A1	20181120	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17200815 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 17799890 Country of Ref document: EP

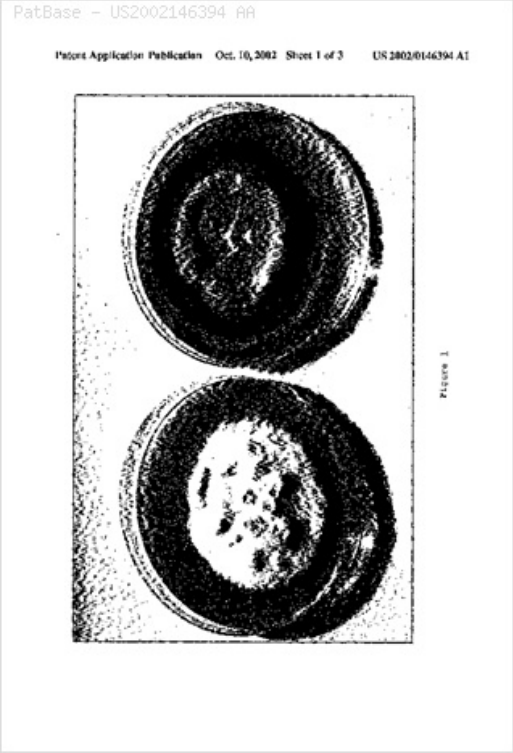
WO17200815 A1	20190104	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20181217 Ref document number: 2017799890 Country of Ref document: EP

69) Family number: 30115893 (US2002146394 AA)

Title: MYCOATTRACTANTS AND MYCOPESTICIDES

Abstract: The present invention utilizes the pre-sporulation (preconidial) mycelial stage of entomopathogenic fungi as insect attractants and/or pathogens. The fungus can be cultivated on grain, wood, agricultural wastes or other cellulosic material, attracting the insect and optionally introducing insect-specific pathogenic fungi. More than one fungus and substrate can be used in combination. The matrix of preconidial fungi can optionally be dried, freeze-dried, cooled and/or pelletized and packaged and reactivated for use as an effective insect attractant and/or biopesticide. Attractant extracts of the preconidial entomopathogenic mycelium are disclosed.

Classifications:
International (IPC 8-9): A01K47/06 A01K51/00 A01M1/20 A01N25/00 A01N25/02 A01N25/04 A01N25/32 A01N25/34 A01N63/04 A01N65/00 A01P19/00 A01P7/00 A01P7/02 A01P7/04 A23K1/16 A23K1/18 A23K10/16 A23K10/30 A23K20/00 A23K20/10 A23K20/111 A23K20/147 A23K20/158 A23K20/163 A23K20/195 A23K50/00 A23K50/60 A23K50/90 A23L1/30 A23L33/145 A61K31/05 A61K31/12 A61K31/192 A61K31/352 A61K31/37 A61K31/7048 A61K35/64 A61K35/644 A61K35/74 A61K36/06 A61K36/062 A61K36/068 A61K36/07 A61K36/074 A61K36/09 A61K38/21 A61K45/06 A61K9/12 A61P31/00 A61P31/04 A61P31/12 A61P31/18 A61P31/20 A61P33/02 A61P33/06 C12N1/14 C12N7/06
International (IPC 1-7): A01N2/532 A01N25/00 A01N25/32 A01N6/304 A01N63/00 A01N63/04 A01N65/00 A61K35/84 A61P31/12 A61P31/18
CPC: A01N63/30 A01N63/04 A01K51/00 A01N65/00 A23K10/30 A23K20/00 A23K20/10 A23K20/111 A23K20/163 A23K50/90 A23L33/145 A23V2002/00 A61K36/07 A61K36/074 A61K45/06 A61K31/05 A61K31/12 A61K31/192 A61K31/352 A61K31/37 A61K31/7048 A61K36/06 A61P31/12 Y02A50/30 A23K20/147 A23K20/158 A61K2300/00 A61K9/12 A61P31/18 C12N2760/12211 A61P31/04 A61P31/20 A01N25/006 A01N25/02 A01N25/32 A61P33/02 A61P33/06 A61K35/644 A01N2300/00 A23L1/3018
US: 1/1 424/195.15 424/195.150P 424/195.150S 424/274.1 424/402 424/405 424/406 424/407 424/409 424/410 424/411 424/411P 424/413 424/417 424/418 424/488 424/537 424/795.15 424/84 424/84P 424/84S 424/85.4 424/85.400S 424/85.5 424/85.500P 424/93.5 424/93.500S 424/93.6 424/93.600S 435/178 435/179 435/180 435/238 435/238S 435/243 435/252 435/254.1 514/27 514/456 514/457 514/568 514/570 514/678 536/18.1 549/287 549/400 562/475 562/478 562/496 568/308



Family:

Publication number	Publication date	Application number	Application date
AU200196679 A1	20020415	AU20010096679	20011003
AU200196679 A5	20020415	AU20010096679	20011003
AU2001296679 AA	20020415	AU20010296679	20011003
AU2001296679 BB	20080508	AU20010296679	20011003
AU2015229670 AA	20160915	AU20150229670	20150309
AU2015229670 BB	20161110	AU20150229670	20150309
AU2016242929 AA	20171012	AU20160242929	20160331
AU2017200872 AA	20170302	AU20170200872	20170209
AU2017200872 BB	20190131	AU20170200872	20170209
CA2939143 AA	20160809	CA20152939143	20150309
CA2939143 C	20190702	CA20152939143	20150309
CA2980173 AA	20170918	CA20162980173	20160331
DE602015014284 D1	20180830	DE201560014284T	20150309
DK3110260 T3	20181105	DK20150714701T	20150309
EA032759 B1	20190731	EA20160091802	20150309
EA201691802 A1	20170228	EA20160091802	20150309
EA201990504 A1	20190731	EA20190090504	20150309
EP3110260 A1	20170104	EP20150714701	20150309
EP3110260 B1	20180801	EP20150714701	20150309
EP3277271 A1	20180207	EP20160717212	20160331
ES2693502 T3	20181212	ES20150714701T	20150309
HU041412 T2	20190528	HU20150714701T	20150309
IN201717033224 A	20171201	IN201717033224	20170919
PL3110260 T3	20190131	PL20150714701T	20150309
SI3110260 T1	20200630	SI20150030442T	20150309
TR201816010 T4	20181121	TR20180016010T	20150309
US6660290 BA	20031209	US20000678141	20001003
US2002146394 AA	20021010	US20010969456	20011001
US7122176 BB	20061017	US20010969456	20011001
US2004161440 AA	20040819	US20030646987	20030820
US2004213823 AA	20041028	US20040853059	20040524
US2005238655 AA	20051027	US20050029861	20050104
US2005276815 AA	20051215	US20050031699	20050106
US2006171958 AA	20060803	US20060386402	20060322
US2011008384 AA	20110113	US20070728613	20070327
US2009130138 AA	20090521	US20080284646	20080924
US8765138 BB	20140701	US20080284646	20080924

US2009047236 AA	20090219	US20080288533	20081020
US7951388 BB	20110531	US20080288533	20081020
US2009047237 AA	20090219	US20080288535	20081020
US7951389 BB	20110531	US20080288535	20081020
US2011200551 AA	20110818	US20110066566	20110418
US8501207 BB	20130806	US20110066566	20110418
US2012039976 AA	20120216	US20110317613	20111024
US8753656 BB	20140617	US20110317613	20111024
US2012070414 AA	20120322	US20110373719	20111128
US2013287829 AA	20131031	US20130986978	20130620
US9399050 BB	20160726	US20130986978	20130620
US2014105928 AA	20140417	US20130998914	20131220
US2014220150 AA	20140807	US20140247207	20140407
US2015335689 AA	20151126	US20150641432	20150308
US9474776 BB	20161025	US20150641432	20150308
US2016000754 AA	20160107	US20150853932	20150914
US9931316 BB	20180403	US20150853932	20150914
US10813960 BB	20201027	US20160332803	20161024
US2017035820 AA	20170209	US20160332803	20161024
US2018200224 AA	20180719	US20180918082	20180312
US10821145 BB	20201103	US20180950301	20180411
US2018243356 AA	20180830	US20180950301	20180411
US2020376055 AA	20201203	US20200998146	20200820
WO0228189 A2	20020411	WO2001US31339	20011003
WO0228189 A3	20020829	WO2001US31339	20011003
WO05067955 A1	20050728	WO2005US00266	20050105
WO15138361 A1	20150917	WO2015US19543	20150309
WO16161138 A1	20161006	WO2016US25309	20160331

Priority:

US20000678141 20001003	US20000678141 20001004	US20010969456 20011001
US20010959456 20011001	WO2001US31339 20011003	US20030646987 20030820
US20040534776P 20040106	US20040853059 20040524	US20050029861 20050104
US20050031699 20050106	US20050145679 20050606	US20060386402 20060322
US20070728613 20070327	US20070944972P 20070619	US20070994972P 20070924
US20080284646 20080924	US20080288535 20081020	US20080288533 20081020
US20110066566 20110418	US20110317613 20111024	US20110373719 20111128
US20130986978 20130620	US20130998914 20131220	US20140967117P 20140310
US20140247207 20140407	US20140074023P 20141102	US20150641432 20150308
WO2015US19543 20150309	AU20150229670 20150309	EP20150714701 20150309
US20150140459P 20150331	US20150853932 20150914	WO2016US25309 20160331
US20160332803 20161024	AU20170200872 20170209	US20180918082 20180312
US20180950301 20180411	US20200998146 20200820	

Probable Assignee: MYCOSYS LLC

Assignee(s): (std): MYCO PESTICIDES LLC ; MYCOSYS LLC ; PAUL EDWARD STAMETS ; STAMETS PAUL ; STAMETS PAUL E ; STAMETS PAUL EDWARD

Assignee(s): PAUL STAMETS ; STAMETS PAUL EDWARD SHELTON

Inventor(s): (std): PAUL EDWARD STAMETS ; STAMETS PAUL ; STAMETS PAUL E ; STAMETS PAUL EDWARD

Inventor(s): PAUL STAMETS ; STAMETS PAUL EDWARD SHELTON

Agent(s): BERNARD A; FULYA SUEMERALP; GRIFFITH HACK; HYDE WILLIAM R; MICHAEL BEST AND FRIEDRICH LLP; POTTER CLARKSON LLP; ROBIC; SPRUSON AND FERGUSON; VALLEJO JUAN PEDRO; WILLIAM R; WILLIAM R HYDE

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2001296679 AA	20020415	LSPB	+	published / reissued	
AU2001296679 BB	20070816	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	Owner: MYCOSYS LLC OldParty: FORMER APPLICANT(S): STAMETS, PAUL PartyType: owner
AU2001296679 BB	20080508	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2001296679 BB	20080904	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2001296679 BB	20130502	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2001296679 BB	20211003	PEXP		Calculated Patent Term Expiry	
AU200196679 A1	20020415	LSPB	+	published /	

				reissued	
AU2015229670 AA	20160915	LSPB	+	published / reissued	
AU2015229670 AA	20170309	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2015229670 BB	20161110	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2015229670 BB	20350309	PEXP		Calculated Patent Term Expiry	
AU2016242929 AA	20171012	LSPB	+	published / reissued	
AU2016242929 AA	20191128	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU2017200872 AA	20170302	LSPB	+	published / reissued	
AU2017200872 BB	20190131	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2017200872 BB	20190530	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2017200872 BB	20370209	PEXP		Calculated Patent Term Expiry	
CA2939143 AA	20160809	LSPB	+	published / reissued	
CA2939143 AA	20171116	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20171108
CA2939143 C	20190702	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2939143 C	20350309	PEXP		Calculated Patent Term Expiry	
CA2980173 AA	20170918	LSPB	+	published / reissued	
CA2980173 AA	20190318	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20190306
DK3110260 T3	20181105	LSGT	+	granted / extensions (spc, cpc, pte)	
DK3110260 T3	20350309	PEXP		Calculated Patent Term Expiry	
EA032759 B1	20190731	LSGT	+	granted / extensions (spc, cpc, pte)	
EA032759 B1	20350309	PEXP		Calculated Patent Term Expiry	
EA201691802 A1	20170228	LSPB	+	published / reissued	
EA201990504 A1	20190731	LSPB	+	published / reissued	
EP3110260 A1	20170104	LSPB	+	published / reissued	
EP3110260 A1	20170104	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20160915
EP3110260 A1	20170104		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3110260 A1	20170104		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA
EP3110260 A1	20170104		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3110260 A1	20170503	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20170330

EP3110260 A1	20170614		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3110260 A1	20170614		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3110260 A1	20180214	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180118
EP3110260 A1	20180704		INTC	INTENTION TO GRANT ANNOUNCED (DELETED)	
EP3110260 A1	20180725	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180620
EP3110260 B1	20180801	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3110260 B1	20180801		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3110260 B1	20180801	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP3110260 B1	20180815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP3110260 B1	20180815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180815 Kind code of Ref document: T Ref country code: AT Ref document number: 1023256 Ref legal event code: REF Country of Ref document: AT
EP3110260 B1	20180822	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP3110260 B1	20180830	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602015014284 Ref legal event code: R096 Country of Ref document: DE
EP3110260 B1	20181015		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Representative: ISLER AND PEDRAZZINI AG, CH Ref legal event code: NV Ref country code: CH
EP3110260 B1	20181031		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FP Ref country code: NL
EP3110260 B1	20181105		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DK Effective date: 20181022 Ref legal event code: T3
EP3110260 B1	20181127		REG	REFERENCE TO A NATIONAL CODE	Ref country code: SE Ref legal event code: TRGR
EP3110260 B1	20181210	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180801 Ref legal event code: T2 Ref country code: NO
EP3110260 B1	20181212	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref legal event code: FG2A Ref document number: 2693502 Ref country code: ES Effective date: 20181212 Country of Ref document: ES
EP3110260 B1	20181227	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP3110260 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181102 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP3110260 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20181101 Country of Ref document: BG
EP3110260 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

					Country of Ref document: LT
EP3110260 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP3110260 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20181201 Country of Ref document: IS
EP3110260 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20181227 Country of Ref document: PL
EP3110260 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP3110260 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180801 Country of Ref document: HR
EP3110260 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP3110260 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180801 Country of Ref document: EE
EP3110260 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP3110260 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190227 Year of fee payment: 5 Country of Ref document: IE
EP3110260 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20190215 Country of Ref document: DE
EP3110260 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190227 Year of fee payment: 5 Country of Ref document: NO
EP3110260 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20190225 Country of Ref document: CZ
EP3110260 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20190125 Country of Ref document: CH
EP3110260 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL	Year of fee payment: 5 Payment date: 20190227

				OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: GB
EP3110260 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190227 Year of fee payment: 5 Country of Ref document: FI
EP3110260 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190320 Year of fee payment: 5 Country of Ref document: IT
EP3110260 B1	20190503	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R097 Ref document number: 602015014284 Country of Ref document: DE
EP3110260 B1	20190528	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: HU Ref document number: E041412 Ref legal event code: AG4A Country of Ref document: HU
EP3110260 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20180801 Country of Ref document: SK
EP3110260 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP3110260 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20190227 Country of Ref document: TR
EP3110260 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20190313 Country of Ref document: BE
EP3110260 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190226 Year of fee payment: 5 Country of Ref document: HU
EP3110260 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20190227 Country of Ref document: DK
EP3110260 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20190226 Country of Ref document: SI
EP3110260 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190220 Year of fee payment: 5 Country of Ref document: FR
EP3110260 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190308 Year of fee payment: 5 Country of Ref document: SE
EP3110260 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190301 Year of fee payment: 5 Country of Ref document: NL
EP3110260 B1	20190710	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190503
EP3110260 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID	Year of fee payment: 5

				TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190401 Country of Ref document: ES
EP3110260 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180801 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP3110260 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190309 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20200327 Country of Ref document: SE
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200226 Year of fee payment: 6 Country of Ref document: HU
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200219 Year of fee payment: 6 Country of Ref document: AT
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200327 Year of fee payment: 6 Country of Ref document: DE
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20200327 Country of Ref document: DK
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200327 Year of fee payment: 6 Country of Ref document: IE
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200327 Year of fee payment: 6 Country of Ref document: NO
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20200326 Country of Ref document: NL
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200224 Year of fee payment: 6 Country of Ref document: PL
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200323 Year of fee payment: 6 Country of Ref document: IT
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20200327 Country of Ref document: GB
EP3110260 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200327 Year of fee payment: 6 Country of Ref document: FI
EP3110260 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL	Year of fee payment: 6 Payment date: 20200327

				OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: BE
EP3110260 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20200303 Country of Ref document: CZ
EP3110260 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20200219 Country of Ref document: SI
EP3110260 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190309 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP3110260 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181201 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP3110260 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200325 Year of fee payment: 6 Country of Ref document: FR
EP3110260 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200225 Year of fee payment: 6 Country of Ref document: TR
EP3110260 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200401 Year of fee payment: 6 Country of Ref document: ES
EP3110260 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200401 Year of fee payment: 6 Country of Ref document: CH
EP3110260 B1	20350309	PEXP		Calculated Patent Term Expiry	
EP3277271 A1	20180207	LSPB	+	published / reissued	
EP3277271 A1	20180207	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20170928
EP3277271 A1	20180207		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3277271 A1	20180207		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3277271 A1	20180207		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3277271 A1	20180704		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3277271 A1	20180704		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3277271 A1	20190515	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20190415
EP3277271 A1	20190515		B565	ISSUANCE OF SEARCH RESULTS UNDER RULE 164(2) EPC	Effective date: 20190415

EP3277271 A1	20190515		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 31/192 20060101AFI20190410BHEP
EP3277271 A1	20190515		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61K 31/37 20060101ALI20190410BHEP ClassificationScheme: IPC
EP3277271 A1	20190515		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61K 31/352 20060101ALI20190410BHEP ClassificationScheme: IPC
EP3277271 A1	20190515		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61P 31/12 20060101ALI20190410BHEP
ES2693502 T3	20181212	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2693502 T3	20350309	PEXP		Calculated Patent Term Expiry	
HU041412 T2	20190528	LSPB	+	published / reissued	
IN201717033224 A	20171201	LSPB	+	published / reissued	
PL3110260 T3	20190131	LSGT	+	granted / extensions (spc, cpc, pte)	
SI3110260 T1	20200630	LSGT	+	granted / extensions (spc, cpc, pte)	
SI3110260 T1	20350309	PEXP		Calculated Patent Term Expiry	
TR201816010 T4	20181121	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201816010 T4	20350309	PEXP		Calculated Patent Term Expiry	
US10813960 BB	20201027	LSGT	+	granted / extensions (spc, cpc, pte)	
US10813960 BB	20340407	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10821145 BB	20180411	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10821145 BB	20180508	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10821145 BB	20180524		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10821145 BB	20201103	LSGT	+	granted / extensions (spc, cpc, pte)	
US10821145 BB	20210109	PEXP		Calculated Patent Term Expiry (PTA 97 days and a terminal disclaimer has been filed)	
US2002146394 AA	20021010	LSPB	+	published / reissued	
US2002146394 AA	20060927	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2004161440 AA	20040819	LSPB	+	published / reissued	
US2004161440 AA	20050310	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2004161440 AA	20050310		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2004213823 AA	20041028	LSPB	+	published / reissued	

US2004213823 AA	20100127	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2004213823 AA	20100127		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005238655 AA	20051027	LSPB	+	published / reissued	
US2005238655 AA	20071210	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005238655 AA	20071210		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005276815 AA	20051215	LSPB	+	published / reissued	
US2005276815 AA	20071210	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005276815 AA	20071210		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2006171958 AA	20060803	LSPB	+	published / reissued	
US2006171958 AA	20090213	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006171958 AA	20090213		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009047236 AA	20090219	LSPB	+	published / reissued	
US2009047236 AA	20110511	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009047237 AA	20090219	LSPB	+	published / reissued	
US2009047237 AA	20110511	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009130138 AA	20090521	LSPB	+	published / reissued	
US2009130138 AA	20140611	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011008384 AA	20110113	LSPB	+	published / reissued	
US2011008384 AA	20120421	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011008384 AA	20120421		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2011200551 AA	20110818	LSPB	+	published / reissued	
US2011200551 AA	20130717	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012039976 AA	20120216	LSPB	+	published / reissued	
US2012039976 AA	20140528	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012070414 AA	20120322	LSPB	+	published / reissued	
US2012070414 AA	20150803	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012070414 AA	20150803		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2013287829 AA	20131031	LSPB	+	published / reissued	
US2013287829 AA	20160705	LSGT	STCF	INFORMATION ON	Text: PATENTED CASE

				STATUS: PATENT GRANT	
US2014105928 AA	20140108		RFE1	Docketed New Case - Ready for Examination	
US2014105928 AA	20140417	LSPB	+	published / reissued	
US2014105928 AA	20161128		FRM1	Final Rejection Mailed	
US2014105928 AA	20170601		RFE1	Docketed New Case - Ready for Examination	
US2014105928 AA	20170918	LSES	NFA1	Non Final Action Mailed	
US2014105928 AA	20180401	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014105928 AA	20180401		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2014220150 AA	20140807	LSPB	+	published / reissued	
US2014220150 AA	20150817		FRM1	Final Rejection Mailed	
US2014220150 AA	20160506	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014220150 AA	20160506		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2015335689 AA	20151126	LSPB	+	published / reissued	
US2015335689 AA	20161005	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016000754 AA	20160107	LSPB	+	published / reissued	
US2016000754 AA	20161201	LSES	NFA1	Non Final Action Mailed	
US2016000754 AA	20170601		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016000754 AA	20170811		FRM1	Final Rejection Mailed	
US2016000754 AA	20170902		RSP1	Response after Final Action Forwarded to Examiner	
US2016000754 AA	20170921	LSES	ADV1	Advisory Action Mailed	
US2016000754 AA	20171005		RFE1	Docketed New Case - Ready for Examination	
US2016000754 AA	20180314	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017035820 AA	20170127		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017035820 AA	20170209	LSPB	+	published / reissued	
US2017035820 AA	20170502	LSES	NFA1	Non Final Action Mailed	
US2017035820 AA	20170728		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017035820 AA	20171027		FRM1	Final Rejection Mailed	
US2017035820 AA	20171222	LSES	ADV1	Advisory Action Mailed	
US2017035820 AA	20180111		RFE1	Docketed New Case - Ready for Examination	

US2017035820 AA	20180524	LSES	NFA1	Non Final Action Mailed	
US2017035820 AA	20181210		RFE1	Docketed New Case - Ready for Examination	
US2017035820 AA	20190221	LSES	NFA1	Non Final Action Mailed	
US2017035820 AA	20190326		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017035820 AA	20190326		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017035820 AA	20190619		FRM1	Final Rejection Mailed	
US2017035820 AA	20190619		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017035820 AA	20191021		RFE1	Docketed New Case - Ready for Examination	
US2017035820 AA	20191021		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017035820 AA	20200220	LSES	NFA1	Non Final Action Mailed	
US2017035820 AA	20200220		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017035820 AA	20200315		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017035820 AA	20200315		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017035820 AA	20200622		FRM1	Final Rejection Mailed	
US2017035820 AA	20200622		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017035820 AA	20200714	LSAL	ABE1	Appeal Brief (or Supplemental Brief) Entered and Forwarded to Examiner	
US2017035820 AA	20200813	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017035820 AA	20200813		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017035820 AA	20200914	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2017035820 AA	20200914		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2017035820 AA	20201007	LSGT	PAT1	Patented Case	
US2018200224 AA	20180415		RFE1	Docketed New Case - Ready for Examination	

US2018200224 AA	20180415		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018200224 AA	20180719	LSPB	+	published / reissued	
US2018200224 AA	20190401	LSES	NFA1	Non Final Action Mailed	
US2018200224 AA	20190401		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018200224 AA	20190605		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018200224 AA	20190605		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018200224 AA	20190805		FRM1	Final Rejection Mailed	
US2018200224 AA	20190805		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2018200224 AA	20200311	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2018243356 AA	20180524		RFE1	Docketed New Case - Ready for Examination	
US2018243356 AA	20180830	LSPB	+	published / reissued	
US2018243356 AA	20190925	LSES	NFA1	Non Final Action Mailed	
US2018243356 AA	20190925		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018243356 AA	20191022		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018243356 AA	20191022		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018243356 AA	20200121		FRM1	Final Rejection Mailed	
US2018243356 AA	20200121		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2018243356 AA	20200331		RFE1	Docketed New Case - Ready for Examination	
US2018243356 AA	20200331		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018243356 AA	20200812	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018243356 AA	20200812		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018243356 AA	20200914	LSFE	PPR1	Publications --	

				Issue Fee Payment Received	
US2018243356 AA	20200914		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2018243356 AA	20200918	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018243356 AA	20201014	LSGT	PAT1	Patented Case	
US2020376055 AA	20201203	LSPB	+	published / reissued	
US6660290 BA	20020204	LSAS	AS	ASSIGNMENT	Owner: MYCOSYS, LLC, WASHINGTON PartyType: owner Effective date: 20020201 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STAMETS, PAUL;REEL/FRAME:012675/0539
US6660290 BA	20031120	LSGT	PAT1	Patented Case	
US6660290 BA	20031120	LSGT	PAT1	Patented Case	
US6660290 BA	20031120	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6660290 BA	20031209	LSGT	+	granted / extensions (spc, cpc, pte)	
US6660290 BA	20070508	LSRE	CC	CERTIFICATE OF CORRECTION	
US6660290 BA	20070620		REMI	MAINTENANCE FEE REMINDER MAILED	
US6660290 BA	20071005	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6660290 BA	20071005		+SULP	SURCHARGE FOR LATE PAYMENT	
US6660290 BA	20101214	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6660290 BA	20150609	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6660290 BA	20201003	PEXP		Calculated Patent Term Expiry	
US7122176 BB	20020204	LSAS	AS	ASSIGNMENT	Effective date: 20020201 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:STAMETS, PAUL;REEL/FRAME:012675/0539 Owner: MYCOSYS, LLC, WASHINGTON PartyType: owner
US7122176 BB	20060927	LSGT	PAT1	Patented Case	
US7122176 BB	20061017	LSGT	+	granted / extensions (spc, cpc, pte)	
US7122176 BB	20081118	LSRE	CC	CERTIFICATE OF CORRECTION	
US7122176 BB	20100524		REMI	MAINTENANCE FEE REMINDER MAILED	
US7122176 BB	20100623	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7122176 BB	20100623		+SULP	SURCHARGE FOR LATE PAYMENT	
US7122176 BB	20140530		REMI	MAINTENANCE FEE REMINDER MAILED	
US7122176 BB	20140924	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7122176 BB	20140924		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 7
US7122176 BB	20180413	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7122176 BB	20220615	PEXP		Calculated Patent Term Expiry (PTA 620 days)	
US7951388 BB	20110511	LSGT	PAT1	Patented Case	
US7951388 BB	20110531	LSGT	+	granted / extensions (spc, cpc, pte)	
US7951388 BB	20141103	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7951388 BB	20181016	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8

US7951388 BB	20201004	PEXP		Calculated Patent Term Expiry	
US7951389 BB	20110511	LSGT	PAT1	Patented Case	
US7951389 BB	20110531	LSGT	+	granted / extensions (spc, cpc, pte)	
US7951389 BB	20141103	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7951389 BB	20181016	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7951389 BB	20201004	PEXP		Calculated Patent Term Expiry	
US8501207 BB	20130717	LSGT	PAT1	Patented Case	
US8501207 BB	20130806	LSGT	+	granted / extensions (spc, cpc, pte)	
US8501207 BB	20170317		REMI	MAINTENANCE FEE REMINDER MAILED	
US8501207 BB	20170606	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8501207 BB	20170606		+SULP	SURCHARGE FOR LATE PAYMENT	
US8501207 BB	20200914	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8501207 BB	20201004	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8753656 BB	20140528	LSGT	PAT1	Patented Case	
US8753656 BB	20140617	LSGT	+	granted / extensions (spc, cpc, pte)	
US8753656 BB	20180129	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8753656 BB	20180413	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554)
US8753656 BB	20180413	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8753656 BB	20201004	PEXP		Calculated Patent Term Expiry	
US8765138 BB	20140611	LSGT	PAT1	Patented Case	
US8765138 BB	20140701	LSGT	+	granted / extensions (spc, cpc, pte)	
US8765138 BB	20180212	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8765138 BB	20180413	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554)
US8765138 BB	20180413	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8765138 BB	20280401	PEXP		Calculated Patent Term Expiry (PTA 1183 days and a terminal disclaimer has been filed)	
US9399050 BB	20151209		FRM1	Final Rejection Mailed	
US9399050 BB	20160705	LSGT	PAT1	Patented Case	
US9399050 BB	20160726	LSGT	+	granted / extensions (spc, cpc, pte)	
US9399050 BB	20200127	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9399050 BB	20210105	PEXP		Calculated Patent Term Expiry (PTA 93 days and a terminal disclaimer has been filed)	
US9474776 BB	20151022	LSES	NFA1	Non Final Action Mailed	
US9474776 BB	20161005	LSGT	PAT1	Patented Case	
US9474776 BB	20161025	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
US9474776 BB	20200427	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9474776 BB	20201004	PEXP		Calculated Patent Term Expiry	
US9931316 BB	20180314	LSGT	PAT1	Patented Case	
US9931316 BB	20180403	LSGT	+	granted / extensions (spc, cpc, pte)	
US9931316 BB	20350914	PEXP		Calculated Patent Term Expiry	
WO0228189 A2	20020411	LSPB	+	published / reissued	
WO0228189 A2	20020411		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
WO0228189 A2	20020411		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZW
WO0228189 A3	20021023		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0228189 A3	20021219		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0228189 A3	20030501	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2001296679 Country of Ref document: AU
WO0228189 A3	20030814	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0228189 A3	20031203	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO0228189 A3	20050914	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO05067955 A1	20050728	LSPB	+	published / reissued	
WO05067955 A1	20050728		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05067955 A1	20050728		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05067955 A1	20050921		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05067955 A1	20051201		DPEN	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO05067955 A1	20060707	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05067955 A1	20060707	LSWD	-WWW	WIPO	Text: DE

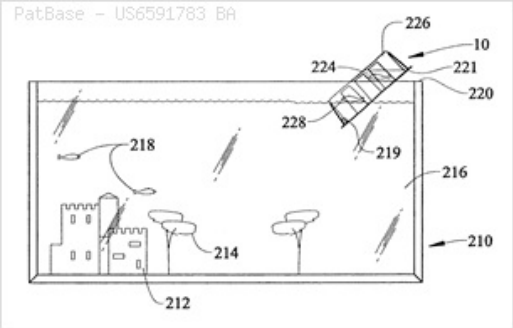
				INFORMATION: WITHDRAWN IN NATIONAL OFFICE	
WO05067955 A1	20070207	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO15138361 A1	20150917	LSPB	+	published / reissued	
WO15138361 A1	20151104		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 15714701 Kind code of Ref document: A1 Country of Ref document: EP
WO15138361 A1	20160204		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO15138361 A1	20160809	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2939143 Country of Ref document: CA
WO15138361 A1	20160912	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO15138361 A1	20160915	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20150309 Ref document number: 2015229670 Kind code of Ref document: A Country of Ref document: AU
WO15138361 A1	20160915		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2015714701 Country of Ref document: EP
WO15138361 A1	20160915	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2015714701 Country of Ref document: EP
WO15138361 A1	20161006	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201691802 Country of Ref document: EA
WO16161138 A1	20161006	LSPB	+	published / reissued	
WO16161138 A1	20161116		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 16717212 Country of Ref document: EP
WO16161138 A1	20161201		DPE2	REQUEST FOR PRELIMINARY EXAMINATION FILED BEFORE EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO16161138 A1	20170918	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2980173 Country of Ref document: CA
WO16161138 A1	20170928		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2016717212 Country of Ref document: EP
WO16161138 A1	20171003	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO16161138 A1	20171012	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2016242929 Kind code of Ref document: A Date of Ref document: 20160331 Country of Ref document: AU

70) Family number: 28827106 (US6591783 BA)

Title: MARINE LIFE PACKAGING AND ACCLIMATIZATION SYSTEM

Abstract: A method and apparatus for packaging live fish in sealed containers. A plastic container is partially filled with **water**, before receipt of fish, with at least some of the air evacuated from the container and replaced with a gas. An air-tight lid is sealed to the container capturing a layer of gas, such as oxygen, in a void over the **water**. The use of a clear or transparent container and lid, allows the container to operate as a miniature aquarium allowing storage of the fish for an extended period of time. The fish are acclimated to a point-of-use aquarium by weighting of the container for placement in the aquarium. The container includes printed marks for puncture holes to allow the **exchange** of **water** between the container and the receiving aquatic environment. The puncture holes permit a predetermined amount of air to escape the container while slowing being displaced by the **water** of the aquatic environment. The container is designed to sink providing an absolute indicator that fluid admixing is complete. The lid of the container can then be removed allowing the fish to enter their new environment, which is now the same as the **water** within the container.

Classifications:
International (IPC 8-9): A01K63/02
International (IPC 1-7): A01K6/302 A01K63/02
CPC: A01K63/02
US: 119/201 119/203



Family:

Publication number	Publication date	Application number	Application date
US6591783 BA	20030715	US20020077268	20020215

Priority:
US20020077268 20020215

Probable Assignee: AQUA MATE SYSTEMS INC
Assignee(s): (std): LAJEUNESSE YVES
Assignee(s): AQUA MATE SYSTEMS INC ; CONRAD DONALD G ; CONRAD STEPHANIA S
Inventor(s): (std): LAJEUNESSE YVES
Inventor(s): YVES LAJEUNESSE
Agent(s): MCHALE AND SLAVIN PA

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US6591783 BA	20030715	LSGT	+	granted / extensions (spc, cpc, pte)	
US6591783 BA	20050603	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20050523 Owner: CONRAD, DONALD G., FLORIDA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LAJEUNESSE, YVES;REEL/FRAME:016641/0714
US6591783 BA	20050603	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LAJEUNESSE, YVES;REEL/FRAME:016641/0714 Effective date: 20050523 PartyType: owner Owner: CONRAD, STEPHANIA S., FLORIDA
US6591783 BA	20070105	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6591783 BA	20081223	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CONRAD, DONALD G.;CONRAD, STEPHANIA S.;REEL/FRAME:022012/0916 Owner: AQUA-MATE SYSTEMS INC., FLORIDA Effective date: 20081031
US6591783 BA	20110112	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6591783 BA	20150220		REMI	MAINTENANCE FEE REMINDER MAILED	
US6591783 BA	20150715	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6591783 BA	20150810	LSLE	PEX1	Patent Expired Due	

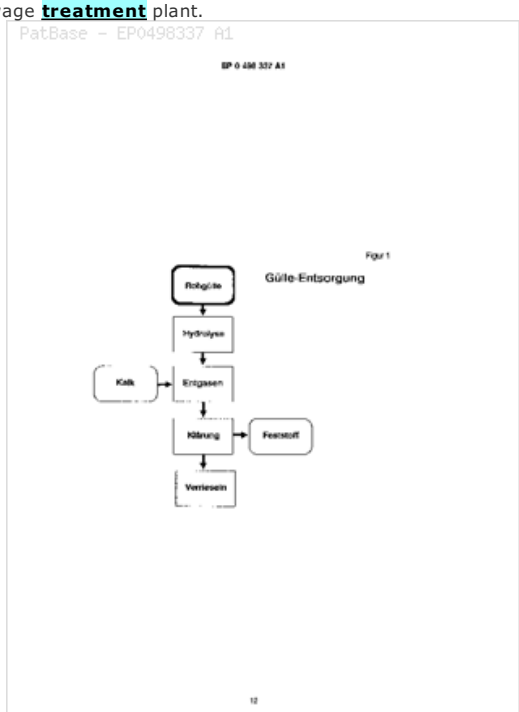
				to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6591783 BA	20150810	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6591783 BA	20150901	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150715
US6591783 BA	20220215	PEXP		Calculated Patent Term Expiry	

71) Family number: 3507658 (EP0498337 A1)

Title: PROCESS FOR LIQUID MANURE DISPOSAL.

Abstract: The process is characterised in that the urea in the liquid manure is enzymatically hydrolysed, a mechanical preclarification, if required, is carried out before or after the hydrolysis, the suspended and colloidally dissolved constituents in the liquid manure are, if required, flocculated and/or precipitated using inorganic or organic electrolytes or polyelectrolytes or mixtures thereof, the flocculated or precipitated colloids and solids from the liquid manure, if required, are separated off by flotation with subsequent mechanical separation of the flotate, the ammonia dissolved in the liquid manure is removed therefrom by degassing, a residual liquid manure being obtained, a further mechanical clarification of the residual liquid manure is carried if required, a neutralisation of the residual liquid manure is carried out if required and the residual liquid manure which is obtained from stage 5, 6 or 7 is applied to a trickling filter or is disposed of separately by aerobic bacteria or is fed to the denitrification stage of a sewage **treatment** plant or is divided by electrodialysis into a concentrate and a diluate, the concentrate being fed to the denitrification stage of a sewage **treatment** plant.

Classifications:
International (IPC 8-9): C02F1/20 C02F1/24 C02F1/461 C02F1/465 C02F1/52 C02F1/54 C02F1/56 C02F1/58 C02F1/66 C02F3/00 C02F3/02 C02F3/28 C02F3/32 C02F3/34 C02F9/00 C05F3/00 C12S3/00
International (IPC 1-7): A01K1/01 A01K23/00 A62D3/00 C02F1/24 C02F1/52 C02F1/54 C02F1/58 C02F11/00 C02F3/00 C02F3/30 C02F3/34 C02F9/00 C05C3/00 C05C9/00 C05F3/00 C12N9/80
CPC: C02F1/20 C02F1/24 C02F1/465 C02F1/5236 C02F1/54 C02F1/56 C02F1/586 C02F1/66 C02F2101/16 C02F2103/20 C02F3/00 C02F3/02 C02F3/286 C02F3/32 C02F3/342 C02F9/00 C05F3/00 Y02A40/20 Y02P20/145 Y02W10/10



Family:

Publication number	Publication date	Application number	Application date
DE4103308 A1	19920806	DE19914103308	19910204
EP0498337 A1	19920812	EP19920101717	19920203

Priority:
DE19914103308 19910204

Probable Assignee:	SCHEUCHL RICHARD
Assignee(s): (std):	HECKMANN KLAUS PROF DR ; SCHEUCHL RICHARD
Assignee(s):	HECKMANN KLAUS PROF DR 8411 PETTENDORF DE
Inventor(s): (std):	HECKMANN KLAUS PROF DR ; KUCHLBAUER ELKE
Inventor(s):	KUCHLBAUER ELKE 8411 LAUB DE
Designated states:	AT BE CH DE DK FR GB LI LU NL

Legal status (INPADOC)

View legal status timeline

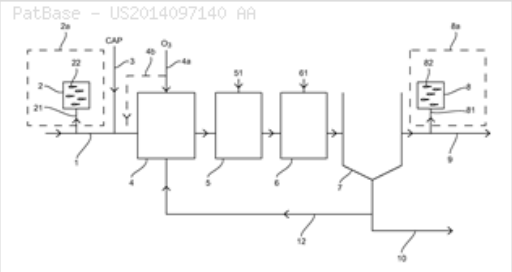
Patent	Date recorded	Event group	Code	Event	Details
DE4103308 A1	19920806	LSPB	+	published / reissued	
DE4103308 A1	19950216	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	
EP0498337 A1	19920812	LSPB	+	published / reissued	
EP0498337 A1	19920812		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK FR GB LI LU NL
EP0498337 A1	19930331	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19930129
EP0498337 A1	19940413	LSWD	-18W	APPLICATION WITHDRAWN	Date Application Withdrawn: 19940221

72) Family number: 56193898 (US2014097140 AA)

Title: METHOD AND PLANT FOR TREATING **WATER** IN ORDER TO REDUCE ITS ENDOCRINE DISRUPTING EFFECT BY MEANS OF A LIVING ORGANISM

Abstract: A method of treating **water** to reduce pollutants comprises mixing an adsorbent reagent with the **water** to form a **water** -adsorbant reagent mixture. Thereafter, subjecting the mixture to a liquid-solids separation process that produces treated **water** and sludge. The method further includes contacting the **water** or treated **water** with a living aquatic organism wherein the value of at least one property of the organism is correlated to the concentration of pollutants in the **water**. This value is evaluated and the method entails adjusting the quantity of adsorbent reagent mixed with the **water** as a function of the value of the property.

Classifications:
International (IPC 8-9): A01H5/00 A01K67/027 C02F1/00 C02F1/28 C02F1/32 C02F1/52 C02F1/72 C02F1/78 C02F101/30 C02F3/00 C02F3/34 C02F9/02 C02F9/14 C12N15/09 C12Q1/02 G01N21/64 G01N33/18
CPC: C02F1/008 C02F1/28 C02F1/283 C02F1/32 C02F1/5245 C02F1/722 C02F1/78 C02F2101/305 C02F2209/001 C02F2209/003 C02F2303/08 C02F2305/10 C02F3/00
US: 1/1 210/202 210/259 210/662



Family:

Publication number	Publication date	Application number	Application date
AU2013237751 AA	20140424	AU20130237751	20131008
AU2013237751 BB	20170323	AU20130237751	20131008
CA2829652 AA	20140409	CA20132829652	20131008
CA2829652 C	20201103	CA20132829652	20131008
DE602013052181 D1	20190404	DE201360052181T	20131007
DK2719667 T3	20190624	DK20130187546T	20131007
EP2719667 A1	20140416	EP20130187546	20131007
EP2719667 B1	20190313	EP20130187546	20131007
ES2730730 T3	20191112	ES20130187546T	20131007
FR2996547 A1	20140411	FR20120059608	20121009
FR2996547 B1	20141226	FR20120059608	20121009
JP2014097487 A2	20140529	JP20130211599	20131009
JP6309237 B2	20180411	JP20130211599	20131009
US2014097140 AA	20140410	US20130049576	20131009
US9249035 BB	20160202	US20130049576	20131009

Priority:
FR20120059608 20121009 EP20130187546 20131007

Probable Assignee: VEOLIA WATER SOLUTIONS AND TECHNOLOGIES SUPPORT
Assignee(s): (std): GAID ABDELKADER ; SAUVIGNET PHILIPPE ; VEOLIA WATER SOLUTIONS AND TECH
Assignee(s): VEOLIA WATER SOLUTIONS AND TECHNOLOGIES SUPPORT
Inventor(s): (std): ABDELKADER GAID ; GAID ABDELKADER ; PHILIPPE SAUVIGNET ; SAUVIGNET PHILIPPE
Agent(s): CABINET PATRICE VIDON; COATS AND BENNETT PLLC; LARCHER DOMINIQUE; LEHMANN NOVO MARIA ISABEL; OYEN WIGGS GREEN AND MUTALA LLP; PATENT ATTORNEY SERVICES; VIDON BREVETS AND STRATEGIE
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2013237751 AA	20140424	LSPB	+	published / reissued	
AU2013237751 BB	20170323	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2013237751 BB	20170720	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2013237751 BB	20190502	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2013237751 BB	20331008	PEXP		Calculated Patent Term Expiry	
CA2829652 AA	20140409	LSPB	+	published / reissued	

CA2829652 AA	20180720	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20180716
CA2829652 C	20201103	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2829652 C	20331008	PEXP		Calculated Patent Term Expiry	
DE602013052181 D1	20180815		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: C02F0001280000 Text: PREVIOUS MAIN CLASS: C02F0001280000
DK2719667 T3	20190624	LSGT	+	granted / extensions (spc, cpc, pte)	
DK2719667 T3	20331007	PEXP		Calculated Patent Term Expiry	
EP2719667 A1	20140416	LSPB	+	published / reissued	
EP2719667 A1	20140416		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2719667 A1	20140416		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2719667 A1	20141126	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20141015
EP2719667 A1	20141126		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2719667 A1	20180606	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20180508
EP2719667 A1	20180919		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 101/30 20060101ALN20180815BHEP
EP2719667 A1	20180919		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 3/00 20060101ALN20180815BHEP ClassificationScheme: IPC
EP2719667 A1	20180919		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/32 20060101ALN20180815BHEP
EP2719667 A1	20180919		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/28 20060101AFI20180815BHEP
EP2719667 A1	20180919		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/72 20060101ALN20180815BHEP
EP2719667 A1	20180919		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C02F 1/78 20060101ALN20180815BHEP
EP2719667 A1	20180919		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: C02F 1/52 20060101ALN20180815BHEP ClassificationScheme: IPC
EP2719667 A1	20181031	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20181008
EP2719667 B1	20190313	LSGT	+	granted / extensions (spc, cpc, pte)	

EP2719667 B1	20190313		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2719667 B1	20190313	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D Text: NOT ENGLISH
EP2719667 B1	20190315	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2719667 B1	20190315	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190315 Kind code of Ref document: T Ref country code: AT Ref document number: 1107450 Ref legal event code: REF Country of Ref document: AT
EP2719667 B1	20190403	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D Text: LANGUAGE OF EP DOCUMENT: FRENCH
EP2719667 B1	20190404	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602013052181 Ref legal event code: R096 Country of Ref document: DE
EP2719667 B1	20190624		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190617 Ref country code: DK Ref legal event code: T3
EP2719667 B1	20190702		REG	REFERENCE TO A NATIONAL CODE	Ref country code: SE Ref legal event code: TRGR
EP2719667 B1	20190717		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190313 Ref country code: NL Ref legal event code: MP
EP2719667 B1	20190725	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2719667 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2719667 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190614 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2719667 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2719667 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2719667 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2719667 B1	20190830	LSLE	-PG25	LAPSED IN A	Lapsed date: 20190313

				CONTRACTING 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 Country of Ref document: RS
EP2719667 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190613 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2719667 B1	20190902	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190313 Ref country code: NO Ref legal event code: T2
EP2719667 B1	20190915	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190313 Kind code of Ref document: T Ref country code: AT Ref document number: 1107450 Ref legal event code: MK05 Country of Ref document: AT
EP2719667 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2719667 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2719667 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2719667 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2719667 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2719667 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190713 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2719667 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL	Payment date: 20190925 Year of fee payment: 7 Country of Ref document: IE

				OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	
EP2719667 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190925 Year of fee payment: 7 Country of Ref document: SE
EP2719667 B1	20191112	LSGT	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20191112 Kind code of Ref document: T3 Ref country code: ES Ref document number: 2730730 Ref legal event code: FG2A Country of Ref document: ES
EP2719667 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2719667 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2719667 B1	20191216	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602013052181 Ref legal event code: R097 Country of Ref document: DE
EP2719667 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2719667 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190713 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2719667 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191022 Year of fee payment: 7 Country of Ref document: NO
EP2719667 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191030 Year of fee payment: 7 Country of Ref document: DE
EP2719667 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191022 Year of fee payment: 7 Country of Ref document: FI

EP2719667 B1	20200219	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20191216
EP2719667 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2719667 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191029 Year of fee payment: 7 Country of Ref document: FR
EP2719667 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191022 Year of fee payment: 7 Country of Ref document: DK
EP2719667 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191030 Year of fee payment: 7 Country of Ref document: IT
EP2719667 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191120 Year of fee payment: 7 Country of Ref document: ES
EP2719667 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2719667 B1	20200331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191030 Year of fee payment: 7 Country of Ref document: CH
EP2719667 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191030 Year of fee payment: 7 Country of Ref document: GB
EP2719667 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190313 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2719667 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	Lapsed date: 20191007 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU

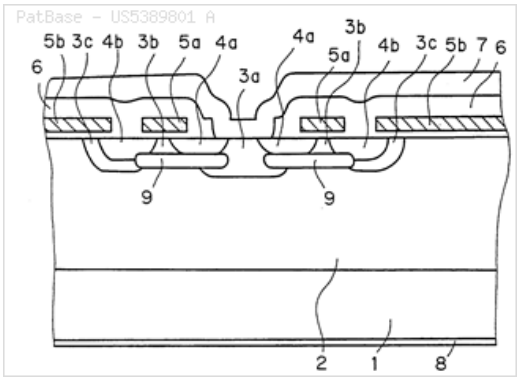
				NATIONAL OFFICE TO EPO]	
EP2719667 B1	20200813	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20191031 Ref country code: BE Ref legal event code: MM
EP2719667 B1	20200831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP2719667 B1	20331007	PEXP		Calculated Patent Term Expiry	
ES2730730 T3	20191112	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2730730 T3	20331007	PEXP		Calculated Patent Term Expiry	
FR2996547 A1	20140411	LSPB	+	published / reissued	
FR2996547 A1	20140411		SC	SEARCH COMPLETED	BOPI Date: 2014-15
FR2996547 B1	20141226	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2996547 B1	20151026	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 4
FR2996547 B1	20161024	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 5
FR2996547 B1	20170927	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 6
FR2996547 B1	20181031	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 7
FR2996547 B1	20191029	LSFE	+PLFP	Fee Payement	Payment date: 20191029 Year of fee payment: 8
FR2996547 B1	20191029	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 8
FR2996547 B1	20201028	LSFE	+PLFP	Fee Payement	Payment date: 20201028 Year of fee payment: 9
FR2996547 B1	20201028	LSFE	+PLFP	FEE PAYMENT	Year of fee payment: 9
FR2996547 B1	20321009	PEXP		Calculated Patent Term Expiry	
JP2014097487 A2	20140529	LSPB	+	published / reissued	
JP2014097487 A2	20160725	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20160725 Text: JAPANESE INTERMEDIATE CODE: A621
JP2014097487 A2	20170414		A977	REPORT ON RETRIEVAL	Effective date: 20170414 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2014097487 A2	20170421	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20170421 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014097487 A2	20170718		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20170718 Text: JAPANESE INTERMEDIATE CODE: A601
JP2014097487 A2	20170921	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170921 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014097487 A2	20180209	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014097487 A2	20180215	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20180215 Text: JAPANESE INTERMEDIATE CODE: A01
JP2014097487 A2	20180322	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT	Effective date: 20180314 Text: JAPANESE INTERMEDIATE CODE: A61

				PROCEDURE)	
JP2014097487 A2	20180323	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Ref document number: 6309237 Text: JAPANESE INTERMEDIATE CODE: R150 Country of Ref document: JP
JP6309237 B2	20180222	LSGT	+A01	特許査定書	
JP6309237 B2	20180320	LSFE	R100	特許料納付書	
JP6309237 B2	20180323	LSGT	+R150	特許証	
JP6309237 B2	20180411	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6309237 B2	20331009	PEXP		Calculated Patent Term Expiry	
US2014097140 AA	20140410	LSPB	+	published / reissued	
US2014097140 AA	20160113	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9249035 BB	20131210	LSAS	AS	ASSIGNMENT	Effective date: 20131104 Owner: VEOLIA WATER SOLUTIONS & TECHNOLOGIES SUPPORT, FRA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GAID, ABDELKADER;SAUVIGNET, PHILIPPE;REEL/FRAME:031748/0323
US9249035 BB	20150923	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9249035 BB	20151222	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US9249035 BB	20160113	LSGT	PAT1	Patented Case	
US9249035 BB	20160202	LSGT	+	granted / extensions (spc, cpc, pte)	
US9249035 BB	20190725	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9249035 BB	20331206	PEXP		Calculated Patent Term Expiry (PTA 58 days)	

73) Family number: 28303825 (US5389801 A)

Title: SEMICONDUCTOR DEVICE HAVING INCREASED CURRENT CAPACITY

Abstract: A general object of the present invention is to make a maximum controllable current large without exerting adverse effect on other characteristics. In a surface of an n- layer 2 formed on a p+ substrate 1, p diffusion regions 3a, 3b and 3c are formed separated by n+ diffusion regions 4a, 4b and an oxidation film 9. Above the p diffusion regions 3b and 3c, gate electrodes 5a and 5b are formed insulated from the surrounding by an oxidation film 6. An Al-Si electrode 7 is in contact with the p diffusion region 3a and the n+ diffusion region 4a while a metal electrode 8 is in contact with the p+ substrate 1. By virtue of interposition of the oxidation film 9, a thyristor consisting of the n+ diffusion region 4a, p diffusion region 3a, n- layer 2 and p+ substrate 1 is prevented from being actuated.



Classifications:

International (IPC 8-9): A61K31/00 A61K31/70 A61K31/7088 A61K35/56 A61K35/64 A61K38/00 A61K38/17 A61K39/00 A61K39/25 A61K39/35 A61K48/00 A61K49/00 A61P17/00 A61P29/00 A61P37/00 A61P37/08 C07H21/02 C07H21/04 C07K C07K14/00 C07K14/435 C07K16/18 C07K4/12 C07K7/00 C12N1/21 C12N15/09 C12N15/12 C12N5/06 C12N5/10 C12N7/00 C12N7/01 C12N9/00 C12N9/24 C12P21/02 C12P21/06 C12Q1/00 C12Q1/68 C12R1/19 C12R1/91 G01N1/00 G01N1/02 G01N1/10 G01N1/14 G01N1/24 G01N33/00 G01N33/15 G01N33/53 G01N33/564 G01N33/566 G01N33/68 H01L21/332 H01L21/336 H01L29/06 H01L29/74 H01L29/749 H01L29/78

International (IPC 1-7): A01K A01K1/03 A01K67/00 A01N25/00 A01N37/18 A61K3/900 A61K31/70 A61K31/7088 A61K35/64 A61K38/00 A61K38/04 A61K38/17 A61K39/00 A61K39/25 A61K39/35 A61K39/39 A61K48/00 A61K49/00 A61P17/00 A61P37/08 C07H19/00 C07H2/100 C07H21/00 C07H21/02 C07H21/04 C07K1/16 C07K14/00 C07K14/435 C07K16/00 C07K16/18 C07K17/00 C07K2/00 C07K4/00 C07K4/12 C07K5/00 C07K7/00 C12N1/14 C12N1/20 C12N1/21 C12N1/500 C12N15/00 C12N15/09 C12N15/11 C12N15/12 C12N15/63 C12N15/70 C12N15/74 C12N5/00 C12N5/02 C12N5/06 C12N5/10 C12N7/00 C12N7/01 C12N9/00 C12N9/24 C12N9/50 C12P21/02 C12P21/06 C12Q1/00 C12Q1/10 C12Q1/68 G01N1/02 G01N1/10 G01N1/24 G01N31/00 G01N33/15 G01N33/48 G01N33/53 G01N33/564 G01N33/566 G01N33/68 H01L21/332 H01L21/336 H01L21/70 H01L23/58 H01L27/01 H01L29/72 H01L29/74 H01L29/743 H01L29/749 H01L29/78 H01L29/784 H01L31/111

CPC: A61K38/00 A61K39/00 A61P17/00 A61P29/00 A61P37/00 A61P37/08 C07K14/43563 C07K14/4359 C07K16/18 G01N1/24 H01L29/0649 H01L29/66378 H01L29/7455 H01L29/749 A61K38/17 C12Q1/6883 C12Q2600/142 C12Q2600/158 Y10S530/855 Y10S530/858 Y10S530/868

US: 119/417 119/417S 119/6.5 119/65 257/139 257/147 257/155 257/212 257/350 257/E21.391 257/E29.02 257/E29.216 424/184.1 424/185.1 424/185.100S 424/191.1 424/265.1 424/275.1 424/9.2 424/9.200P 435/200 435/200S 435/219 435/219S 435/252.3 435/254.11 435/320.1 435/320.100S 435/325 435/348 435/348S 435/6 435/6.1 435/6.100P 435/69.1 435/69.100S 435/6P 435/7.1 435/7.100P 437/149 437/6 437/63 438/138 438/766 514/12 514/14 514/15 514/17 514/18.7 514/18.700P 514/2 514/21.2 514/21.200S 514/21.92 514/4.5 514/919 514/919S 530/300 530/324 530/325 530/325S 530/326 530/326S 530/327 530/327S 530/328 530/328S 530/329 530/329S 530/350 530/350S 530/855 530/858 530/868 536/23.1 536/23.2 536/23.200S 536/23.5 930/210 935/22

Family:

Publication number	Publication date	Application number	Application date
AR008588 AA	20000209	AR1997P101429	19970410
AT265530 E	20040515	AT19950938243T	19951006
AU199538951 A1	19960502	AU19950038951	19951006
AU703794 B2	19990401	AU19950038951	19951006
AU199724531 A1	19971029	AU19970024531	19970410
AU719742 B2	20000518	AU19970024531	19970410
AU199749849 A1	19981030	AU19970049849	19971015
CA2201482 AA	19970401	CA19952201482	19951006
CA2201482 C	20110426	CA19952201482	19951006
CA2250835 AA	19981001	CA19972250835	19970410
CA2250835 C	20130723	CA19972250835	19970410
CL1995001533 A1	19960821	CL19950001533	19951006
DE4244436 A1	19930930	DE19924244436	19921229
DE4244436 C2	20010125	DE19924244436	19921229
DE69532964 D1	20040603	DE19956032964T	19951006
DE69532964 T2	20050525	DE19956032964T	19951006
EP0784682 A1	19970723	EP19950938243	19951006
EP0784682 B1	20040428	EP19950938243	19951006
EP0939642 A1	19990908	EP19970920304	19970410
EP0939642 A4	20030618	EP19970920304	19970410
FR2688631 A1	19930917	FR19920014047	19921123
FR2688631 B1	19941021	FR19920014047	19921123
IL115540 A0	19960119	IL19950115540	19951006
IL115540 A1	20020912	IL19950115540	19951006
IL120620 A0	19970814	IL19970120620	19970407
JP2957795 B2	19991006	JP19920057850	19920316
JP5259183 A2	19931008	JP19920057850	19920316
JP10508467 T2	19980825	JP19960512718T	19951006
JP4005126 B2	20071107	JP19960512718T	19951006
JP2000509972 T2	20000808	JP19970536499T	19970410
JP4694657 B2	20110608	JP19970536499T	19970410
JP2007181463 A2	20070719	JP20070002304	20070110
MX9702529 A1	19981031	MX19970002529	19970407
NZ295573 A	19980924	NZ19950295573	19951006
NZ331212 A	20000327	NZ19950331212	19951006
TW472062 B	20020111	TW19950110549	19951006
US5389801 A	19950214	US19920972290	19921105
US5460981 A	19951024	US19940319520	19941007
US5646115 A	19970708	US19940319590	19941007

US5795862 A	19980818	US19950487001	19950607
US5840695 A	19981124	US19960630822	19960410
US5927230 A	19990727	US19960711905	19960912
US2002169104 AA	20021114	US19970809423	19970501
US6485968 BA	20021126	US19980004730	19980108
US5932470 A	19990803	US19980005069	19980108
US6576238 BA	20030610	US19980981799	19980827
US6368846 BA	20020409	US19990171156	19990304
US2002142352 AA	20021003	US20020071751	20020207
US2003185755 AA	20031002	US20020271344	20021014
US7166693 BB	20070123	US20020271344	20021014
US2007154920 AA	20070705	US20060611011	20061214
US7629446 BB	20091208	US20060611011	20061214
US2008045693 AA	20080221	US20070694771	20070330
WO9611271 A1	19960418	WO1995US13200	19951006
WO9737676 A1	19971016	WO1997US05959	19970410
WO9845408 A2	19981015	WO1997US18669	19971015
WO9845408 A3	19990107	WO1997US18669	19971015
ZA9508469 A	19960513	ZA19950008469	19951006
ZA9703023 A	19971104	ZA19970003023	19970409

Priority:

JP19920057850	19920316	US19920972290	19921105	US19940319590	19941007
US19940319520	19941007	US19950487001	19950607	US19950487608	19950607
WO1995US13200	19951006	JP19960512718	19951006	US19950809423	19951006
US19950487608	19951007	US19960630822	19960410	US19960711905	19960912
WO1997US05959	19970410	US19970809423	19970501	WO1997US18669	19971015
US19980005069	19980108	US19980004730	19980108	US19980981799	19980827
US19990171156	19990304	US20020071751	20020207	US20020271344	20021014
US20060611011	20061214	US20070694771	20070330		

Probable Assignee: HESKA CORP

Assignee(s): (std): FRANK GLENN ; FRANK GLENN R ; HESKA CORP ; HESKA CORP UNA DELAWARE SOC D ; HUNTER SHIRLEY ; HUNTER SHIRLEY WU ; MITSUBISHI DENKI KK ; MITSUBISHI ELECTRIC CORP ; PARAVAX INC ; SIM GEK KEE ; WALLENFELS LYNDA ; WEBER ERIC R

Assignee(s): HESKA A DELAWARE CORP ; HESKA CORP FORT COLLINS ; HESKA UNA SOC DE DELAWARE CORP ; JPMORGAN CHASE BANK NA ; MITSUBISHI DENKI K K TOKIO TOKYO ; MITSUBISHI DENKI K K TOKIO TOKYO JP ; MITSUBISHI DENKI KABUSHIKI KAISHA ; WELLS FARGO BUSINESS CREDIT INC

Inventor(s): (std): FRANK GLENN ; FRANK GLENN R ; FRANK GLENN ROBERT ; FRANK R ; GOURAB MAJUMDAR ; HUNTER SHIRLEY ; HUNTER SHIRLEY W ; HUNTER SHIRLEY WU ; HUNTER WU ; MAJUMDAR GOURAB ; SIM GEK KEE ; SIM GEK YEE ; TERASHIMA TOMOHIDE ; TOMOHIDE TERASHIMA ; WALLENFELS LYNDA ; WEBER ERIC R

Inventor(s): ERIC R WEBER ; GEK KEE SIM ; GLENN FRANK ; GLENN R FRANK ; GLENN ROBERT FRANK ; GOORABU MAJUMUDAARU ; LYNDA WALLENFELS ; MAJUMDAR GOURAB FUKUOKA FUKUOKA JP ; SHIRLEY HUNTER ; SHIRLEY W HUNTER ; SHIRLEY WU HUNTER ; TERAJIMA TOMOHIDE ; TERASHIMA TOMOHIDE FUKUOKA FUKUOKA JP ; WEBER ERIC

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; JOHNSON ERNEST PETER; SANFORD TCOLB AND CO; SHERIDAN ROSS PC; VILLASECA

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AR008588 AA	20000209	LSPB	+	published / reissued	
AT265530 E	20040515	LSGT	+	granted / extensions (spc, cpc, pte)	
AT265530 E	20050115	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	Ref document number: 0784682 Country of Ref document: EP
AT265530 E	20151006	PEXP		Calculated Patent Term Expiry	
AU199538951 A1	19960502	LSPB	+	published / reissued	
AU199724531 A1	19971029	LSPB	+	published / reissued	
AU199749849 A1	19981030	LSPB	+	published / reissued	
AU703794 B2	19990401	LSGT	+	granted / extensions (spc, cpc, pte)	
AU703794 B2	20151006	PEXP		Calculated Patent Term Expiry	
AU719742 B2	20000518	LSGT	+	granted / extensions (spc, cpc, pte)	
AU719742 B2	20000914	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU719742 B2	20170410	PEXP		Calculated Patent Term Expiry	

CA2201482 AA	19970401	LSPB	+	published / reissued	
CA2201482 AA	20020923	LSES	+EEER	EXAMINATION REQUEST	
CA2201482 C	20110426	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2201482 C	20151006	PEXP		Calculated Patent Term Expiry	
CA2201482 C	20151208	LSLE	-MKEX	EXPIRY	Effective date: 20151006
CA2250835 AA	19981001	LSPB	+	published / reissued	
CA2250835 AA	20020321	LSES	+EEER	EXAMINATION REQUEST	
CA2250835 AA	20170612	LSLE	-MKEX	EXPIRY	Effective date: 20170410
CA2250835 C	20130723	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2250835 C	20170410	PEXP		Calculated Patent Term Expiry	
CL1995001533 A1	19960821	LSPB	+	published / reissued	
DE4244436 A1	19930930	LSPB	+	published / reissued	
DE4244436 A1	19930930	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE4244436 A1	19961010		8172	SUPPLEMENTARY DIVISION/PARTITION IN:	Ref document number: 4244923 Country of Ref document: DE
DE4244436 A1	19961010		Q171	DIVIDED OUT TO:	Ref document number: 4244923 Country of Ref document: DE
DE4244436 C2	20010125	LSGT	+	granted / extensions (spc, cpc, pte)	
DE4244436 C2	20010125	LSGT	+D2	GRANT AFTER EXAMINATION	
DE4244436 C2	20010719	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE4244436 C2	20071018	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE4244436 C2	20121229	PEXP		Calculated Patent Term Expiry	
DE69532964 D1	20050630	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69532964 D1	20151006	LSLE	-R071	EXPIRY OF RIGHT	
DE69532964 D1	20151006	LSLE	-R071	EXPIRY OF RIGHT	
DE69532964 T2	20050525	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69532964 T2	20050630	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69532964 T2	20151006	PEXP		Calculated Patent Term Expiry	
EP0784682 A1	19970723	LSPB	+	published / reissued	
EP0784682 A1	19970723	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19970505
EP0784682 A1	19970723		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP0784682 A1	19980506	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: HESKA CORPORATION PartyType: owner
EP0784682 A1	20010425	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20010312
EP0784682 B1	20040428	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0784682 B1	20040428		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
EP0784682 B1	20040428	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20040428 Country of Ref document: IT

EP0784682 B1	20040428	LSLE	-PG25	LAPSED IN A CONTRACTING 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;WARNING: LAPSES OF ITALIAN PATENTS WITH EFFECTIVE DATE BEFORE 2007 MAY HAVE OCCURRED AT ANY TIME BEFORE 2007. THE CORRECT EFFECTIVE DATE MAY BE DIFFERENT FROM THE ONE RECORDED. Lapsed date: 20040428 Country of Ref document: IT
EP0784682 B1	20040428	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP0784682 B1	20040430	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP0784682 B1	20040602	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP0784682 B1	20040603		REF	CORRESPONDS TO:	Date of Ref document: 20040603 Kind code of Ref document: P Ref document number: 69532964 Country of Ref document: DE
EP0784682 B1	20040715		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: NV Representative: BRAUN & PARTNER PATENT-, MARKEN-, RECHTSANWAELTE PartyType: representative Ref country code: CH
EP0784682 B1	20040728	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20040728 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP0784682 B1	20040728	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20040728 Country of Ref document: GR
EP0784682 B1	20040728	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20040728 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP0784682 B1	20040808	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20040808 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP0784682 B1	20041006	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20041006 Country of Ref document: IE
EP0784682 B1	20041006	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20041006 Country of Ref document: LU
EP0784682 B1	20041031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20041031 Country of Ref document: MC
EP0784682 B1	20041231		+ET	FR: TRANSLATION FILED	
EP0784682 B1	20050420	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20050131
EP0784682 B1	20050727	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP0784682 B1	20080102	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20040928 Country of Ref document: PT
EP0784682 B1	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Year of fee payment: 20 Payment date: 20141008 Country of Ref document: FR

				NATIONAL OFFICE TO EPO]	
EP0784682 B1	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141001 Year of fee payment: 20 Country of Ref document: GB
EP0784682 B1	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20140930 Year of fee payment: 20 Country of Ref document: DE
EP0784682 B1	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141014 Year of fee payment: 20 Country of Ref document: CH
EP0784682 B1	20150227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141010 Year of fee payment: 20 Country of Ref document: NL
EP0784682 B1	20150227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20140925 Country of Ref document: AT
EP0784682 B1	20150430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141013 Year of fee payment: 20 Country of Ref document: BE
EP0784682 B1	20151005	PEXP		Calculated Patent Term Expiry	
EP0784682 B1	20151006	PEXP		Calculated Patent Term Expiry	
EP0784682 B1	20151006	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 69532964 Ref country code: DE Ref legal event code: R071 Country of Ref document: DE
EP0784682 B1	20151007	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20151005 Ref country code: NL Ref legal event code: MK
EP0784682 B1	20151015	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP0784682 B1	20151028	LSLE	REG	REFERENCE TO A NATIONAL CODE	Expiry date: 20151005 Ref country code: GB Ref legal event code: PE20
EP0784682 B1	20151115	LSLE	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Ref document number: 265530 Effective date: 20151006 Ref country code: AT Ref legal event code: MK07 Country of Ref document: AT
EP0784682 B1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20151005 NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Country of Ref document: GB
EP0939642 A1	19990908	LSPB	+	published / reissued	
EP0939642 A1	19990908	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19981028
EP0939642 A1	19990908		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP0939642 A4	20030618	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20030506
EP0939642 A4	20061206	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20060612
FR2688631 A1	19930917	LSPB	+	published / reissued	
FR2688631 B1	19941021	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2688631 B1	20070803	LSLE	-ST	NOTIFICATION OF LAPSE	Effective date: 20070731
FR2688631 B1	20121123	PEXP		Calculated Patent Term Expiry	
IL115540 A1	20020912	LSPB	+	published / reissued	
IL115540 A1	20030212	LSGT	+FF	PATENT GRANTED	

IL115540 A1	20030529	LSFE	+KB	PATENT RENEWED	
IL115540 A1	20060115	LSFE	+KB	PATENT RENEWED	
IL115540 A1	20100517	LSFE	+KB	PATENT RENEWED	
IL115540 A1	20131031	LSFE	+KB	PATENT RENEWED	
IL115540 A1	20160531	LSLE	-EXP	PATENT EXPIRED	
JP10508467 T2	19980825	LSPB	+	published / reissued	
JP10508467 T2	20051206	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20051206 Text: JAPANESE INTERMEDIATE CODE: A131
JP10508467 T2	20060330		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20060306 Text: JAPANESE INTERMEDIATE CODE: A601
JP10508467 T2	20060508		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20060508 Text: JAPANESE INTERMEDIATE CODE: A602
JP10508467 T2	20060629	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20060606 Text: JAPANESE INTERMEDIATE CODE: A523
JP10508467 T2	20060912	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20060912 Text: JAPANESE INTERMEDIATE CODE: A02
JP10508467 T2	20070111	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070110 Text: JAPANESE INTERMEDIATE CODE: A523
JP10508467 T2	20070221	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070123 Text: JAPANESE INTERMEDIATE CODE: A523
JP10508467 T2	20070322	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20070322 Text: JAPANESE INTERMEDIATE CODE: A911
JP10508467 T2	20070606	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070605 Text: JAPANESE INTERMEDIATE CODE: A131
JP10508467 T2	20070703	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070702 Text: JAPANESE INTERMEDIATE CODE: A523
JP10508467 T2	20070723	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP10508467 T2	20070801	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20070731 Text: JAPANESE INTERMEDIATE CODE: A01
JP10508467 T2	20070830	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20070823 Text: JAPANESE INTERMEDIATE CODE: A61
JP10508467 T2	20070831	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Text: JAPANESE INTERMEDIATE CODE: R150
JP10508467 T2	20070903	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP2000509972 T2	20000808	LSPB	+	published / reissued	
JP2000509972 T2	20040430	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20040412 Text: JAPANESE INTERMEDIATE CODE: A523
JP2000509972 T2	20040430	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20040412 Text: JAPANESE INTERMEDIATE CODE: A621
JP2000509972 T2	20080422	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080422 Text: JAPANESE INTERMEDIATE CODE: A131
JP2000509972 T2	20080814		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20080722 Text: JAPANESE INTERMEDIATE CODE: A601
JP2000509972 T2	20080901		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20080901 Text: JAPANESE INTERMEDIATE CODE: A602
JP2000509972 T2	20081113	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20081022 Text: JAPANESE INTERMEDIATE CODE: A523
JP2000509972 T2	20091117	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20091117 Text: JAPANESE INTERMEDIATE CODE: A131
JP2000509972 T2	20100311		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20100217 Text: JAPANESE INTERMEDIATE CODE: A601
JP2000509972 T2	20100329		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20100329 Text: JAPANESE INTERMEDIATE CODE: A602

JP2000509972 T2	20100603	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20100517 Text: JAPANESE INTERMEDIATE CODE: A523
JP2000509972 T2	20110114	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2000509972 T2	20110125	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20110125 Text: JAPANESE INTERMEDIATE CODE: A01
JP2000509972 T2	20110127	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2000509972 T2	20110303	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20110224 Text: JAPANESE INTERMEDIATE CODE: A61
JP2000509972 T2	20110304	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP2000509972 T2	20110304	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Text: JAPANESE INTERMEDIATE CODE: R150
JP2007181463 A2	20070719	LSPB	+	published / reissued	
JP2007181463 A2	20100428	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20100427 Text: JAPANESE INTERMEDIATE CODE: A131
JP2007181463 A2	20100728		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20100727 Text: JAPANESE INTERMEDIATE CODE: A601
JP2007181463 A2	20100802		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20100730 Text: JAPANESE INTERMEDIATE CODE: A602
JP2007181463 A2	20101028	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20101027
JP2007181463 A2	20110907	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20110906 Text: JAPANESE INTERMEDIATE CODE: A131
JP2007181463 A2	20111212		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20111209 Text: JAPANESE INTERMEDIATE CODE: A602
JP2007181463 A2	20120307	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20120306 Text: JAPANESE INTERMEDIATE CODE: A523
JP2007181463 A2	20121205	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20121204 Text: JAPANESE INTERMEDIATE CODE: A02
JP2957795 B2	19991006	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2957795 B2	20050723	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP2957795 B2	20120316	PEXP		Calculated Patent Term Expiry	
JP4005126 B2	20070802	LSGT	+A01	特許査定書	
JP4005126 B2	20070828	LSFE	R100	特許料納付書	
JP4005126 B2	20070831	LSGT	+R150	特許証	
JP4005126 B2	20071107	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4005126 B2	20100729	LSFE	R20	特許料納付書	
JP4005126 B2	20100803	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4005126 B2	20100803	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4005126 B2	20110728	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4005126 B2	20110728	LSFE	R20	特許料納付書	
JP4005126 B2	20110802	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP4005126 B2	20110802	LSFE	+R250	年金領収書, 年金領収書	

				(分納)	
JP4005126 B2	20120802	LSFE	R20	特許料納付書	
JP4005126 B2	20120807	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 6
JP4005126 B2	20120807	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4005126 B2	20130801	LSFE	R20	特許料納付書	
JP4005126 B2	20130806	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4005126 B2	20130806	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4005126 B2	20140731	LSFE	R20	特許料納付書	
JP4005126 B2	20140805	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4005126 B2	20140805	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4005126 B2	20150831	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4005126 B2	20151006	PEXP		Calculated Patent Term Expiry	
JP4694657 B2	20110127	LSGT	+A01	特許査定書	
JP4694657 B2	20110301	LSFE	R100	特許料納付書	
JP4694657 B2	20110304	LSGT	+R150	特許証	
JP4694657 B2	20110608	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4694657 B2	20140306	LSFE	R20	特許料納付書	
JP4694657 B2	20140311	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4694657 B2	20140311	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4694657 B2	20150305	LSFE	R20	特許料納付書	
JP4694657 B2	20150310	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4694657 B2	20150310	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4694657 B2	20160303	LSFE	R20	特許料納付書	
JP4694657 B2	20160308	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4694657 B2	20160308	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4694657 B2	20170304	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4694657 B2	20170410	PEXP		Calculated Patent Term Expiry	
JP5259183 A2	19931008	LSPB	+	published / reissued	
MX9702529 A1	19981031	LSPB	+	published / reissued	
MX9702529 A1	20130831	LSWD	-FA	ABANDONMENT OR WITHDRAWAL	
NZ295573 A	19980924	LSPB	+	published / reissued	
NZ295573 A	20021025	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ295573 A	20051028	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ295573 A	20081031	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ295573 A	20151030	LSLE	-EXPY	PATENT EXPIRED	
NZ331212 A	20000327	LSPB	+	published / reissued	
NZ331212 A	20021025	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ331212 A	20051028	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ331212 A	20081031	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ331212 A	20151030	LSLE	-EXPY	PATENT EXPIRED	

TW472062 B	20020111	LSGT	+	granted / extensions (spc, cpc, pte)	
TW472062 B	20020604	LSGT	+GD4A	ISSUE OF PATENT CERTIFICATE FOR GRANTED INVENTION PATENT	
TW472062 B	20151006	PEXP		Calculated Patent Term Expiry	
TW472062 B	20151121	LSLE	-MK4A	EXPIRATION OF PATENT TERM OF AN INVENTION PATENT	
US2002142352 AA	20021003	LSPB	+	published / reissued	
US2002142352 AA	20071218	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2002142352 AA	20071218		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2002169104 AA	19970703	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HUNTER, SHIRLEY W.;WALLENFELS, LYNDA;FRANK, GLENN R.;REEL/FRAME:008828/0050;SIGNING DATES FROM 19970611 TO 19970612 PartyType: owner Owner: HESKA CORPORATION, COLORADO
US2002169104 AA	20021114	LSPB	+	published / reissued	
US2002169104 AA	20030422	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2002169104 AA	20030422		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2003185755 AA	20031002	LSPB	+	published / reissued	
US2007154920 AA	20070705	LSPB	+	published / reissued	
US2007154920 AA	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO PartyType: owner
US2007154920 AA	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO PartyType: owner
US2008045693 AA	20080221	LSPB	+	published / reissued	
US2008045693 AA	20090226	LSAS	AS	ASSIGNMENT	OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 PartyType: owner Effective date: 20030430 Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO
US2008045693 AA	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 PartyType: owner Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO
US2008045693 AA	20090819	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008045693 AA	20090819		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US5389801 A	19930205	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:TERASHIMA, TOMOHIDE;MAJUMDAR, GOURAB;REEL/FRAME:006409/0426;SIGNING DATES FROM 19921014 TO 19921015 Owner: MITSUBISHI DENKI KABUSHIKI KAISHA, JAPAN PartyType: owner
US5389801 A	19950203	LSGT	PAT1	Patented Case	
US5389801 A	19950203	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

US5389801 A	19950214	LSGT	+	granted / extensions (spc, cpc, pte)	
US5389801 A	19980804	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5389801 A	20020718	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5389801 A	20060721	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5389801 A	20121105	PEXP		Calculated Patent Term Expiry	
US5460981 A	19951024	LSGT	+	granted / extensions (spc, cpc, pte)	
US5460981 A	19990415	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5460981 A	20030331	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5460981 A	20070509		REMI	MAINTENANCE FEE REMINDER MAILED	
US5460981 A	20071024	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5460981 A	20071119	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5460981 A	20071119	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5460981 A	20071211	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20071024
US5460981 A	20141007	PEXP		Calculated Patent Term Expiry	
US5646115 A	19941007	LSAS	AS	ASSIGNMENT	Owner: PARAVAX, INC., COLORADO Effective date: 19941007 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FRANK, GLENN R.;HUNTER, SHIRLEY WU;WALLENFELS, LYNDA;REEL/FRAME:007296/0430 PartyType: owner
US5646115 A	19970519	LSAS	AS	ASSIGNMENT	Effective date: 19960123 Owner: HESKA CORPORATION, COLORADO PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:PARAVAX, INC.;REEL/FRAME:008519/0307
US5646115 A	19970626	LSGT	PAT1	Patented Case	
US5646115 A	19970626	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5646115 A	19970708	LSGT	+	granted / extensions (spc, cpc, pte)	
US5646115 A	20001226	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5646115 A	20041126	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5646115 A	20081211	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5646115 A	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 PartyType: owner
US5646115 A	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 PartyType: owner Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO
US5646115 A	20141007	PEXP		Calculated Patent Term Expiry	
US5795862 A	19950925	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: PARAVAX, INC., COLORADO OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FRANK, GLENN R.;HUNTER, SHIRLEY WU;WALLENFELS, LYNDA;REEL/FRAME:007655/0362 Effective date: 19950911
US5795862 A	19970519	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 19960123 OldParty: CHANGE OF NAME;ASSIGNOR:PARAVAX, INC.;REEL/FRAME:008519/0307 Owner: HESKA CORPORATION, COLORADO
US5795862 A	19980813	LSGT	PAT1	Patented Case	
US5795862 A	19980813	LSGT	STCF	INFORMATION ON	Text: PATENTED CASE

				STATUS: PATENT GRANT	
US5795862 A	19980818	LSGT	+	granted / extensions (spc, cpc, pte)	
US5795862 A	20020124	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5795862 A	20060127	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5795862 A	20090226	LSAS	AS	ASSIGNMENT	Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO Effective date: 20030430 PartyType: owner OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170
US5795862 A	20090226	LSAS	AS	ASSIGNMENT	OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Effective date: 20030430 Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO PartyType: owner
US5795862 A	20100129	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5795862 A	20150818	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US5840695 A	19960617	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FRANK, GLENN R.;HUNTER, SHIRLEY WU;WALLENFELS, LYNDA;REEL/FRAME:007975/0054;SIGNING DATES FROM 19960606 TO 19960607 Owner: HESKA CORPORATION, COLORADO PartyType: owner
US5840695 A	19981022	LSGT	PAT1	Patented Case	
US5840695 A	19981022	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5840695 A	19981124	LSGT	+	granted / extensions (spc, cpc, pte)	
US5840695 A	20020516	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5840695 A	20060428	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5840695 A	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO PartyType: owner
US5840695 A	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO PartyType: owner
US5840695 A	20100503	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5840695 A	20160410	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US5927230 A	19990716	LSGT	PAT1	Patented Case	
US5927230 A	19990716	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5927230 A	19990727	LSGT	+	granted / extensions (spc, cpc, pte)	
US5927230 A	20021218	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5927230 A	20070105	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5927230 A	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO PartyType: owner
US5927230 A	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO PartyType: owner
US5927230 A	20110103	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12

US5927230 A	20160912	PEXP		Calculated Patent Term Expiry	
US5932470 A	19990726	LSGT	PAT1	Patented Case	
US5932470 A	19990726	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5932470 A	19990803	LSGT	+	granted / extensions (spc, cpc, pte)	
US5932470 A	20021220	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5932470 A	20070112	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5932470 A	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 PartyType: owner Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO
US5932470 A	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO PartyType: owner
US5932470 A	20110105	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5932470 A	20180108	PEXP		Calculated Patent Term Expiry	
US6368846 BA	20020321	LSGT	PAT1	Patented Case	
US6368846 BA	20020321	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6368846 BA	20020409	LSGT	+	granted / extensions (spc, cpc, pte)	
US6368846 BA	20020730	LSRE	CC	CERTIFICATE OF CORRECTION	
US6368846 BA	20050916	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6368846 BA	20090226	LSAS	AS	ASSIGNMENT	OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Effective date: 20030430 PartyType: owner Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO
US6368846 BA	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO PartyType: owner OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170
US6368846 BA	20090909	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6368846 BA	20130911	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6368846 BA	20190304	PEXP		Calculated Patent Term Expiry	
US6485968 BA	19980410	LSAS	AS	ASSIGNMENT	Effective date: 19980330 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WEBER, ERIC R.;REEL/FRAME:009100/0709 PartyType: owner Owner: HESKA CORPORATION, COLORADO
US6485968 BA	20000228	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HUNTER, SHIRLEY WU;FRANK, GLENN ROBERT;WALLENFELS, LYNDA;REEL/FRAME:010645/0231;SIGNING DATES FROM 20000202 TO 20000204 PartyType: owner Owner: HESKA CORPORATION, COLORADO
US6485968 BA	20021107	LSGT	PAT1	Patented Case	
US6485968 BA	20021107	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6485968 BA	20021126	LSGT	+	granted / extensions (spc, cpc, pte)	
US6485968 BA	20040629	LSRE	CC	CERTIFICATE OF CORRECTION	
US6485968 BA	20060428	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6485968 BA	20090226	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA

					CORPORATION;REEL/FRAME:022354/0170
US6485968 BA	20090226	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO
US6485968 BA	20100503	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6485968 BA	20140430	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6485968 BA	20171024	LSAS	AS	ASSIGNMENT	Effective date: 20170727 OldParty: SECURITY INTEREST;ASSIGNORS:HESKA CORPORATION;DIAMOND ANIMAL HEALTH, INC.;HESKA IMAGING, LLC;REEL/FRAME:044636/0972 Owner: JPMORGAN CHASE BANK, N.A., COLORADO PartyType: owner
US6485968 BA	20180108	PEXP		Calculated Patent Term Expiry	
US6576238 BA	19980827	LSAS	AS	ASSIGNMENT	Effective date: 19980330 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WEBER, ERIC R.;REEL/FRAME:010137/0410 Owner: HESKA CORPORATION, COLORADO PartyType: owner
US6576238 BA	20000223	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HUNTER, SHIRLEY WU;FRANK, GLENN ROBERT;WALLENFELS, LYNDA;REEL/FRAME:010625/0860;SIGNING DATES FROM 20000202 TO 20000204 Owner: HESKA CORPORATION, COLORADO PartyType: owner
US6576238 BA	20000607	LSAS	AS	ASSIGNMENT	Effective date: 19980330 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WEBER, ERIC R.;REEL/FRAME:010907/0831 Owner: HESKA CORPORATION, COLORADO PartyType: owner
US6576238 BA	20030610	LSGT	+	granted / extensions (spc, cpc, pte)	
US6576238 BA	20040629	LSRE	CC	CERTIFICATE OF CORRECTION	
US6576238 BA	20050208	LSRE	CC	CERTIFICATE OF CORRECTION	
US6576238 BA	20061117	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6576238 BA	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO PartyType: owner
US6576238 BA	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO PartyType: owner
US6576238 BA	20101110	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6576238 BA	20150116		REMI	MAINTENANCE FEE REMINDER MAILED	
US6576238 BA	20150610	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6576238 BA	20150706	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6576238 BA	20150706	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6576238 BA	20150728	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150610
US6576238 BA	20180827	PEXP		Calculated Patent Term Expiry	
US7166693 BB	20070103	LSGT	PAT1	Patented Case	
US7166693 BB	20070123	LSGT	+	granted / extensions (spc, cpc, pte)	
US7166693 BB	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA

					CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC., COLORADO PartyType: owner
US7166693 BB	20090226	LSAS	AS	ASSIGNMENT	Effective date: 20030430 OldParty: SECURITY AGREEMENT;ASSIGNOR:HESKA CORPORATION;REEL/FRAME:022354/0170 Owner: WELLS FARGO BUSINESS CREDIT, INC.,COLORADO PartyType: owner
US7166693 BB	20100628	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7166693 BB	20140625	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7166693 BB	20170826	PEXP		Calculated Patent Term Expiry (PTA 690 days)	
US7166693 BB	20171024	LSAS	AS	ASSIGNMENT	Effective date: 20170727 OldParty: SECURITY INTEREST;ASSIGNORS:HESKA CORPORATION;DIAMOND ANIMAL HEALTH, INC.;HESKA IMAGING, LLC;REEL/FRAME:044636/0972 Owner: JPMORGAN CHASE BANK, N.A., COLORADO PartyType: owner
US7166693 BB	20180910	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7166693 BB	20190225	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
US7166693 BB	20190225	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7166693 BB	20190225	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7166693 BB	20190319	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20190123
US7629446 BB	20091118	LSGT	PAT1	Patented Case	
US7629446 BB	20091208	LSGT	+	granted / extensions (spc, cpc, pte)	
US7629446 BB	20130515	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7629446 BB	20141007	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US7629446 BB	20170721		REMI	MAINTENANCE FEE REMINDER MAILED	
US7629446 BB	20180108	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7629446 BB	20180108	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7629446 BB	20180108	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7629446 BB	20180130	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20171208
WO9611271 A1	19960410	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 08630822 Country of Ref document: US
WO9611271 A1	19960418	LSPB	+	published / reissued	
WO9611271 A1	19960418		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA US UZ VN
WO9611271 A1	19960418		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE BF BJ CF CG CH CI CM DE DK ES FR GA GB GN GR IE IT KE LU MC ML MR MW NE NL PT SD SE SN SZ TD TG UG
WO9611271 A1	19960530		COP	CORRECTED VERSION OF PAMPHLET	Text: PAGES 1/15-3/15 AND 7/15,DRAWINGS,REPLACED BY NEW PAGES BEARING THE SAME NUMBER
WO9611271 A1	19960717		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS	

				APPLICATION	
WO9611271 A1	19960926		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9611271 A1	19970401	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2201482 Country of Ref document: CA
WO9611271 A1	19970401	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2201482 Country of Ref document: CA
WO9611271 A1	19970407	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PA/a/1997/002529 Country of Ref document: MX
WO9611271 A1	19970501	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 08809423 Country of Ref document: US
WO9611271 A1	19970505	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1995938243 Country of Ref document: EP
WO9611271 A1	19970505	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 295573 Country of Ref document: NZ
WO9611271 A1	19970723	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1995938243 Country of Ref document: EP
WO9611271 A1	19970814	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO9611271 A1	20040428	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1995938243 Country of Ref document: EP
WO9737676 A1	19971016	LSPB	+	published / reissued	
WO9737676 A1	19971016		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN YU
WO9737676 A1	19971016		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE BF BJ CH DE DK ES FI FR GB GH GR IE IT KE LS LU MC MW NL PT SD SE SZ UG
WO9737676 A1	19980107		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9737676 A1	19980205		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9737676 A1	19981001	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2250835 Country of Ref document: CA
WO9737676 A1	19981001	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2250835 Kind code of Ref document: A Country of Ref document: CA
WO9737676 A1	19981028	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1997920304 Country of Ref document: EP
WO9737676 A1	19990218	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO9737676 A1	19990304	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 09171156 Country of Ref document: US
WO9737676 A1	19990908	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1997920304 Country of Ref document: EP
WO9737676 A1	20060612	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 1997920304 Country of Ref document: EP
WO9845408 A2	19980827	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 08981799 Country of Ref document: US
WO9845408 A2	19981015	LSPB	+	published / reissued	
WO9845408 A2	19981015		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU ID IL IS JP KE KG

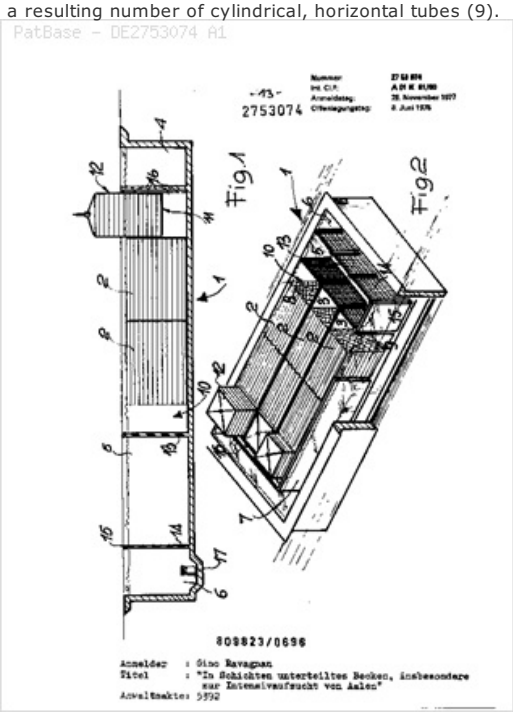
					KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
WO9845408 A2	19981015		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM DE DK ES FI FR GA GB GH GN GR IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SN SZ TD TG TJ TM UG ZW
WO9845408 A3	19990225		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9845408 A3	19990331		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9845408 A3	20000210	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO9845408 A3	20000303	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref document number: 1998542735 Country of Ref document: JP
WO9845408 A3	20000809	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO9845408 A3	20001010	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: CA
ZA9508469 A	19960513	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA9508469 A	20151005	PEXP		Calculated Patent Term Expiry	
ZA9703023 A	19971104	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA9703023 A	20170408	PEXP		Calculated Patent Term Expiry	

74) Family number: 1625640 (DE2753074 A1)

Title: LAYERED BASIN FOR INTENSIVE EEL BREEDING - HAS RECTANGULAR MAIN BASIN INTERNALLY DIVIDED INTO LONG BREEDING **CHAMBERS** WITH CIRCULATING **WATER**

Abstract: The basin is esp. used for the intensive breeding of eels and consists of a basin of parallelepiped form which is internally divided into a number of long breeding **chambers** (2). There is a number of layered divisions, movable devices at one head end for the supply with fish feed and movable devices at the other end for containing and selecting the fish. A cross-running fish collecting **chamber** (5) is connected with the breeding **chamber** and there is equipment for charging and circulating the basin **water**. The breeding **chambers** (2) are bounded by concrete walls (3) while the layered divisions are formed by corrugated plates (8) which are so transposed that there is a resulting number of cylindrical, horizontal tubes (9).

Classifications:
International (IPC 8-9): A01K61/00 A01K61/10 A01K61/80 A01K61/95
International (IPC 1-7): A01K61/00
CPC: A01K61/00 A01K61/10 A01K61/80 A01K61/95 Y02A40/81



Family:

Publication number	Publication date	Application number	Application date
DE2753074 A1	19780608	DE19772753074	19771129
IT1068186 A	19850321	IT19760041696	19761207

Priority:
IT19760041696 19761207

Probable Assignee: RAVAGNAN GINO
Assignee(s): (std): RAVAGNAN GINO
Inventor(s): (std): RAVAGNAN GINO

Legal status (INPADOC)

View legal status timeline

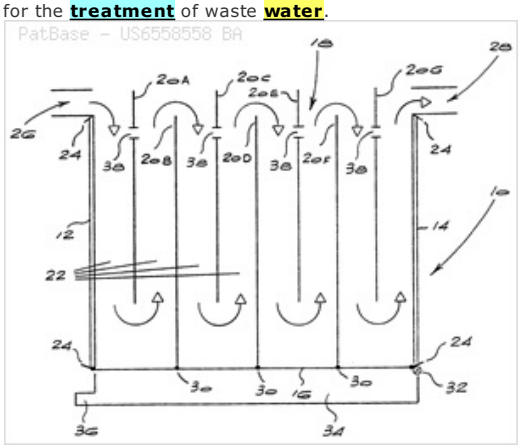
Patent	Date recorded	Event group	Code	Event	Details
DE2753074 A1	19780608	LSPB	+	published / reissued	
DE2753074 A1	19830217	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	
IT1068186 A	19850321	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1068186 A	19961207	PEXP		Calculated Patent Term Expiry	

75) Family number: 11498133 (US6558558 BA)

Title: APPARATUS FOR CIRCULATING A FLUID

Abstract: Apparatus for circulating a fluid, for example a liquid or a gas, from a first end to a second end is disclosed. The apparatus comprises: a tube of a flexible material divided by dividing walls of a flexible material into an array of compartments or cells running the length of the tube, the compartments being arranged in rows and columns so that the tube divided by dividing walls has a honeycomb structure, with a first end of the tube on a base and a second end of the tube above the first end of the tube; first flow means and second flow means a fluid inlet into the first row of compartments; and a fluid outlet from the last row of compartments; so that fluid introduced through the fluid inlet flows either up or down the compartments in the first row, through the first or second flow means between the first and second rows, and then down or up the compartments in the second row, through the second or first flow means between the second and third rows, and so on until the fluid reaches the fluid outlet. The apparatus may be used for the **treatment** of waste **water**.

Classifications:
International (IPC 8-9): A01K A01K61/00 B01D B01D17/00 B01D17/025 B01D21/00 B01D21/28 B01F B01F3/00 B01J B01J19/24 B01J19/32 C02F C02F1/00 C02F3/10
International (IPC 1-7): A01K A01K61/00 B01D B01D17/025 B01D2/100 B01D21/00 B01D21/28 B01F B01F3/00 B01J B01J19/32 C02F C02F1/00 C02F3/10
CPC: B01D17/00 B01D17/0208 B01D17/0211 B01J19/2485 B01J19/32 B01J19/325 B01J2219/00081 B01J2219/32275 B01J2219/32279 B01J2219/32296 B01J2219/32483 B01J2219/3306
US: 210/221.1 210/521 210/802



Family:

Publication number	Publication date	Application number	Application date
AT292999 E	20050415	AT19990936896T	19990806
AU199951865 A1	20000228	AU19990051865	19990806
AU199951865 A5	20000228	AU19990051865	19990806
AU753635 B2	20021024	AU19990051865	19990806
CA2339780 AA	20010206	CA19992339780	19990806
DE69924736 D1	20050519	DE19996024736T	19990806
EP1102617 A1	20010530	EP19990936896	19990806
EP1102617 B1	20050413	EP19990936896	19990806
US6558558 BA	20030506	US20010762421	20010328
WO0007689 A1	20000217	WO1999IB01396	19990806
ZA200100862 A	20020507	ZA20010000862	20010131

Priority:
ZA19980007133 19980807 WO1999IB01396 19990806 ZA20010000862 20010131

Probable Assignee: HALL ALETHEA ROSALIND MELANIE
Assignee(s): (std): ALETHEA ROSALIND MELANIE HALL ; HALL ALETHEA ROSALIND MELANIE
Inventor(s): (std): HALL ALETHEA ROSALIND MELANIE
Inventor(s): ALETHEA ROSALIND MELANIE HALL
Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; LADAS AND PARRY; RIDOUT AND MAYBEE LLP
Designated states: AE AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZA ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT292999 E	20050415	LSGT	+	granted / extensions (spc, cpc, pte)	
AT292999 E	20051015	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT292999 E	20190806	PEXP		Calculated Patent Term Expiry	
AU199951865 A1	20000228	LSPB	+	published / reissued	
AU753635 B2	20021024	LSGT	+	granted / extensions (spc, cpc, pte)	
AU753635 B2	20030220	LSGT	+FGA	LETTERS PATENT SEALED OR	

				GRANTED (STANDARD PATENT)	
AU753635 B2	20190806	PEXP		Calculated Patent Term Expiry	
CA2339780 AA	20010206	LSPB	+	published / reissued	
CA2339780 AA	20040622	LSES	+EEER	EXAMINATION REQUEST	
CA2339780 AA	20070806	LSLE	-FZDE	DEAD	
DE69924736 D1	20060316	LSWD	-8332	NO LEGAL EFFECT FOR DE	
DE69924736 D1	20060316	LSWD	-8332	NO LEGAL EFFECT FOR DE	
EP1102617 A1	20010530	LSPB	+	published / reissued	
EP1102617 A1	20010530	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20010226
EP1102617 A1	20010530		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1102617 A1	20010530		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Text: AL;LT;LV;MK;RO;SI
EP1102617 A1	20020731	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20020614
EP1102617 B1	20050413	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1102617 B1	20050413		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1102617 B1	20050413	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050413 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1102617 B1	20050413	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20050413 Country of Ref document: BE
EP1102617 B1	20050413	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20050413 Country of Ref document: CH
EP1102617 B1	20050413	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20050413 Country of Ref document: FI
EP1102617 B1	20050413	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050413 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP1102617 B1	20050413	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050413 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LI
EP1102617 B1	20050413	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL	Lapsed date: 20050413 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-

				OFFICE TO EPO]	LIMIT Country of Ref document: NL
EP1102617 B1	20050413	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050413 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT;WARNING: LAPSES OF ITALIAN PATENTS WITH EFFECTIVE DATE BEFORE 2007 MAY HAVE OCCURRED AT ANY TIME BEFORE 2007. THE CORRECT EFFECTIVE DATE MAY BE DIFFERENT FROM THE ONE RECORDED. Country of Ref document: IT
EP1102617 B1	20050413	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1102617 B1	20050415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP1102617 B1	20050518	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP1102617 B1	20050519		REF	CORRESPONDS TO:	Ref document number: 69924736 Date of Ref document: 20050519 Kind code of Ref document: P Country of Ref document: DE
EP1102617 B1	20050713	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050713 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1102617 B1	20050713	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20050713 Country of Ref document: GR
EP1102617 B1	20050713	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20050713 Country of Ref document: SE
EP1102617 B1	20050714	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050714 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DE
EP1102617 B1	20050724	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050724 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1102617 B1	20050806	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050806 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1102617 B1	20050806	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050806 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1102617 B1	20050806	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20050806 Country of Ref document: CY
EP1102617 B1	20050808	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL	Lapsed date: 20050808 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE

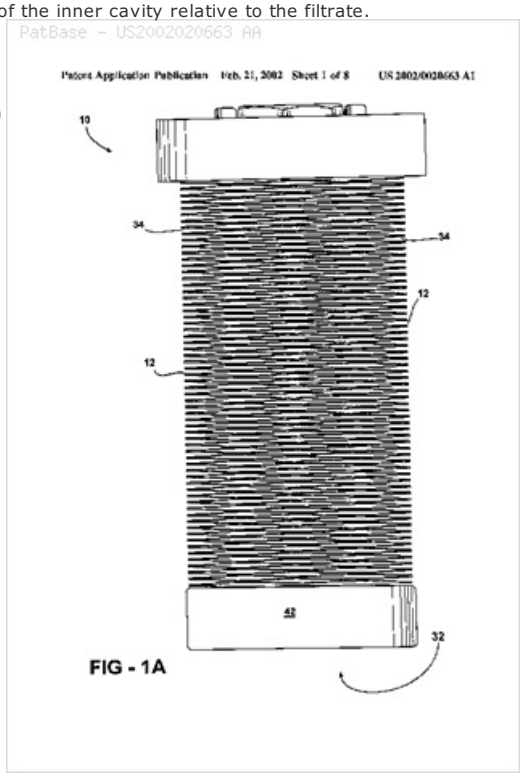
				OFFICE TO EPO]	
EP1102617 B1	20050831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20050831 Country of Ref document: MC
EP1102617 B1	20050913	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20050913 Country of Ref document: PT
EP1102617 B1	20051003	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	Ref country code: EP
EP1102617 B1	20051031	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP1102617 B1	20060405	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20060116
EP1102617 B1	20060426	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20050806 Ref country code: EP
EP1102617 B1	20060517	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP1102617 B1	20060609		-EN	FR: TRANSLATION NOT FILED	
EP1102617 B1	20081031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20050831 Country of Ref document: FR
EP1102617 B1	20081128	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20050413 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1102617 B1	20190806	PEXP		Calculated Patent Term Expiry	
US6558558 BA	20030506	LSGT	+	granted / extensions (spc, cpc, pte)	
US6558558 BA	20061122		REMI	MAINTENANCE FEE REMINDER MAILED	
US6558558 BA	20070506	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6558558 BA	20070607	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6558558 BA	20070607	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6558558 BA	20070703	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20070506
US6558558 BA	20210328	PEXP		Calculated Patent Term Expiry	
WO0007689 A1	20000217	LSPB	+	published / reissued	
WO0007689 A1	20000217		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
WO0007689 A1	20000217		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SL SN SZ TD TG TJ TM UG ZW
WO0007689 A1	20000412		121	EP: THE EPO HAS	

				BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0007689 A1	20000413		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0007689 A1	20010131	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200100862 Country of Ref document: ZA
WO0007689 A1	20010202	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 51865/99 Country of Ref document: AU
WO0007689 A1	20010206	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2339780 Country of Ref document: CA
WO0007689 A1	20010206	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2339780 Country of Ref document: CA
WO0007689 A1	20010219	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1999936896 Country of Ref document: EP
WO0007689 A1	20010328	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 09762421 Country of Ref document: US
WO0007689 A1	20010530	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1999936896 Country of Ref document: EP
WO0007689 A1	20010607	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0007689 A1	20030206	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 51865/99 Country of Ref document: AU
WO0007689 A1	20050413	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1999936896 Country of Ref document: EP
ZA200100862 A	20020507	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA200100862 A	20210130	PEXP		Calculated Patent Term Expiry	

76) Family number: 19842526 (US2002020663 AA)

Title: FILTER ASSEMBLY, FILTER ELEMENT, AND METHOD OF UTILIZING THE SAME

Abstract: A filter assembly and a method of filtering a fluid using the filter assembly are disclosed. The filter assembly includes wave coils arranged axially to define a filter element. The filter element includes bottom and top ends and an inner cavity. The filter assembly also includes a base plate that engages one, or both, ends to support the wave coils. The fluid flows toward the base plate, and the base plate diverts the fluid inside or outside the inner cavity. The wave coils include crests and troughs engaging one another on adjacent wave coils to define filtration apertures. The diverted fluid is filtered through the filtration apertures such that a filtrate of the fluid passes through the inside or outside of the inner cavity, and a retentate of the fluid is retained on the other of the inside or outside of the inner cavity relative to the filtrate.



Classifications:
International (IPC 8-9): A01K63/04 B01D24/00 B01D29/00 B01D29/13 B01D29/15 B01D29/23 B01D29/33 B01D29/44 B01D29/48 B01D29/60 B01D29/62 B01D29/64 B01D29/66 B01D29/68 B01D29/82 B01D29/88 B01D29/90 B01D3/14 B01D33/00 B01D33/06 B01D33/073 B01D33/27 B01D33/35 B01D33/76 B01D33/80 B01D35/30 B01D36/00 B01D37/00 B01D37/02 B01D37/04 B01D53/02 B01D53/06 B01D53/08 B01F15/00 B01F15/02 B01F15/06 B01F7/00 B01J10/00 B01J19/18 B01J8/00 C02F1/00 C02F1/32 C02F1/38 C02F1/40 C10J3/48 G05D7/00 H01M8/06
International (IPC 1-7): B01D2/948 B01D27/00 B01D29/15 B01D29/23 B01D29/48 B01D29/66 B01D29/90 B01D37/02
CPC: A01K63/045 B01D2201/0415 B01D2201/184 B01D29/15 B01D29/48 B01D36/003 B01D37/025 B01D29/23 B01D29/58 B01D29/606 B01D29/668 B01D29/902 B01D29/906 B01D29/908 B01D29/925 B01D29/90 B01D36/00 C02F1/28 C02F1/32 C02F1/325 C02F1/444 C02F1/4691 C02F2101/30 C02F2201/003 C02F2201/3223 C02F2201/3228 C02F2303/16 C02F9/00 B01D2251/404 B01D2251/602 B01D2253/112 B01D2256/16 B01D2256/20 B01D2257/302 B01D2257/404 B01D2257/504 B01D2259/40086 B01D2259/4009 B01D2275/302 B01D46/403 B01D53/08 C10K1/024 Y02C20/40 Y02P20/151 B01J23/75 B01J29/40 B01J35/023 C10G2300/4093 C10G2400/26 B01D3/141 C02F1/001 C02F1/385 C02F1/40 H01M8/0643 Y02E60/50
US: 1/1 204/155 204/156 204/157.15 204/157.22 204/164 210/148 210/167.21 210/167.210P 210/179 210/192 210/209 210/243 210/252 210/276 210/280 210/295 210/298 210/304 210/319 210/321.78 210/321.87 210/351 210/352 210/355 210/359 210/360.1 210/360.100S 210/370 210/373 210/374 210/374S 210/405 210/405S 210/413 210/414 210/415 210/416.1 210/416.100S 210/435 210/493.4 210/493.400P 210/493.5 210/493.500S 210/497.01 210/497.1 210/497.100S 210/512.3 210/650 210/670 210/741 210/748 210/748.01 210/748.1 210/748.13 210/748.130P 210/749 210/762 210/763 210/767 210/768 210/771 210/787 210/791 210/793 366/165.3 366/165.300S 366/293 366/293S 422/109 422/186 422/186.06 422/186.3 422/187 422/22 422/24 422/619 429/416 48/198.3 48/198.7 48/61 48/62.00RP 48/62R 502/12 502/20 502/45 502/46 502/47 502/51 502/514 95/107 95/108 95/108P 96/134 96/134S

Family:

Publication number	Publication date	Application number	Application date
AU200185003 A1	20020225	AU20010085003	20010816
AU2001285003 AA	20020225	AU20010285003	20010816
CA2419926 AA	20030217	CA20012419926	20010816
CA2419926 C	20091110	CA20012419926	20010816
CA2705937 AA	20090528	CA20082705937	20081118
CA2705937 C	20160614	CA20082705937	20081118
US2002020663 AA	20020221	US20010931510	20010816
US6761270 BB	20040713	US20010931510	20010816
US2005023208 AA	20050203	US20040863798	20040608
US7122123 BB	20061017	US20040863798	20040608
US2007023339 AA	20070201	US20060531986	20060914
US2008060985 AA	20080313	US20070942525	20071119
US7513372 BB	20090407	US20070942525	20071119
US2008290018 AA	20081127	US20080186421	20080805
US7674377 BB	20100309	US20080186421	20080805
US2009001027 AA	20090101	US20080208869	20080911
US8329037 BB	20121211	US20080208869	20080911
US2009056542 AA	20090305	US20080270282	20081113
US8147590 BB	20120403	US20080270282	20081113
US2009077893 AA	20090326	US20080327307	20081203
US8262753 BB	20120911	US20080327307	20081203
US2010155324 AA	20100624	US20100718435	20100305
US7993519 BB	20110809	US20100718435	20100305
US2012301800 AA	20121129	US20120536527	20120628
US9131667 BB	20150915	US20120536527	20120628
US2012315193 AA	20121213	US20120568809	20120807
US8636835 BB	20140128	US20120568809	20120807
US2013075320 AA	20130328	US20120677966	20121115
US8632678 BB	20140121	US20120677966	20121115
US2015263367 AA	20150917	US20150722333	20150527
US9269976 BB	20160223	US20150722333	20150527
WO0213941 A1	20020221	WO2001US25731	20010816
WO09067195 A2	20090528	WO2008US12882	20081118
WO09067195 A3	20090903	WO2008US12882	20081118

WO09067195 A4	20091015	WO2008US12882	20081118
WO10065640 A1	20100610	WO2009US66415	20091202

Priority:

US20000225895P 20000817	WO2001US25731 20010816	US20010931510 20010816
US20040863798 20040608	US20060531986 20060914	US20070986667P 20071109
US20070942525 20071119	US20080186421 20080805	US20080208869 20080911
US20080270282 20081113	WO2008US12882 20081118	US20080327307 20081203
US20100718435 20100305	US20110502549P 20110629	US20120536527 20120628
US20120568809 20120807	US20120677966 20121115	US20150722333 20150527

Probable Assignee: CAREW E BAYNE

Assignee(s): (std)**:** CAREW BAYNE ; CAREW E B ; CAREW E BAYNE

Assignee(s): CAREW E ; E BAYNE CAREW

Inventor(s): (std)**:** CAREW BAYNE ; CAREW E B ; CAREW E BAYNE

Inventor(s): CAREW E ; E BAYNE CAREW

Agent(s): DEGRAZIA GERGORY D ET AL; DEGRAZIA GREGORY D ET AL; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; HOWARD AND HOWARD; HOWARD AND HOWARD ATTORNEYS PC; HOWARD AND HOWARD ATTORNEYS PLLC; WARNER NORCROSS AND JUDD LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT 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 YU ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2001285003 AA	20020225	LSPB	+	published / reissued	
AU200185003 A1	20020225	LSPB	+	published / reissued	
CA2419926 AA	20030217	LSPB	+	published / reissued	
CA2419926 AA	20030521	LSES	+EEER	EXAMINATION REQUEST	
CA2419926 C	20091110	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2419926 C	20210816	PEXP		Calculated Patent Term Expiry	
CA2705937 AA	20090528	LSPB	+	published / reissued	
CA2705937 AA	20131203	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20131118
CA2705937 C	20160614	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2705937 C	20281118	PEXP		Calculated Patent Term Expiry	
US2002020663 AA	20020221	LSPB	+	published / reissued	
US2002020663 AA	20040624	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2005023208 AA	20050203	LSPB	+	published / reissued	
US2005023208 AA	20060927	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2007023339 AA	20070201	LSPB	+	published / reissued	
US2007023339 AA	20080227	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007023339 AA	20080227		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2008060985 AA	20080313	LSPB	+	published / reissued	
US2008060985 AA	20090318	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2008290018 AA	20081127	LSPB	+	published / reissued	
US2008290018 AA	20100217	LSGT	STCF	INFORMATION ON STATUS: PATENT	Text: PATENTED CASE

				GRANT	
US2009001027 AA	20090101	LSPB	+	published / reissued	
US2009001027 AA	20121121	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009056542 AA	20090305	LSPB	+	published / reissued	
US2009056542 AA	20120314	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009077893 AA	20090326	LSPB	+	published / reissued	
US2009077893 AA	20120822	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2010155324 AA	20100624	LSPB	+	published / reissued	
US2010155324 AA	20110720	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012301800 AA	20121129	LSPB	+	published / reissued	
US2012301800 AA	20150826	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012315193 AA	20121213	LSPB	+	published / reissued	
US2012315193 AA	20140108	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013075320 AA	20130328	LSPB	+	published / reissued	
US2013075320 AA	20131231	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015263367 AA	20150917	LSPB	+	published / reissued	
US2015263367 AA	20160203	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6761270 BB	20040624	LSGT	PAT1	Patented Case	
US6761270 BB	20040713	LSGT	+	granted / extensions (spc, cpc, pte)	
US6761270 BB	20071214	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6761270 BB	20120105	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6761270 BB	20151229	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6761270 BB	20200908	PEXP		Calculated Patent Term Expiry (PTA 22 days)	
US7122123 BB	20060927	LSGT	PAT1	Patented Case	
US7122123 BB	20061017	LSGT	+	granted / extensions (spc, cpc, pte)	
US7122123 BB	20070116	LSRE	CC	CERTIFICATE OF CORRECTION	
US7122123 BB	20100524		REMI	MAINTENANCE FEE REMINDER MAILED	
US7122123 BB	20101014	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7122123 BB	20101014		+SULP	SURCHARGE FOR LATE PAYMENT	
US7122123 BB	20140326	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7122123 BB	20180313	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7122123 BB	20210816	PEXP		Calculated Patent Term Expiry	
US7513372 BB	20090318	LSGT	PAT1	Patented Case	
US7513372 BB	20090407	LSGT	+	granted / extensions (spc, cpc, pte)	
US7513372 BB	20121004	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7513372 BB	20161006	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8

US7513372 BB	20200930	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7513372 BB	20210816	PEXP		Calculated Patent Term Expiry	
US7674377 BB	20100217	LSGT	PAT1	Patented Case	
US7674377 BB	20100309	LSGT	+	granted / extensions (spc, cpc, pte)	
US7674377 BB	20130905	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7674377 BB	20170829	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7674377 BB	20210816	PEXP		Calculated Patent Term Expiry	
US7993519 BB	20110720	LSGT	PAT1	Patented Case	
US7993519 BB	20110809	LSGT	+	granted / extensions (spc, cpc, pte)	
US7993519 BB	20141231	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7993519 BB	20190125	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7993519 BB	20210816	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8147590 BB	20120314	LSGT	PAT1	Patented Case	
US8147590 BB	20120403	LSGT	+	granted / extensions (spc, cpc, pte)	
US8147590 BB	20150924	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8147590 BB	20190926	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8147590 BB	20230914	PEXP		Calculated Patent Term Expiry (PTA 759 days)	
US8262753 BB	20120822	LSGT	PAT1	Patented Case	
US8262753 BB	20120911	LSGT	+	granted / extensions (spc, cpc, pte)	
US8262753 BB	20160223	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8262753 BB	20200217	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8262753 BB	20240204	PEXP		Calculated Patent Term Expiry (PTA 902 days)	
US8329037 BB	20121121	LSGT	PAT1	Patented Case	
US8329037 BB	20121211	LSGT	+	granted / extensions (spc, cpc, pte)	
US8329037 BB	20160527	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8329037 BB	20200803	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8329037 BB	20240711	PEXP		Calculated Patent Term Expiry (PTA 1060 days)	
US8632678 BB	20131231	LSGT	PAT1	Patented Case	
US8632678 BB	20140121	LSGT	+	granted / extensions (spc, cpc, pte)	
US8632678 BB	20170623	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8632678 BB	20210816	PEXP		Calculated Patent Term Expiry	
US8636835 BB	20140108	LSGT	PAT1	Patented Case	
US8636835 BB	20140128	LSGT	+	granted / extensions (spc, cpc, pte)	
US8636835 BB	20170623	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8636835 BB	20210816	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	

US9131667 BB	20150826	LSGT	PAT1	Patented Case	
US9131667 BB	20150915	LSGT	+	granted / extensions (spc, cpc, pte)	
US9131667 BB	20190125	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9131667 BB	20230529	PEXP		Calculated Patent Term Expiry (PTA 651 days)	
US9269976 BB	20151007	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9269976 BB	20160107	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US9269976 BB	20160203	LSGT	PAT1	Patented Case	
US9269976 BB	20160223	LSGT	+	granted / extensions (spc, cpc, pte)	
US9269976 BB	20190717	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9269976 BB	20210816	PEXP		Calculated Patent Term Expiry	
WO0213941 A1	20020221	LSPB	+	published / reissued	
WO0213941 A1	20020221		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
WO0213941 A1	20020221		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZW
WO0213941 A1	20020417		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0213941 A1	20030217	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2419926 Country of Ref document: CA
WO0213941 A1	20030703	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref legal event code: 8642 Ref country code: DE
WO0213941 A1	20031022	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO0213941 A1	20050607	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO09067195 A2	20090528	LSPB	+	published / reissued	
WO09067195 A2	20090722		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 08851448 Kind code of Ref document: A2 Country of Ref document: EP
WO09067195 A4	20100517	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2705937 Country of Ref document: CA
WO09067195 A4	20100520	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09067195 A4	20110216	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 08851448 Country of Ref document: EP
WO10065640 A1	20100610	LSPB	+	published / reissued	
WO10065640 A1	20100804		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 09831052 Country of Ref document: EP

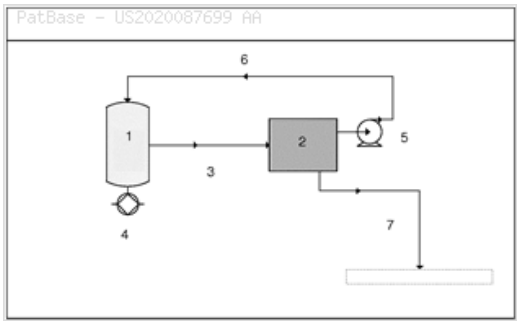
WO10065640 A1	20110603	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10065640 A1	20111228	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 09831052 Country of Ref document: EP

77) Family number: 65321779 (US2020087699 AA)

Title: METHODS FOR PRODUCING ZOOPLANKTON

Abstract: A method of producing zooplankton biomass rich in a target compound, the method comprising the steps of: (a) providing one or more species of microalgae and/or cyanobacteria; (b) optionally stimulating the microalgae and/or cyanobacteria; (c) contacting the microalgae and/or cyanobacteria with one or more species of zooplankton which feed thereon; and (d) collecting a portion of the zooplankton; wherein waste from the zooplankton is fed back to the microalgae and/or cyanobacteria

Classifications:
International (IPC 8-9): A01K61/20 A23K10/18 A23K50/80 A23L33/105 A61K8/9706 C12N1/12 C12P23/00
CPC: A01K61/20 A23K10/18 A23K50/80 A23L33/105 A61K8/9706 C12N1/12 C12P23/00



Family:

Publication number	Publication date	Application number	Application date
EP3554259 A1	20191023	EP20170826458	20171212
GB201621386 A0	20170201	GB20160021386	20161215
US2020087699 AA	20200319	US20170469959	20171212
WO18108951 A1	20180621	WO2017EP82490	20171212

Priority:
GB20160021386 20161215 WO2017EP82490 20171212

Probable Assignee: WATERFORD INST OF TECH
Assignee(s): (std): WATERFORD INST OF TECH
Assignee(s): WATERFORD INST OF TECHNOLOGY
Inventor(s): (std): HERENA GARCIA RAFAEL ; NOLAN JOHN ; PRADO CABRERO ALFONSO
Agent(s): APPLEYARD 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)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
EP3554259 A1	20191023	LSPB	+	published / reissued	
EP3554259 A1	20191023	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20190603
EP3554259 A1	20191023		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3554259 A1	20191023		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD TN
EP3554259 A1	20191023		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3554259 A1	20200325		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3554259 A1	20200325		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
GB201621386 A0	20180926	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
US2020087699 AA	20191223		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020087699 AA	20200319	LSPB	+	published / reissued	

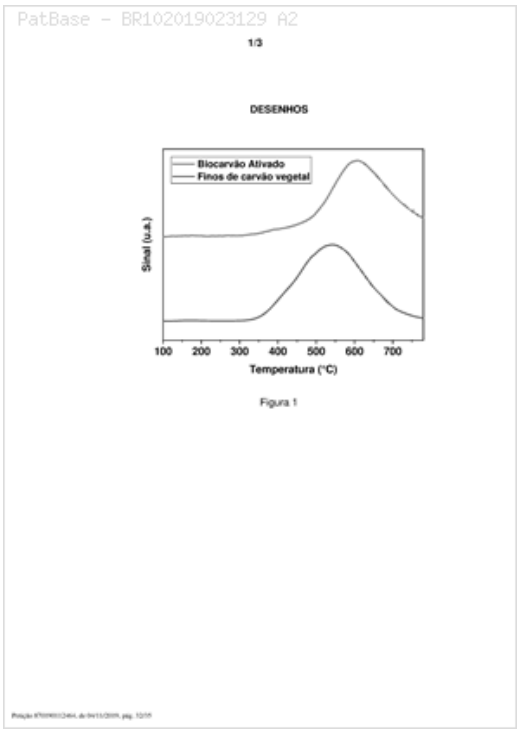
WO18108951 A1	20180621	LSPB	+	published / reissued	
WO18108951 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 17826458 Country of Ref document: EP
WO18108951 A1	20190618	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18108951 A1	20190719	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20190715 Ref document number: 2017826458 Country of Ref document: EP

78) Family number: 78643494 (BR102019023129 A2)

Title: Carbonaceous materials as ADSORBENTS OF AMMONIA IN AVIAN BARNS AND LATER PROCESS OF OBTAINING OF NITROGEN ENRICHED CHAR (Machine translation)

Abstract: Source: BR102019023129 A2 **Machine translation:** Summary CARBONACEOUS MATERIALS AS AMMONIA IN AVIAN BARNS AND LATER PROCESS OF OBTAINING OF NITROGEN ENRICHED CHAR the present invention pertains to the field of chemistry, more precisely the development of new materials and consists of carbonaceous materials (activated charcoal fines and char of charcoal fines) that initially are employed as a complement to chicken bedding in avian barns facilities, in order to reduce emissions of gaseous ammonia (password). Subsequently, the mixture chicken bedding and carbonaceous material saturated with ammonia, and subjected to a carbonizing process and thus converted into nitrogen enriched char that can be applied as a soil conditioner.The 870190112464 repeat 04/11/2019, pp. 35/35

Classifications:
International (IPC 8-9): A01K1/015 B01D53/58 B01J20/20
CPC: A01K1/015 B01D53/58 B01J20/20



Family:

Publication number	Publication date	Application number	Application date
BR102019023129 A2	20200428	BR20191023129	20191104

Priority:

BR20191023129 20191104

Probable Assignee: UNIV ESTADUAL DE MARINGA
Assignee(s): (std): UNIV ESTADUAL DE MARINGA
Assignee(s): UNIVERSIDADE ESTADUAL DE MARINGA
Inventor(s): (std): AMANDA RONIX ; VITOR DE CINQUE ALMEIDA

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BR102019023129 A2	20200428	LSPB	+	published / reissued	
BR102019023129 A2	20200428	LSPB	B03B	PUBLICATION OF AN APPLICATION: ANTICIPATED PUBLICATION	

79) Family number: 11103124 (US5906978 A)

Title: METHOD FOR IRON DELIVERY TO A PATIENT BY TRANSFER FROM DIALYSATE

Abstract: The invention relates to methods and compositions for delivering iron to an iron-deficient patient, more particularly, to methods whereby an iron complex comprising divalent or trivalent ionic iron complexed with one or more low molecular weight anions is administered to a patient by transfer from dialysate. A complex selected according to the invention is non-polymeric; soluble in an aqueous medium; **chemically** stable, thereby preventing the dissociation of iron ions from the anions under conditions according to the invention; and can be well absorbed into blood and the living body. Also provided are dialysate compositions including therein an iron complex selected according to the invention, and dialysate concentrates which may be diluted to yield an inventive dialysate composition.

Classifications:
International (IPC 8-9): A61K31/295 A61K33/26 A61M1/16 A61M1/36 B01D61/00
International (IPC 1-7): A01K33/26 A61K31/295 A61K31/70 A61K33/00 A61K33/26 A61M1/16 A61M1/28 A61M1/36 B01D61/00 B01D61/24 B01D61/26
CPC: A61K33/26 A61M1/1654 A61M1/287 Y10S514/814
US: 210/646 210/647 424/646 424/647 424/648 424/663 424/677 424/678 424/679 424/680 424/681 424/682 424/686 424/687 424/692 424/693 424/696 424/697 424/717 424/722 514/184 514/23 514/460 514/502 514/557 514/814 604/29 604/5.04 604/504

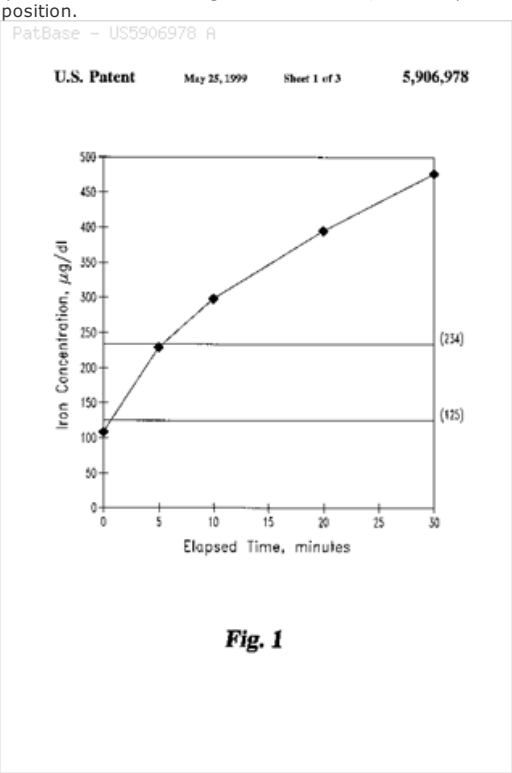


Fig. 1

Family:

Publication number	Publication date	Application number	Application date
AU199739787 A1	19980306	AU19970039787	19970813
CA2263379 AA	19990212	CA19972263379	19970813
CA2263379 C	20061128	CA19972263379	19970813
EP0944429 A1	19990929	EP19970937224	19970813
EP0944429 A4	20001129	EP19970937224	19970813
US5906978 A	19990525	US19970869331	19970605
US5906978 C1	20100223	US19970869331	19970605
US6841172 BA	20050111	US19980143143	19980828
US6841172 C1	20100316	US19980143143	19980828
US2005148663 AA	20050707	US20040958630	20041005
WO9806482 A1	19980219	WO1997US14232	19970813

Priority:
US19960023926P 19960814 US19970869331 19970605 WO1997US14232 19970813
US19980143143 19980828 US20040958630 20041005

Probable Assignee: HEMOCLEANSE INC

Assignee(s): (std): ASH STEPHEN R ; HEMOCLEANSE INC ; MAKOFF R AND D LAB INC

Assignee(s): ASH ACCESS TECHNOLOGY INC ; ASH MEDICAL SYSTEMS INC ; MAKOFF R AND D LABORATORIES INC

Inventor(s): (std): ASH STEPHEN R

Inventor(s): ASH STEPHEN ; STEPHEN R ASH

Agent(s): SMART AND BIGGAR; WOODARD EMHARDT MORIARTY MCNETT AND HENRY LLP

Designated states: AL AM AT AU AZ BA BB BE BG BR BY CA CH CN CU CZ DE DK EE ES FI FR GB GE GH GR HU IE IL IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK MN MW MX NL NO NZ PL PT RO RU SD SE SG SI SK SL SZ TJ TM TR TT UA UG US UZ VN YU ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU199739787 A1	19980306	LSPB	+	published / reissued	
CA2263379 AA	19990212	LSPB	+	published / reissued	

CA2263379 AA	20020813	LSES	+EEER	EXAMINATION REQUEST	
CA2263379 C	20061128	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2263379 C	20110815	LSLE	-MKLA	LAPSED	
CA2263379 C	20170813	PEXP		Calculated Patent Term Expiry	
EP0944429 A1	19990929	LSPB	+	published / reissued	
EP0944429 A1	19990929	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19990312
EP0944429 A1	19990929		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: DE ES FR GB IT NL PT
EP0944429 A4	20001129	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20001017
EP0944429 A4	20001129		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A4 Country of Ref document: DE ES FR GB IT NL PT
EP0944429 A4	20001129		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	Text: 7B 01D 61/00 A, 7B 01D 61/24 B, 7B 01D 61/26 B, 7A 61M 1/28 B, 7A 61M 1/16 B, 7A 61K 31/295 B
EP0944429 A4	20030709	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20030522
EP0944429 A4	20040526	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: HEMOCLEANSE, INC. PartyType: owner
EP0944429 A4	20060315	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20050906
US2005148663 AA	20050707	LSPB	+	published / reissued	
US2005148663 AA	20100426	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005148663 AA	20100426		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US5906978 A	19971110	LSAS	AS	ASSIGNMENT	Effective date: 19970626 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ASH, STEPHEN R.;REEL/FRAME:008817/0661 Owner: HEMOCLEANSE, INC., INDIANA PartyType: owner
US5906978 A	19980928	LSAS	AS	ASSIGNMENT	Effective date: 19980814 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HEMOCLEANSE, INC.;REEL/FRAME:009487/0959 Owner: MAKOFF R&D LABORATORIES, INC., CALIFORNIA PartyType: owner
US5906978 A	19990525	LSGT	+	granted / extensions (spc, cpc, pte)	
US5906978 A	20020624	LSAS	AS	ASSIGNMENT	Effective date: 20010813 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MAKOFF R & D LABORATORIES, INC.;REEL/FRAME:013019/0207 Owner: ASH MEDICAL SYSTEMS, INC., INDIANA PartyType: owner
US5906978 A	20021125	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5906978 A	20021211		REMI	MAINTENANCE FEE REMINDER MAILED	
US5906978 A	20040217	LSAS	AS	ASSIGNMENT	Effective date: 20030407 OldParty: CHANGE OF NAME;ASSIGNOR:ASH MEDICAL SYSTEMS, INC.;REEL/FRAME:014972/0612 Owner: ASH ACCESS TECHNOLOGY, INC., INDIANA PartyType: owner
US5906978 A	20040907	LSAS	AS	ASSIGNMENT	Effective date: 20040112

					OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ASH ACCESS TECHNOLOGY, INC.;REEL/FRAME:015766/0131 Owner: HEMOCLEANSE, INC., INDIANA PartyType: owner
US5906978 A	20041124	LSAS	AS	ASSIGNMENT	Effective date: 20040112 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNOR NAME. PREVIOUSLY RECORDED ON REEL 015332 FRAME 0433;ASSIGNOR:ASH ACCESS TECHNOLOGY, INC.;REEL/FRAME:015409/0124 Owner: HEMOCLEANSE, INC., INDIANA PartyType: owner
US5906978 A	20061121	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5906978 A	20080729	LSRX	+RR	REQUEST FOR REEXAMINATION FILED	Effective date: 20080530
US5906978 A	20100223	LSRX	+B1	REEXAMINATION CERTIFICATE FIRST REEXAMINATION	Text: CLAIMS 1, 3, 5-9, 11, 12, 14 AND 17-20 ARE CANCELLED. CLAIMS 2, 4, 10, 13 AND 15-16 WERE NOT REEXAMINED.
US5906978 A	20101227		REMI	MAINTENANCE FEE REMINDER MAILED	
US5906978 A	20110525	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5906978 A	20110620	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5906978 A	20110620	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5906978 A	20110712	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20110525
US5906978 A	20170605	PEXP		Calculated Patent Term Expiry	
US6841172 BA	20020614	LSAS	AS	ASSIGNMENT	Effective date: 19980814 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HEMOCLEANSE, INC.;REEL/FRAME:012987/0619 Owner: MAKOFF R & D LABORATORIES, INC., CALIFORNIA PartyType: owner
US6841172 BA	20020624	LSAS	AS	ASSIGNMENT	Effective date: 20010813 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MAKOFF R & D LABORATORIES, INC.;REEL/FRAME:013019/0207 Owner: ASH MEDICAL SYSTEMS, INC., INDIANA PartyType: owner
US6841172 BA	20040217	LSAS	AS	ASSIGNMENT	Effective date: 20030407 OldParty: CHANGE OF NAME;ASSIGNOR:ASH MEDICAL SYSTEMS, INC.;REEL/FRAME:014972/0612 Owner: ASH ACCESS TECHNOLOGY, INC., INDIANA PartyType: owner
US6841172 BA	20040907	LSAS	AS	ASSIGNMENT	Effective date: 20040112 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ASH ACCESS TECHNOLOGY, INC.;REEL/FRAME:015766/0131 Owner: HEMOCLEANSE, INC., INDIANA PartyType: owner
US6841172 BA	20041103	LSAS	AS	ASSIGNMENT	Effective date: 20040112 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ASH ACCES TECHNOLOGY INC.;REEL/FRAME:015332/0433 Owner: HEMOCLEANSE, INC., INDIANA PartyType: owner
US6841172 BA	20041124	LSAS	AS	ASSIGNMENT	Effective date: 20040112 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNOR NAME. PREVIOUSLY RECORDED ON REEL 015332 FRAME 0433;ASSIGNOR:ASH ACCESS TECHNOLOGY,

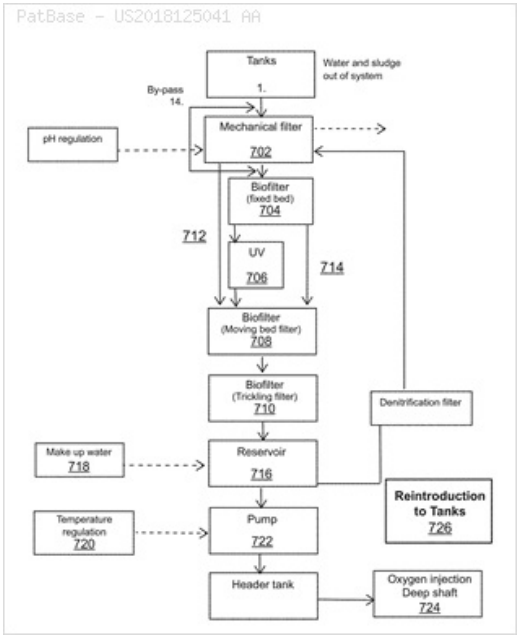
					INC.;REEL/FRAME:015409/0124 Owner: HEMOCLEANSE, INC., INDIANA PartyType: owner
US6841172 BA	20050111	LSGT	+	granted / extensions (spc, cpc, pte)	
US6841172 BA	20080701	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6841172 BA	20080729	LSRX	+RR	REQUEST FOR REEXAMINATION FILED	Effective date: 20080530
US6841172 BA	20100316	LSRX	+B1	REEXAMINATION CERTIFICATE FIRST REEXAMINATION	Text: CLAIMS 1-4, 6, 8-9, 11-13 AND 15-17 ARE CANCELLED. CLAIMS 5, 7, 10, 14 AND 18 WERE NOT REEXAMINED.
US6841172 BA	20120827		REMI	MAINTENANCE FEE REMINDER MAILED	
US6841172 BA	20130111	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6841172 BA	20130211	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6841172 BA	20130211	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6841172 BA	20130305	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20130111
US6841172 BA	20170605	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO9806482 A1	19980219	LSPB	+	published / reissued	
WO9806482 A1	19980219		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
WO9806482 A1	19980219		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FI FR GB GH GR IE IT KE LS LU MC MW NL SD SZ UG ZW
WO9806482 A1	19980624		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9806482 A1	19990212	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2263379 Country of Ref document: CA
WO9806482 A1	19990212	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2263379 Country of Ref document: CA
WO9806482 A1	19990311	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1997937224 Country of Ref document: EP
WO9806482 A1	19990604	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref document number: 1998509986 Country of Ref document: JP
WO9806482 A1	19990617	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO9806482 A1	19990929	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1997937224 Country of Ref document: EP
WO9806482 A1	20050906	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 1997937224 Country of Ref document: EP

80) Family number: 69658052 (US2018125041 AA)

Title: SYSTEMS AND METHODS OF INTENSIVE RECIRCULATING AQUACULTURE

Abstract: Systems and methods for intensive recirculating aquaculture are provided herein. An example system includes **water** sourced from a first segment of a saline aquifer, a recirculating aquaculture system receiving the sourced **water** and producing discharge **water**, and a **water** discharge point located within second segment of the saline aquifer disposed below the first segment of the saline aquifer.

Classifications:
International (IPC 8-9): A01K63/00 A01K63/04 B01D21/01 B01D21/24 C02F1/00 C02F1/32 C02F1/66 C02F1/78 C02F101/10 C02F101/16 C02F103/20 C02F11/14 C02F3/04 C02F3/08 C02F3/30 C02F9/00
CPC: A01K63/006 A01K63/04 A01K63/042 A01K63/045 A01K63/047 B01D21/01 B01D21/2455 C02F1/001 C02F1/32 C02F1/325 C02F1/66 C02F11/123 C02F11/14 C02F2101/105 C02F2101/16 C02F2103/20 C02F2209/005 C02F2209/02 C02F2209/03 C02F2209/05 C02F2209/06 C02F2209/22 C02F2209/42 C02F2301/046 C02F2303/04 C02F2303/16 C02F3/04 C02F3/085 C02F3/305 C02F9/00 Y02W10/10
US: 1/1 119/227



Family:

Publication number	Publication date	Application number	Application date
US10694722 BA	20200630	US20160157296	20160517
US10034461 BB	20180731	US20180867100	20180110
US2018125041 AA	20180510	US20180867100	20180110

Priority:
US20150165144P 20150521 US20160157296 20160517 US20180867100 20180110

Probable Assignee: ATLANTIC SAPPHIRE IP LLC
Assignee(s): (std): ATLANTIC SAPPHIRE IP L L C
Assignee(s): ATLANTIC SAPPHIRE ASA ; DNB BANK ASA NEW YORK BRANCH
Inventor(s): (std): ANDREASSEN JOHAN E ; HOLM THUE
Agent(s): CARR AND FERRELL LLP; MALLOY AND MALLOY PL

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US10034461 BB	20180323	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:HOLM, THUE;ANDREASSEN, JOHAN E.;SIGNING DATES FROM 20151001 TO 20151005;REEL/FRAME:045689/0238 Owner: ATLANTIC SAPPHIRE IP, L.L.C., FLORIDA PartyType: owner
US10034461 BB	20180711	LSGT	PAT1	Patented Case	
US10034461 BB	20180731	LSGT	+	granted / extensions (spc, cpc, pte)	
US10034461 BB	20190219	LSAS	AS	ASSIGNMENT	Owner: DNB BANK ASA, NEW YORK BRANCH, NEW YORK Effective date: 20190219 OldParty: SECURITY INTEREST;ASSIGNORS:ATLANTIC SAPPHIRE IP, LLC;ATLANTIC SAPPHIRE AS;REEL/FRAME:048367/0338 PartyType: owner
US10034461 BB	20200421	LSAS	AS	ASSIGNMENT	OldParty: SECURITY INTEREST;ASSIGNORS:ATLANTIC SAPPHIRE IP, LLC;ATLANTIC SAPPHIRE AS;REEL/FRAME:052454/0568 PartyType: owner Effective date: 20200421 Owner: DNB BANK ASA, NEW YORK

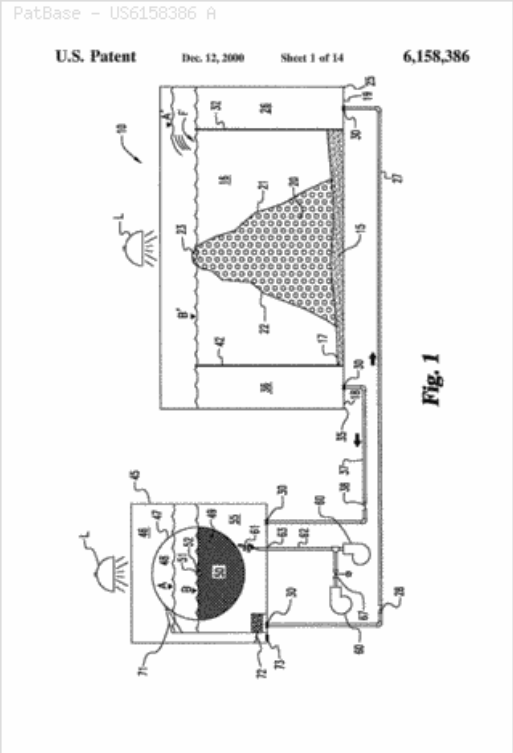
					BRANCH, NEW YORK
US10034461 BB	20200513	LSAS	AS	ASSIGNMENT	Effective date: 20200508 OldParty: CHANGE OF NAME;ASSIGNOR:ATLANTIC SAPPHIRE AS;REEL/FRAME:052645/0907 Owner: ATLANTIC SAPPHIRE ASA, NORWAY PartyType: owner
US10034461 BB	20360517	PEXP		Calculated Patent Term Expiry	
US10694722 BA	20200610	LSGT	PAT1	Patented Case	
US10694722 BA	20200630	LSGT	+	granted / extensions (spc, cpc, pte)	
US10694722 BA	20370325	PEXP		Calculated Patent Term Expiry (PTA 312 days)	
US2018125041 AA	20180510	LSPB	+	published / reissued	
US2018125041 AA	20180620	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018125041 AA	20180623	LSFE	AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2018125041 AA	20180626	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018125041 AA	20180711	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

81) Family number: 14929277 (US6158386 A)

Title: Fluid **treatment** systems

Abstract: A fluid surge assembly for treating aquarium **water** and other fluids includes a **treatment** unit for receiving fluid, treating the fluid and depositing the fluid along a flow path to a body of fluid and a weir assembly disposed in the flow path between the **treatment** unit and the body of fluid. The weir assembly includes a lower weir blocking a portion of the flow path and an upper weir. The lower edge of the upper weir is offset from the crest of the lower weir to define a first fountain path. The crest of the upper weir defines a portion of a second fountain path. The second fountain path intersects the first fountain path to increase the velocity and distance traveled of the fluid. The invention also includes aquarium systems employing the fluid surge assembly. In some embodiments, the aquarium systems provide an opaque decorative member to block the **treatment** unit from view. In some embodiments, the decorative member is live rock. In preferred embodiments, a top portion of the decorative member is disposed below the first and second fountain paths to create the image that waves are crashing over rocks. In a particular embodiment, the aquarium tanks are constructed to surround the **treatment** unit and hide it from view from all sides of the tank.

Classifications:
International (IPC 8-9): A01K63/04
International (IPC 1-7): A01K63/00
CPC: A01K63/04
US: 119/245 119/248 119/264



Family:

Publication number	Publication date	Application number	Application date
US6158386 A	20001212	US19990377042	19990818

Priority:
US19990377042 19990818

Probable Assignee: ALGAEWHEEL INC
Assignee(s): (std): AQUATIC ENGINEERS INC
Assignee(s): ALGAEWHEEL INC
Inventor(s): (std): LIMCACO CHRISTOPHER A

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US6158386 A	19990818	LSAS	AS	ASSIGNMENT	Owner: AQUATIC ENGINEERS, INC., INDIANA Effective date: 19990816 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LIMCACO, CHRISTOPHER A.;REEL/FRAME:010186/0806
US6158386 A	20001124	LSGT	PAT1	Patented Case	
US6158386 A	20001124	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6158386 A	20001212	LSGT	+	granted / extensions (spc, cpc, pte)	
US6158386 A	20011023	LSRE	CC	CERTIFICATE OF CORRECTION	

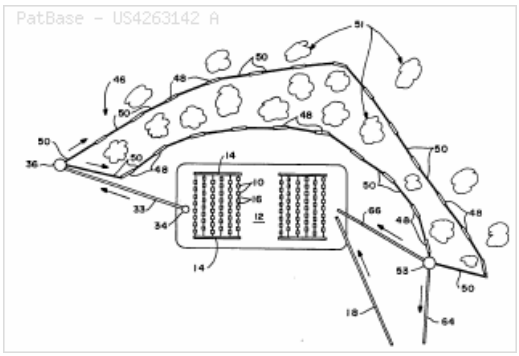
US6158386 A	20040630		REMI	MAINTENANCE FEE REMINDER MAILED	
US6158386 A	20040827	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6158386 A	20040827		+SULP	SURCHARGE FOR LATE PAYMENT	
US6158386 A	20040830	LSAS	AS	ASSIGNMENT	Owner: ALGAEWHEEL, INC., INDIANA Effective date: 20040402 PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:AQUATIC ENGINEERS, INC.;REEL/FRAME:015732/0050
US6158386 A	20080109	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6158386 A	20111212	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6158386 A	20190818	PEXP		Calculated Patent Term Expiry	

82) Family number: 8183891 (US4263142 A)

Title: PROCESS AND SYSTEM FOR PURIFYING **WATER**

Abstract: A process and system for reducing the biochemical oxygen demand and suspended solids levels of impure **water** and creating a wild life habitat. A number of containers are arranged in series with interconnecting lines through which the **water** flows. The containers include openings with clusters of bark fibers projecting through the same. The fibers serve to attract and hold nutrient deposition in the form of colloidal wastes and the like and as a safe habitat for microorganisms which feed on such wastes and as a capillary system for the passage of clarified **water** formed in the bark fibers. The containers are disposed underground. Roots from neighboring plants are attracted to the bark clusters and grow into the containers. In a preferred embodiment, the above container system is utilized as an advanced secondary **treatment** system for **water** previously treated in an open body of **water** in which a number of float units are secured carrying bark fibers which promote a trophic balance between minute animal feeders and excessive colloidal nutrient depositions in the **water** body.

Classifications:
International (IPC 8-9): A01K63/04 C02F3/06 C02F3/10
International (IPC 1-7): C02F3/08
CPC: A01K63/04 C02F3/06 C02F3/10 Y02W10/10
US: 210/150 210/170.07 210/242.1 210/608 210/615 210/747 210/747.7



Family:

Publication number	Publication date	Application number	Application date
US4263142 A	19810421	US19790048019	19790613

Priority:
US19790048019 19790613

Probable Assignee: MICROPHOR INC A DELAWARE CORP
Assignee(s): (std): MICROPHOR INC
Assignee(s): MICROPHOR INC A CORP ; MICROPHOR INC A DELAWARE CORP
Inventor(s): (std): BURTON R EDWARD

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US4263142 A	19810106	LSGT	PAT1	Patented Case	
US4263142 A	19810106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US4263142 A	19810421	LSGT	+	granted / extensions (spc, cpc, pte)	
US4263142 A	19831214	LSAS	AS	ASSIGNMENT	Effective date: 19800401 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MICROPHOR, INC. A CA CORP.;REEL/FRAME:004199/0917 Owner: MICROPHOR, INC. A CORP., DELAWARE PartyType: owner
US4263142 A	19831214	LSAS	AS	ASSIGNMENT	Effective date: 19800401 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST. DELAWARE, EFFECTIVE APRIL 1, 1980;ASSIGNOR:MICROPHOR, INC. A CA CORP.;REEL/FRAME:004199/0917 Owner: MICROPHOR, INC. A DE CORP. PartyType: owner
US4263142 A	19890320	LSAS	AS	ASSIGNMENT	Effective date: 19890227 OldParty: RELEASED BY SECURED PARTY;ASSIGNOR:UNITED STATES TRUST COMPANY OF NEW YORK, A NY. CORP.;REEL/FRAME:005075/0545 Owner: MICROPHOR, INC., A DELAWARE CORP., CALIFORNIA PartyType: owner
US4263142 A	19990613	PEXP		Calculated Patent Term Expiry	

83) Family number: 77229736 (IN201941027854 A)

Title: A PLC EQUIPPED INSECT/GERM REPELLING SYSTEM

Abstract: This invention is related to an electrical insects/germs repelling system. It uses a plurality of hot air blowers fixed at a plurality of places of a closed environment or structure like a home or personnel room or like where the room temperature is increased by hot air blowers to certain level for killing or repelling insects/germs inside the room. At this increased temperature no mosquito will exist including its eggs and it kills the germs, other insects inside the room including lizard. The temperature is controllable by using a programmable logic controller. Further, the system includes cold air blowers which splash cold air through the closed pipelines with holes or nozzles fixed inside the closed room. At specified pressure rates the cold air blowers circulate the air thereby the insect flyers wing will get damaged, thereby protecting the people inside the room. Also fungus growth on the wall during winter can be avoided using this invention.

Classifications:
International (IPC 8-9): A01K31/00

Family:

Publication number	Publication date	Application number	Application date
IN201941027854 A	20200103	IN201941027854	20190711
IN342876 B	20200807	IN201941027854	20190711

Priority:

IN201941027854 20190711

Probable Assignee:	CHELLAPANDIAN KARTHIK RAJAN
Assignee(s):	CHELLAPANDIAN KARTHIK RAJAN
Inventor(s):	CHELLAPANDIAN KARTHIK RAJAN

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
IN201941027854 A	20200103	LSPB	+	published / reissued	
IN342876 B	20200807	LSGT	+	granted / extensions (spc, cpc, pte)	
IN342876 B	20390711	PEXP		Calculated Patent Term Expiry	

84) Family number: 31766662 (US2002058036 AA)

Title: NOVEL FIBROBLAST GROWTH FACTOR AND NUCLEIC ACIDS ENCODING SAME

Abstract: The present invention provides FGF-CX, a novel isolated polypeptide, as well as a polynucleotide encoding FGF-CX and antibodies that immunospecifically bind to FGF-CX or any derivative, variant, mutant, or fragment of the FGF-CX polypeptide, polynucleotide or antibody. The invention additionally provides methods in which the FGF-CX polypeptide, polynucleotide and antibody are used in detection and **treatment** of a broad range of pathological states, as well as other uses.



Classifications:

International (IPC 8-9): A01K67/027 A61K A61K31/7088 A61K31/711 A61K31/716 A61K31/724 A61K38/00 A61K38/17 A61K38/18 A61K38/19 A61K38/22 A61K38/27 A61K39/395 A61K45/00 A61K47/02 A61K47/10 A61K47/12 A61K47/16 A61K47/18 A61K47/26 A61K47/34 A61K48/00 A61K8/00 A61K8/64 A61K9/06 A61K9/08 A61K9/19 A61P1/00 A61P1/02 A61P1/04 A61P1/08 A61P1/12 A61P11/00 A61P11/06 A61P13/00 A61P13/08 A61P15/00 A61P15/08 A61P17/00 A61P17/02 A61P17/06 A61P17/14 A61P19/00 A61P19/02 A61P19/04 A61P19/08 A61P21/00 A61P21/02 A61P25/00 A61P25/14 A61P25/16 A61P25/28 A61P29/00 A61P3/00 A61P3/02 A61P3/04 A61P3/10 A61P31/10 A61P31/18 A61P35/00 A61P35/02 A61P37/04 A61P37/06 A61P39/00 A61P39/02 A61P43/00 A61P5/38 A61P7/00 A61P7/02 A61P7/04 A61P7/06 A61P7/08 A61P9/00 A61P9/04 A61P9/10 A61P9/12 A61Q11/00 C07H21/00 C07H21/04 C07K1/00 C07K1/16 C07K14/00 C07K14/435 C07K14/47 C07K14/475 C07K14/49 C07K14/50 C07K14/51 C07K14/52 C07K14/71 C07K16/00 C07K16/18 C07K16/22 C07K17/00 C07K19/00 C07K5/00 C12N C12N1/00 C12N1/12 C12N1/13 C12N1/15 C12N1/19 C12N1/20 C12N1/21 C12N15/00 C12N15/01 C12N15/09 C12N15/11 C12N15/12 C12N15/16 C12N15/18 C12N15/19 C12N15/63 C12N15/74 C12N15/79 C12N15/85 C12N15/86 C12N5/06 C12N5/10 C12P21/00 C12P21/02 C12P21/04 C12P21/06 C12P21/08 C12Q1/00 C12Q1/02 C12Q1/68 G01N33/15 G01N33/50 G01N33/53 G01N33/566

International (IPC 1-7): A01K67/027 A61K31/7088 A61K31/713 A61K38/00 A61K38/17 A61K38/18 A61K38/22 A61K38/27 A61K39/395 A61K45/00 A61K47/10 A61K47/12 A61K47/18 A61K48/00 A61K6/00 A61K7/16 A61K9/06 A61K9/08 A61P1/00 A61P1/02 A61P1/04 A61P11/06 A61P13/08 A61P15/00 A61P17/00 A61P17/02 A61P17/06 A61P17/14 A61P19/00 A61P19/02 A61P19/04 A61P19/08 A61P21/00 A61P25/00 A61P25/14 A61P25/16 A61P25/28 A61P29/00 A61P3/04 A61P3/10 A61P31/10 A61P31/18 A61P35/00 A61P35/02 A61P37/04 A61P37/06 A61P39/00 A61P39/02 A61P43/00 A61P5/38 A61P7/00 A61P7/04 A61P7/06 A61P9/00 A61P9/04 A61P9/10 A61P9/12 C07H21/00 C07H21/04 C07K14/00 C07K14/47 C07K14/475 C07K14/50 C07K14/71 C07K16/00 C07K16/18 C07K16/22 C07K16/28 C07K17/00 C07K19/00 C07K5/00 C12N C12N1/15 C12N1/19 C12N1/21 C12N15/00 C12N15/09 C12N15/11 C12N15/12 C12N15/18 C12N15/19 C12N15/63 C12N15/74 C12N15/85 C12N15/86 C12N5/06 C12N5/10 C12P21/06 C12P21/08 C12Q1/00 C12Q1/02 C12Q1/68 G01N33/15 G01N33/50 G01N33/53 G01N33/566

CPC: A61K2039/505 A61K38/00 A61K48/00 A61P1/04 A61P17/02 A61P17/14 A61P35/00 A61P43/00 A61P7/06 A61P9/00 C07K14/50 A61P17/06 A61P19/02 A61P29/00 A61P3/10 A61P9/10 A61K38/1825 A61P1/02 A61P11/06 A61P13/08 A61P15/00 A61P17/00 A61P19/00 A61P19/04 A61P19/08 A61P21/00 A61P25/00 A61P25/14 A61P25/16 A61P25/28 A61P3/04 A61P31/10 A61P31/18 A61P35/02 A61P37/04 A61P37/06 A61P39/00 A61P39/02 A61P5/38 A61P7/04 A61P9/04 A61P9/12 A61P21/02 A61P1/08 A61P1/12 A61P11/00 A61P3/02 A61P7/00 A61P1/00 C07H21/04 A61K9/0019 C07K7/08 Y02A50/30 A61P15/08 A61P7/02 A61P7/08 C07K14/49 C07K14/51 C07K14/52 Y10S435/975 A61K38/1858 A61K31/724 C12Q1/6883 C12Q2600/156 C12Q2600/158 G01N2800/06 G01N2800/065 G01N2800/102 G01N2800/105 G01N2800/20 G01N2800/24 G01N2800/2871 G01N2800/40 G01N33/5044 G01N33/6893 G01N33/74 A61K31/711

US: 424/144.1 424/144.100P 424/145.1 424/145.100P 424/145.100S 435/243 435/252.3 435/252.300S 435/252.33 435/252.330S 435/320.1 435/320.100S 435/325 435/325P 435/325S 435/6 435/6.16 435/6.160P 435/6.160S 435/69.1 435/69.100P 435/69.100S 435/69.4 435/6P 435/6S 435/7.21 435/7.210S 435/975 514/1.1 514/12 514/12.2 514/12.200S 514/13.2 514/13.200S 514/13.7 514/13.700S 514/16.4 514/16.400S 514/16.6 514/16.600S 514/16.8 514/17.7 514/17.700S 514/17.8 514/17.800S 514/18.2 514/18.200S 514/19.3 514/19.300S 514/19.5 514/19.500S 514/2 514/21.2 514/3.4 514/3.400S 514/44 514/44.00RS 514/44R 514/58 514/58S 514/7.7 514/7.700S 514/7.9 514/7.900P 514/7.900S 514/9.1 514/9.100P 514/9.100S 514/9.4 514/9.400S 530/350 530/350S 530/388.22 530/388.220S 530/388.25 530/388.250S 530/399 530/399S 530/402 530/412 536/22.1 536/22.100S 536/23.5 536/23.500S

Family:

Publication number	Publication date	Application number	Application date
AU200064958 A1	20010213	AU20000064958	20000727
AU781980 B2	20050623	AU20000064958	20000727
AU200064958 A5	20010213	AU20000064958D	20000727
AU200171811 A1	20020114	AU20010071811	20010703
AU200171811 A5	20020114	AU20010071811D	20010703
AU2001271811 AA	20020114	AU20010271811	20010703
AU2001271811 BB	20060720	AU20010271811	20010703
AU2002248138 AA	20020806	AU20020248138	20011106
AU2002252514 AA	20021008	AU20020252514	20020326
AU2002316291 AA	20030102	AU20020316291	20020617
AU2003249622 AA	20031212	AU20030249622	20030509
AU2004238332 AA	20041125	AU20040238332	20040510
AU2004238332 AB	20041125	AU20040238332	20040510
AU2004271913 AA	20050324	AU20040271913	20040510
AU2004288217 AA	20050519	AU20040288217	20041103
AU2005244737 AA	20051201	AU20050244737	20050329
AU2005306898 AA	20060526	AU20050306898	20051103
AU2005323489 AA	20060713	AU20050323489	20050329
AU2005323489 AH	20060713	AU20050323489	20050329
CA2380226 AA	20020125	CA20002380226	20000727
CA2415123 AA	20030102	CA20012415123	20010703
CA2428084 AA	20030505	CA20012428084	20011106

CA2446285 AA	20031103	CA20022446285	20020617
CA2484274 AA	20041104	CA20032484274	20030509
CA2525107 AA	20051107	CA20042525107	20040510
CA2531878 AA	20051108	CA20042531878	20040510
CA2548538 AA	20060605	CA20042548538	20041103
CA2566439 AA	20061110	CA20052566439	20050329
CA2566507 AA	20061110	CA20052566507	20050329
CA2586213 AA	20070502	CA20052586213	20051103
EP1198563 A2	20020424	EP20000952219	20000727
EP1297012 A2	20030402	EP20010950854	20010703
EP1365793 A2	20031203	EP20010997012	20011106
EP1401855 A2	20040331	EP20020746584	20020617
EP1401855 A4	20041222	EP20020746584	20020617
EP1556066 A2	20050727	EP20030755355	20030509
EP1660008 A2	20060531	EP20040751820	20040510
EP1626696 A2	20060222	EP20040751821	20040510
EP1694823 A2	20060830	EP20040818337	20041103
EP1773372 A2	20070418	EP20050765938	20050329
EP1812460 A1	20070801	EP20050851340	20051103
EP1789072 A2	20070530	EP20050856585	20050329
JP2003505075 T2	20030212	JP20010512864T	20000727
JP2004502418 T2	20040129	JP20020507876T	20010703
JP2004537267 T2	20041216	JP20020559050T	20011106
JP2005500035 T2	20050106	JP20030506444T	20020617
JP2005529153 T2	20050929	JP20040506728T	20030509
JP2007531702 T2	20071108	JP20060526057T	20040510
JP2007516223 T2	20070621	JP20060532928T	20040510
JP2007536381 T2	20071213	JP20070513139T	20050329
JP2007536382 T2	20071213	JP20070513141T	20050329
JP2008519032 T2	20080605	JP20070540036T	20051103
US7056885 BA	20060606	US20000609543	20000703
US2003153495 AA	20030814	US20010011364	20011116
US6982250 BB	20060103	US20010011364	20011116
US2002058036 AA	20020516	US20010817814	20010326
US2006094647 AA	20060504	US20010992840	20011106
US2003186433 AA	20031002	US20020174394	20020617
US7253266 BB	20070807	US20020174394	20020617
US2004006015 AA	20040108	US20020321962	20021216
US7189693 BB	20070313	US20020321962	20021216
US2004214759 AA	20041028	US20030435087	20030509
US2005208540 AA	20050922	US20040027948	20041230
US7291483 BB	20071106	US20040027948	20041230
US2008009439 AA	20080110	US20040578234	20041103
US2005256039 AA	20051117	US20040842206	20040510
US2005063971 AA	20050324	US20040948588	20040923
US2006094651 AA	20060504	US20040980370	20041103
US2008287349 AA	20081120	US20040980458	20041103
US2005256042 AA	20051117	US20040980459	20041103
US2005208514 AA	20050922	US20040980659	20041103
US2005215473 AA	20050929	US20040980695	20041103
US2005164929 AA	20050728	US20040980764	20041103
WO0107595 A2	20010201	WO2000US20405	20000727
WO0107595 A3	20010816	WO2000US20405	20000727
WO0202625 A2	20020110	WO2001US21191	20010703
WO0202625 A3	20020801	WO2001US21191	20010703
WO02058716 A2	20020801	WO2001US43846	20011106
WO02058716 A3	20030731	WO2001US43846	20011106
WO02077266 A2	20021003	WO2002US09336	20020326
WO02102990 A2	20021227	WO2002US19400	20020617
WO02102990 A3	20030828	WO2002US19400	20020617
WO02102990 C1	20031224	WO2002US19400	20020617
WO03099201 A2	20031204	WO2003US14692	20030509
WO03099201 A3	20050428	WO2003US14692	20030509
WO05025489 A2	20050324	WO2004US14622	20040510
WO05025489 A3	20080904	WO2004US14622	20040510
WO04100892 A2	20041125	WO2004US14623	20040510
WO04100892 A3	20080410	WO2004US14623	20040510
WO05044991 A2	20050519	WO2004US36478	20041103
WO05044991 A3	20090402	WO2004US36478	20041103
WO05112979 A2	20051201	WO2005US10545	20050329
WO05112979 A3	20090409	WO2005US10545	20050329
WO05113809 A2	20051201	WO2005US10731	20050329
WO05113809 A3	20090514	WO2005US10731	20050329
WO06073417 A2	20060713	WO2005US10732	20050329
WO06073417 A3	20090507	WO2005US10732	20050329
WO06055264 A1	20060526	WO2005US39833	20051103

Priority:

US19990145899P 19990727 US20000494585 20000131 US20000609543 20000703
WO2000US20405 20000727 US20000246206P 20001106 US20010817814 20010326
US20010298441P 20010615 WO2001US21191 20010703 US20010316446P 20010831
WO2001US43846 20011106 US20010992840 20011106 US20010011364 20011116
US20020359594P 20020226 WO2002US09336 20020326 US20020378996P 20020509

US20020379356P 20020510	US20020385173P 20020531	US20020386545P 20020606
WO2002US19400 20020617	US20020174394 20020617	US20020390597P 20020621
US20020421008P 20021024	US20020423747P 20021105	US20020425811P 20021113
US20020321962 20021216	WO2003US14692 20030509	US20030469353P 20030509
US20030435087 20030509	US20030469353P 20030905	US20030702126 20031104
US20040541728P 20040204	US20040545278P 20040218	US20040544308P 20040226
US20040565362P 20040426	WO2004US14623 20040510	WO2004US14622 20040510
US20040842206 20040510	US20040842179 20040510	US20040613013P 20040922
US20040948588 20040923	US20040623551P 20041028	WO2004US36478 20041103
US20040980459 20041103	US20040980764 20041103	US20040980659 20041103
US20040980370 20041103	US20040980695 20041103	US20040980458 20041103
US20040578234 20041103	US20040027948 20041230	WO2005US10545 20050329
WO2005US10732 20050329	WO2005US10731 20050329	WO2005US39833 20051103

Probable Assignee: CURAGEN CORP

Assignee(s): (std): ALSOBROOK JOHN II ; ALSOBROOK JOHN P ; ALSOBROOK JOHN P II ; ALVAREZ ENRIQUE ; ALVAREZ ENRIQUEZ ; ANDERSON DAVID W ; BOLDOG FERENC L ; BURGESS CATHERINE ; BURGESS CATHERINE E ; CHEN TRACY ; CHERNAYA GALINA ; CHILLAKURU RAJEEV ; CHILLAKURU RAJEEV A ; CURAGEN CORP ; EICHEN JOSEPH ; FERNANDES ELMA ; FERNANDES ELMA R ; GORMAN LINDA ; GROSSE WILLIAM ; GROSSE WILLIAM M ; GUNTHER ERIK ; HAHNE WILLIAM ; HERRMANN JOHN L ; JEFFERS MICHAEL ; JEFFERS MICHAEL E ; KARKARIA CYRUS ; LAROCHELLE WILLIAM ; LAROCHELLE WILLIAM J ; LEPLEY DENISE ; LEPLEY DENISE M ; LICHENSTEIN HENRI ; LICHENSTEIN HENRI S ; LICHENSTEIN HENRY S ; LUPINE LOGIC INC ; MACLACHLAN TIMOTHY ; MACLACHLAN TIMOTHY K ; MEZES PETER ; MILLER CHARLES E ; NAMDEV PRADYUMNA K ; NARAYANAN BISNI ; PADIGARU MURALIDHARA ; PENA CAROL E A ; PETERSON JEFFERY ; PETERSON JEFFREY ; PRADYUMNA NAMDEV K ; PRAYAGA SUDHIRDAS ; PRAYAGA SUDHIRDAS K ; RAJENDRAN SARAVANAMOORTHY ; RIEGER DANIEL K ; RITTMAN B ; RITTMAN BETH ; RUIZ MARTINEZ MARIE ; SCIORE PAUL ; SHIMKETS JULIETTE B ; SHIMKETS RICHARD A ; VALAX PASCAL ; WEI GAN ; YANG MEIJIA ; YIM ZACHARY ; ZHONG MEI

Assignee(s): BADER JOEL S ; CURAGEN CORPORATION ; DEEGLER LISA ; EDINGER SHLOMIT R ; NAMDEV KUMAR ; PENA CAROL E

Inventor(s): (std): ALSOBROOK II JOHN P ; ALSOBROOK JOHN II ; ALSOBROOK JOHN P ; ALSOBROOK JOHN P II ; ALVAREZ ENRIQUE ; ALVAREZ ENRIQUEZ ; ANDERSON DAVID W ; BADER JOEL S ; BOLDOG FERENC L ; BURGESS CATHERINE ; BURGESS CATHERINE E ; CHEN TRACY ; CHERNAYA GALINA ; CHILLAKURU RAJEEV ; CHILLAKURU RAJEEV A ; DEEGLER LISA ; EDINGER SHLOMIT R ; EICHEN JOSEPH ; FERNANDES ELMA ; FERNANDES ELMA R ; GORMAN LINDA ; GROSSE WILLIAM ; GROSSE WILLIAM M ; GUNTHER ERIK ; HAHNE WILLIAM ; HERRMANN JOHN L ; JEFFERS MICHAEL ; JEFFERS MICHAEL E ; KARKARIA CYRUS ; LAROCHELLE WILLIAM ; LAROCHELLE WILLIAM J ; LEPLEY DENISE ; LEPLEY DENISE M ; LICHENSTEIN HENRI ; LICHENSTEIN HENRI S ; LICHENSTEIN HENRY S ; MACLACHLAN TIMOTHY ; MACLACHLAN TIMOTHY K ; MEZES PETER ; MILLER CHARLES E ; NAMDEV KUMAR ; NAMDEV PRADYUMNA K ; NARAYANAN BISNI ; PADIGARU MURALIDHARA ; PENA CAROL E A ; PETERSON JEFFERY ; PETERSON JEFFREY ; PRADYUMNA NAMDEV K ; PRAYAGA SUDHIRDAS ; PRAYAGA SUDHIRDAS K ; RAJENDRAN SARAVANAMOORTHY ; RIEGER DANIEL K ; RITTMAN B ; RITTMAN BETH ; RUIZ MARTINEZ MARIE ; SCIORE PAUL ; SHIMKETS JULIETTE B ; SHIMKETS RICHARD A ; VALAX PASCAL ; WEI GAN ; YANG MEIJIA ; YIM ZACHARY ; ZHONG MEI

Inventor(s): ALSOBROOK JOHN ; BETH RITTMAN ; BISNI NARAYANAN ; BOLDOG FERENC ; CAROL E A PENA ; CATHERINE BURGESS ; CATHERINE E BURGESS ; CHARLES E MILLER ; CYRUS KARKARIA ; DANIEL K RIEGER ; DAVID W ANDERSON ; DENISE M LEPLEY ; ELMA FERNANDES ; ELMA R FERNANDES ; ENRIQUE ALVAREZ ; ENRIQUEZ ALVAREZ ; FERENC L BOLDOG ; GAN WEI ; HENRI LICHENSTEIN ; HENRI S LICHENSTEIN ; HENRY S LICHENSTEIN ; HERRMANN JOHN ; JEFFREY PETERSON ; JOEL S BADER ; JOHN II ALSOBROOK ; JOHN L HERRMANN ; JOHN P ; JOHN P ALSOBROOK ; JOSEPH EICHEN ; JULIETTE B SHIMKETS ; KUMAR NAMDEV ; LICHENSTEIN HENRY ; LINDA GORMAN ; LISA DEEGLER ; MEI ZHONG ; MEIJIA YANG ; MICHAEL E JEFFERS ; MICHAEL JEFFERS ; MURALIDHARA PADIGARU ; NAMDEV K PRADYUMNA ; NAMDEV PRADYUMNA ; PASCAL VALAX ; PAUL SCIORE ; PENA CAROL E ; PETER MEZES ; RAJEEV A CHILLAKURU ; RAJEEV CHILLAKURU ; RICHARD A SHIMKETS ; SARAVANAMOORTHY RAJENDRAN ; SHIMKETS JULIETTE ; SHIMKETS RICHARD ; SHLOMIT R EDINGER ; SUDHIRDAS K PRAYAGA ; TIMOTHY K MACLACHLAN ; TRACY CHEN ; WILLIAM GROSSE ; WILLIAM HAHNE ; WILLIAM J LAROCHELLE ; WILLIAM M GROSSE ; ZACHARY YIM

Agent(s): CULLENS PATENT AND TRADE MARK ATTORNEYS; CULLENS PTY LTD; CURAGEN CORP; ELRIFI IVOR R; IVOR R; IVOR R ELRIFI MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO; JENELL LAWSON CURAGEN CORP; JENELL LAWSON INTELLECTUAL PROPERTY; JENELL LAWSON, INTELLECTUAL PROPERTY; MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC; MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC ATTN PATENT INTAKE CUSTOMER NO 30623; NAOMI; NAOMI S; RIDOUT AND MAYBEE LLP; SPRUSON AND FERGUSON

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU200064958 A1	20010213	LSPB	+	published / reissued	
AU2001271811 AA	20020114	LSPB	+	published / reissued	
AU2001271811 BB	20060720	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2001271811 BB	20061116	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2001271811 BB	20090129	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2001271811 BB	20210703	PEXP		Calculated Patent	

				Term Expiry	
AU200171811 A1	20020114	LSPB	+	published / reissued	
AU2002248138 AA	20020806	LSPB	+	published / reissued	
AU2002252514 AA	20021008	LSPB	+	published / reissued	
AU2002316291 AA	20030102	LSPB	+	published / reissued	
AU2003249622 AA	20031212	LSPB	+	published / reissued	
AU2003249622 AA	20081204	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
AU2004238332 AA	20041125	LSPB	+	published / reissued	
AU2004238332 AA	20060406	LSRE	DA3	AMENDMENTS MADE SECTION 104	Text: THE NATURE OF THE AMENDMENT IS AS SHOWN IN THE STATEMENT(S) FILED 06 DEC 2005
AU2004238332 AA	20080515	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU2004271913 AA	20050324	LSPB	+	published / reissued	
AU2004271913 AA	20080814	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU2004288217 AA	20050519	LSPB	+	published / reissued	
AU2004288217 AA	20100527	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
AU2005244737 AA	20051201	LSPB	+	published / reissued	
AU2005244737 AA	20090219	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU2005306898 AA	20060526	LSPB	+	published / reissued	
AU2005306898 AA	20091119	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU2005323489 AA	20060713	LSPB	+	published / reissued	
AU2005323489 AA	20070104		TH	CORRIGENDA	Text: IN VOL 20, NO 49, PAGE(S) 4948 UNDER THE HEADING PCT APPLICATIONS THAT HAVE ENTERED THE NATIONAL PHASE - NAME INDEX UNDER THE NAME CURAGEN CORPORATION, APPLICATION NO. 2005323489, UNDER INID (72) CORRECT THE NAME OF CO-INVENTOR TO READ MACLACHLAN, TIMOTHY K
AU2005323489 AA	20090219	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
AU781980 B2	20050623	LSGT	+	granted / extensions (spc, cpc, pte)	
AU781980 B2	20200727	PEXP		Calculated Patent Term Expiry	
CA2380226 AA	20020125	LSPB	+	published / reissued	
CA2380226 AA	20050629	LSES	+EEER	EXAMINATION REQUEST	
CA2380226 AA	20090727	LSLE	-FZDE	DEAD	

CA2415123 AA	20030102	LSPB	+	published / reissued	
CA2415123 AA	20050629	LSES	+EEER	EXAMINATION REQUEST	
CA2415123 AA	20090703	LSLE	-FZDE	DEAD	
CA2428084 AA	20030505	LSPB	+	published / reissued	
CA2428084 AA	20061103	LSES	+EEER	EXAMINATION REQUEST	
CA2428084 AA	20081106	LSLE	-FZDE	DEAD	
CA2446285 AA	20031103	LSPB	+	published / reissued	
CA2446285 AA	20070607	LSES	+EEER	EXAMINATION REQUEST	
CA2446285 AA	20090617	LSLE	-FZDE	DEAD	
CA2484274 AA	20041104	LSPB	+	published / reissued	
CA2484274 AA	20090511	LSLE	-FZDE	DEAD	
CA2525107 AA	20051107	LSPB	+	published / reissued	
CA2525107 AA	20100510	LSLE	-FZDE	DEAD	
CA2531878 AA	20051108	LSPB	+	published / reissued	
CA2531878 AA	20100510	LSLE	-FZDE	DEAD	
CA2548538 AA	20060605	LSPB	+	published / reissued	
CA2548538 AA	20091103	LSLE	-FZDE	DEAD	
CA2566439 AA	20061110	LSPB	+	published / reissued	
CA2566439 AA	20100329	LSLE	-FZDE	DEAD	
CA2566507 AA	20061110	LSPB	+	published / reissued	
CA2566507 AA	20090330	LSLE	-FZDE	DEAD	
CA2586213 AA	20070502	LSPB	+	published / reissued	
CA2586213 AA	20091103	LSLE	-FZDE	DEAD	
EP1198563 A2	20020424	LSPB	+	published / reissued	
EP1198563 A2	20020424	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20020201
EP1198563 A2	20020424		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1198563 A2	20020424		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Text: AL;LT;LV;MK;RO;SI
EP1198563 A2	20050720	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20050602
EP1198563 A2	20051116	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: CURAGEN CORPORATION PartyType: owner
EP1198563 A2	20060927	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20050602
EP1198563 A2	20080910	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20080318
EP1297012 A2	20030402	LSPB	+	published / reissued	
EP1297012 A2	20030402	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20030114
EP1297012 A2	20030402		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1297012 A2	20030402		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1297012 A2	20030402		+AX	REQUEST FOR	Country of Ref document: AL LT LV MK RO SI

			EXTENSION OF THE EUROPEAN PATENT	
EP1297012 A2	20030514	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: JEFFERS, MICHAEL PartyType: inventor
EP1297012 A2	20030514	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SHIMKETS, RICHARD, A. PartyType: inventor
EP1297012 A2	20030514	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PRAYAGA, SUDHIRDAS, K. PartyType: inventor
EP1297012 A2	20030514	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BOLDOG, FERENC, L. PartyType: inventor
EP1297012 A2	20030514	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YANG, MEIJIA PartyType: inventor
EP1297012 A2	20030514	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BURGESS, CATHERINE PartyType: inventor
EP1297012 A2	20030514	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERNANDES, ELMA PartyType: inventor
EP1297012 A2	20030514	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HERRMANN, JOHN, L. PartyType: inventor
EP1297012 A2	20030514	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LAROCHELLE, WILLIAM, J. PartyType: inventor
EP1297012 A2	20030514	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LICHENSTEIN, HENRI PartyType: inventor
EP1297012 A2	20030521	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: JEFFERS, MICHAEL PartyType: inventor
EP1297012 A2	20030521	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SHIMKETS, RICHARD, A. PartyType: inventor
EP1297012 A2	20030521	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PRAYAGA, SUDHIRDAS, K. PartyType: inventor
EP1297012 A2	20030521	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BOLDOG, FERENC, L. PartyType: inventor
EP1297012 A2	20030521	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YANG, MEIJIA PartyType: inventor
EP1297012 A2	20030521	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BURGESS, CATHERINE PartyType: inventor
EP1297012 A2	20030521	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERNANDES, ELMA PartyType: inventor
EP1297012 A2	20030521	RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE	Inventor: HERRMANN, JOHN, L. PartyType: inventor

				GRANT (CORRECTED)	
EP1297012 A2	20030521		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LAROCHELLE, WILLIAM, J. PartyType: inventor
EP1297012 A2	20030521		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LICHENSTEIN, HENRI PartyType: inventor
EP1297012 A2	20051116	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: CURAGEN CORPORATION PartyType: owner
EP1297012 A2	20061220	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20061120
EP1297012 A2	20081105	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20080424
EP1365793 A2	20031203	LSPB	+	published / reissued	
EP1365793 A2	20031203	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20030605
EP1365793 A2	20031203		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1365793 A2	20031203		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1365793 A2	20051116	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: CURAGEN CORPORATION PartyType: owner
EP1365793 A2	20061129	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20061025
EP1365793 A2	20081119	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20080603
EP1401855 A2	20040331	LSPB	+	published / reissued	
EP1401855 A2	20040331	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20031229
EP1401855 A2	20040331		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1401855 A2	20040331		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1401855 A2	20041215		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7C 07K 14/50 A
EP1401855 A2	20041215		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7C 12N 15/12 B
EP1401855 A2	20041215		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7C 07K 16/18 B
EP1401855 A2	20041215		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7G 01N 33/50 B
EP1401855 A2	20041215		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7A 61K 38/18 B
EP1401855 A2	20041215		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7A 61K 31/713 B
EP1401855 A2	20041215		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7A 61K 39/395 B
EP1401855 A2	20041215		RIC1	INFORMATION PROVIDED ON IPC	ClassificationScheme: IPC ClassificationSymbol: 7C 12Q 1/68 B

				CODE ASSIGNED BEFORE GRANT	
EP1401855 A4	20041222	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20041108
EP1401855 A4	20050713	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20050530
EP1401855 A4	20051116	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: CURAGEN CORPORATION PartyType: owner
EP1401855 A4	20060927	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20050530
EP1401855 A4	20070523	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20050530
EP1401855 A4	20080430	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20071030
EP1556066 A2	20050727	LSPB	+	published / reissued	
EP1556066 A2	20050727	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20041102
EP1556066 A2	20050727		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
EP1556066 A2	20050727		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK
EP1556066 A2	20050831		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1556066 A2	20051012		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7A 61K 38/00 A
EP1556066 A2	20051012		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7C 07K 14/00 B
EP1556066 A2	20051012		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7C 07K 17/00 B
EP1556066 A2	20051116	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: CURAGEN CORPORATION PartyType: owner
EP1556066 A2	20090617	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20081202
EP1626696 A2	20060222	LSPB	+	published / reissued	
EP1626696 A2	20060222	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20051207
EP1626696 A2	20060222		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
EP1626696 A2	20060222		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL HR LT LV MK
EP1626696 A2	20060816		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1626696 A2	20070502		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PETERSON, JEFFREY PartyType: inventor
EP1626696 A2	20070502		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SCIORE, PAUL PartyType: inventor
EP1626696 A2	20070502		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE	Inventor: MEZES, PETER PartyType: inventor

				GRANT (CORRECTED)	
EP1626696 A2	20070502		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LICHTENSTEIN, HENRI PartyType: inventor
EP1626696 A2	20070502		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: JEFFERS, MICHAEL PartyType: inventor
EP1626696 A2	20070502		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LAROCHELLE, WILLIAM PartyType: inventor
EP1626696 A2	20070502		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: RUIZ-MARTINEZ, MARIE PartyType: inventor
EP1626696 A2	20070502		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CHERNAYA, GALINA PartyType: inventor
EP1626696 A2	20080604		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 38/18 20060101AFI20080428BHEP
EP1626696 A2	20080604		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C07K 14/50 20060101ALI20080428BHEP
EP1626696 A2	20080604		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PETERSON, JEFFREY PartyType: inventor
EP1626696 A2	20080604		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SCIORE, PAUL PartyType: inventor
EP1626696 A2	20080604		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MEZES, PETER PartyType: inventor
EP1626696 A2	20080604		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LICHENSTEIN, HENRI PartyType: inventor
EP1626696 A2	20080604		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: JEFFERS, MICHAEL PartyType: inventor
EP1626696 A2	20080604		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LAROCHELLE, WILLIAM PartyType: inventor
EP1626696 A2	20080604		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: RUIZ-MARTINEZ, MARIE PartyType: inventor
EP1626696 A2	20080604		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CHERNAYA, GALINA PartyType: inventor
EP1626696 A2	20090729	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20081202
EP1660008 A2	20060531	LSPB	+	published / reissued	
EP1660008 A2	20060531	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20051207
EP1660008 A2	20060531		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
EP1660008 A2	20060531		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL HR LT LV MK

EP1660008 A2	20061213		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1660008 A2	20081022		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61K 38/18 20060101AFI20080918BHEP
EP1660008 A2	20081022		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C07K 14/50 20060101ALI20080918BHEP
EP1660008 A2	20090617	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20081202
EP1694823 A2	20060830	LSPB	+	published / reissued	
EP1694823 A2	20060830	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060605
EP1694823 A2	20060830		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LU MC NL PL PT RO SE SI SK TR
EP1694823 A2	20060830		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL HR LT LV MK YU
EP1694823 A2	20070207		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1694823 A2	20070620		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ALSOBROOK, JOHN, II PartyType: inventor
EP1694823 A2	20070620		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: EICHEN, JOSEPH PartyType: inventor
EP1694823 A2	20070620		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LEPLEY, DENISE, M. PartyType: inventor
EP1694823 A2	20070620		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MILLER, CHARLES, E. PartyType: inventor
EP1694823 A2	20070620		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MEZES, PETER PartyType: inventor
EP1694823 A2	20070919		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ALSOBROOK, JOHN, II PartyType: inventor
EP1694823 A2	20070919		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: EICHEN, JOSEPH PartyType: inventor
EP1694823 A2	20070919		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LEPLEY, DENISE, M. PartyType: inventor
EP1694823 A2	20070919		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MILLER, CHARLES, E. PartyType: inventor
EP1694823 A2	20070919		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MEZES, PETER PartyType: inventor
EP1694823 A2	20090610		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C12N 15/00 20060101AFI20090506BHEP
EP1694823 A2	20090610		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED	ClassificationScheme: IPC ClassificationSymbol: C12N 15/85 20060101ALI20090506BHEP

				BEFORE GRANT	
EP1694823 A2	20090610		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C12N 15/11 20060101ALI20090506BHEP
EP1694823 A2	20090610		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C07K 14/00 20060101ALI20090506BHEP
EP1694823 A2	20100428	LSRV	-18R	APPLICATION REFUSED	Effective date: 20091217
EP1773372 A2	20070418	LSPB	+	published / reissued	
EP1773372 A2	20070418	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20061211
EP1773372 A2	20070418		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR
EP1773372 A2	20070418		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR LV MK YU
EP1773372 A2	20070530		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ALVAREZ, ENRIQUE PartyType: inventor
EP1773372 A2	20070530		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LICHENSTEIN, HENRI PartyType: inventor
EP1773372 A2	20070530		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PRADYUMNA, NAMDEV, K. PartyType: inventor
EP1773372 A2	20070530		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: VALAX, PASCAL PartyType: inventor
EP1773372 A2	20070530		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YIM, ZACHARY PartyType: inventor
EP1773372 A2	20070530		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CHILLAKURU, RAJEEV, A. PartyType: inventor
EP1773372 A2	20070530		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HAHNE, WILLIAM PartyType: inventor
EP1773372 A2	20070530		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: JEFFERS, MICHAEL, E. PartyType: inventor
EP1773372 A2	20070530		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LAROCHELLE, WILLIAM, J. PartyType: inventor
EP1773372 A2	20070815		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1773372 A2	20090325	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20081121
EP1773372 A2	20090513	LSES	R17D	DEFERRED SEARCH REPORT PUBLISHED (CORRECTED)	Effective date: 20090409
EP1789072 A2	20070530	LSPB	+	published / reissued	
EP1789072 A2	20070530	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20061211
EP1789072 A2	20070530		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR

EP1789072 A2	20070530		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR LV MK YU
EP1789072 A2	20070620		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ALVAREZ, ENRIQUE PartyType: inventor
EP1789072 A2	20070620		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HAHNE, WILLIAM PartyType: inventor
EP1789072 A2	20070620		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MACLACHLAN, TIMOTHY, K. PartyType: inventor
EP1789072 A2	20070620		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: NARAYANAN, BISNI PartyType: inventor
EP1789072 A2	20070815		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1789072 A2	20090401	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20081001
EP1789072 A2	20090610	LSES	R17D	DEFERRED SEARCH REPORT PUBLISHED (CORRECTED)	Effective date: 20090507
EP1812460 A1	20070801	LSPB	+	published / reissued	
EP1812460 A1	20070801	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070604
EP1812460 A1	20070801		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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
EP1812460 A1	20080206		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1812460 A1	20091125	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20090603
JP2003505075 T2	20030212	LSPB	+	published / reissued	
JP2003505075 T2	20070614	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070613 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003505075 T2	20070614	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20070613 Text: JAPANESE INTERMEDIATE CODE: A621
JP2003505075 T2	20070614		RD02	NOTIFICATION OF ACCEPTANCE OF POWER OF ATTORNEY	Effective date: 20070613 Text: JAPANESE INTERMEDIATE CODE: A7422
JP2003505075 T2	20070614		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20070613 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2003505075 T2	20100511	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20100510 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003505075 T2	20101019	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20101018 Text: JAPANESE INTERMEDIATE CODE: A02
JP2004502418 T2	20040129	LSPB	+	published / reissued	
JP2004537267 T2	20041105	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20041104 Text: JAPANESE INTERMEDIATE CODE: A621
JP2004537267 T2	20041216	LSPB	+	published / reissued	
JP2004537267 T2	20070905	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070904 Text: JAPANESE INTERMEDIATE CODE: A131
JP2004537267 T2	20080221	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20080220 Text: JAPANESE INTERMEDIATE CODE: A02
JP2005500035 T2	20050106	LSPB	+	published / reissued	

JP2005529153 T2	20050812	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20050811 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005529153 T2	20050929	LSPB	+	published / reissued	
JP2005529153 T2	20060311	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20060310 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005529153 T2	20060311	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20060310 Text: JAPANESE INTERMEDIATE CODE: A621
JP2005529153 T2	20070223		RD02	NOTIFICATION OF ACCEPTANCE OF POWER OF ATTORNEY	Effective date: 20070222 Text: JAPANESE INTERMEDIATE CODE: A7422
JP2005529153 T2	20070808	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070807 Text: JAPANESE INTERMEDIATE CODE: A821
JP2005529153 T2	20070808		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20070807 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2005529153 T2	20090508	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20090507 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005529153 T2	20100121	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20100120 Text: JAPANESE INTERMEDIATE CODE: A02
JP2007516223 T2	20070510	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070509 Text: JAPANESE INTERMEDIATE CODE: A523
JP2007516223 T2	20070510	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20070509 Text: JAPANESE INTERMEDIATE CODE: A621
JP2007516223 T2	20070621	LSPB	+	published / reissued	
JP2007516223 T2	20070808	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070807 Text: JAPANESE INTERMEDIATE CODE: A821
JP2007516223 T2	20070808		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20070807 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2007516223 T2	20100419	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20100416 Text: JAPANESE INTERMEDIATE CODE: A131
JP2007516223 T2	20101005	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20101004 Text: JAPANESE INTERMEDIATE CODE: A02
JP2007531702 T2	20070808	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070807 Text: JAPANESE INTERMEDIATE CODE: A821
JP2007531702 T2	20070808		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20070807 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2007531702 T2	20071108	LSPB	+	published / reissued	
JP2007531702 T2	20100421	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20100420 Text: JAPANESE INTERMEDIATE CODE: A131
JP2007531702 T2	20101005	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20101004 Text: JAPANESE INTERMEDIATE CODE: A02
JP2007536381 T2	20071213	LSPB	+	published / reissued	
JP2007536382 T2	20071213	LSPB	+	published / reissued	
JP2008519032 T2	20080605	LSPB	+	published / reissued	
US2002058036 AA	20010807	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:JEFFERS, MICHAEL;SHIMKETS, RICHARD A.;PRAYAGA, SUDHIRDAS K.;AND OTHERS;REEL/FRAME:012065/0142;SIGNING DATES FROM 20010625 TO 20010716 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2002058036 AA	20020516	LSPB	+	published / reissued	
US2002058036 AA	20040928	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2002058036 AA	20040928		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2003153495 AA	20030814	LSPB	+	published /	

				reissued	
US2003186433 AA	20031002	LSPB	+	published / reissued	
US2004006015 AA	20040108	LSPB	+	published / reissued	
US2004006015 AA	20050609	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BOLDOG, FERENCE L.;BURGESS, CATHERINE E.;JEFFERS, MICHAEL E.;AND OTHERS;REEL/FRAME:016665/0194;SIGNING DATES FROM 20030423 TO 20030809 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2004006015 AA	20060411	LSAS	AS	ASSIGNMENT	Effective date: 19981102 OldParty: EMPLOYEE AGREEMENT;ASSIGNOR:FERANDES, ELMA;REEL/FRAME:017455/0590 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2004214759 AA	20040226	LSAS	AS	ASSIGNMENT	OldParty: EMPLOYMENT AGREEMENT;ASSIGNORS:ALSOBROOK II, JOHN;ALVAREZ, ENRIQUE;ANDERSON, DAVID;AND OTHERS;REEL/FRAME:015013/0343;SIGNING DATES FROM 19950331 TO 20031204 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2004214759 AA	20041028	LSPB	+	published / reissued	
US2004214759 AA	20080623	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2004214759 AA	20080623		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005063971 AA	20050324	LSPB	+	published / reissued	
US2005063971 AA	20080428	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005063971 AA	20080428		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005164929 AA	20050304	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ALVAREZ, ENRIQUE;LICHENSTEIN, HENRI;JEFFERS, MICHAEL;AND OTHERS;REEL/FRAME:016329/0437;SIGNING DATES FROM 20050118 TO 20050216 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2005164929 AA	20050728	LSPB	+	published / reissued	
US2005164929 AA	20060411	LSAS	AS	ASSIGNMENT	Effective date: 20010114 OldParty: EMPLOYMENT AGREEMENT;ASSIGNOR:PETERSON, JEFFERY;REEL/FRAME:017456/0013 Owner: CURAGEN CORP., CONNECTICUT PartyType: owner
US2005164929 AA	20071210	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005164929 AA	20071210		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005208514 AA	20050314	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ALSOBROOK, JOHN;BOLDOG, FERENC;JEFFERS, MICHAEL;AND OTHERS;REEL/FRAME:016696/0880;SIGNING DATES FROM 20050210 TO 20050303 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2005208514 AA	20050922	LSPB	+	published / reissued	
US2005208514 AA	20060411	LSAS	AS	ASSIGNMENT	OldParty: EMPLOYMENT AGREEMENT;ASSIGNORS:LEPLY, DENISE;PADIGARU, MURALIDHARA;REEL/FRAME:017455/0527;SIGNING DATES FROM 19991213 TO 20010423 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2005208514 AA	20071126	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005208514 AA	20071126		-STCB	INFORMATION ON STATUS: APPLICATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

				DISCONTINUATION	
US2005208540 AA	20050922	LSPB	+	published / reissued	
US2005215473 AA	20050519	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ALVAREZ, ENRIQUE;MACLACHLAN, TIMOTHY;HAHNE, WILLIAM;AND OTHERS;REEL/FRAME:016574/0903;SIGNING DATES FROM 20050419 TO 20050502 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2005215473 AA	20050929	LSPB	+	published / reissued	
US2005215473 AA	20080115	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005215473 AA	20080115		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005256039 AA	20050428	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SCIORE, PAUL;MEZES, PETER;LICHENSTEIN, HENRI;AND OTHERS;REEL/FRAME:016516/0296;SIGNING DATES FROM 20050318 TO 20050415 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2005256039 AA	20051117	LSPB	+	published / reissued	
US2005256039 AA	20060411	LSAS	AS	ASSIGNMENT	Effective date: 20010114 OldParty: EMPLOYEE AGREEMENT;ASSIGNOR:PETERON, JEFFERY;REEL/FRAME:017453/0465 Owner: CURAGEN CORP, CONNECTICUT PartyType: owner
US2005256039 AA	20071126	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005256039 AA	20071126		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005256042 AA	20050623	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ALVAREZ, ENRIQUE;CHILLAKURU, RAJEEV;HAHNE, WILLIAM;AND OTHERS;REEL/FRAME:017003/0778;SIGNING DATES FROM 20050504 TO 20050530 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2005256042 AA	20050623	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ALVAREZ, ENRIQUE;CHILLAKURU, RAJEEV A;HAHNE, WILLIAM;AND OTHERS;REEL/FRAME:017267/0234;SIGNING DATES FROM 20050504 TO 20050530 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2005256042 AA	20051117	LSPB	+	published / reissued	
US2005256042 AA	20060412	LSAS	AS	ASSIGNMENT	Effective date: 20010910 OldParty: EMPLOYMENT AGREEMENT;ASSIGNOR:NAMDEV, KUMAR PRADYUMNA;REEL/FRAME:017456/0946 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2005256042 AA	20080923	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005256042 AA	20080923		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2006094647 AA	20040622	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:JEFFERS, MICHAEL;SHIMKETS, RICHARD;PRAYAGA SUDHIRDAS;AND OTHERS;REEL/FRAME:015497/0582;SIGNING DATES FROM 20031020 TO 20040520 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2006094647 AA	20040622	LSAS	AS	ASSIGNMENT	Effective date: 19981102 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FERNANDES, ELMA;REEL/FRAME:015491/0602 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2006094647 AA	20060504	LSPB	+	published / reissued	

US2006094647 AA	20080303	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006094647 AA	20080303		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2006094651 AA	20060315	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KARKARIA, CYRUS;CHEN, TRACY;WEI, GAN;AND OTHERS;REEL/FRAME:017306/0844;SIGNING DATES FROM 19990907 TO 20050203 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2006094651 AA	20060504	LSPB	+	published / reissued	
US2006094651 AA	20080414	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006094651 AA	20080414		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2008009439 AA	20070514	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ALSOBROOK, JOHN P.;EICHEN, JOSEPH;LEPLEY, DENISE M.;AND OTHERS;REEL/FRAME:019324/0559;SIGNING DATES FROM 20070326 TO 20070409 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2008009439 AA	20080110	LSPB	+	published / reissued	
US2008009439 AA	20090326	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008009439 AA	20090326		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2008287349 AA	20060119	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SCIORE, PAUL;GUNTHER, ERIK;MEZES, PETER;AND OTHERS;REEL/FRAME:017481/0418;SIGNING DATES FROM 20050831 TO 20051017 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US2008287349 AA	20081120	LSPB	+	published / reissued	
US2008287349 AA	20110913	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008287349 AA	20110913		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US6982250 BB	20020515	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LICHENSTEIN, HENRI;JEFFERS, MICHAEL;SHIMKETS, RICHARD;AND OTHERS;REEL/FRAME:012911/0152;SIGNING DATES FROM 20020304 TO 20020429 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US6982250 BB	20060103	LSGT	+	granted / extensions (spc, cpc, pte)	
US6982250 BB	20060314	LSRE	CC	CERTIFICATE OF CORRECTION	
US6982250 BB	20090713		REMI	MAINTENANCE FEE REMINDER MAILED	
US6982250 BB	20100103	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6982250 BB	20100201	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6982250 BB	20100201	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6982250 BB	20100223	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20100103
US6982250 BB	20230420	PEXP		Calculated Patent	

				Term Expiry (PTA 530 days)	
US7056885 BA	20001108	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:JEFFERS, MICHAEL;SHIMKETS, RICHARD A.;PRAYAGA, SUDHIRDAS K.;AND OTHERS;REEL/FRAME:011317/0748;SIGNING DATES FROM 20001020 TO 20001101 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US7056885 BA	20060606	LSGT	+	granted / extensions (spc, cpc, pte)	
US7056885 BA	20060815	LSRE	CC	CERTIFICATE OF CORRECTION	
US7056885 BA	20100111		REMI	MAINTENANCE FEE REMINDER MAILED	
US7056885 BA	20100606	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7056885 BA	20100705	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7056885 BA	20100705	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7056885 BA	20100727	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20100606
US7056885 BA	20220729	PEXP		Calculated Patent Term Expiry (PTA 910 days)	
US7189693 BB	20070313	LSGT	+	granted / extensions (spc, cpc, pte)	
US7189693 BB	20101018		REMI	MAINTENANCE FEE REMINDER MAILED	
US7189693 BB	20110313	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7189693 BB	20110411	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7189693 BB	20110411	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7189693 BB	20110503	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20110313
US7189693 BB	20230601	PEXP		Calculated Patent Term Expiry (PTA 572 days and a terminal disclaimer has been filed)	
US7253266 BB	20030103	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SHIMKETS, RICHARD A.;JEFFERS, MICHAEL;PRAYAGA, SUDHIRDAS K.;AND OTHERS;REEL/FRAME:013630/0882;SIGNING DATES FROM 20020901 TO 20020917 Owner: CURAGEN CORPORATION, CONNECTICUT PartyType: owner
US7253266 BB	20070807	LSGT	+	granted / extensions (spc, cpc, pte)	
US7253266 BB	20110314		REMI	MAINTENANCE FEE REMINDER MAILED	
US7253266 BB	20110807	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7253266 BB	20110905	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7253266 BB	20110905	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7253266 BB	20110927	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20110807

US7253266 BB	20220131	PEXP		Calculated Patent Term Expiry (PTA 731 days)	
US7291483 BB	20071106	LSGT	+	granted / extensions (spc, cpc, pte)	
US7291483 BB	20110613		REMI	MAINTENANCE FEE REMINDER MAILED	
US7291483 BB	20111106	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7291483 BB	20111205	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7291483 BB	20111205	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7291483 BB	20111227	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20111106
US7291483 BB	20200709	PEXP		Calculated Patent Term Expiry (PTA 160 days)	
WO0107595 A2	20010201	LSPB	+	published / reissued	
WO0107595 A2	20010201		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
WO0107595 A2	20010201		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TZ UG ZW
WO0107595 A2	20010328		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0107595 A2	20010510		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0107595 A3	20010816		+AK	DESIGNATED STATES	Kind code of Ref document: A3 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
WO0107595 A3	20010816		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A3 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TZ UG ZW
WO0107595 A3	20020114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 64958/00 Country of Ref document: AU
WO0107595 A3	20020125	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2380226 Country of Ref document: CA
WO0107595 A3	20020201	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2000952219 Country of Ref document: EP
WO0107595 A3	20020424	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2000952219 Country of Ref document: EP
WO0107595 A3	20020523	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0107595 A3	20051020	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 64958/00 Country of Ref document: AU
WO0202625 A2	20020110	LSPB	+	published / reissued	
WO0202625 A2	20020110		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID

					IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
WO0202625 A2	20020110		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZW
WO0202625 A2	20020306		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0202625 A2	20020321		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0202625 A3	20020801		+AK	DESIGNATED STATES	Kind code of Ref document: A3 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
WO0202625 A3	20020801		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A3 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZW
WO0202625 A3	20021226	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2002 507876 Country of Ref document: JP
WO0202625 A3	20021230	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2001271811 Country of Ref document: AU
WO0202625 A3	20030102	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2415123 Country of Ref document: CA
WO0202625 A3	20030114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2001950854 Country of Ref document: EP
WO0202625 A3	20030402	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2001950854 Country of Ref document: EP
WO0202625 A3	20030515	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO02058716 A2	20020801	LSPB	+	published / reissued	
WO02058716 A2	20020801		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
WO02058716 A2	20020801		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZW
WO02058716 A2	20020925		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO02058716 A2	20021121		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO02058716 A2	20030502	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002559050 Country of Ref document: JP
WO02058716 A2	20030505	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2428084 Country of Ref document: CA
WO02058716 A2	20030605	LSNP	+WWE	WIPO INFORMATION:	Ref document number: 2002248138 Country of Ref document: AU

				ENTRY INTO NATIONAL PHASE	
WO02058716 A2	20030605	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2001997012 Country of Ref document: EP
WO02058716 A3	20030918	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO02058716 A3	20031203	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2001997012 Country of Ref document: EP
WO02077266 A2	20021003	LSPB	+	published / reissued	
WO02077266 A2	20021003		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
WO02077266 A2	20021003		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO02077266 A2	20021127		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO02077266 A2	20040212	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO02102990 A2	20021227	LSPB	+	published / reissued	
WO02102990 A2	20021227		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW
WO02102990 A2	20021227		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO02102990 A2	20030226		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO02102990 A3	20031027	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002316291 Country of Ref document: AU
WO02102990 A3	20031103	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2446285 Country of Ref document: CA
WO02102990 A3	20031215	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003506444 Country of Ref document: JP
WO02102990 C1	20031224		CFP	CORRECTED VERSION OF A PAMPHLET FRONT PAGE	
WO02102990 C1	20031224	LSRE	CR1	CORRECTION OF ENTRY IN SECTION I	Text: IN PCT GAZETTE 52/2002 UNDER (30) REPLACE "NOT FURNISHED" BY "60/385,173"
WO02102990 C1	20031229	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002746584 Country of Ref document: EP
WO02102990 C1	20040331	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2002746584 Country of Ref document: EP
WO02102990 C1	20040422	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO03099201 A2	20031204	LSPB	+	published / reissued	
WO03099201 A2	20031204		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PH PL PT RO RU SC SD SE SG SK SL TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO03099201 A2	20031204		+AL	DESIGNATED COUNTRIES FOR	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI

				REGIONAL PATENTS	CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO03099201 A2	20040128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO03099201 A2	20041027	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003249622 Country of Ref document: AU
WO03099201 A2	20041102	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003755355 Country of Ref document: EP
WO03099201 A2	20041104	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2484274 Country of Ref document: CA
WO03099201 A2	20041109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004506728 Country of Ref document: JP
WO03099201 A3	20050727	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2003755355 Country of Ref document: EP
WO03099201 A3	20050804		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO04100892 A2	20041125	LSPB	+	published / reissued	
WO04100892 A2	20041125		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO04100892 A2	20041125		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO04100892 A2	20050119		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO04100892 A2	20051013		DPEN	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO04100892 A2	20051107	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2525107 Country of Ref document: CA
WO04100892 A2	20051109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006532928 Country of Ref document: JP
WO04100892 A2	20051110	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO04100892 A2	20051206	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004238332 Country of Ref document: AU
WO04100892 A2	20051207	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004751821 Country of Ref document: EP
WO04100892 A2	20060105	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004238332 Country of Ref document: AU
WO04100892 A2	20060222	LSPB	+WWP	WIPO	Ref document number: 2004751821

				INFORMATION: PUBLISHED IN NATIONAL OFFICE	Country of Ref document: EP
WO05025489 A2	20050324	LSPB	+	published / reissued	
WO05025489 A2	20050324		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BW BY BZ CA CH CN CO CR CU CZ DK DM DZ EC EE EG ES FI GB GD GE GM HR HU ID IL IN IS JP KE KG KP KZ LC LK LR LS LT LU LV MA MD MK MN MW MX MZ NA NI NO NZ PG PH PL PT RO RU SC SD SE SG SK SY TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM
WO05025489 A2	20050324		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BW BY CF CG CH CI CM CY DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG LS MC MD ML MR MW MZ NA NL PL PT RO RU SD SE SI SK SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05025489 A2	20050518		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05025489 A2	20051108	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2531878 Country of Ref document: CA
WO05025489 A2	20051124	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004271913 Country of Ref document: AU
WO05025489 A2	20051207	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004751820 Country of Ref document: EP
WO05025489 A2	20051215	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20040510 Kind code of Ref document: A Ref document number: 2004271913 Country of Ref document: AU
WO05025489 A2	20051215	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004271913 Country of Ref document: AU
WO05025489 A2	20060303	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006526057 Country of Ref document: JP
WO05025489 A2	20060307	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05025489 A2	20060531	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004751820 Country of Ref document: EP
WO05044991 A2	20050519	LSPB	+	published / reissued	
WO05044991 A2	20050519		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05044991 A2	20050519		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GM GN GQ GR GW HU IE IS IT KE KG KZ LS LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05044991 A2	20050713		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05044991 A2	20060505	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05044991 A2	20060508	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006539603 Country of Ref document: JP
WO05044991 A2	20060602	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004288217 Country of Ref document: AU
WO05044991 A2	20060605	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2548538 Country of Ref document: CA
WO05044991 A2	20060605	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004818337 Country of Ref document: EP

WO05044991 A2	20060622	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20041103 Kind code of Ref document: A Ref document number: 2004288217 Country of Ref document: AU
WO05044991 A2	20060622	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004288217 Country of Ref document: AU
WO05044991 A2	20060830	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004818337 Country of Ref document: EP
WO05044991 A2	20070327	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO05044991 A2	20070327	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP
WO05044991 A2	20070514	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10578234 Country of Ref document: US
WO05044991 A2	20080110	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 10578234 Country of Ref document: US
WO05112979 A2	20051201	LSPB	+	published / reissued	
WO05112979 A2	20051201		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05112979 A2	20051201		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05112979 A2	20060125		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05112979 A2	20061109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007513139 Country of Ref document: JP
WO05112979 A2	20061110	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2566439 Country of Ref document: CA
WO05112979 A2	20061111	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05112979 A2	20061111	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO05112979 A2	20061129	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005244737 Country of Ref document: AU
WO05112979 A2	20061211	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005765938 Country of Ref document: EP
WO05112979 A2	20070104	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20050329 Kind code of Ref document: A Ref document number: 2005244737 Country of Ref document: AU
WO05112979 A2	20070104	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005244737 Country of Ref document: AU
WO05112979 A2	20070418	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005765938 Country of Ref document: EP
WO05113809 A2	20051201	LSPB	+	published / reissued	
WO05113809 A2	20051201		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

WO05113809 A2	20051201		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05113809 A2	20060125		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05113809 A2	20061111	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05113809 A2	20061111	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO05113809 A2	20070627	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO06055264 A1	20060526	LSPB	+	published / reissued	
WO06055264 A1	20060526		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KN KP KR KZ LC LK LR LS LT LU LV LY MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO06055264 A1	20060526		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU LV MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO06055264 A1	20061206		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06055264 A1	20070502	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007540036 Country of Ref document: JP
WO06055264 A1	20070502	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2586213 Country of Ref document: CA
WO06055264 A1	20070504	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06055264 A1	20070528	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005306898 Country of Ref document: AU
WO06055264 A1	20070604	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005851340 Country of Ref document: EP
WO06055264 A1	20070621	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20051103 Kind code of Ref document: A Ref document number: 2005306898 Country of Ref document: AU
WO06055264 A1	20070621	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005306898 Country of Ref document: AU
WO06055264 A1	20070801	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005851340 Country of Ref document: EP
WO06073417 A2	20060713	LSPB	+	published / reissued	
WO06073417 A2	20060906		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO06073417 A2	20061109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007513141 Country of Ref document: JP
WO06073417 A2	20061110	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2566507 Country of Ref document: CA
WO06073417 A2	20061111	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

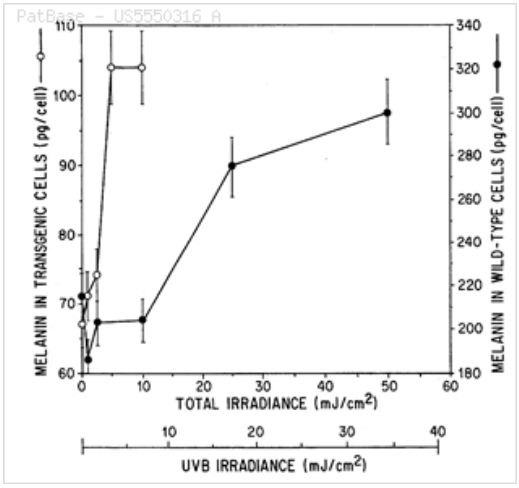
WO06073417 A2	20061111	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO06073417 A2	20061129	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005323489 Country of Ref document: AU
WO06073417 A2	20061211	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005856585 Country of Ref document: EP
WO06073417 A2	20061221	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20050329 Kind code of Ref document: A Ref document number: 2005323489 Country of Ref document: AU
WO06073417 A2	20061221	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005323489 Country of Ref document: AU
WO06073417 A2	20070530	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005856585 Country of Ref document: EP

85) Family number: 12744665 (US5550316 A)

Title: Transgenic animal model system for human cutaneous melanoma

Abstract: The present invention relates to transgenic animal model systems for human cutaneous melanoma. It is based, at least in part, on the discovery that, in susceptible transgenic mice, accelerated formation of melanoma tumors occurred near the wound borders of skin grafts carrying the Tyr-SV40E transgene, indicating that factors present during wound healing facilitate the formation of cutaneous melanoma in susceptible tissue.

Classifications:
International (IPC 8-9): A01K67/027 A61K38/00 C07K14/005 C07K14/025 C07K14/435 C07K14/52 C07K14/82 C07K5/00 C07K5/103 C12N15/85
International (IPC 1-7): A01K67/00 C07H17/00 C07K5/10 C07K7/06 C07KX C12N15/00
CPC: A01K67/0271 A61K38/00 C07K14/52 C07K14/82 C07K5/101 A01K2217/05 A01K2227/105 A01K2267/0331 A01K67/0275 C07K14/005 C12N15/8509 C12N2710/22022 C12N2830/008
US: 424/573 424/9.2 424/93.21 536/23.1 536/23.72 536/24.1 800/10 800/18 800/2



Family:

Publication number	Publication date	Application number	Application date
AU199213460 A1	19920907	AU19920013460	19920102
IL108463 A0	19940412	IL19940108463	19940128
US5550316 A	19960827	US19930011060	19930129
WO9213874 A2	19920820	WO1992US00099	19920102
WO9416557 A1	19940804	WO1994US01010	19940128

Priority:
US19910636798 19910102 WO1992US00099 19920102 US19930011060 19930129

Probable Assignee: FOX CHASE CANCER CENTER
Assignee(s): (std): FOX CHASE CANCER CENTER
Inventor(s): (std): MINTZ BEATRICE
Inventor(s): BEATRICE MINTZ
Designated states: AT AU BB BE BF BG BJ BR CA CF CG CH CI CM CS DE DK ES FI FR GA GB GN GR HU IE IT JP KR LK LU MC MG ML MN MR MW NL NO PL PT RO RU SD SE SN TD TG

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU199213460 A1	19920907	LSPB	+	published / reissued	
US5550316 A	19930329	LSAS	AS	ASSIGNMENT	Effective date: 19930322 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINTZ, BEATRICE;REEL/FRAME:006558/0024 Owner: FOX CHASE CANCER CENTER, PENNSYLVANIA PartyType: owner
US5550316 A	19960816	LSGT	PAT1	Patented Case	
US5550316 A	19960827	LSGT	+	granted / extensions (spc, cpc, pte)	
US5550316 A	20000321		REMI	MAINTENANCE FEE REMINDER MAILED	
US5550316 A	20000827	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5550316 A	20001031	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20000827
US5550316 A	20130827	PEXP		Calculated Patent Term Expiry	
US5550316 A	20180126	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	

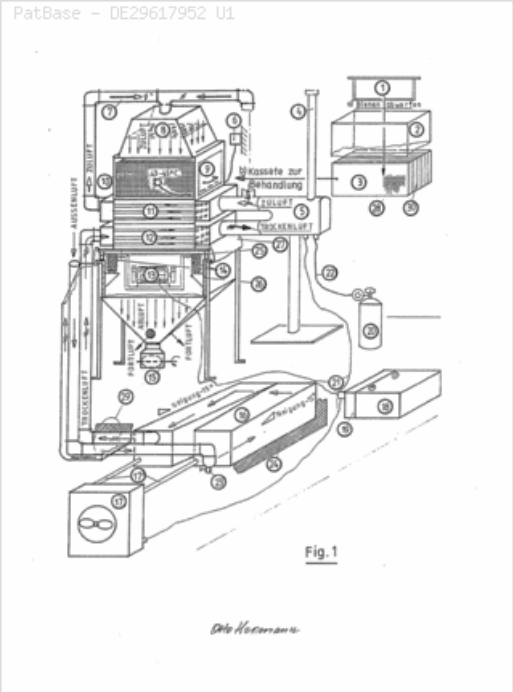
US5550316 A	20180126	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
WO9213874 A2	19920820	LSPB	+	published / reissued	
WO9213874 A2	19920820		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AU BB BG BR CA CS FI HU JP KR LK MG MN MW NO PL RO RU SD
WO9213874 A2	19920820		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AT BE BF BJ CF CG CH CI CM DE DK ES FR GA GB GN GR IT LU MC ML MR NL SE SN TD TG
WO9213874 A2	19921015		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9213874 A2	19940902	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: CA
WO9213874 A2	19950830	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO9416557 A1	19940804	LSPB	+	published / reissued	
WO9416557 A1	19940804		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: JP
WO9416557 A1	19940804		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
WO9416557 A1	19941027		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9416557 A1	19941109		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9416557 A1	19941110		COP	CORRECTED VERSION OF PAMPHLET	Text: PAGES 1/7-7/7,DRAWINGS,REPLACED BY NEW PAGES 1/13-13/13;DUE TO LATE TRANSMITTAL BY THE RECEIVING OFFICE
WO9416557 A1	19960605	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO

86) Family number: 17757454 (DE29617952 U1)

Title: Extra unlubricated air Varroa fight machine

Abstract: Source: DE29617952 U1 **Machine translation:** (Claim 1) Schutzanspruch1. To r time gibt.es no extra dry air Varroabekaemp-f ungs · Machine, by means of which can treat you, the adult bees against Var r oa, thereby gekennteichne t, that for the extra dry air Varroabekaemp fu ngsmaschine: a) a Luftmischka m it with the wid inside made perforated plate (8), a **treatment** room (10) in which the bees cassette (3), a Strahlungswaermetauscher (11) and a Waermerueckgewinnungswaermetauscher (12) to the de r hot air generator (5) connected wi th, one Kaeltemaschine (16,17, 17beta) is the lamellar evaporator in the air duct (16) eigebaut, b) a vibration (electric motor (13) with eccentric washers, compression springs (14)) and vibration system (vierH a mmern (25), frame (26)), c) a glass tank with built-in swivel base (15) controls for the Varroaab fa lls produced.

Classifications:
International (IPC 8-9): A01K51/00 A01M19/00
International (IPC 1-7): A01K51/00 A01M19/00
CPC: A01K51/00 A01M19/00



Family:

Publication number	Publication date	Application number	Application date
DE29617952 U1	19970320	DE19962017952U	19961016

Priority:
DE19962017952U 19961016

Probable Assignee: HERMANN OTTO DIPL ING FH
Assignee(s): (std): HERMANN OTTO DIPL ING FH
Assignee(s): HERMANN OTTO DIPL ING FH 74538 ROSENGARTEN DE

Legal status (INPADOC)

View legal status timeline

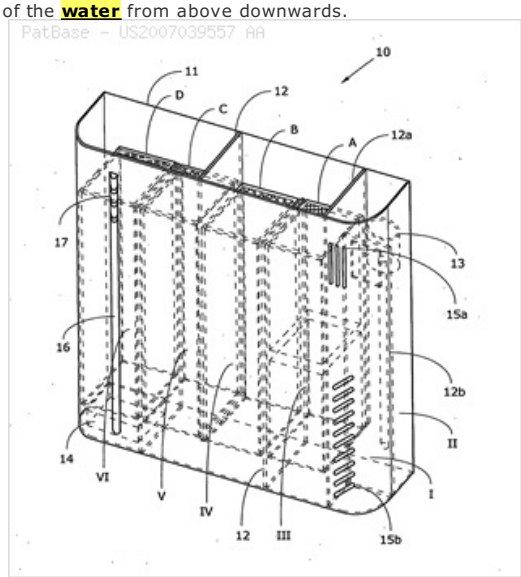
Patent	Date recorded	Event group	Code	Event	Details
DE29617952 U1	19970320	LSGT	+	granted / extensions (spc, cpc, pte)	
DE29617952 U1	19970320	LSGT	R207	UTILITY MODEL SPECIFICATION	Effective date: 19970320
DE29617952 U1	20001214	LSLE	-R156	LAPSE OF IP RIGHT AFTER 3 YEARS	Effective date: 20000801
DE29617952 U1	20061016	PEXP		Calculated Patent Term Expiry	

87) Family number: 31347494 (US2007039557 AA)

Title: FILTRATION APPARATUS FOR AQUARIA

Abstract: A filtration device (10) for aquarium tanks comprises a body (11), divided using special baffles (12) into a set number of intercommunicating **chambers** (I, II, III etc...) can be housed so that during the filtration process the **water** follows a zigzag route; it al comprises an infeed point (15) for the **water** to be purified, a temperature regulation unit (13) and a pump (14) enabling the recirculation of the **water**. The body (11) is fitted entirely inside the tank and the filtration elements (A; B; C etc...) are located between at least one pump (14) and at least one infeed point (15) to enable entry of the **water** into the filtration system mainly from below upwards and exit of the **water** from above downwards.

Classifications:
International (IPC 8-9): A01K A01K63/04 A01K63/06
International (IPC 1-7): A01K63/04
CPC: A01K63/045
US: 119/259 119/260 210/416.2 119/259P



Family:

Publication number	Publication date	Application number	Application date
AT406092 E	20080915	AT20040732408T	20040512
DE602004016144 D1	20081009	DE200460016144T	20040512
EP1624747 A1	20060215	EP20040732408	20040512
EP1624747 B1	20080827	EP20040732408	20040512
ES2313003 T3	20090301	ES20040732408T	20040512
ITVR20030060 A1	20041115	IT2003VR00060	20030514
JP2007501629 T2	20070201	JP20060531023T	20040512
JP4588029 B2	20101124	JP20060531023T	20040512
US2007039557 AA	20070222	US20040556321	20040512
US7578262 BB	20090825	US20040556321	20040512
WO04100654 A1	20041125	WO2004IT00263	20040512

Priority:
IT2003VR00060 20030514 WO2004IT00263 20040512

Probable Assignee: FERPLAST SPA
Assignee(s): (std): FERPLAST S P A ; VACCARI CARLO
Inventor(s): (std): VACCARI CARLO
Agent(s): GREENBERG TRAURIG LLP; PETRAZ GILBERTO LUIGI ET AL
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
AT406092 E	20080915	LSGT	+	granted / extensions (spc, cpc, pte)	
AT406092 E	20090415	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	Ref document number: 1624747 Country of Ref document: EP
AT406092 E	20110215	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT406092 E	20240512	PEXP		Calculated Patent Term Expiry	
DE602004016144 D1	20090917	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	

DE602004016144 D1	20151201	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
EP1624747 A1	20060215	LSPB	+	published / reissued	
EP1624747 A1	20060215	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20051213
EP1624747 A1	20060215		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
EP1624747 A1	20060823		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1624747 A1	20070103	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20060328
EP1624747 A1	20080827		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
EP1624747 A1	20080827	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP1624747 A1	20080831	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP1624747 A1	20081001	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP1624747 A1	20081009		REF	CORRESPONDS TO:	Kind code of Ref document: P Ref document number: 602004016144 Date of Ref document: 20081009 Country of Ref document: DE
EP1624747 A1	20081128		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref legal event code: NV Representative: WILLIAM BLANC & CIE CONSEILS EN PROPRIETE INDUSTRI Ref country code: CH
EP1624747 A1	20090227	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20080827 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1624747 A1	20090227	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20080827 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP1624747 A1	20090301	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 2313003 Ref legal event code: FG2A Kind code of Ref document: T3 Ref country code: ES Country of Ref document: ES
EP1624747 A1	20090430	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20081127 Country of Ref document: BG
EP1624747 A1	20090430	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20080827 Country of Ref document: DK
EP1624747 A1	20090529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20080827 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1624747 A1	20090529	LSLE	-PG25	LAPSED IN A	Lapsed date: 20090127

				CONTRACTING 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 Country of Ref document: PT
EP1624747 A1	20090529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20080827 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP1624747 A1	20090529	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20080827 Country of Ref document: SK
EP1624747 A1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20080827 Country of Ref document: EE
EP1624747 A1	20090731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20090528 Year of fee payment: 6 Country of Ref document: IE
EP1624747 A1	20090805	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20090528
EP1624747 A1	20090831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20090423 Year of fee payment: 6 Country of Ref document: AT
EP1624747 A1	20091231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20090531 Country of Ref document: MC
EP1624747 A1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081127 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1624747 A1	20100531	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20080827 Country of Ref document: PL
EP1624747 A1	20100715	LSAS	REG	REFERENCE TO A NATIONAL CODE	Owner: FERPLAST SPA Ref country code: CH PartyType: owner OldParty: FERPLAST SPA#VIA I MAGGIO, 5, Z.I.,#I-36070 CASTELGOMBERTO (IT) - TRANSFER TO- FERPLAST SPA#VIA I MAGGIO, 5, Z.I.,#I-36070 CASTELGOMBERTO (IT) Ref legal event code: PFA
EP1624747 A1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20081128 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1624747 A1	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100512 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: AT
EP1624747 A1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090512 Country of Ref document: LU
EP1624747 A1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20100512 Country of Ref document: IE
EP1624747 A1	20110630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090228 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HU
EP1624747 A1	20110715		REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Text: NOVAGRAAF SWITZERLAND SA;CHEMIN DE L'ECHO 3;1213 ONEX (CH) Ref legal event code: PCAR
EP1624747 A1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20080827 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1624747 A1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING 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: 20080827 Country of Ref document: CY
EP1624747 A1	20140430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20140331 Year of fee payment: 11 Country of Ref document: CH
EP1624747 A1	20140731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20140507 Year of fee payment: 11 Country of Ref document: GB
EP1624747 A1	20140829	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20140527 Year of fee payment: 11 Country of Ref document: NL
EP1624747 A1	20140829	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20140423 Country of Ref document: ES
EP1624747 A1	20140829	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20140402 Year of fee payment: 11 Country of Ref document: DE
EP1624747 A1	20140829	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20140522 Year of fee payment: 11 Country of Ref document: IT
EP1624747 A1	20140930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20140523 Year of fee payment: 11 Country of Ref document: BE
EP1624747 A1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20140526 Year of fee payment: 11 Country of Ref document: FR
EP1624747 A1	20151201	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R119 Ref country code: DE Ref document number: 602004016144 Country of Ref document: DE
EP1624747 A1	20151231	LSLE	REG	REFERENCE TO A	Ref legal event code: PL

				NATIONAL CODE	Ref country code: CH
EP1624747 A1	20160127	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20150512
EP1624747 A1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20150512 Country of Ref document: IT
EP1624747 A1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20150531 Country of Ref document: CH
EP1624747 A1	20160129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150531 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1624747 A1	20160203		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: MM Effective date: 20150601
EP1624747 A1	20160226	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160129 Ref legal event code: ST Ref country code: FR
EP1624747 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150512 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1624747 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20151201 Country of Ref document: DE
EP1624747 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150601 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: NL
EP1624747 A1	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150601 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1624747 A1	20160831	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160831 Ref country code: ES Ref legal event code: FD2A
EP1624747 A1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150513 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP1624747 A1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150531 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP1624747 B1	20080827	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1624747 B1	20240512	PEXP		Calculated Patent Term Expiry	
ES2313003 T3	20090301	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2313003 T3	20240512	PEXP		Calculated Patent Term Expiry	
ITVR20030060 A1	20041115	LSPB	+	published / reissued	

JP2007501629 T2	20070201	LSPB	+	published / reissued	
JP2007501629 T2	20070511	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20070510 Text: JAPANESE INTERMEDIATE CODE: A621
JP2007501629 T2	20100323	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20100323
JP2007501629 T2	20100619	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20100618 Text: JAPANESE INTERMEDIATE CODE: A523
JP2007501629 T2	20100806	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2007501629 T2	20100817	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20100817 Text: JAPANESE INTERMEDIATE CODE: A01
JP2007501629 T2	20100819	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2007501629 T2	20100916	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20100907
JP2007501629 T2	20100917	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	Text: JAPANESE INTERMEDIATE CODE: R150
JP2007501629 T2	20100924	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4588029 B2	20100819	LSGT	+A01	特許査定書	
JP4588029 B2	20100914	LSFE	R100	特許料納付書	
JP4588029 B2	20100917	LSGT	+R150	特許証	
JP4588029 B2	20101124	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4588029 B2	20130919	LSFE	R20	特許料納付書	
JP4588029 B2	20131001	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4588029 B2	20131001	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4588029 B2	20140717	LSFE	R20	特許料納付書	
JP4588029 B2	20140722	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4588029 B2	20140722	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4588029 B2	20150910	LSFE	R20	特許料納付書	
JP4588029 B2	20150915	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4588029 B2	20150915	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP4588029 B2	20160917	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4588029 B2	20240512	PEXP		Calculated Patent Term Expiry	
US2007039557 AA	20070222	LSPB	+	published / reissued	
US2007039557 AA	20080422	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: FERPLAST SPA, ITALY Effective date: 20051104 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VACCARI, CARLO;REEL/FRAME:020841/0032
US7578262 BB	20090805	LSGT	PAT1	Patented Case	
US7578262 BB	20090825	LSGT	+	granted / extensions (spc, cpc, pte)	

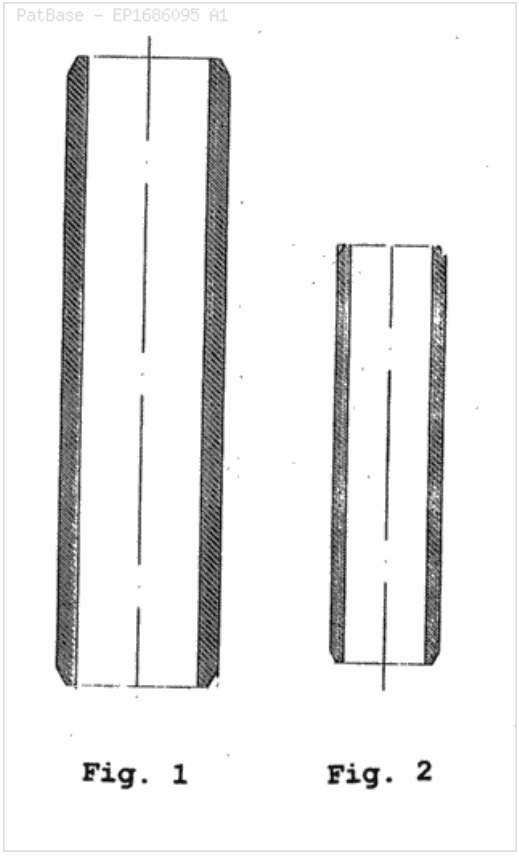
US7578262 BB	20120912	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7578262 BB	20170407		REMI	MAINTENANCE FEE REMINDER MAILED	
US7578262 BB	20170925	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7578262 BB	20170925	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7578262 BB	20170925	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7578262 BB	20171017	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20170825
US7578262 BB	20251229	PEXP		Calculated Patent Term Expiry (PTA 596 days)	
WO04100654 A1	20041125	LSPB	+	published / reissued	
WO04100654 A1	20041125		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO04100654 A1	20041125		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO04100654 A1	20050119		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO04100654 A1	20051109	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006531023 Country of Ref document: JP
WO04100654 A1	20051110	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10556321 Country of Ref document: US
WO04100654 A1	20051110	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007039557 Country of Ref document: US
WO04100654 A1	20051213	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004732408 Country of Ref document: EP
WO04100654 A1	20060215	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004732408 Country of Ref document: EP
WO04100654 A1	20070222	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 10556321 Country of Ref document: US
WO04100654 A1	20080827	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 2004732408 Country of Ref document: EP

88) Family number: 33173473 (EP1686095 A1)

Title: PHOTOCATALYTIC REACTOR WITH A MODULAR CONFIGURATION AND ADVANCED OXIDATION PROCESS FOR PURIFYING AND DISINFECTING WASTEWATER FROM AQUACULTURE

Abstract: A photocatalytic reactor with a modular configuration, based on UV light sources and a catalyst, useful for purifying and disinfecting wastewater from confined aquaculture, using Advanced Oxidation Processes (AOP), wherein the catalyst is supported over glass sheets as fixed strips within said reactor, at an established distance from the UV light source, and wherein the wastewater is treated as "batches" being re-circulated and returned to the circuit. The wastewater is fed through the lower end of the reactor and submitted to a strong turbulence when passing through perforations or holes made on the supports forming the floor of the reaction **chambers**.

Classifications:
International (IPC 8-9): A01K63/04 C02F1/00 C02F1/32 C02F1/72 C02F9/00
CPC: A01K63/04 C02F1/325 C02F1/725 C02F1/78 C02F2201/3227 C02F2201/3228 C02F2201/328 C02F2301/024 C02F2305/10 Y02W10/37



Family:

Publication number	Publication date	Application number	Application date
CL2005000184 A1	20060728	CL20050000184	20050131
CL2005000185 A1	20060512	CL20050000185	20050131
CL48820 B	20130121	CL20050000185	20050131
EP1686095 A1	20060802	EP20060001855	20060130

Priority:
CL20050000184 20050131 CL20050000185 20050131

Probable Assignee: UNIV CATOLICA DE LA SANTISIMA

Assignee(s): (std): UNIV CATOLICA DE LA SANTISIMA ; UNIVERSIDAD CATOLICA DE LA SANTISIMA CONCEPCION

Inventor(s): (std): DEL PILAR SOBENES VENNEKOOL CA ; NARVAEZ DINAMARCA ANA LORENA ; ORTIZ SANHUEZA CARLOS MAURICIO ; VENEGAS CABELLO PABLO ARTURO ; YEBER ORTIS MARIA CRISTINA

Inventor(s): BORDAGARAY ; DEL PILAR SOBENES VENNEKOOL CATTERINA ; NARVAEZ DINAMARCA ANA LORENA YEBER ORTIZ MARIA CRISTINA VENEGAS CABELLO PABLO ARTURO SOBENES VENNEKOOL CATTERINA DEL PILA ; NARVAEZ DINAMARCA ANA M ; SOBENES VENNEKOOL CATTERINA DEL PILA ; SOBENES VENNEKOOL CATTERINA DEL PILAR ; VENEGAS CABELLO PABLO A ; YEBER ORTIZ MARIA C ; YEBER ORTIZ MARIA CRISTINA

Agent(s): HARNECKER; HARNECKER CAREY LTDA

Designated states: DE DK FI GB IE NL

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CL2005000184 A1	20060728	LSPB	+	published / reissued	
CL2005000185 A1	20060512	LSPB	+	published / reissued	
CL48820 B	20130121	LSGT	+	granted / extensions (spc, cpc, pte)	

CL48820 B	20280121	PEXP		Calculated Patent Term Expiry	
EP1686095 A1	20060802	LSPB	+	published / reissued	
EP1686095 A1	20060802		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: 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
EP1686095 A1	20060802		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK YU
EP1686095 A1	20070228	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070112
EP1686095 A1	20070411	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: DE DK FI GB IE NL
EP1686095 A1	20070530	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20070502
EP1686095 A1	20151111	LSRV	-18R	APPLICATION REFUSED	Effective date: 20150704

89) Family number: 31781162 (US2005070721 AA)

Title: PH-SENSITIVE POLYMERIC MICELLES FOR DRUG DELIVERY

Abstract: Mixed micelles containing poly(L-histidine)-poly(ethylene glycol) block copolymer and poly(L-lactic acid)-poly(ethylene glycol) block copolymer are a pH-sensitive drug carrier that release the drug in an acidic microenvironment, but not in the blood. Since the microenvironment of solid tumors is acidic, these mixed micelles are useful for treating cancer, including those cancers exhibiting multidrug resistance. Targeting ligands, such as folate, can also be attached to the mixed micelles for enhancing drug delivery into cells. Methods of making poly(L-histidine), synthetic intermediates, and block copolymers are also described.

Classifications:
International (IPC 8-9): A01K25/00 A01N25/00 A01N43/64 A61K31/41 A61K31/70 A61K31/7028 A61K31/704 A61K47/00 A61K47/32 A61K9/00 A61K9/107 A61K9/12 A61K9/127 A61P35/00 C07D233/00 C07D233/54 C07D233/61 C07D413/00 C07D413/06 C08F8/00 C08F8/30 C08L53/00
International (IPC 1-7): A01N43/64 A61K31/41 A61K9/127 C07D233/61
CPC: A61K9/0019 A61K9/1075 C07D233/64 C07D413/06 C08F8/30 A61K31/704 A61K47/551 A61K47/6907 A61P35/00
US: 424/400 424/450 424/450P 424/484 424/486 424/78.22 424/78.23 514/34 514/34P 514/34S 514/359 514/359S 514/772 514/772.1 514/772.100S 523/122 525/89 525/89S 548/339.1 548/339.100P

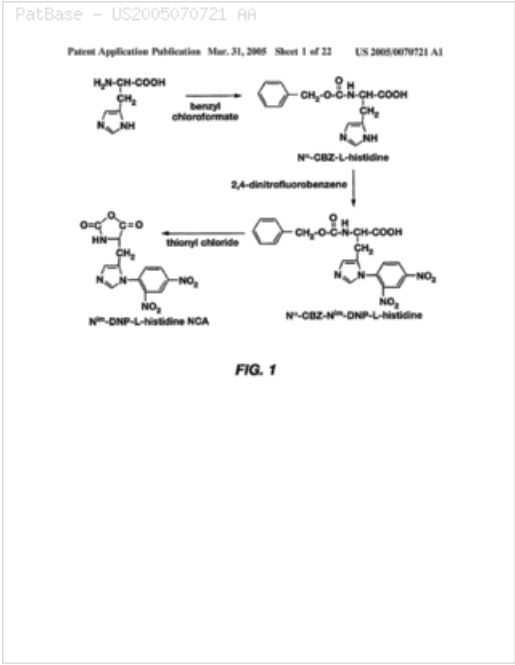


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
US2005070721 AA	20050331	US20030640739	20030519
US7229973 BB	20070612	US20030640739	20030519
US2005186263 AA	20050825	US20040846487	20040514
US7659314 BB	20100209	US20040846487	20040514
US2009274753 AA	20091105	US20090435283	20090504
US7951846 BB	20110531	US20090435283	20090504
US2010009926 AA	20100114	US20090487574	20090618
US8263664 BB	20120911	US20090487574	20090618

Priority:

US20020381970P 20020519 US20030640739 20030519 US20040846487 20040514
US20090435283 20090504 US20090487574 20090618

Probable Assignee: OF UTAH RESEARCH FOUNDATION UNIV

Assignee(s): (std): BAE YOU HAN ; GAO ZHONGGAO ; KIM DONGIN ; LEE EUN SEONG ; NA KUN ; UNIV UTAH RES FOUND

Assignee(s): OF UTAH RESEARCH FOUNDATION UNIV ; OF UTAH UNIV ; UNIVERSITY OF UTAH RESEARCH FOUNDATION ; UTAH RESEARCH FOUNDATION UNIV ; UTAH UNIV ; UTAH UNIV OF ; UTAH UNIV OF RESEARCH FOUNDATION

Inventor(s): (std): BAE YOU H ; BAE YOU HAN ; GAO ZHONGGAO ; KIM DONGIN ; LEE EUN S ; LEE EUN SEONG ; LEE EUN SEUNG ; NA KUN

Inventor(s): BAE YOU ; LEE EUN

Agent(s): ALAN J HOWARTH; CLAYTON HOWARTH AND CANNON PC

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2005070721 AA	20050331	LSPB	+	published / reissued	
US2005070721 AA	20070523	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2005186263 AA	20050825	LSPB	+	published / reissued	
US2009274753 AA	20091105	LSPB	+	published / reissued	
US2009274753 AA	20110511	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

US2010009926 AA	20100114	LSPB	+	published / reissued	
US2010009926 AA	20120822	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7229973 BB	20041213	LSAS	AS	ASSIGNMENT	Owner: UTAH, UNIVERSITY OF RESEARCH FOUNDATION, UTAH OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:UTAH, UNIVERSITY OF;REEL/FRAME:016068/0538 Effective date: 20030630 PartyType: owner
US7229973 BB	20041213	LSAS	AS	ASSIGNMENT	Effective date: 20030620 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BAE, YOU HAN;NA, KUN;LEE, EUN SEUNG;REEL/FRAME:016068/0624 Owner: UTAH, UNIVERSITY OF, UTAH PartyType: owner
US7229973 BB	20070523	LSGT	PAT1	Patented Case	
US7229973 BB	20070612	LSGT	+	granted / extensions (spc, cpc, pte)	
US7229973 BB	20080422	LSRE	CC	CERTIFICATE OF CORRECTION	
US7229973 BB	20100825	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7229973 BB	20141124	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7229973 BB	20190128	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7229973 BB	20190715	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
US7229973 BB	20190715	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7229973 BB	20190715	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7229973 BB	20190806	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20190612
US7229973 BB	20200210	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	Effective date: 20200213
US7229973 BB	20200213	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES FILED (ORIGINAL EVENT CODE: PMFP); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7229973 BB	20200213	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE, PETITION TO ACCEPT PYMT AFTER EXP, UNINTENTIONAL. (ORIGINAL EVENT CODE: M2558); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7229973 BB	20200213	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PMFG); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7229973 BB	20200213	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7229973 BB	20200213	LSGT	PAT1	Patented Case	
US7229973 BB	20200213	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7229973 BB	20231207	PEXP		Calculated Patent Term Expiry (PTA 202 days)	
US7659314 BB	20050502	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:UNIVERSITY OF UTAH;REEL/FRAME:016515/0663 PartyType: owner Owner: UNIVERSITY OF UTAH RESEARCH FOUNDATION, UTAH Effective date: 20040610
US7659314 BB	20050502	LSAS	AS	ASSIGNMENT	Owner: UNIVERSITY OF UTAH, UTAH PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BAE, YOU HAN;NA, KUN;LEE, EUN SEUNG;REEL/FRAME:016515/0667;SIGNING DATES FROM 20040527 TO 20040531

US7659314 BB	20050502	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:UNIVERSITY OF UTAH;REEL/FRAME:016515/0663 PartyType: owner Effective date: 20040610 Owner: UNIVERSITY OF UTAH RESEARCH FOUNDATION,UTAH
US7659314 BB	20050502	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BAE, YOU HAN;NA, KUN;LEE, EUN SEUNG;SIGNING DATES FROM 20040527 TO 20040531;REEL/FRAME:016515/0667 Owner: UNIVERSITY OF UTAH,UTAH
US7659314 BB	20100120	LSGT	PAT1	Patented Case	
US7659314 BB	20100209	LSGT	+	granted / extensions (spc, cpc, pte)	
US7659314 BB	20100810	LSRE	CC	CERTIFICATE OF CORRECTION	
US7659314 BB	20130920		REMI	MAINTENANCE FEE REMINDER MAILED	
US7659314 BB	20131009	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7659314 BB	20131009		+SULP	SURCHARGE FOR LATE PAYMENT	
US7659314 BB	20170925	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7659314 BB	20180312	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7659314 BB	20180312	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7659314 BB	20180312	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7659314 BB	20180403	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20180209
US7659314 BB	20200213	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES FILED (ORIGINAL EVENT CODE: PMFP); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7659314 BB	20200213	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7659314 BB	20200615	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	Effective date: 20200616
US7659314 BB	20200616	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PMFG); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7659314 BB	20200616	LSGT	PAT1	Patented Case	
US7659314 BB	20200616	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7659314 BB	20250823	PEXP		Calculated Patent Term Expiry (PTA 827 days and a terminal disclaimer has been filed)	
US7951846 BB	20110511	LSGT	PAT1	Patented Case	
US7951846 BB	20110531	LSGT	+	granted / extensions (spc, cpc, pte)	
US7951846 BB	20141028	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7951846 BB	20190121	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7951846 BB	20190708	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
US7951846 BB	20190708	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	

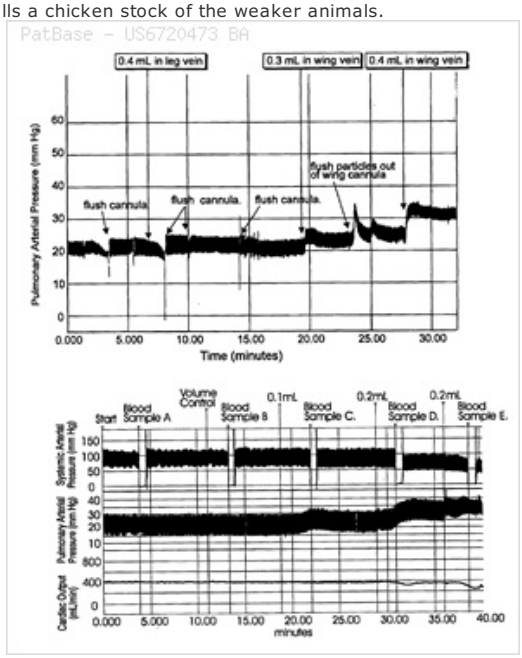
US7951846 BB	20190708	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7951846 BB	20190730	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20190531
US7951846 BB	20231210	PEXP		Calculated Patent Term Expiry (PTA 205 days and a terminal disclaimer has been filed)	
US8263664 BB	20090922	LSAS	AS	ASSIGNMENT	Owner: UNIVERSITY OF UTAH, UTAH OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KIM, DONGIN;GAO, ZHONGGAO;BAE, YOU HAN;AND OTHERS;REEL/FRAME:023268/0106;SIGNING DATES FROM 20090715 TO 20090910 PartyType: owner
US8263664 BB	20090922	LSAS	AS	ASSIGNMENT	Owner: UNIVERSITY OF UTAH, UTAH OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KIM, DONGIN;GAO, ZHONGGAO;BAE, YOU HAN;AND OTHERS;SIGNING DATES FROM 20090715 TO 20090910;REEL/FRAME:023268/0106 PartyType: owner
US8263664 BB	20090922	LSAS	AS	ASSIGNMENT	Effective date: 20090911 PartyType: owner Owner: UNIVERSITY OF UTAH RESEARCH FOUNDATION, UTAH OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:UNIVERSITY OF UTAH;REEL/FRAME:023268/0122
US8263664 BB	20120822	LSGT	PAT1	Patented Case	
US8263664 BB	20120911	LSGT	+	granted / extensions (spc, cpc, pte)	
US8263664 BB	20160224	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8263664 BB	20200504	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8263664 BB	20200814	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: 7.5 YR SURCHARGE - LATE PMT W/IN 6 MO, SMALL ENTITY (ORIGINAL EVENT CODE: M2555); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8263664 BB	20200814	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8263664 BB	20240917	PEXP		Calculated Patent Term Expiry (PTA 487 days)	

90) Family number: 15653195 (US6720473 BA)

Title: INTRA-VASCULAR ADMINISTRATION OF PARTICLES TO INDUCE PULMONARY HYPERTENSION, PULMONARY HYPERTENSION SYNDROME, AND ASCITES IN POULTRY

Abstract: A new method for identifying and eliminating chickens that are susceptible to pulmonary hypertension uses micrometer scale particles to occlude blood vessels in the lungs of the chickens. This results in the death of chickens that are pre-disposed to pulmonary hypertension. The invention effectively culls a chicken stock of the weaker animals.

Classifications:
International (IPC 8-9): A01K67/00 A01K67/027 A01K67/033 A61B5/021 A61K49/00 C12N15/00
International (IPC 1-7): A01K6/700 A01K6/7027 A01K6/7033 A01K67/00 A01K67/027 A01K67/033 C12N1/500 C12N15/00
CPC: A01K67/027 A61K49/0008 A01K2227/30 A01K2267/0375 A61B5/021 A61B5/412 A61B5/415 A61B5/416 A61B5/418
US: 800/13 800/19 800/21 800/8



Family:

Publication number	Publication date	Application number	Application date
AU2001229434 AA	20010724	AU20010229434	20010112
US6720473 BA	20040413	US20010913774	20010813
WO0150846 A1	20010719	WO2001US01147	20010112

Priority:
US20000176412P 20000114 WO2001US01147 20010112 US20010913774 20010813

Probable Assignee: ARKANSAS BOARD OF TRUSTEES OF UNIV OF

Assignee(s): (std): ERF GISELA F ; FRENCH HOWARD L ; UNIV ARKANSAS ; WIDEMAN ROBERT F JR

Assignee(s): ARKANSAS BOARD OF TRUSTEES OF UNIV ; ARKANSAS BOARD OF TRUSTEES OF UNIV OF ; BOARD OF TRUSTEES OF THE UNIVERSITY OF ARKANSAS ; BOARD OF TRUSTEES OF UNIV OF ARKANSAS ; HUBBARD LLC ; OF ARKANSAS UNIV ; TRUSTEES OF UNIV ; UNIVERSITY OF ARKAN S SA ; UNIVERSITY OF ARKANSAS ; WIDEMAN ROBERT F

Inventor(s): (std): ERF GISELA F ; FRENCH HOWARD L ; WIDEMAN ROBERT F JR

Inventor(s): GISELA F ERF ; HOWARD L FRENCH ; ROBERT F WIDEMAN JR ; WIDEMAN JR ROBERT F ; WIDEMAN ROBERT F

Agent(s): HEAD JOHNSON AND KACHIGIAN

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2001229434 AA	20010724	LSPB	+	published / reissued	
US6720473 BA	20010813	LSAS	AS	ASSIGNMENT	Effective date: 20010810 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ERF, GISELA F.;WIDEMAN, ROBERT F., JR.;FRENCH, HOWARD L.;REEL/FRAME:012349/0303 Owner: UNIVERSITY OF ARKANSAS, ARKANSAS PartyType: owner
US6720473 BA	20040325	LSGT	PAT1	Patented Case	
US6720473 BA	20040325	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6720473 BA	20040413	LSGT	+	granted / extensions	

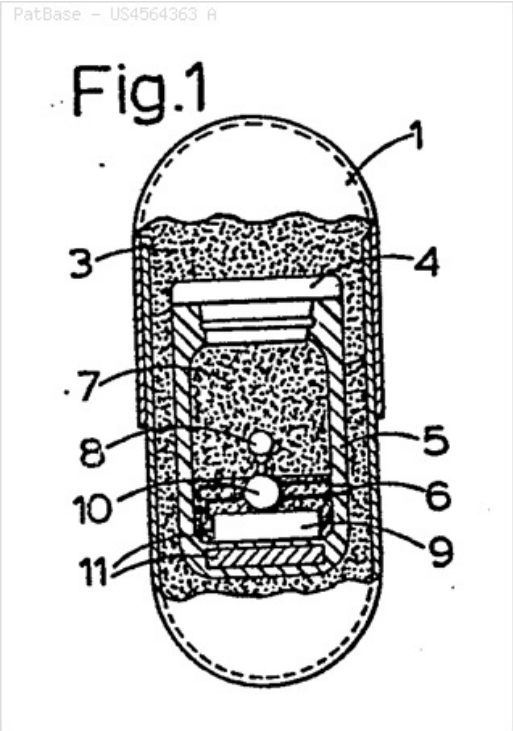
				(spc, cpc, pte)	
US6720473 BA	20050201	LSRE	CC	CERTIFICATE OF CORRECTION	
US6720473 BA	20051201	LSAS	AS	ASSIGNMENT	Effective date: 20051115 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ARKANSAS, UNIVERSITY OF;REEL/FRAME:016835/0714 Owner: HUBBARD L.L.C., GEORGIA PartyType: owner
US6720473 BA	20051201	LSAS	AS	ASSIGNMENT	Effective date: 20051115 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ARKANSAS, UNIVERSITY OF;REEL/FRAME:016835/0714 Owner: ARKANSAS, BOARD OF TRUSTEES OF THE UNIVERSITY OF, PartyType: owner
US6720473 BA	20070822	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6720473 BA	20080624		+SULP	SURCHARGE FOR LATE PAYMENT	
US6720473 BA	20110607	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6720473 BA	20150422	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6720473 BA	20200302	PEXP		Calculated Patent Term Expiry (PTA 48 days)	
WO0150846 A1	20010719	LSPB	+	published / reissued	
WO0150846 A1	20010719		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
WO0150846 A1	20010719		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SL SN SZ TD TG TJ TM TR TZ UG ZW
WO0150846 A1	20010912		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0150846 A1	20020508	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0150846 A1	20021127	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO0150846 A1	20041015	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP

91) Family number: 23124014 (US4564363 A)

Title: DELAYED ACTION ASSEMBLY

Abstract: A device for effecting the delayed release of an active ingredient comprises a container and, within, a dispersible unit of ingredient, a removable closure and a electrical control circuit for removal of said closure at a designated time to release the active ingredient. Several assemblies are combined to control the administration of veterinary medicaments to ruminant animals as a specific application of the invention.

Classifications:
International (IPC 8-9): A61D7/00 A61K9/00 A61K9/22 A61K9/52 A61M31/00
International (IPC 1-7): A01K5/02 A01K5/2 A01N A23K A61D7/00 A61J3/07 A61J7/00 A61K9/00 A61K9/22 A61K9/48 A61K9/52 A61M31/00
CPC: A61D7/00 A61K9/0068 A61M31/002
US: 222/641 424/438 604/140 604/890 604/891 604/891.1 604/93 604/93.01 D24/104



Family:

Publication number	Publication date	Application number	Application date
AT67683 E	19911015	AT19840304692T	19840710
AU198429992 A1	19850117	AU19840029992	19840628
AU579320 B2	19881124	AU19840029992	19840628
BRPI8403569 A	19850625	BR1984PI03569	19840713
CA1223817 A1	19870707	CA19840457242	19840622
DE3485104 D1	19911031	DE19843485104T	19840710
DK163411 B	19920302	DK19840003407	19840711
DK163411 C	19920720	DK19840003407	19840711
DK340784 A	19850114	DK19840003407	19840711
DK340784 A0	19840711	DK19840003407	19840711
EP0132102 A2	19850123	EP19840304692	19840710
EP0132102 A3	19861001	EP19840304692	19840710
EP0132102 B1	19910925	EP19840304692	19840710
ES534246 A0	19860201	ES19840534246	19840712
ES8604405 A1	19860201	ES19840534246	19840712
FI82600 B	19901231	FI19840002806	19840712
FI82600 C	19910410	FI19840002806	19840712
FI842806 A	19850114	FI19840002806	19840712
FI842806 A0	19840712	FI19840002806	19840712
GR81503 B	19841211	GR19840175258	19840710
HU197836 B	19890628	HU19840002732	19840712
HU37882 A2	19860328	HU19840002732	19840712
IE57707 B	19930310	IE19840001762	19840710
IE841762 L	19850113	IE19840001762	19840710
JP60036047 A2	19850225	JP19840146682	19840713
JP6073532 B4	19940921	JP19840146682	19840713
KR19850000954 A	19850314	KR19840004084	19840712
KR850000954 A	19850314	KR19840004084	19840712
MX169403 B	19930630	MX19840202026	19840713
NO171043 B	19921012	NO19840002862	19840712
NO171043 C	19930120	NO19840002862	19840712
NO842862 A	19850114	NO19840002862	19840712
NO842862 L	19850114	NO19840002862	19840712
NZ208513 A	19870630	NZ19840208513	19840614
PH25758 A	19911018	PH19840030917	19840704
PT78889 A	19840801	PT19840078889	19840711
PT78889 B	19861023	PT19840078889	19840711
US4564363 A	19860114	US19830513512	19830713
ZA8404617 A	19850327	ZA19840004617	19840619

Priority:

US19830513512 19830713 CA19840457242 19840622 EP19840304692 19840710

Probable Assignee: SMITHKLINE BECKMAN CORP

Assignee(s): (std): SMITH KLINE FRENCH CANADA LTD ; SMITHKLINE BECKMAN CORP ; SMITHKLINE BEECHAM CORP

Assignee(s): BAGNALL BRIAN G ; GYURIK ROBERT J ; SMITH KLINE AND FRENCH CANADA LTD ; SMITHKLINE BECKMAN A CORP OF PA CORP ; SMITHKLINE BECKMAN CORP PHILADELPHIA PA US ; SMITHKLINE BECKMAN CORP US

Inventor(s): (std): BAGNAIL BRIAN GEOFFREY ; BAGNALL B G ; BAGNALL BRIAN G ; BAGNALL BRIAN GEOFFREY ; BAGNALL GEOFFREY B ; BURAIAN JIYOFURII BAGUNARU ; GYURIK JOHN R ; GYURIK R J ; GYURIK ROBERT J ; GYURIK ROBERT JOHN ; ROBAATO JIYON JIYUURITSUKU

Inventor(s): BAGNALL BRIAN GEOFFREY BERWYN PENNSYLVANIA 19312 US ; BRIAN G BAGNALL ; BRIAN GEOFFREY BAGNAIL ; BRIAN GEOFFREY BAGNALL ; BURAIAN JOFURII BAGUNARU ; GYURIK ROBERT JOHN DOWNINGTOWN PENNSYLVANIA 19335 US ; ROBAATO JON JURITSUKU ; ROBERT J GYURIK ; ROBERT JOHN GYURIK

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; GOWLING LAFLEUR HENDERSON LLP

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT67683 E	19911015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT67683 E	20040710	PEXP		Calculated Patent Term Expiry	
AU198429992 A1	19850117	LSPB	+	published / reissued	
AU579320 B2	19881124	LSGT	+	granted / extensions (spc, cpc, pte)	
AU579320 B2	20040628	PEXP		Calculated Patent Term Expiry	
BRPI8403569 A	19850625	LSPB	+	published / reissued	
CA1223817 A1					
CA1223817 A1	20040707	LSLE	-MKEX	EXPIRY	
DE3485104 D1	19921022	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3485104 D1	19921022	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3485104 D1	19960711	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE3485104 D1	19960711	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DK163411 B	19920302	LSPB	+	published / reissued	
DK163411 C	19920720	LSGT	+	granted / extensions (spc, cpc, pte)	
DK163411 C	19960325	LSLE	-PBP	PATENT LAPSED	
DK163411 C	20040711	PEXP		Calculated Patent Term Expiry	
DK340784 A	19850114	LSPB	+	published / reissued	
EP0132102 A2	19850123	LSPB	+	published / reissued	
EP0132102 A2	19850123	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19840718
EP0132102 A2	19850123		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: AT BE CH DE FR GB IT LI LU NL SE
EP0132102 A2	19860910	LSRE	RHK1	MAIN CLASSIFICATION (CORRECTION)	ClassificationSymbol: A61M 31/00 ClassificationScheme: IPC
EP0132102 A3	19861001		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AT BE CH DE FR GB IT LI LU NL SE
EP0132102 A3	19880330	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19880210

EP0132102 A3	19910605	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: SMITHKLINE BEECHAM CORPORATION
EP0132102 B1	19910925	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0132102 B1	19910925		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE FR GB IT LI LU NL SE
EP0132102 B1	19910925		REF	CORRESPONDS TO:	Kind code of Ref document: T Date of Ref document: 19911015 Ref document number: 67683 Country of Ref document: AT
EP0132102 B1	19911001		+ITF	IT: TRANSLATION FOR A EP PATENT FILED	PartyType: owner Owner: JACOBACCI & PERANI S.P.A.
EP0132102 B1	19911031		REF	CORRESPONDS TO:	Ref document number: 3485104 Date of Ref document: 19911031 Country of Ref document: DE
EP0132102 B1	19911220		+ET	FR: TRANSLATION FILED	
EP0132102 B1	19920916	LSGT	+26N	NO OPPOSITION FILED	
EP0132102 B1	19940617	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 19940617 Country of Ref document: AT
EP0132102 B1	19940621	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 19940621 Country of Ref document: SE
EP0132102 B1	19940622	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 19940622 Country of Ref document: GB
EP0132102 B1	19940713	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 19940713 Country of Ref document: FR
EP0132102 B1	19940727	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 19940727 Country of Ref document: DE
EP0132102 B1	19940731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 19940731 Country of Ref document: LU
EP0132102 B1	19940731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 19940731 Year of fee payment: 11 Country of Ref document: NL
EP0132102 B1	19940804	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 19940804 Country of Ref document: BE
EP0132102 B1	19941003	LSFE	+EPTA	LU: LAST PAID ANNUAL FEE	Ref country code: EP
EP0132102 B1	19941018	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 19941018 Country of Ref document: CH
EP0132102 B1	19950131	LSGT	+EAL	SE: EUROPEAN PATENT IN FORCE IN SWEDEN	Text: 84304692.1 Ref country code: EP
EP0132102 B1	19950710	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19950710 Country of Ref document: AT

EP0132102 B1	19950710	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19950710 Country of Ref document: GB
EP0132102 B1	19950710	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19950710 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP0132102 B1	19950711	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19950711 Country of Ref document: SE
EP0132102 B1	19950731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19950731 Country of Ref document: BE
EP0132102 B1	19950731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19950731 Country of Ref document: CH
EP0132102 B1	19950731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19950731 Country of Ref document: LI
EP0132102 B1	19960131	LSLE	-BERE	BE: LAPSED	Effective date: 19950731 Ref country code: EP Owner: SMITHKLINE BEECHAM CORP. PartyType: owner
EP0132102 B1	19960201	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19960201 Country of Ref document: NL
EP0132102 B1	19960306	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 19950710 Ref country code: EP
EP0132102 B1	19960315	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP0132102 B1	19960401	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	Effective date: 19960201 Ref country code: EP
EP0132102 B1	19960402	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19960402 Country of Ref document: DE
EP0132102 B1	19960415	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	Text: 84304692.1 Ref country code: EP
EP0132102 B1	19960430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 19960430 Country of Ref document: FR
EP0132102 B1	19960503	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: ST Ref country code: FR
EP0132102 B1	19960515	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: ST
EP0132102 B1	19960614	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: ST
EP0132102 B1	20040710	PEXP		Calculated Patent Term Expiry	
ES8604405 A1	19860201	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
ES8604405 A1	19970716	LSLE	-FD1A	PATENT LAPSED	Effective date: 19970612
ES8604405 A1	20060201	PEXP		Calculated Patent Term Expiry	
FI82600 B	19901231	LSPB	+	published / reissued	
FI82600 B	20040712	PEXP		Calculated Patent Term Expiry	
FI82600 C	19910410	LSGT	+	granted / extensions (spc, cpc, pte)	
FI82600 C	20040712	PEXP		Calculated Patent Term Expiry	
FI82600 C	20040831	LSLE	-MM	PATENT LAPSED	PartyType: owner Owner: SMITHKLINE BECKMAN CORPORATION
FI842806 A	19850114	LSPB	+	published / reissued	
GR81503 B	19841211	LSGT	+	granted / extensions (spc, cpc, pte)	
GR81503 B	20040710	PEXP		Calculated Patent Term Expiry	
HU197836 B	19890628	LSGT	+	granted / extensions (spc, cpc, pte)	
HU197836 B	19900628		HU90	PATENT VALID ON 900628	
HU197836 B	20040712	PEXP		Calculated Patent Term Expiry	
HU37882 A2	19860328	LSPB	+	published / reissued	
IE57707 B	19930310	LSGT	+	granted / extensions (spc, cpc, pte)	
IE57707 B	19960501	LSLE	-MM4A	PATENT LAPSED	
IE57707 B	20040710	PEXP		Calculated Patent Term Expiry	
JP60036047 A2	19850225	LSPB	+	published / reissued	
JP6073532 B4	19940921	LSPB	+	published / reissued	
KR19850000954 A	19850314	LSPB	+	published / reissued	
KR850000954 A	19850314	LSPB	+	published / reissued	
KR850000954 A	19890629	LSES	A201	REQUEST FOR EXAMINATION	
KR850000954 A	19910711	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR850000954 A	19911218	LSRV	-E601	DECISION TO REFUSE APPLICATION	
MX169403 B	19930630	LSGT	+	granted / extensions (spc, cpc, pte)	
MX169403 B	20030630	PEXP		Calculated Patent Term Expiry	
NO171043 B	19921012	LSPB	+	published / reissued	
NO171043 C	19930120	LSGT	+	granted / extensions (spc, cpc, pte)	
NO171043 C	20040712	PEXP		Calculated Patent Term Expiry	
NO842862 A	19850114	LSPB	+	published / reissued	
NZ208513 A	19870630	LSPB	+	published / reissued	
PH25758 A	19911018	LSGT	+	granted / extensions (spc, cpc, pte)	
PH25758 A	20081018	PEXP		Calculated Patent Term Expiry	

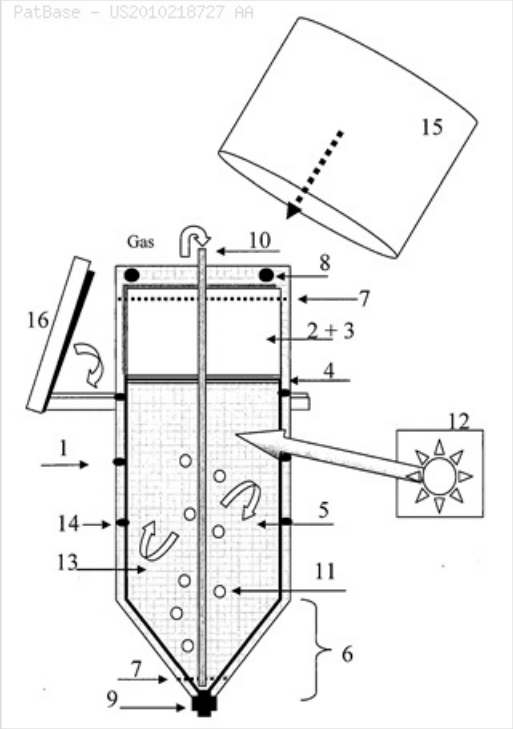
PT78889 A	19840801	LSPB	+	published / reissued	
PT78889 B	19861023	LSGT	+	granted / extensions (spc, cpc, pte)	
PT78889 B	20000630	LSLE	-MM3A	ANNULMENT OR LAPSE	Text: LAPSE DUE TO NON-PAYMENT OF FEES Effective date: 19921203
PT78889 B	20040711	PEXP		Calculated Patent Term Expiry	
US4564363 A	19830713	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: SMITHKLINE BECKMAN CORPORATION ONE FRANKLIN PLAZA, OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:BAGNALL, BRIAN G.;GYURIK, ROBERT J.;SHEARER, MARCIA C.;AND OTHERS;REEL/FRAME:004155/0512;SIGNING DATES FROM 19830611 TO 19830711
US4564363 A	19830713	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST.;ASSIGNORS:BAGNALL, BRIAN G.;GYURIK, ROBERT J.;SHEARER, MARCIA C.;AND OTHERS;REEL/FRAME:004155/0512;SIGNING DATES FROM 19830611 TO 19830711 Owner: SMITHKLINE BECKMAN CORPORATION ONE FRANKLINPLAZA, PartyType: owner
US4564363 A	19830713	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BAGNALL, BRIAN G.;GYURIK, ROBERT J.;SHEARER, MARCIA C.;AND OTHERS;SIGNING DATES FROM 19830611 TO 19830711;REEL/FRAME:004155/0512 PartyType: owner Owner: SMITHKLINE BECKMAN CORPORATION, A CORP. OF PA,PENN
US4564363 A	19830713	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BAGNALL, BRIAN G.;GYURIK, ROBERT J.;SHEARER, MARCIA C.;AND OTHERS;SIGNING DATES FROM 19830611 TO 19830711;REEL/FRAME:004155/0512 PartyType: owner Owner: SMITHKLINE BECKMAN CORPORATION, PENNSYLVANIA
US4564363 A	19851113	LSGT	PAT1	Patented Case	
US4564363 A	19860114	LSGT	+	granted / extensions (spc, cpc, pte)	
US4564363 A	19890612	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US4564363 A	19930622	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US4564363 A	19970819		REMI	MAINTENANCE FEE REMINDER MAILED	
US4564363 A	19980111	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4564363 A	19980324	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 19980114
US4564363 A	20030713	PEXP		Calculated Patent Term Expiry	
US4564363 A	20180123	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US4564363 A	20180123	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
ZA8404617 A	19850327	LSGT	+	granted / extensions (spc, cpc, pte)	
ZA8404617 A	20040618	PEXP		Calculated Patent Term Expiry	

92) Family number: 46711264 (US2010218727 AA)

Title: COMPACT CULTURE SYSTEMS

Abstract: Devices and methods are disclosed for the containment, hatching, and culture of aquatic and semi-aquatic organisms. Methods and device can be applied widely in the care and culture of aquatic and semi-aquatic organisms important in the aquaculture industry, aquarium and pet hobby, science instruction and education, environmental screening and toxicity testing, and the education-entertainment field.

Classifications:
International (IPC 8-9): A01K61/00 A01K63/06
CPC: A01K61/40 A01K63/00 A01K63/003 Y02A40/81
US: 119/200 119/200S 119/204 119/267 119/267S



Family:

Publication number	Publication date	Application number	Application date
US2010218727 AA	20100902	US20100701308	20100205
US8091510 BB	20120110	US20100701308	20100205

Priority:

US20050682243P 20050518 US20060432259 20060511 US20100701308 20100205

Probable Assignee: HUGHES KENNETH D
Assignee(s): (std): HUGHES KENNETH D
Inventor(s): (std): HUGHES KENNETH D
Agent(s): JOHNSON AND ASSOCIATES; KING AND SPALDING

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2010218727 AA	20100902	LSPB	+	published / reissued	
US2010218727 AA	20111221	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8091510 BB	20111221	LSGT	PAT1	Patented Case	
US8091510 BB	20120110	LSGT	+	granted / extensions (spc, cpc, pte)	
US8091510 BB	20150524	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8091510 BB	20190519	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8091510 BB	20260511	PEXP		Calculated Patent Term Expiry	

93) Family number: 34090345 (US2007065448 AA)

Title: METHODS AND COMPOSITIONS FOR TREATING DISEASES TARGETING MABA1

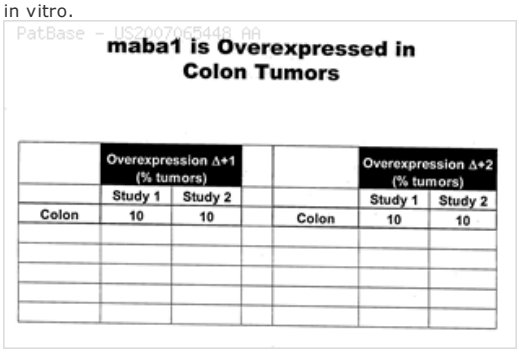
Abstract: Methods and compositions for diagnosing, detecting and treating a colon disease associated with differential expression of MABA1 in comparison to healthy cells. Also provided are antagonists or agonists of MABA1, and methods for screening agents that modulate the MABA1 level or activity in vivo or in vitro.

Classifications:

International (IPC 8-9): A01K67/00 A01K67/027 A61K31/7105 A61K38/17 A61K39/39 A61K39/395 A61K48/00 A61P35/00 C07H21/02 C07K14/435 C07K14/47 C07K16/00 C07K16/18 C12N15/113 C12N15/12 C12N5/00 C12N5/12 C12N7/00 C12Q1/68 G01N33/48 G01N33/53 G01N33/574 G01N33/68

CPC: A61P35/00 C07K16/30 C07K2317/73 C12N15/1136 C12Q1/6886 C12Q2600/106 C12Q2600/136 G01N2500/04 G01N33/5011 G01N33/57419 Y10T436/143333

US: 424/130.1 424/130.100P 424/139.1 424/139.100P 424/155.1 424/155.100P 424/178.1 424/178.100S 435/235.1 435/235.100S 435/325 435/325S 435/346 435/346S 435/375 435/375S 435/6 435/6.14 435/6.140S 435/6S 435/7.1 435/7.100S 435/7.2 435/7.200S 436/501 436/501S 436/64 436/64S 436/86 436/86S 436/94 436/94S 514/1.1 514/1.100S 514/12 514/2.9 514/2.900S 514/44 514/44.00AS 514/44.00RS 514/44A 514/44R 514/6.3 514/6.300S 514/6.9 514/6.900S 530/350 530/350S 530/387.2 530/387.200S 530/387.3 530/387.300S 530/387.9 530/387.900S 530/391.3 530/391.300S 530/391.7 530/391.700S 536/23.5 536/23.500S 536/24.5 536/24.500S 800/13 800/13S



Family:

Publication number	Publication date	Application number	Application date
US2007065448 AA	20070322	US20060481045	20060706
US2009035299 AA	20090205	US20080157162	20080605
US2010172908 AA	20100708	US20090647833	20091228
WO07005987 A2	20070111	WO2006US26250	20060706
WO07005987 A3	20070614	WO2006US26250	20060706

Priority:

US20050696504P 20050706 US20060481045 20060706 US20080157162 20080605 US20090647833 20091228

Probable Assignee: APPLIED BIOSYSTEMS LLC

Assignee(s): (std): APPLERA CORP ; BIRSE CHARLES E ; CELERA CORP ; KIM YEOUNJIN ; LEE CANDY

Assignee(s): APPLIED BIOSYSTEMS INC ; APPLIED BIOSYSTEMS LLC

Inventor(s): (std): BIRSE CHARLES E ; KIM YEOUNJIN ; LEE CANDY

Inventor(s): BIRSE CHARLES

Agent(s): CELERA CORP; CELERA GENOMICS ATTN WAYNE MONTGOMERY VICE PRES INTEL PROPERTY

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 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 MG MK ML MN MR MW MX 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 SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2007065448 AA	20061127	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BIRSE, CHARLES E.;LEE, CANDY;KIM, YEOUNJIN;REEL/FRAME:018553/0283;SIGNING DATES FROM 20061016 TO 20061121 Owner: APPLERA CORPORATION, CONNECTICUT PartyType: owner
US2007065448 AA	20070322	LSPB	+	published / reissued	
US2007065448 AA	20080829	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007065448 AA	20080829		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2007065448 AA	20080912	LSAS	AS	ASSIGNMENT	Effective date: 20080701 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:APPLERA CORPORATION;REEL/FRAME:021561/0124 Owner: CELERA CORPORATION, CALIFORNIA PartyType: owner
US2007065448 AA	20080912	LSAS	AS	ASSIGNMENT	Effective date: 20080701 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:APPLERA CORPORATION;REEL/FRAME:021561/0124 Owner: CELERA CORPORATION,CALIFORNIA PartyType: owner

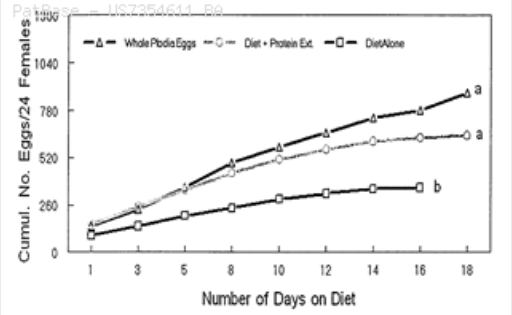
US2007065448 AA	20100226	LSAS	AS	ASSIGNMENT	Effective date: 20080701 OldParty: CHANGE OF NAME;ASSIGNOR:APPLERA CORPORATION;REEL/FRAME:023994/0538 Owner: APPLIED BIOSYSTEMS INC.,CALIFORNIA PartyType: owner
US2007065448 AA	20100226	LSAS	AS	ASSIGNMENT	Effective date: 20081121 OldParty: MERGER;ASSIGNOR:APPLIED BIOSYSTEMS INC.;REEL/FRAME:023994/0587 Owner: APPLIED BIOSYSTEMS, LLC,CALIFORNIA PartyType: owner
US2007065448 AA	20100226	LSAS	AS	ASSIGNMENT	Effective date: 20080701 OldParty: CHANGE OF NAME;ASSIGNOR:APPLERA CORPORATION;REEL/FRAME:023994/0538 Owner: APPLIED BIOSYSTEMS INC., CALIFORNIA PartyType: owner
US2007065448 AA	20100226	LSAS	AS	ASSIGNMENT	Effective date: 20081121 OldParty: MERGER;ASSIGNOR:APPLIED BIOSYSTEMS INC.;REEL/FRAME:023994/0587 Owner: APPLIED BIOSYSTEMS, LLC, CALIFORNIA PartyType: owner
US2009035299 AA	20090205	LSPB	+	published / reissued	
US2009035299 AA	20100324	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009035299 AA	20100324		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2010172908 AA	20100708	LSPB	+	published / reissued	
US2010172908 AA	20120509	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010172908 AA	20120509		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO07005987 A2	20070111	LSPB	+	published / reissued	
WO07005987 A2	20070418		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO07005987 A3	20080108	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO07005987 A3	20080820	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 06774530 Country of Ref document: EP

94) Family number: 41673563 (US7354611 BA)

Title: FECUNDITY-PROMOTING SUPPLEMENT FOR THE INSIDIOUS FLOWER BUG REARED ON ARTIFICIAL DIET

Abstract: A new protein supplement for insect rearing contains extracts of insect eggs or cultured insect egg embryonic cell lines from insects such as Plodia interpunctella and Ephestia kuehniella Zeller, etc., to increase the fecundity of insects reared for biocontrol.

Classifications:
International (IPC 8-9): A01K97/04
CPC: A01K67/033 A23K50/90
US: 119/6.6 119/66 426/1 426/2 435/348



Family:

Publication number	Publication date	Application number	Application date
US7354611 BA	20080408	US20030721881	20031126

Priority:

US20030721881 20031126

Probable Assignee: US AGRICULTURE

Assignee(s): (std): US AGRICULTURE

Assignee(s): AGRICULTURE US GOV SECRETARY OF AS ; AGRICULTURE US SEC ; SECRETARY OF AGRICULTURE AS US GOV ; SECRETARY OF AGRICULTURE US GOV AS ; THE UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF AGRICULTURE

Inventor(s): (std): FERKOVICH STEPHEN M ; SHAPIRO JEFFREY

Agent(s): FADO JOHN; GAIL; JOHN; POULOS GAIL

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US7354611 BA	20040311	LSAS	AS	ASSIGNMENT	Effective date: 20030304 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERKOVICH, STEPHEN M.;SHARPIRO, JEFFREY P.;REEL/FRAME:014417/0899 Owner: AGRICULTURE, THE UNITED STATES OF AMERICA, AS REPR PartyType: owner
US7354611 BA	20080408	LSGT	+	granted / extensions (spc, cpc, pte)	
US7354611 BA	20111121		REMI	MAINTENANCE FEE REMINDER MAILED	
US7354611 BA	20120408	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7354611 BA	20120507	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7354611 BA	20120507	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7354611 BA	20120529	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20120408
US7354611 BA	20250621	PEXP		Calculated Patent Term Expiry (PTA 573 days)	

95) Family number: 31810294 (US2005177878 AA)

Title: PROCESS OF MAKING TRANSGENIC MAMMALS THAT PRODUCE EXOGENOUS PROTEINS IN MILK AND TRANSGENIC MAMMALS PRODUCED THEREBY

Abstract: The invention relates to a method of producing a protein of interest, comprising making a non-human transgenic mammal that produces said protein in its milk, obtaining said milk from the non-human transgenic mammal and purifying said protein of interest from the milk. Transgenic bovine animals were generated, which are able to produce human growth hormone in mammary glands. The method involves cloning of a genetic construct encoding hGH gene and beta casein promoter conveniently in an expression vector. It also includes transfection procedures into fetal bovine somatic cells, generally fibroblasts, and the nuclear transfer into enucleated bovine oocytes, generating thus transgenic embryos. The method also includes other procedures to generate transgenic embryos for the further expansion of the transgenic herd, such as the subcloning of transgenic female bovines, the superovulation of transgenic cows and their insemination with semen from a non-transgenic or a transgenic male bovine, and the superovulation of non-transgenic cows and their insemination with semen from a transgenic male bovine. Afterwards, transgenic embryos give rise to transgenic cattle that produce human growth hormone in huge amounts in their milk, from which the hormone is completely purified and analysed to fulfill all the requirements for the manufacture of a pure biopharmaceutical product.

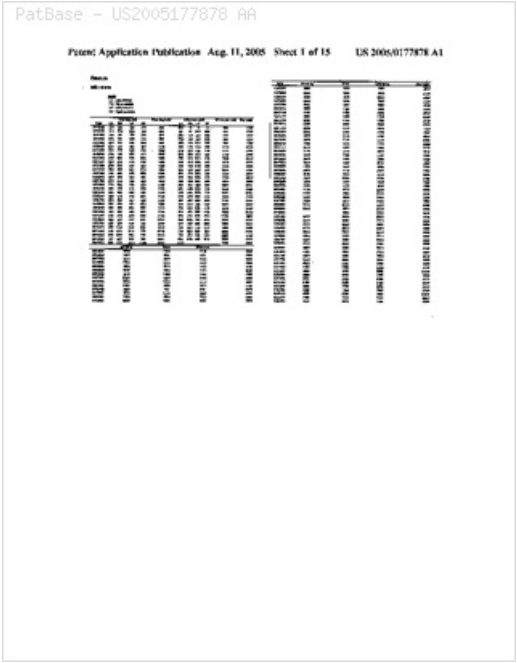
Classifications:

International (IPC 8-9): A01K67/00 A01K67/02 A01K67/027 A23J1/00 C07K1/00 C07K14/00 C07K14/435 C07K14/61 C07K16/00 C07K17/00 C12N C12N15/00 C12N15/01 C12N15/09 C12N15/16 C12N15/18 C12N15/63 C12N15/79 C12N15/85 C12N15/877 C12N15/88 C12N5/10 C12P21/00

International (IPC 1-7): A01K67/02 A01K67/027 A61D19/00 C07K1/00 C07K1/14 C07K14/00 C07K14/61 C07K16/00 C07K17/00 C12N C12N15/00 C12N15/18 C12N15/85 C12N15/88 C12P21/00

CPC: A01K2217/05 A01K2227/101 A01K2267/01 A01K67/0275 C07K14/61 C12N15/8509 C12N15/8771 C12N2830/008

US: 435/320.1 435/320.100S 435/325 435/325S 435/458 435/458S 435/69.1 435/69.100S 530/399 530/399S 530/412 530/413 530/416 530/417 800/14 800/14S 800/15 800/15S 800/16 800/16S 800/21 800/21S 800/22 800/22P 800/24 800/7 800/7P



Family:

Publication number	Publication date	Application number	Application date
AR047720 AA	20060215	AR2004P103538	20040929
AR047721 AA	20060215	AR2004P103539	20040929
AU2004278747 AA	20050414	AU20040278747	20040929
AU2004278747 BB	20110428	AU20040278747	20040929
AU2004278763 AA	20050414	AU20040278763	20040929
BRPI0415146 A	20061128	BR2004PI15146	20040929
BRPI0415147 A	20061128	BR2004PI15147	20040929
CA2540667 AA	20060329	CA20042540667	20040929
CA2540854 AA	20060330	CA20042540854	20040929
CN1882685 A	20061220	CN200480031507	20040929
CN1930287 A	20070314	CN200480031569	20040929
CN101413003 A	20090422	CN200810170189	20040929
EP1687421 A2	20060809	EP20040789169	20040929
EP1687421 A4	20061220	EP20040789169	20040929
EP1687421 B1	20180627	EP20040789169	20040929
EP1685245 A2	20060802	EP20040789272	20040929
EP1685245 A4	20070103	EP20040789272	20040929
JP2007507510 T2	20070329	JP20060534022T	20040929
JP2007507232 T2	20070329	JP20060534064T	20040929
MXPA06003553 A1	20070202	MX2006PA03553	20040929
RU2006114685 A	20071110	RU20060114685	20040929
RU2360002 C2	20090627	RU20060114685	20040929
RU2006114793 A	20071110	RU20060114793	20040929
RU2390562 C2	20100527	RU20060114793	20040929
US2005177878 AA	20050811	US20040952376	20040929
US7807862 BB	20101005	US20040952376	20040929
US2005177879 AA	20050811	US20040952377	20040929
US7718845 BB	20100518	US20040952377	20040929
US2008229438 AA	20080918	US20070822984	20070711
US2008060089 AA	20080306	US20070822985	20070711
US2011072526 AA	20110324	US20100781500	20100517
WO05033274 A2	20050414	WO2004US31819	20040929
WO05033274 A3	20050714	WO2004US31819	20040929
WO05033281 A2	20050414	WO2004US32019	20040929
WO05033281 A3	20050519	WO2004US32019	20040929

Priority:

US20030506735P 20030930 US20030506736P 20030930 US20040556026P 20040325
US20040556027P 20040325 WO2004US31819 20040929 WO2004US32019 20040929
US20040952376 20040929 US20040952377 20040929 US20070822985 20070711
US20070822984 20070711 US20100781500 20100517

Probable Assignee: BIO SIDUS SA

Assignee(s): (std): BARANAO LINO ; BIO SIDUS S A ; CARBONNETTO CESAR ; MELO CARLOS ALBERTO ; STERRENBELD BAJOTEKNOLODZHI NO ; STERRENBELD BIOTECHNOLOGIE NOR ; STERRENBELD BIOTECHNOLOGIE NORTH AMERICA INC

Assignee(s): STERRENBELD BAJOTEKNOLODZHI NORT AMERIKA INK

Inventor(s): (std): ALBERTO MELO CARLOS ; BARANAO LINO ; CARBONETTO CESAR ; CARBONETTO CESAR H ; CARBONETTO CESAR HORACIO ; CARBONNETTO CESAR ; CESAR CARBONETTO ; CESAR MELO CARLOS ALBERTO BARA ; KARBONNETTO TSEZAR ; LINO BARANAO ; LINO MELO CARLOS A BARANAO ; MELO CARLOS A ; MELO CARLOS ALBERTO ; MELO KARLOS AL BERTO

Inventor(s): CARLOS ALBERTO MELO ; CESAR CARBONNETTO ; MELO CARLOS ; MELO CARLOS ALBERTO BARANAO LINO CARBONNETTO CESAR ; MELO KARLOS AL'BERTO

Agent(s): HOBSON DAVID JAMES; MAXWELLS PATENT AND TRADE MARK ATTORNEYS PTY LTD; MBM INTELLECTUAL PROPERTY LAW LLP; PETER MAXWELL AND ASSOCIATES; STERNE KESSLER GOLDSTEIN AND FOX PLLC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG 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
AR047720 AA	20060215	LSPB	+	published / reissued	
AR047720 AA	20131205	LSWD	-FB	SUSPENSION OF GRANTING PROCEDURE	
AR047721 AA	20060215	LSPB	+	published / reissued	
AR047721 AA	20140225	LSGT	+FG	GRANT, REGISTRATION	
AU2004278747 AA	20050414	LSPB	+	published / reissued	
AU2004278747 BB	20110428	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2004278747 BB	20110526	LSRE	DA2	APPLICATIONS FOR AMENDMENT SECTION 104	Text: THE NATURE OF THE AMENDMENT IS: AMEND THE INVENTION TITLE TO READ A PROCESS FOR PRODUCING EXOGENOUS PROTEIN IN THE MILK OF TRANSGENIC MAMMALS AND A PROCESS FOR PURIFYING PROTEINS THEREFROM.
AU2004278747 BB	20110901	LSRE	DA3	AMENDMENTS MADE SECTION 104	Text: THE NATURE OF THE AMENDMENT IS: AMEND THE INVENTION TITLE TO READ A PROCESS FOR PRODUCING EXOGENOUS PROTEIN IN THE MILK OF TRANSGENIC MAMMALS AND A PROCESS FOR PURIFYING PROTEINS THEREFROM
AU2004278747 BB	20110908	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2004278747 BB	20200430	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2004278747 BB	20240929	PEXP		Calculated Patent Term Expiry	
AU2004278763 AA	20050414	LSPB	+	published / reissued	
AU2004278763 AA	20110630	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
BRPI0415146 A	20061128	LSPB	+	published / reissued	
BRPI0415146 A	20120515	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF	Text: REFERENTE A 7A ANUIDADE.

				INDUSTRIAL PROPERTY LAW	
BRPI0415146 A	20121009	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	Text: REFERENTE AO DESPACHO 8.6 PUBLICADO NA RPI 2158 DE 15/05/2012.
BRPI0415147 A	20061128	LSPB	+	published / reissued	
BRPI0415147 A	20120306		B06F	OBJECTIONS, DOCUMENTS AND/OR TRANSLATIONS NEEDED AFTER AN EXAMINATION REQUEST ACCORDING ART. 34 INDUSTRIAL PROPERTY LAW	
BRPI0415147 A	20141111	LSES	B07D	TECHNICAL EXAMINATION (OPINION) RELATED TO ARTICLE 229 OF INDUSTRIAL PROPERTY LAW	
BRPI0415147 A	20151222		B15K	OTHERS CONCERNING APPLICATIONS: ALTERATION OF CLASSIFICATION	ClassificationScheme: IPC ClassificationSymbol: C12N 15/18 (2006.01), C12N 15/85 (2006.01), C12N 1 Text: AS CLASSIFICACOES ANTERIORES ERAM: C12N 15/00 , C12P 21/00 , A01K 67/027 , C07K 1/00 , C07K 14/00 , C07K 16/00 , C07K 17/00
BRPI0415147 A	20180703		+B07E	NOTICE OF APPROVAL RELATING TO SECTION 229 INDUSTRIAL PROPERTY LAW	
BRPI0415147 A	20180807		B06F	OBJECTIONS, DOCUMENTS AND/OR TRANSLATIONS NEEDED AFTER AN EXAMINATION REQUEST ACCORDING ART. 34 INDUSTRIAL PROPERTY LAW	
BRPI0415147 A	20181121	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
BRPI0415147 A	20190402	LSRV	B09B	DECISION: REFUSAL	
BRPI0415147 A	20190618	LSRV	B09B	DECISION: REFUSAL	Text: MANTIDO O INDEFERIMENTO UMA VEZ QUE NAO FOI APRESENTADO RECURSO DENTRO DO PRAZO LEGAL
CA2540667 AA	20060329	LSPB	+	published / reissued	
CA2540667 AA	20071109	LSES	+EEER	EXAMINATION REQUEST	
CA2540667 AA	20110926	LSLE	-FZDE	DEAD	
CA2540854 AA	20060330	LSPB	+	published / reissued	
CA2540854 AA	20071109	LSES	+EEER	EXAMINATION REQUEST	
CA2540854 AA	20110926	LSLE	-FZDE	DEAD	
CN101413003 A	20090422	LSPB	+	published / reissued	
CN101413003 A	20090422	LSPB	+C06	PUBLICATION	
CN101413003 A	20090617		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101413003 A	20120215	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW	

				2001)	
CN1882685 A	20061220	LSPB	+	published / reissued	
CN1882685 A	20061220	LSPB	+C06	PUBLICATION	
CN1882685 A	20070214		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1882685 A	20120418	LSRV	-C12	REJECTION OF A PATENT APPLICATION AFTER ITS PUBLICATION	
CN1930287 A	20070314	LSPB	+	published / reissued	
CN1930287 A	20070314	LSPB	+C06	PUBLICATION	
CN1930287 A	20070516		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1930287 A	20120905	LSRV	-C12	REJECTION OF A PATENT APPLICATION AFTER ITS PUBLICATION	
EP1685245 A2	20060802	LSPB	+	published / reissued	
EP1685245 A2	20060802	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060502
EP1685245 A2	20060802		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: DE ES FR GB IT
EP1685245 A4	20070103	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20061206
EP1685245 A4	20070103		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1685245 A4	20070103		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: DE ES FR GB IT
EP1685245 A4	20070103		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C12N 15/09 20060101AFI20061130BHEP
EP1685245 A4	20070103		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C12N 15/63 20060101ALI20061130BHEP
EP1685245 A4	20070103		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C12N 15/79 20060101ALI20061130BHEP
EP1685245 A4	20090218	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20090116
EP1685245 A4	20111130	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20110607
EP1687421 A2	20060809	LSPB	+	published / reissued	
EP1687421 A2	20060809	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060425
EP1687421 A2	20060809		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: DE ES FR GB IT
EP1687421 A2	20061213		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: C12N 15/09 20060101AFI20061106BHEP
EP1687421 A4	20061220	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20061120
EP1687421 A4	20070103		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	

EP1687421 A4	20070103		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: DE ES FR GB IT
EP1687421 A4	20090218	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20090114
EP1687421 A4	20180110	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20171215
EP1687421 A4	20180110		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CARBONNETTO, CESAR PartyType: inventor
EP1687421 A4	20180110		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MELO, CARLOS, ALBERTO PartyType: inventor
EP1687421 A4	20180110		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BARANAO, LINO PartyType: inventor
EP1687421 A4	20180530		INTC	INTENTION TO GRANT ANNOUNCED (DELETED)	
EP1687421 A4	20180620	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180517
EP1687421 B1	20180627	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1687421 B1	20180627		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: DE ES FR GB IT
EP1687421 B1	20180627	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1687421 B1	20180719	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602004052863 Ref legal event code: R096 Country of Ref document: DE
EP1687421 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180627 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1687421 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180627 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP1687421 B1	20190328	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602004052863 Ref legal event code: R097 Country of Ref document: DE
EP1687421 B1	20190402	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602004052863 Ref legal event code: R119 Country of Ref document: DE
EP1687421 B1	20190522	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20180929 Ref country code: EP
EP1687421 B1	20190605	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190328
EP1687421 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190402 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP1687421 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION	Lapsed date: 20180930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR

				FROM NATIONAL OFFICE TO EPO]	
EP1687421 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180929 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1687421 B1	20240929	PEXP		Calculated Patent Term Expiry	
JP2007507232 T2	20070329	LSPB	+	published / reissued	
JP2007507232 T2	20070929	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20070928 Text: JAPANESE INTERMEDIATE CODE: A621
JP2007507232 T2	20100817	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20100816 Text: JAPANESE INTERMEDIATE CODE: A131
JP2007507232 T2	20101116		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20101115 Text: JAPANESE INTERMEDIATE CODE: A601
JP2007507232 T2	20101124		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20101122 Text: JAPANESE INTERMEDIATE CODE: A602
JP2007507232 T2	20101216		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20101215 Text: JAPANESE INTERMEDIATE CODE: A601
JP2007507232 T2	20101224		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20101222 Text: JAPANESE INTERMEDIATE CODE: A602
JP2007507232 T2	20110115		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20110114 Text: JAPANESE INTERMEDIATE CODE: A601
JP2007507232 T2	20110124		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20110121 Text: JAPANESE INTERMEDIATE CODE: A602
JP2007507232 T2	20110411	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20110408 Text: JAPANESE INTERMEDIATE CODE: A02
JP2007507510 T2	20070329	LSPB	+	published / reissued	
JP2007507510 T2	20070929	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20070928 Text: JAPANESE INTERMEDIATE CODE: A621
JP2007507510 T2	20100817	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20100816 Text: JAPANESE INTERMEDIATE CODE: A131
JP2007507510 T2	20101116		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20101115 Text: JAPANESE INTERMEDIATE CODE: A601
JP2007507510 T2	20101124		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20101122 Text: JAPANESE INTERMEDIATE CODE: A602
JP2007507510 T2	20101216		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20101215 Text: JAPANESE INTERMEDIATE CODE: A601
JP2007507510 T2	20101224		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20101222 Text: JAPANESE INTERMEDIATE CODE: A602
JP2007507510 T2	20110115		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20110114 Text: JAPANESE INTERMEDIATE CODE: A601
JP2007507510 T2	20110124		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20110121 Text: JAPANESE INTERMEDIATE CODE: A602
JP2007507510 T2	20110216	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20110215 Text: JAPANESE INTERMEDIATE CODE: A523
JP2007507510 T2	20110705	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20110704 Text: JAPANESE INTERMEDIATE CODE: A02
MXPA06003553 A1	20070202	LSPB	+	published / reissued	
MXPA06003553 A1	20100706	LSGT	+FG	GRANT OR REGISTRATION	
RU2006114685 A	20071110	LSPB	+	published /	

				reissued	
RU2006114793 A	20071110	LSPB	+	published / reissued	
RU2360002 C2	20090627	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2360002 C2	20200814	LSLE	-MM4A	THE PATENT IS INVALID DUE TO NON-PAYMENT OF FEES	Effective date: 20190930
RU2360002 C2	20240929	PEXP		Calculated Patent Term Expiry	
RU2390562 C2	20100527	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2390562 C2	20120727	LSLE	-MM4A	THE PATENT IS INVALID DUE TO NON-PAYMENT OF FEES	Effective date: 20110930
RU2390562 C2	20240929	PEXP		Calculated Patent Term Expiry	
US2005177878 AA	20050811	LSPB	+	published / reissued	
US2005177879 AA	20050811	LSPB	+	published / reissued	
US2008060089 AA	20080306	LSPB	+	published / reissued	
US2008060089 AA	20110309	LSWD	ABD2	Abandoned -- Failure to Pay Issue Fee	
US2008060089 AA	20110309		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO PAY ISSUE FEE
US2008229438 AA	20080918	LSPB	+	published / reissued	
US2008229438 AA	20110616	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008229438 AA	20110616		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2011072526 AA	20110324	LSPB	+	published / reissued	
US2011072526 AA	20111107	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011072526 AA	20111107		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US7718845 BB	20041123	LSAS	AS	ASSIGNMENT	Effective date: 20040921 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MELO, CARLOS ALBERTO;BARANAO, LINO;CARBONETTO, CESAR;REEL/FRAME:015389/0301 Owner: BIO SIDUS S.A., ARGENTINA PartyType: owner
US7718845 BB	20041123	LSAS	AS	ASSIGNMENT	Effective date: 20040921 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BIO SIDUS S.A.;REEL/FRAME:015389/0635 Owner: STERRENBELD BIOTECHNOLOGIE NORTH AMERICA, INC., DE PartyType: owner
US7718845 BB	20041123	LSAS	AS	ASSIGNMENT	Effective date: 20040921 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MELO, CARLOS ALBERTO;BARANAO, LINO;CARBONETTO, CESAR;REEL/FRAME:015389/0301 Owner: BIO SIDUS S.A.,ARGENTINA PartyType: owner
US7718845 BB	20041123	LSAS	AS	ASSIGNMENT	Effective date: 20040921 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BIO SIDUS S.A.;REEL/FRAME:015389/0635 Owner: STERRENBELD

					BIOTECHNOLOGIE NORTH AMERICA, INC.,DEL PartyType: owner
US7718845 BB	20100428	LSGT	PAT1	Patented Case	
US7718845 BB	20100518	LSGT	+	granted / extensions (spc, cpc, pte)	
US7718845 BB	20131227		REMI	MAINTENANCE FEE REMINDER MAILED	
US7718845 BB	20140515	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7718845 BB	20140515		+SULP	SURCHARGE FOR LATE PAYMENT	
US7718845 BB	20180101	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7718845 BB	20180618	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7718845 BB	20180618	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7718845 BB	20180618	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7718845 BB	20180710	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20180518
US7718845 BB	20260704	PEXP		Calculated Patent Term Expiry (PTA 643 days and a terminal disclaimer has been filed)	
US7807862 BB	20041123	LSAS	AS	ASSIGNMENT	Effective date: 20040921 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MELO, CARLOS ALBERTO;BARANAO, LINO;REEL/FRAME:015389/0651 Owner: BIO SIDUS S.A., ARGENTINA PartyType: owner
US7807862 BB	20041123	LSAS	AS	ASSIGNMENT	Effective date: 20040921 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BIO SIDUS S.A.;REEL/FRAME:015389/0669 Owner: STERRENBELD BIOTECHNOLOGIE NORTH AMERICA, INC., DE PartyType: owner
US7807862 BB	20101005	LSGT	+	granted / extensions (spc, cpc, pte)	
US7807862 BB	20140516		REMI	MAINTENANCE FEE REMINDER MAILED	
US7807862 BB	20141005	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7807862 BB	20141103	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7807862 BB	20141103	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7807862 BB	20141125	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20141005
US7807862 BB	20261006	PEXP		Calculated Patent Term Expiry (PTA 737 days and a terminal disclaimer has been filed)	
WO05033274 A2	20040929	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200480031507.8 Country of Ref document: CN
WO05033274 A2	20050414	LSPB	+	published / reissued	
WO05033274 A2	20050414		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO

					CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05033274 A2	20050414		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05033274 A2	20050608		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05033274 A3	20050901		DPEN	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO05033274 A3	20060323	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004278747 Country of Ref document: AU
WO05033274 A3	20060329	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006534022 Country of Ref document: JP
WO05033274 A3	20060329	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2540667 Country of Ref document: CA
WO05033274 A3	20060330	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PA/a/2006/003553 Country of Ref document: MX
WO05033274 A3	20060425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004789169 Country of Ref document: EP
WO05033274 A3	20060426	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 06039628 Country of Ref document: CO
WO05033274 A3	20060427	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004278747 Country of Ref document: AU
WO05033274 A3	20060502	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006114685 Country of Ref document: RU
WO05033274 A3	20060809	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004789169 Country of Ref document: EP
WO05033274 A3	20061128	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: PI0415147 Country of Ref document: BR
WO05033281 A2	20040929	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200480031569.9 Country of Ref document: CN
WO05033281 A2	20050414	LSPB	+	published / reissued	
WO05033281 A2	20050414		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05033281 A2	20050414		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05033281 A3	20050608		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05033281 A3	20050714		DPEN	REQUEST FOR	

				PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO05033281 A3	20060323	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004278763 Country of Ref document: AU
WO05033281 A3	20060329	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006534064 Country of Ref document: JP
WO05033281 A3	20060329	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PA/a/2006/003480 Country of Ref document: MX
WO05033281 A3	20060330	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2540854 Country of Ref document: CA
WO05033281 A3	20060426	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 06039644 Country of Ref document: CO
WO05033281 A3	20060427	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004278763 Country of Ref document: AU
WO05033281 A3	20060502	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006114793 Country of Ref document: RU
WO05033281 A3	20060502	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004789272 Country of Ref document: EP
WO05033281 A3	20060802	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004789272 Country of Ref document: EP
WO05033281 A3	20061128	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: PI0415146 Country of Ref document: BR

96) Family number: 30510768 (US2003121066 AA)

Title: TRANSGENIC MICE CONTAINING SOCS-5 CYTOKINE SIGNALLING SUPPRESSOR GENE DISRUPTIONS

Abstract: The present invention relates to transgenic animals, as well as compositions and methods relating to the characterization of gene function. Specifically, the present invention provides transgenic mice comprising mutations in a SOCS-5 gene. Such transgenic mice are useful as models for disease and for identifying agents that modulate gene expression and gene function, and as potential **treatments** for various disease states and disease conditions.

Classifications:
International (IPC 8-9): A01K67/027 C07K14/47 C07K14/715 C12N15/85 C12N5/02 C12N5/06
International (IPC 1-7): A01K67/00 A01K67/027 A01K67/033 C12N15/00 C12N15/09 C12N15/63 C12N15/70 C12N15/74 C12N5/00 C12N5/02 C12N5/06 G01N33/00
CPC: A01K2217/072 A01K2217/075 A01K2227/105 A01K2267/03 A01K2267/0325 A01K2267/0356 A01K2267/0393 A01K67/0276 C07K14/4703 C07K14/715 C12N15/8509 C12N2800/30
US: 435/354 435/354S 800/18 800/18P 800/21 800/21S



FIGURE 1



FIGURE 2

Family:

Publication number	Publication date	Application number	Application date
AU2002334661 AA	20030407	AU20020334661	20020924
US2003121066 AA	20030626	US20020253999	20020923
US2006185028 AA	20060817	US20060366316	20060302
WO03026396 A2	20030403	WO2002US30357	20020924
WO03026396 A3	20030626	WO2002US30357	20020924

Priority:

US20010324556P 20010924 US20020253999 20020923 WO2002US30357 20020924 US20060366316 20060302

Probable Assignee: DELTAGEN INC

Assignee(s): (std): ALLEN KEITH D ; DELTAGEN INC ; KIRK CHRISTOPHER J ; MOORE MARK ; ZHANG QIN

Inventor(s): (std): ALLEN KEITH D ; KIRK CHRISTOPHER J ; MOORE MARK ; ZHANG QIN

Inventor(s): ALLEN KEITH ; CHRISTOPHER J KIRK ; KEITH D ALLEN ; KIRK CHRISTOPHER ; MARK MOORE ; QIN ZHANG

Agent(s): JOHN E BURKE GREENBERG TRAURIG LLP

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2002334661 AA	20030407	LSPB	+	published / reissued	
AU2002334661 AA	20040610	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
US2003121066 AA	20030304	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ALLEN, KEITH D.;MOORE, MARK;ZHANG, QIN;AND OTHERS;REEL/FRAME:013822/0072;SIGNING DATES FROM 20030121 TO 20030226 Owner: DELTAGEN, INC., CALIFORNIA PartyType: owner
US2003121066 AA	20030626	LSPB	+	published / reissued	
US2003121066 AA	20060501	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	

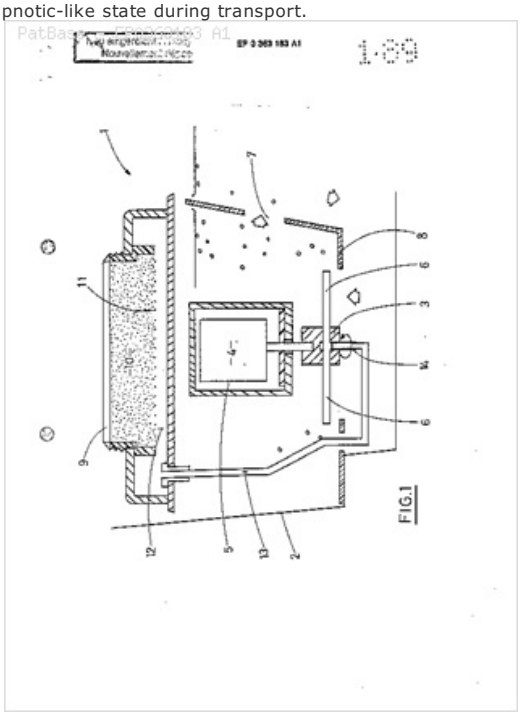
US2003121066 AA	20060501		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2006185028 AA	20060817	LSPB	+	published / reissued	
US2006185028 AA	20070416	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006185028 AA	20070416		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO03026396 A2	20030403	LSPB	+	published / reissued	
WO03026396 A2	20030403		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BY BZ CA CH CN CO CR CU CZ DE DM DZ EC EE ES FI GB GD GE GH HR HU ID IL IN IS JP KE KG KP KR LC LK LR LS LT LU LV MA MD MG MN MW MX MZ NO NZ OM PH PL PT RU SD SE SG SI SK SL TJ TM TN TR TZ UA UG US UZ VN YU ZA ZM
WO03026396 A2	20030403		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CY CZ DK EE ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC ML MR MW MZ NE PT RU SD SE SK SL SN SZ TD TG TJ TM TR UG ZM ZW
WO03026396 A2	20030528		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO03026396 A3	20041103		-32PN	EP: PUBLIC NOTIFICATION IN THE EP BULLETIN AS ADDRESS OF THE ADRESSEE CANNOT BE ESTABLISHED	Text: NOTING OF LOSS OF RIGHTS PURSUANT TO RULE 69(1)EPC(EPO F1205A DATED 190804)
WO03026396 A3	20050406	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO03026396 A3	20060518	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO03026396 A3	20060518	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP

97) Family number: 3211621 (EP0363183 A1)

Title: FISH TRANSPORT METHOD AND APPARATUS

Abstract: A method of, and apparatus for, transporting live fish is disclosed. The method involves sealing the live fish in a transport container (50, 51) which contains the transport **water** and a **water** processing/recirculation unit (1). Several configurations of processing/recirculation unit are described. A source of oxygen is also located within the sealed container with the end result that the fish may be maintained in an immobile hypnotic-like state during transport.

Classifications:
International (IPC 8-9): A01K63/02
International (IPC 1-7): A01K63/00 A01K63/02 A01K63/04 B65D81/24 B65D85/50
CPC: A01K63/02



Family:

Publication number	Publication date	Application number	Application date
AU198942511 A1	19900412	AU19890042511	19891003
AU620452 B2	19920220	AU19890042511	19891003
CA2000212 AA	19900405	CA19892000212	19891005
CN1041509 A	19900425	CN19891008489	19891005
EP0363183 A1	19900411	EP19890310167	19891004
JP3043032 A2	19910225	JP19890258946	19891005
NZ226469 A	19920129	NZ19880226469	19881005

Priority:
NZ19880226469 19881005 CA19892000212 19891005

Probable Assignee: NZ GOVERNMENT

Assignee(s): (std): CANADA MAJESTY IN RIGHT OF ; MAJESTY QUEEN HER IN RIGHT ; MAJESTY THE QUEEN HER IN RIGHT ; MAJIESUTEI KUIIN IN RAITO ; MAJIESUTEI THE KUIIN IN RAITO ; NZ GOVERNMENT ; NZ SCIENTIFIC AND IND RES ; UNITED KINGDOM GOVERNMENT

Assignee(s): H MAJIESUTEI KUIIN IN RAITO OBU NEW ZEALAND ; H MAJIESUTEI THE KUIIN IN RAITO OBU NEW ZEALAND ; HER MAJESTY QUEEN IN RIGHT OF CANADA REPRESENTED BY MINISTE R OF NEW ZEALAND AS ; HER MAJESTY QUEEN IN RIGHT OF NEW ZEALAND ; HER MAJESTY QUEEN IN RIGHT OF NEW ZEALAND DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH HEAD OFFICE ; HER MAJESTY THE QUEEN IN RIGHT OF NEW ZEALAND ; HER MAJESTY THE QUEEN IN RIGHT OF NEW ZEALAND DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH HEAD OFFICE ; JERRETT ALISTAIR R ; MAJESTY QUEEN HER IN RIGHT OF NEW ZEALAND ; MAJESTY THE QUEEN HER IN RIGHT OF NEW ZEALAND

Inventor(s): (std): ARISUTEAA RENFURIYUU JIERETSUT ; JERRETT ALISTAIR R ; JERRETT ALISTAIR RENFREW ; JERRETT ALISTAIR RENFREW DEP S

Inventor(s): ALISTAIR RENFREW JERRETT ; ARISUTEAA RENFURIYUU JIERETSUTO ; JERRETT ALISTAIR RENFREW DEP SCIEN AND IND RES

Agent(s): RICHES MCKENZIE AND HERBERT LLP

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU198942511 A1	19900412	LSPB	+	published / reissued	
AU620452 B2	19920220	LSGT	+	granted / extensions (spc, cpc, pte)	
AU620452 B2	20091003	PEXP		Calculated Patent Term Expiry	
CA2000212 AA	19900405	LSPB	+	published / reissued	
CA2000212 AA	19930405	LSLE	-FZDE	DEAD	

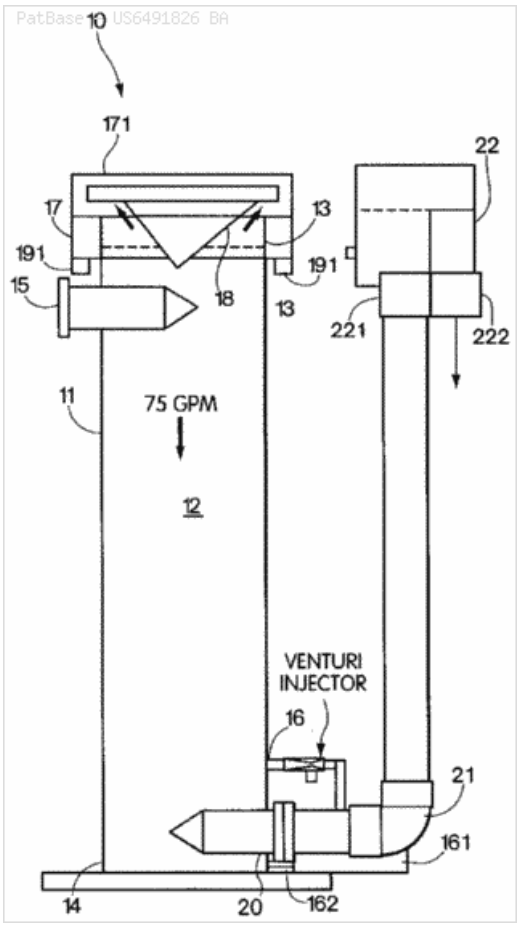
CN1041509 A	19900425	LSPB	+	published / reissued	
CN1041509 A	19900425	LSPB	+C06	PUBLICATION	
CN1041509 A	19911023		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1041509 A	19930210	LSDW	-C01	DEEMED WITHDRAWAL OF PATENT APPLICATION (PATENT LAW 1993)	
EP0363183 A1	19900411	LSPB	+	published / reissued	
EP0363183 A1	19900411		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE ES FR GB GR IT LI LU NL SE
EP0363183 A1	19901114	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19900919
EP0363183 A1	19901128	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 19901015
EP0363183 A1	19920129	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 19911110
JP3043032 A2	19910225	LSPB	+	published / reissued	
NZ226469 A	19920129	LSPB	+	published / reissued	

98) Family number: 29444103 (US6491826 BA)

Title: SYSTEMS AND METHODS FOR SEPARATION OF ORGANICS FROM FLUIDS

Abstract: A system for facilitating the separation of materials dissolved from a fluid. The system includes an apparatus for separating proteins and other organics from fluid is provided. The apparatus includes a column having an interior **chamber** extending between a first end and a second end of the column. The apparatus also includes an inlet tangentially positioned relative to the interior **chamber**, so as to induce a cyclonic flow as fluid enters into the interior **chamber**. The apparatus further includes an injection port through which bubbles may be introduced into the fluid flow within the interior **chamber**. As the bubbles ascend materials dissolved in the fluid adhere to the bubbles an get carried upward towards the surface level of the fluid. Foam generated by the coalescing bubbles may be collected in a trough provided about the first end of the column and may be directed thereinto by a deflector.

Classifications:
International (IPC 8-9): A01K63/04 B01D17/02 B03D1/14 C02F1/00 C02F1/20 C02F1/24 C02F1/78
International (IPC 1-7): A01K6/304 A01K63/04 B03D1/14 C02F1/24
CPC: A01K63/04 B01D17/0205 B01D17/0217 B01D17/047 B03D1/028 B03D1/1418 B03D1/1462 B03D1/245 B03D1/26 C02F1/20 C02F1/24 C02F1/78 C02F2209/40 C02F2209/42 C02F2301/024 C02F2303/12
US: 210/167.26 210/169 210/221.2 210/703



Family:

Publication number	Publication date	Application number	Application date
US6491826 BA	20021210	US20000677657	20001004

Priority:
US19990158865P 19991012 US20000677657 20001004

Probable Assignee: AQUATIC ECO SYSTEMS INC
Assignee(s): (std): MARINE BIOTECH INC
Assignee(s): AQUATIC ECO SYSTEMS INC ; MARINE BIOTECH INCORPORATED
Inventor(s): (std): HELWIG NEIL
Inventor(s): NEIL HELWIG
Agent(s): FOLEY HOAG LLP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US6491826 BA	20021029	LSAS	AS	ASSIGNMENT	Owner: MARINE BIOTECH INCORPORATED, MASSACHUSETTS PartyType: owner Effective date: 20021017 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HELWIG, NEIL;REEL/FRAME:013426/0586
US6491826 BA	20021210	LSGT	+	granted / extensions (spc, cpc, pte)	
US6491826 BA	20060612	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4

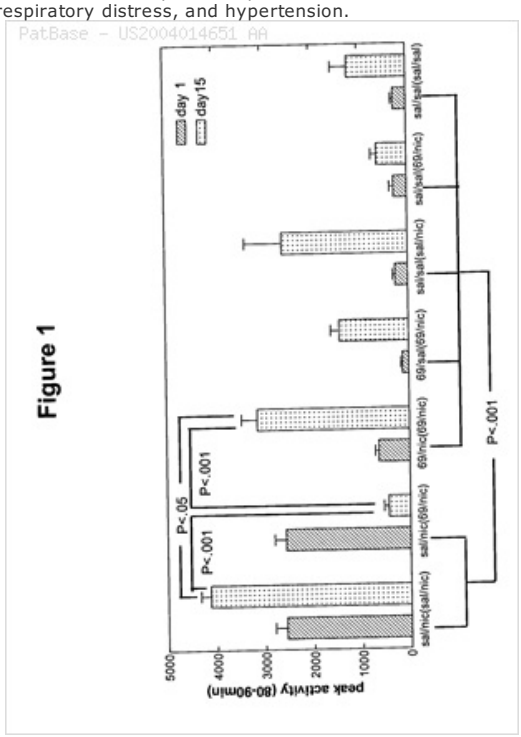
US6491826 BA	20090527	LSAS	AS	ASSIGNMENT	Owner: AQUATIC ECO-SYSTEMS, INC., FLORIDA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MARINE BIOTECH, INC.;REEL/FRAME:022746/0726 Effective date: 20080209 PartyType: owner
US6491826 BA	20100719		REMI	MAINTENANCE FEE REMINDER MAILED	
US6491826 BA	20101210	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6491826 BA	20101210	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US6491826 BA	20110201	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20101210
US6491826 BA	20110808	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	Effective date: 20110811
US6491826 BA	20110811	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6491826 BA	20110811		+SULP	SURCHARGE FOR LATE PAYMENT	
US6491826 BA	20140718		REMI	MAINTENANCE FEE REMINDER MAILED	
US6491826 BA	20141210	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6491826 BA	20150105	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6491826 BA	20150105	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6491826 BA	20150127	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20141210
US6491826 BA	20201113	PEXP		Calculated Patent Term Expiry (PTA 40 days)	

99) Family number: 30187707 (US2004014651 AA)

Title: TREATING THE EFFECTS OF NICOTINE

Abstract: The invention provides methods and materials for treating the effects of nicotine. In particular, the invention provides methods that involve administering a neurotensin receptor (NTR) agonist to a mammal that has been exposed to nicotine. The NTR agonist typically is administered in an amount effective to diminish or abolish the effects that nicotine has on the treated mammal. NTR agonists that can be used in methods of the invention include neurotensin (NT) polypeptide analogs such as NT69L. The invention also provides compositions containing an NTR agonist in combination with other agents used to help overcome nicotine effects such as sensitization and dependence. The compositions provided herein can be used to treat the effects of nicotine, including hyperactivity, hypothermia, respiratory distress, and hypertension.

Classifications:
International (IPC 8-9): A01K37/18 A01N37/00 A61K31/137 A61K31/185 A61K31/195 A61K38/00 A61K38/04 A61K38/10 A61K38/17 C12Q1/00 C12Q1/37
International (IPC 1-7): A61K31/137 A61K38/17
CPC: A61K31/137 A61K38/10 Y10S514/813
US: 435/23 514/1.5 514/1.500S 514/12 514/14 514/15.7 514/15.700P 514/18.1 514/18.100S 514/2 514/563 514/649 514/649S 514/813 530/300 530/327



Family:

Publication number	Publication date	Application number	Application date
US2004014651 AA	20040122	US20020198697	20020718
US7087575 BB	20060808	US20020198697	20020718
US2006189536 AA	20060824	US20060415570	20060502

Priority:
US20020198697 20020718 US20060415570 20060502

Probable Assignee: MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH
Assignee(s): (std): BOULES MONA ; FREDRICKSON PAUL ; MAYO FOUNDATION ; RICHELSON ELLIOTT
Assignee(s): MAYO FOUNDATION FOR MEDICAL EDUCATION AND ; MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH ; MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH A MINNESOTA CORP
Inventor(s): (std): BOULES MONA ; FREDRICKSON PAUL ; RICHELSON ELLIOTT
Inventor(s): ELLIOTT RICHELSON ; MONA BOULES ; PAUL FREDRICKSON
Agent(s): FISH AND RICHARDSON PC

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2004014651 AA	20040122	LSPB	+	published / reissued	
US2006189536 AA	20060824	LSPB	+	published / reissued	
US2006189536 AA	20070925	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20020821 Owner: MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:RICHELSON, ELLIOTT;FREDRICKSON, PAUL;BOULES, MONA;REEL/FRAME:019875/0472
US2006189536 AA	20091120	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006189536 AA	20091120		-STCB	INFORMATION ON	Text: ABANDONED -- FAILURE TO

				STATUS: APPLICATION DISCONTINUATION	RESPOND TO AN OFFICE ACTION
US7087575 BB	20020830	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:RICHELSON, ELLIOTT;FREDRICKSON, PAUL;BOULES, MONA;REEL/FRAME:013239/0096 PartyType: owner Effective date: 20020821 Owner: MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH
US7087575 BB	20060808	LSGT	+	granted / extensions (spc, cpc, pte)	
US7087575 BB	20061128	LSRE	CC	CERTIFICATE OF CORRECTION	
US7087575 BB	20100122	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7087575 BB	20140321		REMI	MAINTENANCE FEE REMINDER MAILED	
US7087575 BB	20140808	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7087575 BB	20140908	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7087575 BB	20140908	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7087575 BB	20140930	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20140808
US7087575 BB	20230401	PEXP		Calculated Patent Term Expiry (PTA 257 days)	

100) Family number: 30303665 (US2005238579 AA)

Title: HUMAN G PROTEIN-COUPLED RECEPTOR AND MODULATORS THEREOF FOR THE **TREATMENT** OF ISCHEMIC HEART DISEASE AND CONGESTIVE HEART FAILURE

Abstract: The present invention relates to methods of identifying whether a candidate compound is a modulator of an orphan G protein-coupled receptor (GPCR). Preferably the GPCR is human. In some embodiments, the GPCR is expressed endogenously by cardiomyocytes. In some embodiments, the GPCR is coupled to Gi and lowers the level of intracellular cAMP. In some embodiments, overexpression of the GPCR promotes survival of cardiomyocytes. In some embodiments, overexpression of the GPCR rescues cardiomyoctes from hypoxia/reoxygenation induced apoptosis. In some embodiments, the GPCR is down-regulated in individuals with congestive heart failure. Agonists of the invention are envisioned to be useful as therapeutic agents for the **treatment** of ischemic heart disease, including myocardial infarction, post-myocardial infarction remodeling, and congestive heart failure.

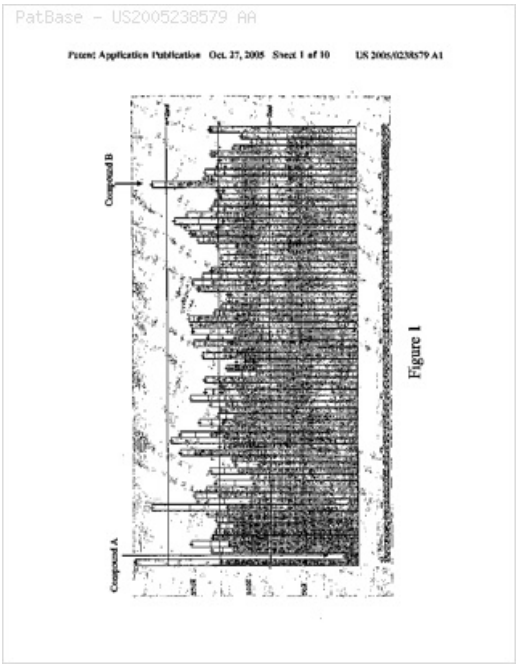
Classifications:

International (IPC 8-9): A61K38/17 A61P9/00 C07K14/47 C07K14/705 G01N33/68 A01K A01K67/027 A61K35/00 A61K38/17 A61K38/57 A61K45/00 A61K49/00 A61K51/00 A61K51/08 A61P43/00 A61P9/00 A61P9/04 A61P9/10 A61P9/14 C07H C07K C07K14/00 C07K14/47 C07K14/705 C07K19/00 C12N1/15 C12N1/19 C12N1/21 C12N15/09 C12N15/12 C12N15/85 C12N5/10 C12N9/14 C12Q C12Q1/00 C12Q1/02 C12Q1/42 C12Q1/68 G01N G01N33/53 G01N33/566 G01N33/567 G01N33/569 G01N33/68 G01N33/74

International (IPC 1-7): A01K67/00 A01K67/027 A61K38/17 A61K45/00 A61K51/00 A61P43/00 A61P9/00 A61P9/04 A61P9/10 C07H21/04 C07K14/00 C07K14/47 C07K14/705 C07K19/00 C12N C12N1/15 C12N1/19 C12N1/21 C12N15/09 C12N15/12 C12N15/85 C12N5/10 C12N9/14 C12Q1/02 C12Q1/16 C12Q1/68 G01N33/53 G01N33/566 G01N33/567

CPC: A01K2217/05 A01K2217/075 A01K2267/03 A61P43/00 A61P9/00 A61P9/04 A61P9/10 A61P9/14 C07K14/705 G01N2333/726 G01N2500/04 G01N33/74

US: 424/1.69 424/1.690P 424/9.2 424/9.200P 435/320.1 435/320.100S 435/325 435/325S 435/4 435/6 435/6.16 435/6.160S 435/69.1 435/69.100S 435/6S 435/7.2 435/7.200S 435/7.21 435/7.210S 435/7.31 435/7.310S 514/15.1 514/15.100S 514/16.4 514/16.400S 514/2 514/20.6 514/20.600S 530/350 530/350S 536/23.5 536/23.500S 800/18 800/18S 800/8 800/8S



Family:

Publication number	Publication date	Application number	Application date
AU2003259237 AA	20040223	AU20030259237	20030725
AU2003259237 BB	20110106	AU20030259237	20030725
CA2494607 AA	20050125	CA20032494607	20030725
CN100473662 C	20090401	CN20038023488	20030725
CN1684975 A	20051019	CN20038023488	20030725
EP1543025 A2	20050622	EP20030766914	20030725
EP1543025 A4	20060315	EP20030766914	20030725
HK1078317 A1	20060310	HK20050110529	20051122
HK1078317 A3	20060310	HK20050110529	20051122
JP2005534319 T2	20051117	JP20040526159T	20030725
TW200410985 A	20040701	TW20030120775	20030730
TWI291555 B	20071221	TW20030120775	20030730
TW200800009 A	20080101	TW20070125738	20030730
TW200815603 A	20080401	TW20070144624	20030730
US2005238579 AA	20051027	US20030523100	20030725
US7611832 BB	20091103	US20030523100	20030725
US2007224127 AA	20070927	US20060604179	20061122
WO04013285 A2	20040212	WO2003US23296	20030725
WO04013285 A3	20040610	WO2003US23296	20030725

Priority:

US20020400774P 20020801 WO2003US23296 20030725 US20030523100 20030725
US20050523100 20050131 US20060604179 20061122

Probable Assignee: ARENA PHARMACEUTICALS INC

Assignee(s): (std): ADAMS JOHN W ; ARENA PHARM INC ; ARENA PHARMACEUTICALS INC ; CONNOLLY DANIEL T

Inventor(s): (std): ADAMS JOHN W ; CONNOLLY DANIEL T ; DANIEL CONNOLLY T ; JOHN ADAMS W

Inventor(s): ADAMS JOHN ; CONNOLLY DANIEL ; DANIEL T CONNOLLY ; JOHN W ADAMS

Agent(s): ARENA PHARMACEUTICALS INC; BOZICEVIC FIELD AND FRANCIS LLP; BOZICEVIC FIELD AND FRANCIS LLP ARENA PHARMACEUTICALS INC; CAROL L; FB RICE; FB RICE PTY LTD; JAMES S; SIT FUNG KWONG AND SHUM; SMART AND BIGGAR

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE 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
AU2003259237 AA	20040223	LSPB	+	published / reissued	
AU2003259237 BB	20110106	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2003259237 BB	20110512	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2003259237 BB	20130221	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2003259237 BB	20230725	PEXP		Calculated Patent Term Expiry	
CA2494607 AA	20050125	LSPB	+	published / reissued	
CA2494607 AA	20080620	LSES	+EEER	EXAMINATION REQUEST	
CA2494607 AA	20120614	LSLE	-FZDE	DEAD	
CN100473662 C	20090401	LSGT	+	granted / extensions (spc, cpc, pte)	
CN100473662 C	20090401	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN100473662 C	20130911	LSLE	-C17	CESSATION OF PATENT RIGHT	
CN100473662 C	20230725	PEXP		Calculated Patent Term Expiry	
CN1684975 A	20051019	LSPB	+	published / reissued	
CN1684975 A	20051019	LSPB	+C06	PUBLICATION	
CN1684975 A	20051214		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
EP1543025 A2	20050622	LSPB	+	published / reissued	
EP1543025 A2	20050622	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20050218
EP1543025 A2	20050622		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
EP1543025 A2	20050622		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK
EP1543025 A2	20051123		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1543025 A2	20060310		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1078317 Ref legal event code: DE Country of Ref document: HK
EP1543025 A4	20060315	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20060131
EP1543025 A4	20061213		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: ADAMS, JOHN, W. PartyType: inventor
EP1543025 A4	20061213		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CONNOLLY, DANIEL, T. PartyType: inventor
EP1543025 A4	20090415	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20090311
EP1543025 A4	20130222	LSWD	REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1078317 Ref legal event code: WD Country of Ref document: HK
EP1543025 A4	20130410	LSDW	-18D	APPLICATION	Effective date: 20121017

				DEEMED TO BE WITHDRAWN	
HK1078317 A1	20060310	LSPB	+	published / reissued	
HK1078317 A3	20060310	LSPB	+	published / reissued	
JP2005534319 T2	20051117	LSPB	+	published / reissued	
JP2005534319 T2	20060725	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20060724 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005534319 T2	20060725	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20060724 Text: JAPANESE INTERMEDIATE CODE: A621
JP2005534319 T2	20090603	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20090602 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005534319 T2	20090902		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20090901 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005534319 T2	20090909		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20090908 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005534319 T2	20091002		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20091001 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005534319 T2	20091009		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20091008 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005534319 T2	20091031		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20091030 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005534319 T2	20091110		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20091109 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005534319 T2	20091203	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20091202 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005534319 T2	20101111	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20101110 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005534319 T2	20110210		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20110209 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005534319 T2	20110218		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20110217 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005534319 T2	20110310		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20110309 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005534319 T2	20110317		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20110316 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005534319 T2	20110409		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20110408 Text: JAPANESE INTERMEDIATE CODE: A601
JP2005534319 T2	20110418		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20110415 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005534319 T2	20110510	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20110509 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005534319 T2	20110913	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20110912 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005534319 T2	20120315	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20120314 Text: JAPANESE INTERMEDIATE CODE: A02
TW200410985 A	20040701	LSPB	+	published / reissued	
TW200800009 A	20080101	LSPB	+	published / reissued	
TW200815603 A	20080401	LSPB	+	published / reissued	
TWI291555 B	20071221	LSGT	+	granted / extensions (spc,	

				cpc, pte)	
TWI291555 B	20130921	LSLE	-MM4A	ANNULMENT OR LAPSE OF PATENT DUE TO NON-PAYMENT OF FEES	
TWI291555 B	20230730	PEXP		Calculated Patent Term Expiry	
US2005238579 AA	20051027	LSPB	+	published / reissued	
US2005238579 AA	20091014	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2007224127 AA	20070705	LSAS	AS	ASSIGNMENT	Effective date: 20050131 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ADAMS, JOHN W.;CONNOLLY, DANIEL T.;REEL/FRAME:019519/0559 Owner: ARENA PHARMACEUTICALS, INC., CALIFORNIA PartyType: owner
US2007224127 AA	20070927	LSPB	+	published / reissued	
US2007224127 AA	20090217	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2007224127 AA	20090217		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US7611832 BB	20050131	LSAS	AS	ASSIGNMENT	Effective date: 20050131 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ADAMS, JOHN W.;CONNOLLY, DANIEL T.;REEL/FRAME:016825/0108 PartyType: owner Owner: ARENA PHARMACEUTICALS, INC., CALIFORNIA
US7611832 BB	20091014	LSGT	PAT1	Patented Case	
US7611832 BB	20091103	LSGT	+	granted / extensions (spc, cpc, pte)	
US7611832 BB	20130307	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7611832 BB	20170503	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7611832 BB	20230725	PEXP		Calculated Patent Term Expiry	
WO04013285 A2	20040212	LSPB	+	published / reissued	
WO04013285 A2	20040212		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO04013285 A2	20040212		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO04013285 A2	20040421		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO04013285 A3	20050125	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2494607 Country of Ref document: CA
WO04013285 A3	20050131	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004526159 Country of Ref document: JP
WO04013285 A3	20050131	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10523100 Country of Ref document: US
WO04013285 A3	20050203	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003259237 Country of Ref document: AU

WO04013285 A3	20050216	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003766914 Country of Ref document: EP
WO04013285 A3	20050331	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 20038234882 Country of Ref document: CN
WO04013285 A3	20050622	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2003766914 Country of Ref document: EP