

Search history

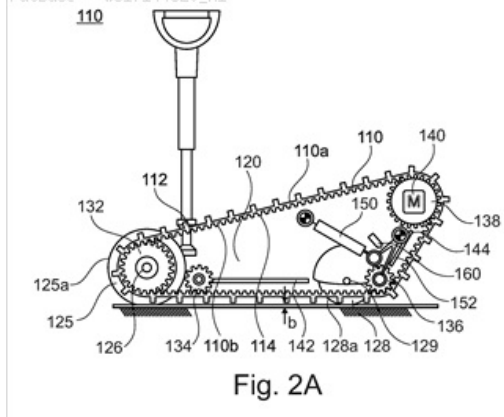
Search 1: FT=(UNMANNED~ AND VEHICLE~ AND CATERPILLAR~) (Results 183)

Title: CLIMBING CHASSIS FOR A TRAVELLING DEVICE

Abstract: The invention relates to a climbing chassis (100) for a travelling device (1), where the chassis (100) has at least one revolving crawler belt (110) comprising an outwardly oriented crawler belt tread, a rear axle with which at least one rear wheel (125) is associated, comprising a rear wheel tread, and a front axle with which at least one front wheel (128) is associated, comprising a front wheel tread. The wheels (125, 128) and the crawler belt (110) are arranged such that the rear wheel tread and the front wheel tread project past the crawler belt tread towards the ground, such that the propulsion of the travelling device (1) can be carried out in-plane by means of the wheels, the crawler belt tread projecting at least partially past the front wheel tread in the direction of travel, in order to be able to engage with an obstacle (50) in the direction of travel such that the crawler belt (110) can move the travelling appliance (1) on and/or over the obstacle (50).

Classifications:**International (IPC 8-9):** A61G5/06 B62D55/02 (Advanced/Invention)**CPC:** B62D55/02 A61G5/066

PatBase - WO17144320_A1

**Family:**

Publication number	Publication date	Application number	Application date
DE102016202878 A1	20170824	DE201610202878	20160224
WO17144320 A1	20170831	WO2017EP53369	20170215

Priority:

DE201610202878 20160224

Probable Assignee: KUKA ROBOTER GMBH**Assignee(s):** (std): KUKA ROBOTER GMBH**Inventor(s):** (std): SCHOBER WOLFGANG ; RIEDEL MARTIN**Agent(s):** MASCHINENBAU MADER JOACHIM ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT 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
DE102016202878 A1	20170824	LSPB	+	published / reissued	
DE102016202878 A1	20160224	LSSES	+R012	REQUEST FOR EXAMINATION VALIDLY FILED	
DE102016202878 A1	20190710	LSRV	-R002	REFUSAL DECISION IN EXAMINATION/REGISTRATION PROCEEDINGS	
WO17144320 A1	20170831	LSPB	+	published / reissued	
WO17144320 A1	20190320	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 17706182 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: MODULAR **VEHICLE** SYSTEM

Abstract: A modular **vehicle** system includes at least one body module having at least one body connection interface, and a kit. The kit includes a plurality of utility modules including at least one first utility module (in the form of a fixed-wing utility module) and at least one second utility module (in the form of a rotor-wing utility module). Each first utility module includes at least one utility module connection interface in the form of a first utility module connection interface for coupling with the body connection interface. Each second utility module includes at least one utility module connection interface in the form of a second utility module connection interface, distinct from the first utility module connection interface, for coupling with the body connection interface. Each body connection interface is configured for selective reversible coupling at least with respect to any one of the utility module connection interfaces while concurrently excluding coupling of another utility module connection interface thereto, to provide an air **vehicle**.

Classifications:

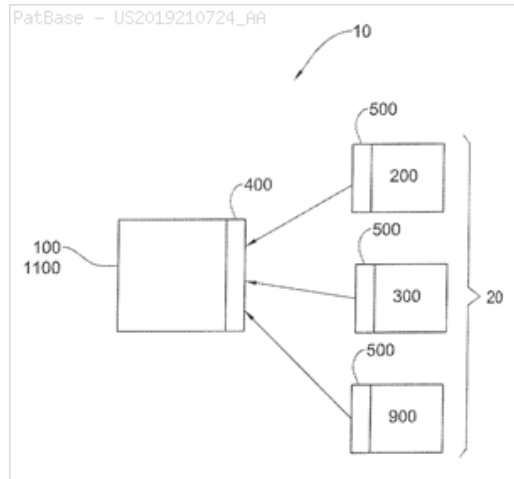
International (IPC 8-9): A01B B64C27/08 B64C3/00 B64C3/10

B64C37/00 B64C39/02 B64D27/24 (Advanced/Invention);

A01B (Subclass/Invention)

CPC: B64C3/10 B64C37/00 B64C2201/027 B64D27/24 B64C39/024

B64C3/00 B64C27/08 B64C2201/104 B64C2201/165 B64C2211/00



Family:

Publication number	Publication date	Application number	Application date
CN109689497 A	20190426	CN201780054055	20170911
EP3509943 A1	20190717	EP20170848297	20170911
IL247772 A0	20170131	IL20160247772	20160912
US2019210724 AA	20190711	US20170331736	20170911
WO18047187 A1	20180315	WO20171L51025	20170911

Priority:

IL20160247772 20160912 WO20171L51025 20170911

Probable Assignee: ISRAEL AEROSPACE IND LTD

Assignee(s): (std): BUBLITSKY RON ; ISRAEL AEROSPACE IND LTD

Inventor(s): (std): BUBLITSKY RON

Agent(s): REINHARDT YVES; SERUYA YEHUDA

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
CN109689497 A	20190426	LSPB	+	published / reissued	
CN109689497 A	20190426	LSPB	PB01	PUBLICATION	
EP3509943 A1	20190717	LSPB	+	published / reissued	
EP3509943 A1	20190717	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190412
US2019210724 AA	20190711	LSPB	+	published / reissued	
US2019210724 AA	20190308	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISRAEL AEROSPACE INDUSTRIES LTD., ISRAEL OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BUBLITSKY, RON; REEL/FRAME:048547/0360 EFFECTIVE DATE : 20170717
WO18047187 A1	20180315	LSPB	+	published / reissued	

WO18047187 A1	20190313	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18047187 A1	20190412	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017848297 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190412
WO18047187 A1	20190412	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2017848297 COUNTRY OF REF DOCUMENT : EP

Title: MODULAR ROBOTIC CRAWLER

Abstract: A modular robotic crawler can be formed by intercoupling a selected plurality of segment modules from a preexisting collection of differing compatible segment modules. The segment modules can have at least one intercoupleable interface. The selection can be based on a planned operational scenario of functions to be performed.

Classifications:

International (IPC 8-9): B25J11/00 B25J9/00 B62D B62D55/04 B62D55/07 B62D55/253 B62D57/00 B62D57/02 B62D57/04 B62D63/00 B65D57/00 G06F17/00 G06F19/00 (Advanced/Invention); B25J17/00 B62D63/00 B65D57/00 G06F19/00 (Advanced/Non-invention);

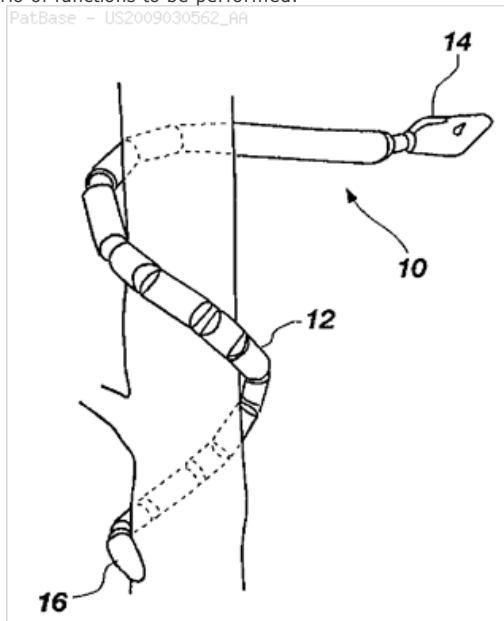
B62D57/00 G06F17/00 G06F19/00 (Core/Invention); B62D63/00 B65D57/00 (Core/Non-invention)

International (IPC 1-7): B62D57/02 B62D57/04 B62D63/00

CPC: B08B9/045 B62D57/00 B62D57/02 B62D57/04 B62D63/00 B25J9/065

European: B08B9/045 B25J9/065 B62D57/00 B62D57/02 B62D57/04 B62D63/00

US: 180/9.21 180/9.26 318/568.12 700/245 700/245S 700/247 701/2 701/2P 901/1 901/1S



Family:

Publication number	Publication date	Application number	Application date
CN101784435 A	20100721	CN200880102914	20080710
CN101784435 B	20130828	CN200880102914	20080710
EP2170683 A2	20100407	EP20080826223	20080710
IL203228 A0	20101031	IL20080203228	20080710
IN00263MN2010 A	20101203	IN2010MN00263	20100209
JP2010533101 T2	20101021	JP20100516242T	20080710
JP5285701 B2	20130911	JP20100516242T	20080710
US2009030562 AA	20090129	US20080171146	20080710
US8571711 BB	20131029	US20080171146	20080710
WO09009673 A2	20090115	WO2008US69668	20080710
WO09009673 A3	20090514	WO2008US69668	20080710

Priority:

US20070959108P 20070710 US20070959180P 20070710 US20080171146 20080710
WO2008US69668 20080710

Probable Assignee: SARCOS LC

Assignee(s): (std): JACOBSEN STEPHEN C ; OLIVIER MARC ; OLIVIER MARC X ; RAYTHEON CO ; RAYTHEON SARCOS LLC

Assignee(s): SARCOS LC

Inventor(s): (std): MARC OLIVIER ; OLIVIER MARC X ; OLIVIER MARC ; JACOBSEN STEPHEN C

Agent(s): WALKER ROSS THOMSON; TAKEUCHI SHIGEO; ONO SHINJIRO; SHAMOTO ICHIO; KOBAYASHI YASUSHI; TOMITA HIROYUKI; CHIBA AKIO; THORPE NORTH AND WESTERN LLP; NORTH VAUGHN W ET AL

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
CN101784435 A	20100721	LSPB	+	published / reissued	
CN101784435 A	20100721	LSPB	+C06	PUBLICATION	
CN101784435 B	20130828	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101784435 B	20130828	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101784435 B	20130911	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	PARTYTYPE : OWNER OWNER : RAYTHEON COMPANY OLDPARTY : FORMER OWNER: RAYTHEON SARCOS LLC

EFFECTIVE DATE : 20130821					
CN101784435 B	20130911	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN101784435 B	20150902	LSWD	-EXPY	TERMINATION OF PATENT RIGHT OR UTILITY MODEL	
CN101784435 B	20280710	PEXP		Calculated Patent Term Expiry	
EP2170683 A2	20100407	LSPB	+	published / reissued	
EP2170683 A2	20100407	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100209
EP2170683 A2	20100929	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20100826
EP2170683 A2	20111228	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : RAYTHEON COMPANY
EP2170683 A2	20150708	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20150203
IN00263MN2010 A	20101203	LSPB	+	published / reissued	
JP2010533101 T2	20101021	LSPB	+	published / reissued	
JP2010533101 T2	20110630	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	TEXT : JAPANESE INTERMEDIATE CODE: A712 EFFECTIVE DATE : 20110629
JP2010533101 T2	20110702	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110701
JP2010533101 T2	20110702	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110701
JP2010533101 T2	20121217	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20121214
JP2010533101 T2	20130309	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130308
JP2010533101 T2	20130507	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130502
JP2010533101 T2	20130606	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130531
JP5285701 B2	20130911	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5285701 B2	20101013	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20101012
JP5285701 B2	20130509	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5285701 B2	20130604	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5285701 B2	20130607	LSGT	+R150	特許証 (Patent certificate)	
JP5285701 B2	20160609	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5285701 B2	20160614	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5285701 B2	20170629	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5285701 B2	20170704	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5285701 B2	20180607	LSFE	R20	特許料納付書 (Patent fee payment form)	

JP5285701 B2	20180612	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5285701 B2	20190530	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5285701 B2	20190604	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5285701 B2	20280710	PEXP		Calculated Patent Term Expiry	
US2009030562 AA	20090129	LSPB	+	published / reissued	
US2009030562 AA	20101117	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RAYTHEON COMPANY, MASSACHUSETTS OLDPARTY : MERGER; ASSIGNOR:RAYTHEON SARCOS, LLC; REEL/FRAME:025368/0225 EFFECTIVE DATE : 20101025
US2009030562 AA	20131009	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8571711 BB	20131029	LSGT	+	granted / extensions (spc, cpc, pte)	
US8571711 BB	20081006	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RAYTHEON SARCOS, LLC, UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JACOBSEN, STEPHEN C.; OLIVIER, MARC X.; REEL/FRAME:021638/0878 EFFECTIVE DATE : 20080926
US8571711 BB	20131009	LSGT	PAT1	Patented Case	
US8571711 BB	20150128	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SARCOS LC, UTAH OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:RAYTHEON COMPANY; REEL/FRAME:034828/0921 EFFECTIVE DATE : 20141114
US8571711 BB	20170407	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8571711 BB	20310807	PEXP		Calculated Patent Term Expiry (PTA 1123 days)	
WO09009673 A2	20090115	LSPB	+	published / reissued	
WO09009673 A2	20080710	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200880102914.1 COUNTRY OF REF DOCUMENT : CN
WO09009673 A3	20100108	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010516242 COUNTRY OF REF DOCUMENT : JP
WO09009673 A3	20100110	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 203228 COUNTRY OF REF DOCUMENT : IL
WO09009673 A3	20100112	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09009673 A3	20100209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 263/MUMNP/2010 COUNTRY OF REF DOCUMENT : IN
WO09009673 A3	20100209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008826223 COUNTRY OF REF DOCUMENT : EP

Title: Fire-Fighting Appliances, particularly for Fighting Large-Scale Fires.

Abstract: 1,191,449. Fire-fighting **vehicles**. KLOCKNER-HUMBOLDT, DEUTZ A.G. 15 April, 1969 [20 April, 1968], No. 19161/69. Heading A5.A. Fire-fighting apparatus for airport or refinery fires comprises first **vehicle** 8 or 9 fitted, with rotatable spray cannon 7 and connected via hose 6 to second **vehicle** 1 or 2 which carries tank 3 of extinguishing medium and a motor driven pump, the first **vehicle** being equipped with means e.g. aerial 10, enabling its remote control. Control may be effected by a command **vehicle** having a transmitter aerial. In one embodiment the first **vehicle** is mounted on the command **vehicle**. First **vehicle** 8 or 9 may be an air-cushion **vehicle** or mounted on endless tracks, 9 it may be equipped with a booster pump or a separate extinguishing medium tank and motor pump, a heat-shielded cabin for rescued survivors, and spray nozzles to maintain a fire-free path.

Classifications:

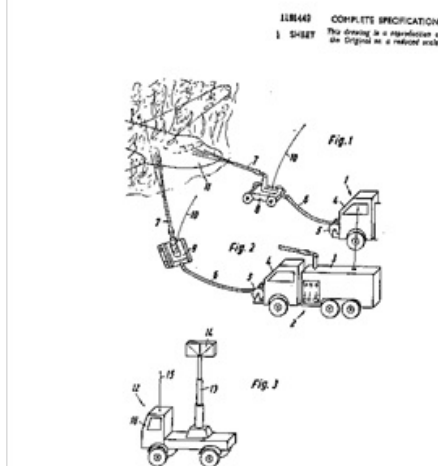
International (IPC 8-9): A62C27/00 A62C3/02 (Advanced/Invention); A62C27/00 A62C3/00 (Core/Invention)

International (IPC 1-7): A62C27/00 A62C27/16 A62C27/20 A62C3/00

CPC: A62C3/0292 A62C27/00

European: A62C27/00 A62C3/02R

PatBase - GB1191449_A



Family:

Publication number	Publication date	Application number	Application date
CH487652 A	19700331	CH19690004494	19690325
DE1759319 A1	19710603	DE19681759319	19680420
FR2006624 A1	19691226	FR19690012234	19690418
GB1191449 A	19700513	GB19690019161	19690415
IL32028 A0	19690625	IL19690032028	19690415
NL6905615 A	19691022	NL19690005615	19690411

Priority:

DE19671759319 19680420 DE19681759319 19680420

Probable Assignee: KLOECKNER HUMBOLDT DEUTZ AG

Assignee(s): (std): KLOECKNER HUMBOLDT DEUTZ AG

Assignee(s): KLOCKNER HUMBOLDT DEUTZ ; KLOCKNER HUMBOLDT DEUTZ A G

Inventor(s): (std): DR HERTERICH OSKAR ING ; HERTERICH OSKAR DR

Inventor(s): ING HERTERICH OSKAR DR

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
CH487652 A	19700331	LSGT	+	granted / extensions (spc, cpc, pte)	
CH487652 A	19711231	LSLE	-PL	PATENT CEASED	
CH487652 A	19890325	PEXP		Calculated Patent Term Expiry	
DE1759319 A1	19710603	LSPB	+	published / reissued	
FR2006624 A1	19691226	LSPB	+	published / reissued	
FR2006624 A1	19720630	LSLE	-ST	NOTIFICATION OF LAPSE	
GB1191449 A	19700513	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1191449 A	19700923	LSGT	+PS	PATENT SEALED	
GB1191449 A	19731107	LSLE	-PLNP	PATENT LAPSED THROUGH NONPAYMENT OF RENEWAL FEES	
GB1191449 A	19890415	PEXP		Calculated Patent Term Expiry	
NL6905615 A	19691022	LSPB	+	published / reissued	

Title: SURVEILLANCE METHOD

Abstract: Provided is a surveillance method. The surveillance method includes detecting an event occurring region from an image obtained by using a first image sensor; and, when the event occurring region satisfies a preset condition, moving an identification unit on which a second image sensor is mounted in a direction corresponding to the event occurring region.

Classifications:

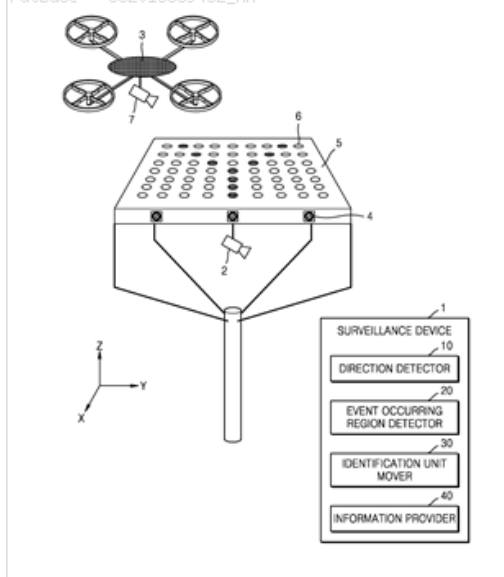
International (IPC 8-9): B64C39/02 G08B13/16 G08B13/196

H04N5/247 H04N7/18 (Advanced/Invention)

CPC: G08B13/1963 B64C39/024 G08B13/19606 G08B13/19608
G08B13/1966 B64C2201/127 H04N7/188 H04N7/185 G08B13/1672
B64C2201/123 H04N5/247 B64C39/02 G08B13/19628 G08B13/1965
G08B13/19695 H04N5/232 H04N5/23299

US: 348/143

PatBase - US2018359452_RR

**Family:**

Publication number	Publication date	Application number	Application date
KR20170006210 A	20170117	KR20150096791	20150707
US2018359452 AA	20181213	US20150580591	20151110
WO17007077 A1	20170112	WO2015KR12029	20151110

Priority:

KR20150096791 20150707 WO2015KR12029 20151110

Probable Assignee: HANWHA TECHWIN CO LTD

Assignee(s): (std): HANWHA LAND SYSTEMS CO LTD ; HANWHA TECHWIN CO LTD

Assignee(s): HANWHA TECHWIN CO ; HANWHA DEFENSE CO LTD ; HANWHA LAND SYSTEMS CO

Inventor(s): (std): CHAE HESEO ; SONG HONAM ; PARK JOONHO ; CHAE HEE SEO ; SONG HO NAM ; PARK JOON HO

Agent(s): YPLEE MOCK PARTNERS

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 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
KR20170006210 A	20170117	LSPB	+	published / reissued	
KR20170006210 A	20170710	LSAS	N231	NOTIFICATION OF CHANGE OF APPLICANT	
US2018359452 AA	20181213	LSPB	+	published / reissued	
US2018359452 AA	20190228	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANWHA DEFENSE CO., LTD., KOREA, REPUBLIC OF OLDPARTY : CHANGE OF NAME; ASSIGNOR: HANWHA LAND SYSTEMS CO., LTD.; REEL/FRA: 048473/0529 EFFECTIVE DATE : 20190103
US2018359452 AA	20190305	LSES	NFA1	Non Final Action Mailed	
WO17007077 A1	20170112	LSPB	+	published / reissued	
WO17007077 A1	20180109	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

WO17007077 A1	20180801	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 15897799 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
---------------	----------	------	------	---	---

Title: INFORMATION PROCESSING APPARATUS, COMPUTER-READABLE RECORDING MEDIUM, AND INFORMATION PROCESSING SYSTEM

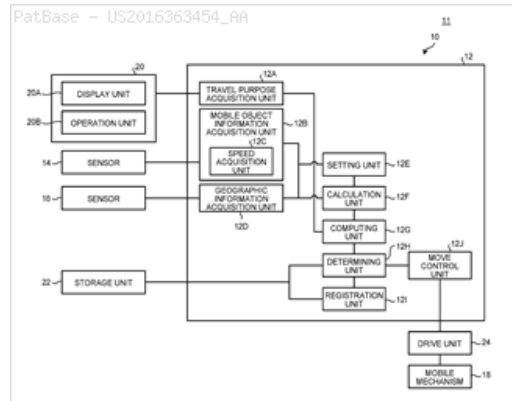
Abstract: An information processing apparatus includes: a travel purpose acquisition unit that acquires a travel purpose of a mobile object; a setting unit that sets multiple travel routes in different travel directions in a forward area with respect to the mobile object; a calculation unit that calculates, regarding each of the multiple travel routes, a predictive value of a travel state in which the mobile object travels along each of the multiple travel routes; a computing unit that computes, regarding each of the multiple travel routes, an evaluation value for the mobile object to realize traveling according to the travel purpose from weighting values that are predetermined according to the travel purpose and the predictive values; and a determining unit that determines, as a travel route to be followed next, a travel route with the highest evaluation represented by the evaluation value among the multiple travel routes.

Classifications:

International (IPC 8-9): G01C21/34 G05D1/00
G05D1/02 (Advanced/Invention)

CPC: G01C21/34 G05D1/0217 G05D2201/0209

US: 701/25



Family:

Publication number	Publication date	Application number	Application date
JP2017004373 A2	20170105	JP20150119493	20150612
US2016363454 AA	20161215	US20160175402	20160607
US9851211 BB	20171226	US20160175402	20160607

Priority:

JP20150119493 20150612

Probable Assignee: RICOH CO LTD

Assignee(s): (std): HATANAKA WATARU ; INABA DAIKI ; SHIMURA HIROSHI ; RICOH CO LTD ; RICOH KK

Inventor(s): (std): SHIMURA HIROSHI ; INABA DAIKI ; HATANAKA WATARU

Agent(s): SAKAI HIROAKI; OBLON MCCLELLAND MAIER AND NEUSTADT LLP

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
JP2017004373 A2	20170105	LSPB	+	published / reissued	
JP2017004373 A2	20180517	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20180517
JP2017004373 A2	20190416	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20190416
US2016363454 AA	20161215	LSPB	+	published / reissued	
US2016363454 AA	20170501	LSSES	NFA1	Non Final Action Mailed	
US2016363454 AA	20170803	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016363454 AA	20171103	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2016363454 AA	20171106	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016363454 AA	20171107	LSFE	+AWA3	Awaiting TC Resp, Issue Fee Payment Verified	

US2016363454 AA	20171121	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016363454 AA	20171206	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9851211 BB	20171226	LSGT	+	granted / extensions (spc, cpc, pte)	
US9851211 BB	20160607	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RICOH COMPANY, LTD., JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HATANAKA, WATARU; INABA, DAIKI; SHIMURA, HIROSHI; REEL/FRAME:038830/0189 EFFECTIVE DATE : 20160531
US9851211 BB	20171206	LSGT	PAT1	Patented Case	
US9851211 BB	20360607	PEXP		Calculated Patent Term Expiry	

Title: CONTROL OF RESISTENT HARMFUL ORGANISMS

Abstract: The present invention relates to the detection of resistances of harmful organisms to pest control agents. The subject matter of the present invention is a method and a system for the detection and acquisition of resistances. The invention further relates to the use of the system according to the invention for establishing a resistance map, in which information regarding the resistance of one or more harmful organisms to one or more control agents is recorded for a field or a plurality of fields for the cultivation of cultivated plants.

Classifications:
International (IPC 8-9): A01M21/00 A01N25/00 G05D1/00 G06K9/00 (Advanced/Invention)

Family:

Publication number	Publication date	Application number	Application date
WO19149626 A1	20190808	WO2019EP51829	20190125

Priority:
EP20180154903 20180202

Probable Assignee: BAYER AG

Assignee(s): BAYER AG

Inventor(s): AL DILAIMI ARWA ; BEYER CARSTEN ; BEFFA ROLAND ; BUER BENJAMIN ; KLEEMANN JOCHEN ; NAUEN RALF ; TOSSENS HERVE

Agent(s): BIP PATENTS

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
WO19149626 A1	20190808	LSPB	+	published / reissued	

Title: Method and apparatus for accurately moving a **vehicle** on a terrain, i.e. a mine clearing **vehicle**

Abstract: The mine-clearing **vehicle** (VD) has two rollers mounted in front to explode mines, equipment to clear undergrowth and is in communication with a controlling **vehicle** (VC) through a propriety centimetric UHF radio link. Controlling **vehicle** receives position data from the mine-clearing **vehicle** and guides it along paths (TJ1, TJ2) such that tracks made by the rollers (TRA1, TRA2) overlap.

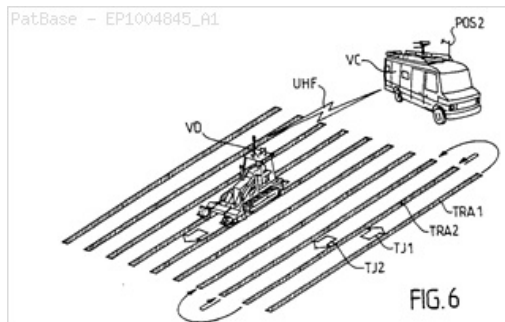
Classifications:

International (IPC 8-9): F41H11/16 G01V3/15 (Advanced/Invention)

International (IPC 1-7): F41H11/12 F41H11/16 F42D5/02 G01V3/15 G05D1/02

CPC: F41H11/30 G01V3/15

European: F41H11/30 G01V3/15



Family:

Publication number	Publication date	Application number	Application date
AT232596 E	20030215	AT19990402894T	19991122
DE69905331 D1	20030320	DE19996005331T	19991122
DE69905331 D1	20030320	DE19996005331T	19991122
DE69905331 T2	20030911	DE19996005331T	19991122
EP1004845 A1	20000531	EP19990402894	19991122
EP1004845 B1	20030212	EP19990402894	19991122
FR2786263 A1	20000526	FR19980014849	19981125
FR2786263 B1	20010112	FR19980014849	19981125

Priority:

FR19980014849 19981125

Probable Assignee: THALES SA

Assignee(s): (std): DASSAULT ELECTRONIQUE ; THALES SA ; THALES SYSTEMES AEROPORTES S A ; THOMSON CSF DETEXIS ; THALES SYSTEMES AEROPORTES SA

Assignee(s): THALES SYSTEMES AEROPORTES S A SAINT CLOUD

Inventor(s): (std): QUIN JEAN PHILIPPE

Designated states: AT BE CH CY DE DK ES FI 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
AT232596 E	20030215	LSGT	+	granted / extensions (spc, cpc, pte)	
AT232596 E	20030815	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT232596 E	20191122	PEXP		Calculated Patent Term Expiry	
DE69905331 T2	20030911	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69905331 T2	20191122	PEXP		Calculated Patent Term Expiry	
EP1004845 A1	20000531	LSPB	+	published / reissued	
EP1004845 A1	20010124	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20001129
EP1004845 A1	20010214	LSFE	+AKX	DESIGNATION FEES PAID	TEXT : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1004845 A1	20020529	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20020416
EP1004845 A1	20021023	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : THALES SYSTEMES AEROPORTES S.A.
EP1004845 A1	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20151124 YEAR OF FEE PAYMENT : 17

EP1004845 B1	20030212	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1004845 B1	20030212	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030212
EP1004845 B1	20030212	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030212
EP1004845 B1	20030212	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030212
EP1004845 B1	20030212	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030212
EP1004845 B1	20030212	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030212
EP1004845 B1	20030212	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP1004845 B1	20030214	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1004845 B1	20030512	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030512
EP1004845 B1	20030512	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030512
EP1004845 B1	20030512	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030512
EP1004845 B1	20030701	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
EP1004845 B1	20030709	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D

EP1004845 B1	20030828	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20030828
EP1004845 B1	20031001	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FD4D REF DOCUMENT NUMBER : 1004845E COUNTRY OF REF DOCUMENT : IE
EP1004845 B1	20031122	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20031122
EP1004845 B1	20031122	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20031122
EP1004845 B1	20031130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20031130
EP1004845 B1	20031130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20031130
EP1004845 B1	20031130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20031130
EP1004845 B1	20031130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20031130
EP1004845 B1	20040204	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20031113
EP1004845 B1	20040531	LSLE	-BERE	BE: LAPSED	PARTY TYPE : OWNER REF COUNTRY CODE : EP OWNER : S.A. *THALES SYSTEMES AEROPORTES EFFECTIVE DATE : 20031130
EP1004845 B1	20040715	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1004845 B1	20151023	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 17
EP1004845 B1	20161028	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 18
EP1004845 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161116 YEAR OF FEE PAYMENT : 18
EP1004845 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO	COUNTRY OF REF DOCUMENT :

				NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	FR PAYMENT DATE : 20161028 YEAR OF FEE PAYMENT : 18
EP1004845 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161110 YEAR OF FEE PAYMENT : 18
EP1004845 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161122 YEAR OF FEE PAYMENT : 18
EP1004845 B1	20171026	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 19
EP1004845 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171026 YEAR OF FEE PAYMENT : 19
EP1004845 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171114 YEAR OF FEE PAYMENT : 19
EP1004845 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171123 YEAR OF FEE PAYMENT : 19
EP1004845 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171115 YEAR OF FEE PAYMENT : 19
EP1004845 B1	20181026	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 20
EP1004845 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181106 YEAR OF FEE PAYMENT : 20
EP1004845 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181120 YEAR OF FEE PAYMENT : 20
EP1004845 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181122 YEAR OF FEE PAYMENT : 20
EP1004845 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181026 YEAR OF FEE PAYMENT : 20
EP1004845 B1	20191122	PEXP		Calculated Patent Term Expiry	
FR2786263 A1	20000526	LSPB	+	published / reissued	
FR2786263 B1	20010112	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2786263 B1	20050902	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2786263 B1	20181125	PEXP		Calculated Patent Term Expiry	

Title: METHOD AND DEVICE FOR ANALYZING AMPLITUDE MODULATED BROADBAND NOISE

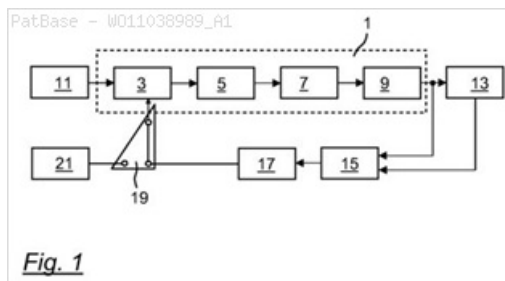
Abstract: The invention relates to a method for analyzing amplitude modulated broadband noises emitted by bodies, in particular operating noises emitted by propeller driven **vehicles**, which are transferred as acoustic signals after a pre-processing 11 as input signals to an analysis device 1 wherein they are filtered by means of a band pass 3 according to the settings of the analysis device 1, demodulated by means of a demodulator 5 in respect of their envelopes, released from a DC component by means of a high pass 7 and subjected to a spectral analysis 9. The analysis device 1 generates so-called DEMON spectra, on the basis of which an evaluation of the settings of the analysis device 1 are carried out in an evaluation device 15. The filter settings of the band pass 3 are then changed by means of an adaptive band limit module 17 in dependence on a previously determined evaluation criterion. The invention furthermore relates to a device for carrying out said method.

Classifications:

International (IPC 8-9): G01H3/08 G01N29/14 G01S3/801 G01V1/00 G06K9/00 (Advanced/Invention)

CPC: G06K9/00496 G01S3/801 G01H3/08

European: G01H3/08 G01S3/801 G06K9/00M



Family:

Publication number	Publication date	Application number	Application date
DE102009043417 A1	20110407	DE200910043417	20090929
DE502010012477 D1	20161110	DE201050012477T	20100818
EP2483705 A1	20120808	EP20100744592	20100818
EP2483705 B1	20160928	EP20100744592	20100818
KR101330928 B1	20131118	KR20127009422	20100818
KR20120065408 A	20120620	KR20127009422	20100818
TR201616398 T4	20161221	TR20160016398T	20100818
WO11038989 A1	20110407	WO2010EP62036	20100818

Priority:

DE200910043417 20090929 EP20100744592 20100818 WO2010EP62036 20100818

Probable Assignee: ATLAS ELEKTRONIK GMBH

Assignee(s): (std): ATLAS ELEKTRONIK GMBH ; SCHMIDT HEIKO ; SCHWARZ JAN PHILIP

Inventor(s): (std): SCHMIDT HEIKO ; SCHWARZ JAN PHILIP

Inventor(s): HEIKO SCHMIDT ; JAN PHILIP SCHWARZ

Agent(s): WASILJEFF JOHANNES M B; AYLIN SENER; JABBUSCH SIEKMANN AND WASILJEFF

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
DE102009043417 A1	20110407	LSPB	+	published / reissued	
DE102009043417 A1	20110407	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE102009043417 A1	20130617	LSES	R016	RESPONSE TO EXAMINATION COMMUNICATION	
DE102009043417 A1	20180404	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
EP2483705 A1	20120808	LSPB	+	published / reissued	
EP2483705 A1	20120808	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120306
EP2483705 A1	20160525	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160426
EP2483705 B1	20160928	LSGT	+	granted / extensions (spc,	

cpc, pte)					
EP2483705 B1	20160928	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH
EP2483705 B1	20160930	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2483705 B1	20161015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 833221 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20161015
EP2483705 B1	20161102	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : LANGUAGE OF EP DOCUMENT: GERMAN
EP2483705 B1	20161110	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 502010012477 COUNTRY OF REF DOCUMENT : DE
EP2483705 B1	20170125	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2483705 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161228
EP2483705 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161229
EP2483705 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING	COUNTRY OF REF DOCUMENT : LV

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161228
EP2483705 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170128
EP2483705 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SM NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928

EP2483705 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170130
EP2483705 B1	20170629	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 502010012477 COUNTRY OF REF DOCUMENT : DE
EP2483705 B1	20170630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20170822	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 8
EP2483705 B1	20170906	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20170629
EP2483705 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170822 YEAR OF FEE PAYMENT : 8
EP2483705 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170822 YEAR OF FEE PAYMENT : 8
EP2483705 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170822 YEAR OF FEE PAYMENT : 8
EP2483705 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20170821 YEAR OF FEE PAYMENT : 8
EP2483705 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20170801 YEAR OF FEE PAYMENT : 8
EP2483705 B1	20180329	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2483705 B1	20180330	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928

EP2483705 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170831
EP2483705 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170831
EP2483705 B1	20180530	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2483705 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170818
EP2483705 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170818
EP2483705 B1	20180827	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 9
EP2483705 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170831
EP2483705 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20181015	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MM01 REF DOCUMENT NUMBER : 833221 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20170818
EP2483705 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AL NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160928
EP2483705 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180823 YEAR OF FEE PAYMENT : 9
EP2483705 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180827 YEAR OF FEE PAYMENT : 9
EP2483705 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONNOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	DUE FEES LAPSED DATE : 20170818
EP2483705 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20180809 YEAR OF FEE PAYMENT : 9
EP2483705 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180822 YEAR OF FEE PAYMENT : 9
EP2483705 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20180823 YEAR OF FEE PAYMENT : 9
EP2483705 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO LAPSED DATE : 20100818
EP2483705 B1	20300818	PEXP		Calculated Patent Term Expiry	
KR101330928 B1	20131118	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101330928 B1	20120413	LSES	A201	REQUEST FOR EXAMINATION	
KR101330928 B1	20161104	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20161104 YEAR OF FEE PAYMENT : 4
KR101330928 B1	20171102	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20171102 YEAR OF FEE PAYMENT : 5
KR101330928 B1	20181031	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20181101 YEAR OF FEE PAYMENT : 6
KR101330928 B1	20300818	PEXP		Calculated Patent Term Expiry	
KR20120065408 A	20120620	LSPB	+	published / reissued	
KR20120065408 A	20130422	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20120065408 A	20131021	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20120065408 A	20131112	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
TR201616398 T4	20161221	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201616398 T4	20300818	PEXP		Calculated Patent Term Expiry	
WO11038989 A1	20110407	LSPB	+	published / reissued	
WO11038989 A1	20120306	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010744592 COUNTRY OF REF DOCUMENT : EP
WO11038989 A1	20120329	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11038989 A1	20120412	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20127009422 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

Title: A FLUID DISTRIBUTION SYSTEM FOR SELECTIVELY DISTRIBUTING FLUID FROM MULTIPLE LOCATIONS AND CONDUIT ARRANGEMENT FOR DISTRIBUTING FLUID FROM MULTIPLE LOCATIONS

Abstract: Fluid distribution system including conduit with openings, membrane for covering of openings, deflector for manipulating membrane, activator which is movable in the conduit with propulsion and control, the activator for communicating via deflector to manipulate membrane and uncover openings for fluid to be emitted from the conduit in relative vicinity

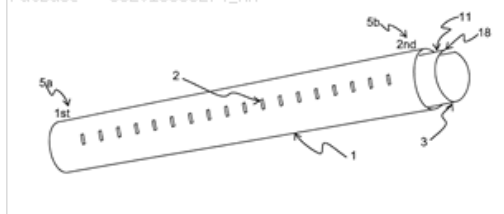
Classifications:

International (IPC 8-9): A01G25/02 A01G25/16 B05B1/04 B05B1/20 B05B1/30 B05B1/34 B05B12/00 B05B12/16 B05B15/00 B05B17/04 (Advanced/Invention)

CPC: A01G25/16 A01G25/023 B05B1/044 B05B1/046 B05B1/20 B05B1/3006 B05B1/34

US: 239/11

PatBase - US2016338274_AA



Family:

Publication number	Publication date	Application number	Application date
AU2015207669 AA	20151224	AU20150207669	20150120
AU2015207669 AA	20150723	AU20150207669	20150120
CA2970959 AA	20170615	CA20152970959	20150120
DE602015032721 D1	20190718	DE201560032721T	20150120
EP3102337 A1	20161214	EP20150737240	20150120
EP3102337 A4	20180314	EP20150737240	20150120
EP3102337 B1	20190626	EP20150737240	20150120
US2016338274 AA	20161124	US20150110975	20150120
US10143147 BB	20181204	US20150110975	20150120
WO15106315 A1	20150723	WO2015AU00028	20150120

Priority:

AU20140900171 20140120 AU20150207669 20150120 WO2015AU00028 20150120
EP20150737240 20150120

Probable Assignee: KM ELECTRONIC DEVELOPMENTS PTY LTD

Assignee(s): (std): KM ELECTRONIC DEV PTY LTD ; KM ELECTRONIC DEVELOPMENTS PTY LTD

Assignee(s): KM ELECTRONIC DEVELOPMENTS PTY LTD BALWYN NORTH ; MESSNER KENNETH WAYNE

Inventor(s): (std): MESSNER KENNETH WAYNE

Inventor(s): MESSNER KENNETH WAYNE BALWYN NORTH

Agent(s): BAXTER PATENT ATTORNEYS PTY LTD; MILTONS IP PI; HOCKING ADRIAN NIALI; MAIER AND MAIER PLLC

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
AU2015207669 AA	20150723	LSPB	+	published / reissued	
AU2015207669 AA	20151224	LSPB	+	published / reissued	
CA2970959 AA	20170615	LSPB	+	published / reissued	
EP3102337 A1	20161214	LSPB	+	published / reissued	
EP3102337 A1	20161214	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160816
EP3102337 A4	20180314	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20180208
EP3102337 A4	20190213	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190114
EP3102337 B1	20190626	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3102337 B1	20190626	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP3102337 B1	20190628	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP

EP3102337 B1	20190715	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1147700 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190715
EP3102337 B1	20190718	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602015032721 COUNTRY OF REF DOCUMENT : DE
EP3102337 B1	20190724	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP3102337 B1	20350120	PEXP		Calculated Patent Term Expiry	
US10143147 BB	20181204	LSGT	+	granted / extensions (spc, cpc, pte)	
US10143147 BB	20160712	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KM ELECTRONIC DEVELOPMENTS PTY LTD, AUSTRALIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MESSNER, KENNETH WAYNE; REEL/FRAME:039309/0819 EFFECTIVE DATE : 20160708
US10143147 BB	20181114	LSGT	PAT1	Patented Case	
US10143147 BB	20350309	PEXP		Calculated Patent Term Expiry (PTA 48 days)	
US2016338274 AA	20161124	LSPB	+	published / reissued	
US2016338274 AA	20171030	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2016338274 AA	20171031	LSES	NFA1	Non Final Action Mailed	
US2016338274 AA	20180724	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016338274 AA	20180725	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016338274 AA	20181114	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
WO15106315 A1	20150723	LSPB	+	published / reissued	
WO15106315 A1	20151224	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2015207669 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20150120 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO15106315 A1	20160712	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15110975 COUNTRY OF REF DOCUMENT : US
WO15106315 A1	20160720	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15106315 A1	20160816	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2015737240 COUNTRY OF REF DOCUMENT : EP
WO15106315 A1	20170615	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2970959 COUNTRY OF REF DOCUMENT : CA

Title: LAPPING MACHINE FOR MANUFACTURING FLOATING SEAL

Abstract: Source: KR100249378B **Machine translation:** The present invention relates to a raepinggi polishing the surface of an object, in particular, it relates to a floating seal preparative raepinggi polishing the surface of the floating seal used for **caterpillar vehicle** of the amphibian, Rotation are provided on the main shaft being positioned on the side of the base and formed with a diamond wheel of the strip-like, wherein the base and the introduction jig for moving the floating seal supply via the conveyor onto the surface plate, the end of the conveyor is provided with the cam to a stopper for restricting the movement of the floating seal, through the clamping jig is formed at the lower side is formed in the spindle and, screw adjustable for supporting and rotating the floating seal give an adjustable load to the floating chamber, and the upper rotator with the spindle in rotation is disposed above the surface plate and the edge of the plurality of mounting, and auto lifter for vertically moving the spindle when the floating chamber is in the discharge position, blocks the movement of the floating seal and characterized in that the take-off cylinder, including by withdrawing the outer surface plate, on a conveyor transporting the products to shorten the work time by introducing and withdrawing a product while the workpiece is wrapped, and therefore enables the improvement and **unmanned** automated production has the effect of reducing the production of the product cost.

Classifications:

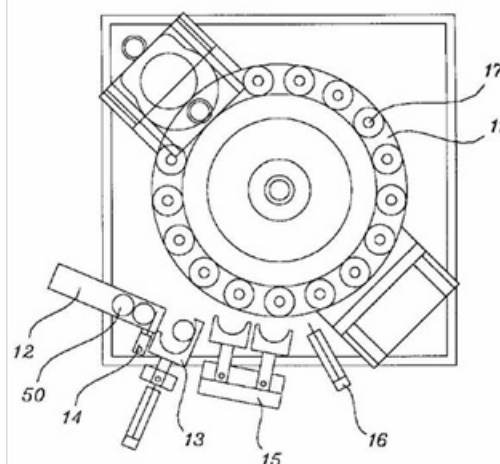
International (IPC 8-9): B24B37/00 B24B37/32 (Advanced/Invention);

B24B37/00 (Advanced/Non-invention);

B24B37/00 (Core/Invention)

International (IPC 1-7): B24B37/00

PatBase - KR100249378_B1



Family:

Publication number	Publication date	Application number	Application date
KR100249378 B1	20000401	KR19980002808	19980202
KR19990068899 A	19990906	KR19980002808	19980202

Priority:

KR19980002808 19980202

Probable Assignee: JINSUNG IND CO LTD

Assignee(s): (std): JINSUNG IND CO LTD ; JINSUNG INDUSTRY CO LTD

Assignee(s): JINSUNG IND CO

Inventor(s): (std): PARK WON RYONG

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
KR100249378 B1	20000401	LSGT	+	granted / extensions (spc, cpc, pte)	
KR100249378 B1	19980202	LSSES	A201	REQUEST FOR EXAMINATION	
KR100249378 B1	20121129	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20121129 YEAR OF FEE PAYMENT : 14
KR100249378 B1	20131129	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20131129 YEAR OF FEE PAYMENT : 15
KR100249378 B1	20141128	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20141128 YEAR OF FEE PAYMENT : 16

KR100249378 B1	20150930	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20150930 YEAR OF FEE PAYMENT : 17
KR100249378 B1	20161125	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20161125 YEAR OF FEE PAYMENT : 18
KR100249378 B1	20180124	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180124 YEAR OF FEE PAYMENT : 19
KR100249378 B1	20180203	LSLE	-EXPY	EXPIRATION OF TERM	
KR100249378 B1	20180202	PEXP		Calculated Patent Term Expiry	
KR19990068899 A	19990906	LSPB	+	published / reissued	
KR19990068899 A	19991130	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR19990068899 A	19991223	LSGT	+GRNT	WRITTEN DECISION TO GRANT	

Title: CONTROL OF HARMFUL ORGANISMS ON THE BASIS OF THE PREDICTION OF INFESTATION RISKS

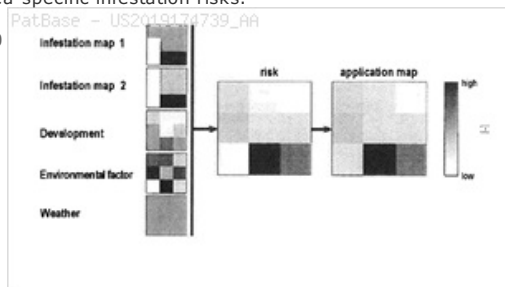
Abstract: The present invention relates to the control of harmful organisms which may appear during the cultivation of crop plants. The control is effected on the basis of the prediction of subarea-specific infestation risks.

Classifications:

International (IPC 8-9): A01M7/00 A01N25/00 A01P13/00 G06F17/50 G06N7/00 (Advanced/Invention)

International (IPC 1-7): A01M7/00 A01N25/00 G06F17/50

CPC: A01M21/043 G06F17/5009 G06N7/005 A01M7/0089 A01N25/00



Family:

Publication number	Publication date	Application number	Application date
BR112019003692 A2	20190604	BR20191103692	20170817
CN109843051 A	20190604	CN201780056469	20170817
EP3287007 A1	20180228	EP20160185503	20160824
EP3503724 A1	20190703	EP20170754351	20170817
US2019174739 AA	20190613	US20170327065	20170817
WO18036909 A1	20180301	WO2017EP70877	20170817

Priority:

EP20160185503 20160824 WO2017EP70877 20170817

Probable Assignee: BAYER AG

Assignee(s): (std): BASF AGRO TRADEMARKS GMBH ; BASF SE ; BAYER AG ; BAYER CROPSCIENCE AG

Inventor(s): (std): PETERS OLE ; DR HOFFMANN HOLGER ; EPKE KAROLINE ; HOLGER HOFFMANN ; KAROLINE EPKE ; OLE PETERS ; HOFFMANN HOLGER

Agent(s): BIP PATENTS; BASF IP ASSOCIATION

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
CN109843051 A	20190604	LSPB	+	published / reissued	
CN109843051 A	20190604	LSPB	PB01	PUBLICATION	
EP3287007 A1	20180228	LSPB	+	published / reissued	
EP3287007 A1	20180404	LSWD	-18W	APPLICATION WITHDRAWN	EFFECTIVE DATE : 20180213
EP3503724 A1	20190703	LSPB	+	published / reissued	
EP3503724 A1	20190703	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190325
US2019174739 AA	20190613	LSPB	+	published / reissued	
WO18036909 A1	20180301	LSPB	+	published / reissued	
WO18036909 A1	20190226	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18036909 A1	20190329	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017754351 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190325

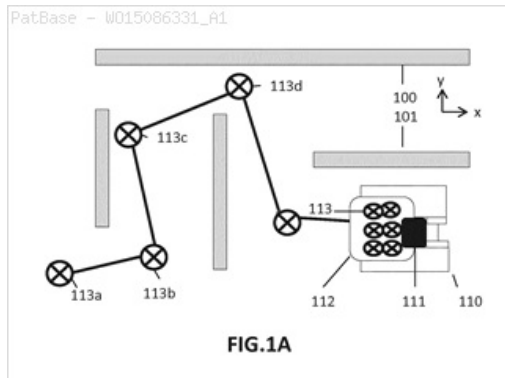
Title: DEPLOYMENT OF AD-HOC NETWORKS

Abstract: System for the deployment of an ad-hoc network, comprising at least one mobile platform moving in an environment and transporting a plurality of communicating objects consisting of at least one part of the ad-hoc mobile network; means for deploying these communicating objects at certain locations in the environment, the locations being determined as a function of predefined parameters. Each communicating object can comprise at least one energy source and wireless communication means. According to certain developments, a communicating object can comprise a protective physical layer and/or means of locomotion and/or sensors, in particular radioactivity sensors. Described are the use of terrestrial or aerial or aquatic or amphibious mobile robots, as well as automatic, semi-automatic, distributed or centralized modes of implementation.

Classifications:

International (IPC 8-9): H04W40/00 H04W84/18 (Advanced/Invention)

CPC: H04W84/18

**Family:**

Publication number	Publication date	Application number	Application date
EP3081049 A1	20161019	EP20140805846	20141127
FR3014633 A1	20150612	FR20130062391	20131211
FR3014633 B1	20170224	FR20130062391	20131211
WO15086331 A1	20150618	WO2014EP75767	20141127

Priority:

FR20130062391 20131211 WO2014EP75767 20141127

Probable Assignee: COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

Assignee(s): (std): COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES ; COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES ; COMMISSARIAT ENERGIE ATOMIQUE

Assignee(s): COMMISSARIAT A L'ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

Inventor(s): (std): AMEYUGO GREGORIO ; JEANNETEAU CHRISTOPHE

Inventor(s): CHRISTOPHE JEANNETEAU ; GREGORIO AMEYUGO

Agent(s): HNIC GASRI NAIMA; MARKS AND CLERK FRANCE; LUCAS LAURENT ET AL

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
EP3081049 A1	20161019	LSPB	+	published / reissued	
EP3081049 A1	20161019	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160428
EP3081049 A1	20190116	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20181214
FR3014633 A1	20150612	LSPB	+	published / reissued	
FR3014633 A1	20151231	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 3
FR3014633 A1	20161229	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
FR3014633 B1	20170224	LSGT	+	granted / extensions (spc, cpc, pte)	
FR3014633 B1	20180102	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 5
FR3014633 B1	20181231	LSFE	PLFP	Fee Payment (FEE PAYMENT)	PAYMENT DATE : 20181231 YEAR OF FEE PAYMENT : 6

FR3014633 B1	20331211	PEXP		Calculated Patent Term Expiry	
WO15086331 A1	20150618	LSPB	+	published / reissued	
WO15086331 A1	20160428	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2014805846 COUNTRY OF REF DOCUMENT : EP
WO15086331 A1	20160613	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

Title: AUTOMATED CLEANING SYSTEM FOR STRUCTURES

Abstract: A washing system for an elevated surface has a) a housing having a liquid application cleaning system therein; b) a support element that supports and elevates the washing system; c) a rigid member extending from a surface of the housing that faces away from a surface to be cleaned so that the cable, when supporting the cleaning system against the surface to be cleaned and connected to the housing at a connection point, exerts a rotational force on the cleaning system in relation to the fixed fulcrum at the roof top; and d) weights provided at a distance and direction from the connection point fulcrum to at least in part counterbalance the rotational force.

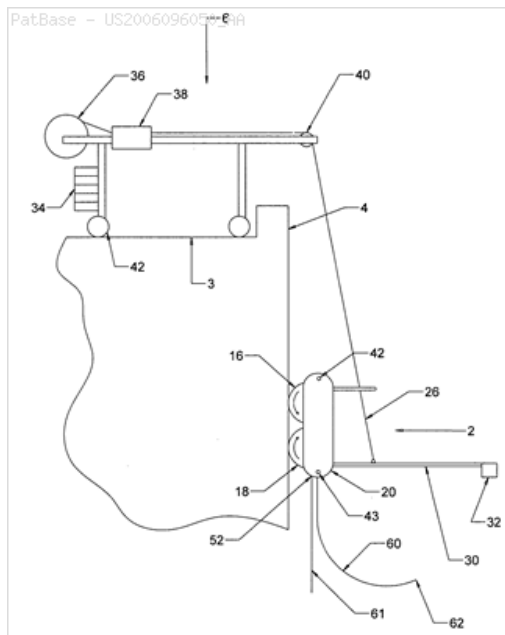
Classifications:

International (IPC 8-9): A47L1/00 A47L1/02 A47L11/38 A47L11/40 B08B1/00 B08B1/04 B08B3/00 B08B3/04 B08B7/04 E04G23/00 E04G3/34 (Advanced/Invention); A47L1/00 B08B7/04 (Core/Invention)

CPC: A47L1/02 A47L11/4011 A47L11/4041 A47L11/4066 A47L11/4088 E04G23/002 A46B13/005 B08B3/024 E04G3/34

European: A47L1/02 B08B3/02C E04G23/00B E04G3/34 K46B13/00B4

US: 134/172 134/18 134/198 134/56R 134/6 134/6P 15/103 15/49.1 15/50.1 15/50.3 15/97.1 15/97.100S 15/98



Family:

Publication number	Publication date	Application number	Application date
EP2187792 A1	20100526	EP20080780168	20080714
US2006096050 A	20060511	US20040982505	20041105
US2009044833 A	20090219	US20080218347	20080714
US2011048456 A	20110303	US20100660145	20100219
US2011180098 A	20110728	US20100660246	20100222
US2017145705 A	20170525	US20160360954	20161123
US7665173 B	20100223	US20040982505	20041105
US7972446 B	20110705	US20100660145	20100219
US8434504 B	20130507	US20100660246	20100222
US8790468 B	20140729	US20080218347	20080714
US9689170 B	20170627	US20130760023	20130205
WO09011821 A1	20090122	WO2008US08585	20080714
WO09011821 A9	20100304	WO2008US08585	20080714

Priority:

US20040982505	20041105	US20070959409P	20070713	US20080218347	20080714
WO2008US08585	20080714	US20100660145	20100219	US20100660246	20100222
US20110660246	20110110	US20130760023	20130205	US20160360954	20161123

Probable Assignee: SKY ROBOTICS INC

Assignee(s): (std): GP COMPANIES INC ; IPC EAGLE CORP ; LANGE MICHAEL R ; PACHANGA HOLDINGS LLC ; SKY ROBOTICS INC ; SIMONETTE DALLAS W

Assignee(s): SKY PRO LLC ; PAISANO VENTURE GROUP LLC ; LAW OFFICES OF BARTZ AND BARTZ PA

Inventor(s): (std): LANGE MICHAEL R ; SIMONETTE DALLAS W

Inventor(s): SIMONETTE DALLAS ; LANGE MICHAEL

Agent(s): GIANNESI SIMONA; MARK A LITMAN AND ASSOCIATES PA YORK BUSINESS CENTER; RICHARD JOHN; SKAAR ULBRICH MACARI PA; LITMAN MARK A

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
EP2187792 A1	20100526	LSPB	+	published / reissued	
EP2187792 A1	20100526	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100212

EP2187792 A1	20130814	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20130201
US2006096050 AA	20060511	LSPB	+	published / reissued	
US2006096050 AA	20100203	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009044833 AA	20090219	LSPB	+	published / reissued	
US2009044833 AA	20100524	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC.,MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LANGE, MICHAEL R.; SIMONETTE, DALLAS W.; SIGNING DATES FROM 20050106 TO 20050120; REEL/FRAME:024439/0949
US2009044833 AA	20100524	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GP COMPANIES, INC.,MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LANGE, MICHAEL R.; SIMONETTE, DALLAS W.; SIGNING DATES FROM 20050106 TO 20050120; REEL/FRAME:024439/0949
US2009044833 AA	20100524	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LANGE, MICHAEL R.; SIMONETTE, DALLAS W.; SIGNING DATES FROM 20050106 TO 20050120; REEL/FRAME:024439/0949
US2009044833 AA	20100524	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GP COMPANIES, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LANGE, MICHAEL R.; SIMONETTE, DALLAS W.; SIGNING DATES FROM 20050106 TO 20050120; REEL/FRAME:024439/0949
US2009044833 AA	20140709	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011048456 AA	20110303	LSPB	+	published / reissued	
US2011048456 AA	20110615	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011180098 AA	20110728	LSPB	+	published / reissued	
US2011180098 AA	20130417	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017145705 AA	20170525	LSPB	+	published / reissued	
US2017145705 AA	20161123	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LANGE, MICHAEL R.; REEL/FRAME:040413/0988 EFFECTIVE DATE : 20160527
US2017145705 AA	20161123	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IPC EAGLE CORPORATION, MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SIMONETTE, DALLAS W.; REEL/FRAME:040413/0994 EFFECTIVE DATE : 20080620
US2017145705 AA	20161123	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY PRO LLC, MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SKY ROBOTICS, INC.;

					REEL/FRAME:040414/0011 EFFECTIVE DATE : 20141223
US2017145705 AA	20161123	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PACHANGA HOLDINGS, LLC, MINNESOTA OLDPARTY : CHANGE OF NAME; ASSIGNOR:SKY PRO LLC; REEL/FRAME:040680/0943 EFFECTIVE DATE : 20150708
US2017145705 AA	20161123	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:IPC EAGLE CORPORATION; REEL/FRAME:040680/0940 EFFECTIVE DATE : 20130301
US2017145705 AA	20171012	LSES	NFA1	Non Final Action Mailed	
US2017145705 AA	20171012	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2017145705 AA	20190128	LSES	NFA1	Non Final Action Mailed	
US7665173 BB	20100223	LSGT	+	granted / extensions (spc, cpc, pte)	
US7665173 BB	20050222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SIMONETTE, DALLAS W.; LANGE, MICHAEL R.; REEL/FRAME:016282/0770; SIGNING DATES FROM 20050106 TO 20050120
US7665173 BB	20050222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GP COMPANIES, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SIMONETTE, DALLAS W.; LANGE, MICHAEL R.; REEL/FRAME:016282/0770; SIGNING DATES FROM 20050106 TO 20050120
US7665173 BB	20050222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC.,MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SIMONETTE, DALLAS W.; LANGE, MICHAEL R.; SIGNING DATES FROM 20050106 TO 20050120; REEL/FRAME:016282/0770
US7665173 BB	20050222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GP COMPANIES, INC.,MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SIMONETTE, DALLAS W.; LANGE, MICHAEL R.; SIGNING DATES FROM 20050106 TO 20050120; REEL/FRAME:016282/0770
US7665173 BB	20100203	LSGT	PAT1	Patented Case	
US7665173 BB	20130821	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7665173 BB	20150519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY PRO, LLC, MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SKY ROBOTICS, INC.; REEL/FRAME:035671/0201 EFFECTIVE DATE : 20141223
US7665173 BB	20150519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE LAW OFFICES OF BARTZ & BARTZ, P.A., MINNESOTA OLDPARTY : SECURITY INTEREST; ASSIGNOR:SKY ROBOTICS, INC.; REEL/FRAME:035728/0115 EFFECTIVE DATE : 20130612

US7665173 BB	20150713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:THE LAW OFFICES OF BARTZ & BARTZ, P.A.; REEL/FRAME:036072/0584 EFFECTIVE DATE : 20150713
US7665173 BB	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PAISANO VENTURE GROUP, LLC, MINNESOTA OLDPARTY : LICENSE; ASSIGNOR:SKY PRO, LLC; REEL/FRAME:036132/0589 EFFECTIVE DATE : 20150707
US7665173 BB	20160217	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GP COMPANIES, INC.; REEL/FRAME:037756/0929 EFFECTIVE DATE : 20130307
US7665173 BB	20160310	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PACHANGA HOLDINGS, LLC, MINNESOTA OLDPARTY : CHANGE OF NAME; ASSIGNOR:SKY PRO, LLC; REEL/FRAME:038056/0902 EFFECTIVE DATE : 20150708
US7665173 BB	20170821	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7665173 BB	20260404	PEXP		Calculated Patent Term Expiry (PTA 515 days)	
US7972446 BB	20110705	LSGT	+	granted / extensions (spc, cpc, pte)	
US7972446 BB	20110615	LSGT	PAT1	Patented Case	
US7972446 BB	20141223	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7972446 BB	20150519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY PRO, LLC, MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SKY ROBOTICS, INC.; REEL/FRAME:035671/0201 EFFECTIVE DATE : 20141223
US7972446 BB	20150519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE LAW OFFICES OF BARTZ & BARTZ, P.A., MINNESOTA OLDPARTY : SECURITY INTEREST; ASSIGNOR:SKY ROBOTICS, INC.; REEL/FRAME:035728/0115 EFFECTIVE DATE : 20130612
US7972446 BB	20150713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:THE LAW OFFICES OF BARTZ & BARTZ, P.A.; REEL/FRAME:036072/0584 EFFECTIVE DATE : 20150713
US7972446 BB	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PAISANO VENTURE GROUP, LLC, MINNESOTA OLDPARTY : LICENSE; ASSIGNOR:SKY PRO, LLC; REEL/FRAME:036132/0589 EFFECTIVE DATE : 20150707
US7972446 BB	20160217	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GP COMPANIES, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SIMONETTE, DALLAS W.; LANGE, MICHAEL R.; SIGNING DATES FROM 20050106 TO 20050120; REEL/FRAME:037755/0703
US7972446 BB	20160217	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF

					ASSIGNORS INTEREST; ASSIGNORS:SIMONETTE, DALLAS W.; LANGE, MICHAEL R.; SIGNING DATES FROM 20050106 TO 20050120; REEL/FRAME:037755/0703
US7972446 BB	20160217	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GP COMPANIES, INC.; REEL/FRAME:037756/0929 EFFECTIVE DATE : 20130307
US7972446 BB	20160310	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PACHANGA HOLDINGS, LLC, MINNESOTA OLDPARTY : CHANGE OF NAME; ASSIGNOR:SKY PRO, LLC; REEL/FRAME:038056/0902 EFFECTIVE DATE : 20150708
US7972446 BB	20190225	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US7972446 BB	20190513	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
US7972446 BB	20190513	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7972446 BB	20300311	PEXP		Calculated Patent Term Expiry (PTA 20 days)	
US8434504 BB	20130507	LSGT	+	granted / extensions (spc, cpc, pte)	
US8434504 BB	20100524	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LANGE, MICHAEL R.; SIMONETTE, DALLAS W.; SIGNING DATES FROM 20050106 TO 20050120; REEL/FRAME:024439/0949
US8434504 BB	20100524	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GP COMPANIES, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LANGE, MICHAEL R.; SIMONETTE, DALLAS W.; SIGNING DATES FROM 20050106 TO 20050120; REEL/FRAME:024439/0949
US8434504 BB	20130417	LSGT	PAT1	Patented Case	
US8434504 BB	20150519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY PRO, LLC, MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SKY ROBOTICS, INC.; REEL/FRAME:035671/0201 EFFECTIVE DATE : 20141223
US8434504 BB	20150519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE LAW OFFICES OF BARTZ & BARTZ, P.A., MINNESOTA OLDPARTY : SECURITY INTEREST; ASSIGNOR:SKY ROBOTICS, INC.; REEL/FRAME:035728/0115 EFFECTIVE DATE : 20130612
US8434504 BB	20150713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:THE LAW OFFICES OF BARTZ & BARTZ, P.A.; REEL/FRAME:036072/0584 EFFECTIVE DATE : 20150713
US8434504 BB	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PAISANO VENTURE GROUP, LLC, MINNESOTA

					OLDPARTY : LICENSE; ASSIGNOR:SKY PRO, LLC; REEL/FRAME:036132/0589 EFFECTIVE DATE : 20150707
US8434504 BB	20160217	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GP COMPANIES, INC.; REEL/FRAME:037756/0929 EFFECTIVE DATE : 20130307
US8434504 BB	20160310	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PACHANGA HOLDINGS, LLC, MINNESOTA OLDPARTY : CHANGE OF NAME; ASSIGNOR:SKY PRO, LLC; REEL/FRAME:038056/0902 EFFECTIVE DATE : 20150708
US8434504 BB	20161011	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8434504 BB	20300222	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8790468 BB	20140729	LSGT	+	granted / extensions (spc, cpc, pte)	
US8790468 BB	20081027	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IPC EAGLE CORPORATION, MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SIMONETTE, DALLAS W.; REEL/FRAME:021743/0955 EFFECTIVE DATE : 20080620
US8790468 BB	20140709	LSGT	PAT1	Patented Case	
US8790468 BB	20150519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY PRO, LLC, MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SKY ROBOTICS, INC.; REEL/FRAME:035671/0201 EFFECTIVE DATE : 20141223
US8790468 BB	20150519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE LAW OFFICES OF BARTZ & BARTZ, P.A., MINNESOTA OLDPARTY : SECURITY INTEREST; ASSIGNOR:SKY ROBOTICS, INC.; REEL/FRAME:035728/0115 EFFECTIVE DATE : 20130612
US8790468 BB	20150713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:THE LAW OFFICES OF BARTZ & BARTZ, P.A.; REEL/FRAME:036072/0584 EFFECTIVE DATE : 20150713
US8790468 BB	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PAISANO VENTURE GROUP, LLC, MINNESOTA OLDPARTY : LICENSE; ASSIGNOR:SKY PRO, LLC; REEL/FRAME:036132/0589 EFFECTIVE DATE : 20150707
US8790468 BB	20160217	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GP COMPANIES, INC.; REEL/FRAME:037756/0929 EFFECTIVE DATE : 20130307
US8790468 BB	20160217	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:IPC EAGLE CORPORATION; REEL/FRAME:037757/0055 EFFECTIVE DATE : 20130301

US8790468 BB	20160310	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PACHANGA HOLDINGS, LLC, MINNESOTA OLDPARTY : CHANGE OF NAME; ASSIGNOR:SKY PRO, LLC; REEL/FRAME:038056/0902 EFFECTIVE DATE : 20150708
US8790468 BB	20180128	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8790468 BB	20280714	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9689170 BA	20170627	LSGT	+	granted / extensions (spc, cpc, pte)	
US9689170 BA	20150519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY PRO, LLC, MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SKY ROBOTICS, INC.; REEL/FRAME:035671/0201 EFFECTIVE DATE : 20141223
US9689170 BA	20150519	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE LAW OFFICES OF BARTZ & BARTZ, P.A., MINNESOTA OLDPARTY : SECURITY INTEREST; ASSIGNOR:SKY ROBOTICS, INC.; REEL/FRAME:035728/0115 EFFECTIVE DATE : 20130612
US9689170 BA	20150713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:THE LAW OFFICES OF BARTZ & BARTZ, P.A.; REEL/FRAME:036072/0584 EFFECTIVE DATE : 20150713
US9689170 BA	20150720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PAISANO VENTURE GROUP, LLC, MINNESOTA OLDPARTY : LICENSE; ASSIGNOR:SKY PRO, LLC; REEL/FRAME:036132/0589 EFFECTIVE DATE : 20150707
US9689170 BA	20160603	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IPC EAGLE CORPORATION, MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SIMONETTE, DALLAS W.; REEL/FRAME:038803/0625 EFFECTIVE DATE : 20080620
US9689170 BA	20160603	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LANGE, MICHAEL R.; REEL/FRAME:038803/0878 EFFECTIVE DATE : 20160527
US9689170 BA	20160603	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PACHANGA HOLDINGS, LLC, MINNESOTA OLDPARTY : CHANGE OF NAME; ASSIGNOR:SKY PRO LLC; REEL/FRAME:038882/0813 EFFECTIVE DATE : 20150708
US9689170 BA	20160603	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SKY ROBOTICS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:IPC EAGLE CORPORATION; REEL/FRAME:038882/0658 EFFECTIVE DATE : 20130301
US9689170 BA	20170607	LSGT	PAT1	Patented Case	
US9689170 BA	20170607	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9689170 BA	20350506	PEXP		Calculated Patent Term Expiry (PTA 820)	

				days and a terminal disclaimer has been filed)	
WO09011821 A1	20090122	LSPB	+	published / reissued	
WO09011821 A1	20100114	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09011821 A1	20100212	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008780168 COUNTRY OF REF DOCUMENT : EP

Title: CABLE LAYING AND APPARATUS THEREFOR

Abstract: Cable is laid in a duct, especially a long duct without access to intermediate points and with a height too small to deploy personnel in, by passing through the duct a **vehicle** bearing a supply of cable and laying cable from that supply in a manner not requiring any substantial longitudinal movement of the cable after it is taken from the supply. Attachments on the **vehicle** engage at least one cable previously laid loose in the duct, lift it clear of the walls of the duct, guide it through the **vehicle**, and re-deposit it together with the new cable being laid, so avoiding the risk that the previously laid cable will obstruct the movement of the **vehicle** or become entangled with the one currently being laid. It is contemplated that the duct may be as small as 100 mm or even 50 mm in diameter and up to a few hundred kilometres long when the cable is very small (e.g. a single optical fibre with protective coating).

Classifications:

International (IPC 8-9): G02B6/44 G02B6/50

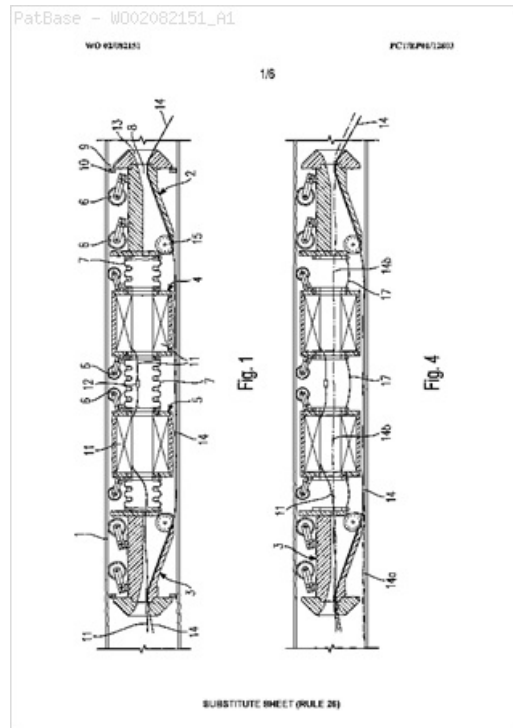
H02G1/08 (Advanced/Invention);

G02B6/44 G02B6/46 H02G1/08 (Core/Invention)

International (IPC 1-7): G02B6/44 H02G1/08

CPC: G02B6/4465 G02B6/502 H02G1/088

European: G02B6/44C8E3 G02B6/50D H02G1/08F



Family:

Publication number	Publication date	Application number	Application date
AU2002219075 AA	20021021	AU20020219075	20011106
GB200108780 A0	20010530	GB20010008780	20010407
WO02082151 A1	20021017	WO2001EP12803	20011106

Priority:

GB20010008780 20010407 WO2001EP12803 20011106

Probable Assignee: CORNING INC

Assignee(s): (std): CORNING CABLE SYSTEMS LTD ; CORNING INC ; HAIGH NEIL ; HILTON ANDREW JONATHAN ; CCS TECHNOLOGY INC

Assignee(s): CORNING CABLE SYSTEMS LIMITED

Inventor(s): (std): HILTON ANDREW JONATHAN ; HAIGH NEIL

Designated states: AE AG AL AM AT AU AZ BA BB BE BG BR BY BZ CA CH CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GB GD GE GH GM GR 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 MN MW MX MZ NL 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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AU2002219075 AA	20021021	LSPB	+	published / reissued	
GB200108780 A0	20020626	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
WO02082151 A1	20021017	LSPB	+	published / reissued	
WO02082151 A1	20040707	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO02082151 A1	20060117	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO02082151 A1	20060117	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	TEXT : JP

Title: ASSEMBLY FOR AND A METHOD OF FEEDING AND MILKING ANIMALS, A FEED PLATFORM, A MILKING PRE-TREATMENT DEVICE, A MILKING POST-TREATMENT DEVICE, A CLEANING DEVICE, A SEPARATION DEVICE AND A MILKING SYSTEM ALL SUITABLE FOR USE IN SUCH AN ASSEMBLY

Abstract: An assembly for feeding and milking animals is disclosed. The assembly comprises a feeding system with a movable feed platform and a drive unit for driving the feed platform. The feed platform is provided with a number of feeding places. The assembly further comprises a milking system for automatically milking animals on the feed platform, which milking system comprises sets of teat cups. At least a large number of the sets of teat cups is disposed separately from the feed platform.

Classifications:

International (IPC 8-9): A01J5/00 A01J5/003 A01J5/017 A01J7/04 A01K1/12 A01K5/00 (Advanced/Invention);

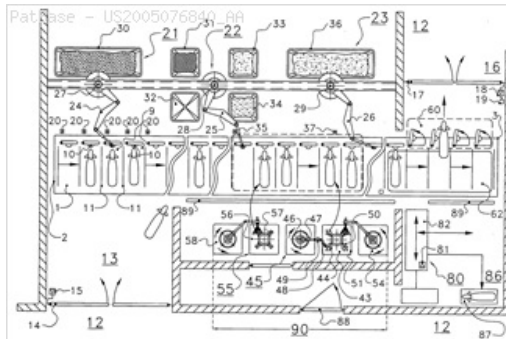
A01J5/00 A01J5/003 A01J7/00 A01K1/00 (Core/Invention)

International (IPC 1-7): A01J5/00 A01J5/017 A01J7/04 A01K1/12 A01K5/00

CPC: A01J5/017 A01J5/0175 A01J7/04 A01K1/12 A01K1/126

European: A01J5/017 A01J5/017A A01J7/04 A01K1/12 A01K1/12B

US: 119/14.02 119/14.03 119/14.04 119/14.18



Family:

Publication number	Publication date	Application number	Application date
AT424719 E	20090315	AT20040077700T	20040930
CA2484706 AA	20050413	CA20042484706	20041012
CA2484706 C	20111206	CA20042484706	20041012
DE602004019863 D1	20090423	DE200460019863T	20040930
DK1523882 T3	20090629	DK20040077700T	20040930
EP1523882 A2	20050420	EP20040077700	20040930
EP1523882 A3	20060503	EP20040077700	20040930
EP1523882 B1	20090311	EP20040077700	20040930
ES2324036 T3	20090729	ES20040077700T	20040930
NL1024518 C2	20050414	NL20031024518	20031013
NZ535846 A	20060728	NZ20040535846	20041008
US2005076840 AA	20050414	US20040962601	20041013
US2008017119 AA	20080124	US20070889510	20070814
US7270078 BB	20070918	US20040962601	20041013
US7484474 BB	20090203	US20070889510	20070814

Priority:

NL20031024518 20031013 CA20042484706 20041012 US20040962601 20041013
US20070889510 20070814

Probable Assignee: LELY ENTERPRISES AG

Assignee(s): (std): BOS GREORGIUS RUDOLPHIUS ; LELY ENTPR AG ; VAN DEN BERG KAREL

Assignee(s): LELY ENTERPRISES AG

Inventor(s): (std): VAN DEN BERG KAREL ; KAREL VAN DEN BERG ; GREORGIUS RUDOLPHIUS BOS ; BOS GREORGIUS R ; BOS GREORGIUS RUDOLPHIUS ; BERG KAREL VAN DEN

Inventor(s): BOS GREORGIUS

Agent(s): FETHERSTONHAUGH AND CO; CORTEN MAURICE JEAN FM ET AL; HOWREY SIMON ARNOLD AND WHITE LLP; HOWREY LLP; DAVID P; OWEN DAVID P

Designated states: 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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT424719 E	20090315	LSGT	+	granted / extensions (spc, cpc, pte)	
AT424719 E	20090915	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT424719 E	20240930	PEXP		Calculated Patent Term Expiry	
CA2484706 AA	20050413	LSPB	+	published / reissued	
CA2484706 AA	20090623	LSES	+EEER	EXAMINATION REQUEST	
CA2484706 AA	20161123	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20161012
CA2484706 C	20111206	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
CA2484706 C	20241012	PEXP		Calculated Patent Term Expiry	
DE602004019863 D1	20100311	LSOP	-8363	OPPOSITION AGAINST THE PATENT	
DE602004019863 D1	20190402	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
DK1523882 T3	20090629	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1523882 T3	20240930	PEXP		Calculated Patent Term Expiry	
EP1523882 A2	20050420	LSPB	+	published / reissued	
EP1523882 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20150929 YEAR OF FEE PAYMENT : 12
EP1523882 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 13
EP1523882 A3	20061108	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060927
EP1523882 A3	20070110	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20061208
EP1523882 A3	20070110	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : BG COUNTRY OF REF DOCUMENT : CH COUNTRY OF REF DOCUMENT : CY COUNTRY OF REF DOCUMENT : CZ COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : EE COUNTRY OF REF DOCUMENT : ES COUNTRY OF REF DOCUMENT : FI COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : GR COUNTRY OF REF DOCUMENT : HU COUNTRY OF REF DOCUMENT : IE COUNTRY OF REF DOCUMENT : IT COUNTRY OF REF DOCUMENT : LI COUNTRY OF REF DOCUMENT : LU COUNTRY OF REF DOCUMENT : MC COUNTRY OF REF DOCUMENT : NL COUNTRY OF REF DOCUMENT : PL COUNTRY OF REF DOCUMENT : PT COUNTRY OF REF DOCUMENT : RO COUNTRY OF REF DOCUMENT : SE COUNTRY OF REF DOCUMENT : SI COUNTRY OF REF DOCUMENT : SK COUNTRY OF REF DOCUMENT : TR
EP1523882 A3	20080924	LSRE	RTI1	TITLE (CORRECTION)	TEXT : AN ASSEMBLY FOR AND A METHOD OF FEEDING AND

MILKING ANIMALS					
EP1523882 B1	20090311	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1523882 B1	20090311	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1523882 B1	20090313	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1523882 B1	20090415	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1523882 B1	20090729	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2324036 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP1523882 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090311
EP1523882 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090311
EP1523882 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090311
EP1523882 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090311
EP1523882 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090311
EP1523882 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090824
EP1523882 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090311

EP1523882 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090311
EP1523882 B1	20100120	LSOP	-26	OPPOSITION FILED	PARTYTYPE : OPPONENT OPPONENT : DELAVAL INTELLECTUAL PROPERTY & L EFFECTIVE DATE : 20091211
EP1523882 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090611
EP1523882 B1	20100301	LSOP	-NLR1	NL: OPPOSITION HAS BEEN FILED WITH THE EPO	PARTYTYPE : OPPONENT REF COUNTRY CODE : EP OPPONENT : DELAVAL INTELLECTUAL PROPERTY & L
EP1523882 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523882 B1	20100430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1523882 B1	20100623	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1523882 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523882 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523882 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090612
EP1523882 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523882 B1	20101124	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : DELAVAL INTELLECTUAL PROPERTY & L EFFECTIVE DATE : 20091211
EP1523882 B1	20101130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20100923 YEAR OF FEE PAYMENT : 7
EP1523882 B1	20101231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20100903 YEAR OF FEE PAYMENT : 7

EP1523882 B1	20110429	LSLE	-PG25	TO EPO] LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523882 B1	20110630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090912
EP1523882 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090311
EP1523882 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090311
EP1523882 B1	20111109	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : DELAVAL INTERNATIONAL AB INTELLECTUAL PROPERTY & L EFFECTIVE DATE : 20091211
EP1523882 B1	20120531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110930
EP1523882 B1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110930
EP1523882 B1	20121231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20120926 YEAR OF FEE PAYMENT : 9
EP1523882 B1	20121231	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : PL REF LEGAL EVENT CODE : LAPE
EP1523882 B1	20130123	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : DELAVAL INTERNATIONAL AB INTELLECTUAL PROPERTY & L EFFECTIVE DATE : 20091211
EP1523882 B1	20131031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20130925 YEAR OF FEE PAYMENT : 10
EP1523882 B1	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20130927 YEAR OF FEE PAYMENT : 10
EP1523882 B1	20140702	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : DELAVAL INTERNATIONAL AB INTELLECTUAL PROPERTY & L EFFECTIVE DATE : 20091211
EP1523882 B1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20140929 YEAR OF FEE PAYMENT : 11

EP1523882 B1	20141128	LSFE	+PGFP	NATIONAL OFFICE TO EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20140917 YEAR OF FEE PAYMENT : 11
EP1523882 B1	20150227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20140926 YEAR OF FEE PAYMENT : 11
EP1523882 B1	20150420	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20140930
EP1523882 B1	20150430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20150430
EP1523882 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140930
EP1523882 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20131001
EP1523882 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140930
EP1523882 B1	20160525	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20150930
EP1523882 B1	20160701	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20160531
EP1523882 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150930
EP1523882 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150930
EP1523882 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20151001
EP1523882 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 13
EP1523882 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20170927 YEAR OF FEE PAYMENT : 14
EP1523882 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170927 YEAR OF FEE PAYMENT : 14
EP1523882 B1	20180803	LSRE	REG	REFERENCE TO A	REF COUNTRY CODE : DE

				NATIONAL CODE	REF LEGAL EVENT CODE : R100 REF DOCUMENT NUMBER : 602004019863 COUNTRY OF REF DOCUMENT : DE
EP1523882 B1	20181010	LSRE	+27C	OPPOSITION PROCEEDINGS TERMINATED	EFFECTIVE DATE : 20180803
EP1523882 B1	20181207	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20181207
EP1523882 B1	20190402	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602004019863 COUNTRY OF REF DOCUMENT : DE
EP1523882 B1	20190528	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SE REF LEGAL EVENT CODE : EUG
EP1523882 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20190402
EP1523882 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20181001
EP1523882 B1	20240930	PEXP		Calculated Patent Term Expiry	
ES2324036 T3	20090729	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2324036 T3	20240930	PEXP		Calculated Patent Term Expiry	
NL1024518 C2	20050414	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1024518 C2	20050601	LSES	+PD2B	A SEARCH REPORT HAS BEEN DRAWN UP	
NL1024518 C2	20120516	LSLE	-V1	LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 20120501
NL1024518 C2	20231013	PEXP		Calculated Patent Term Expiry	
NZ535846 A	20060728	LSPB	+	published / reissued	
NZ535846 A	20061130	LSGT	+PSEA	PATENT SEALED	
NZ535846 A	20081031	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ535846 A	20111125	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ535846 A	20140926	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 08 OCT 2015 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20140918
NZ535846 A	20160429	LSLE	-LAPS	PATENT LAPSED	
US2005076840 AA	20050414	LSPB	+	published / reissued	
US2005076840 AA	20070829	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2008017119 AA	20080124	LSPB	+	published / reissued	
US2008017119 AA	20090114	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7270078 BB	20070918	LSGT	+	granted / extensions (spc, cpc, pte)	

US7270078 BB	20050127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES AG, SWITZERLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:VAN DEN BERG, KAREL; BOS, GREGORGIUS RUDOLPHIUS; REEL/FRAME:016207/0156 EFFECTIVE DATE : 20040730
US7270078 BB	20070829	LSGT	PAT1	Patented Case	
US7270078 BB	20110318	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7270078 BB	20150318	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7270078 BB	20190506	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7270078 BB	20250330	PEXP		Calculated Patent Term Expiry (PTA 168 days)	
US7484474 BB	20090203	LSGT	+	granted / extensions (spc, cpc, pte)	
US7484474 BB	20070814	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES AG, SWITZERLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:VAN DEN, BERG, KAREL; BOS, GREGORIUS RUDOLPHIUS; REEL/FRAME:019768/0897 EFFECTIVE DATE : 20040730
US7484474 BB	20090114	LSGT	PAT1	Patented Case	
US7484474 BB	20120803	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7484474 BB	20160803	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7484474 BB	20270814	PEXP		Calculated Patent Term Expiry	

Title: METHOD OF MILKING AN ANIMAL

Abstract: A method of milking an animal, in which method a movable milking platform is used. The method comprises the following steps: setting the movable milking platform in motion, allowing an animal access to the milking platform, supplying a sort of feed to an animal on the milking platform, subsequently allowing the animal exit from the milking platform, and milking the animal on the milking platform during a milking period. The method further comprises the step of providing the animal a span of time on the milking platform in which the animal is not milked, the span of time having a magnitude that amounts to at least approximately half the milking period. The speed of movement of the milking platform being selected at least partially on the basis of a feed consumption duration of an animal present on the milking platform, such that the span of time has such a magnitude that an animal is provided a sufficient time to substantially complete its feed consumption during their stay on the platform, said span of time being smaller than 75 minutes.

Classifications:

International (IPC 8-9): A01J3/00 A01J5/00 A01J5/017 A01J7/04 A01K1/12 A01K5/00 A01K5/02 (Advanced/Invention);

A01J3/00 A01J5/00 A01J7/00 A01K1/00 A01K5/00 (Core/Invention)

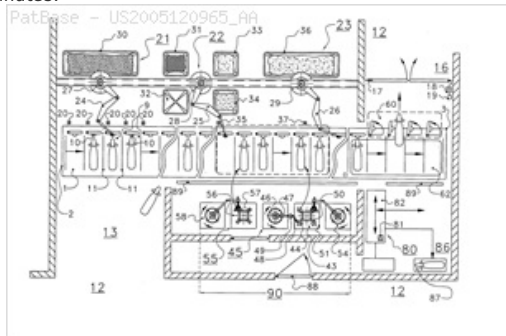
International (IPC 1-7): A01J3/00 A01J5/00 A01J5/017 A01J7/04 A01K1/12 A01K5/00 A01K5/02

CPC: A01J5/01 A01J5/003 A01K1/126 A01J5/017 A01J5/0175

A01J7/04 A01K1/12 A01K5/02

European: A01J5/017 A01J5/017A A01J7/04 A01K1/12 A01K1/12B A01K5/02

US: 119/14.02 119/14.04



Family:

Publication number	Publication date	Application number	Application date
AT354945 E	20060315	AT20040077699T	20040930
CA2484480 AA	20050413	CA20042484480	20041012
CA2484480 C	20110705	CA20042484480	20041012
DE602004004969 D1	20070412	DE200460004969T	20040930
DE602004004969 T2	20071031	DE200460004969T	20040930
DK1523881 T3	20070709	DK20040077699T	20040930
EP1523881 A2	20050420	EP20040077699	20040930
EP1523881 A3	20060201	EP20040077699	20040930
EP1523881 B1	20070228	EP20040077699	20040930
NL1024519 C2	20050414	NL20031024519	20031013
NZ535848 A	20060224	NZ20040535848	20041008
US2005120965 AA	20050609	US20040962474	20041013
US7370604 BB	20080513	US20040962474	20041013

Priority:

NL20031024519 20031013 CA20042484480 20041012

Probable Assignee: LELY ENTERPRISES AG

Assignee(s): (std): BOS GREORGIUS RUDOLPHIUS ; LELY ENTERPRISES AG ; LELY ENTPR AG ; VAN DEN BERG KAREL

Inventor(s): (std): VAN DEN BERG KAREL ; BERG KAREL VAN DEN ; BOS GREORGIUS RUDOLPHIUS ; KAREL VAN DEN BERG ; GREORGIUS RUDOLPHIUS BOS

Agent(s): FETHERSTONHAUGH AND CO; HOWREY SIMON ARNOLD AND WHITE LLP; OWEN DAVID P; RASSER JACOBUS C; DAVID P; JACOBUS C

Designated states: 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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT354945 E	20060315	LSGT	+	granted / extensions (spc, cpc, pte)	
AT354945 E	20070815	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT354945 E	20240930	PEXP		Calculated Patent Term Expiry	
CA2484480 AA	20050413	LSPB	+	published / reissued	
CA2484480 AA	20090623	LSES	+EEER	EXAMINATION REQUEST	
CA2484480 AA	20161123	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20161012
CA2484480 C	20110705	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2484480 C	20241012	PEXP		Calculated Patent Term Expiry	

DE602004004969 T2	20071031	LSGT	+	granted / extensions (spc, cpc, pte)	
DE602004004969 T2	20080320	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE602004004969 T2	20240930	PEXP		Calculated Patent Term Expiry	
DK1523881 T3	20070709	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1523881 T3	20240930	PEXP		Calculated Patent Term Expiry	
EP1523881 A2	20050420	LSPB	+	published / reissued	
EP1523881 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20150929 YEAR OF FEE PAYMENT : 12
EP1523881 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 13
EP1523881 A3	20060517	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060322
EP1523881 A3	20061004	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : BG COUNTRY OF REF DOCUMENT : CH COUNTRY OF REF DOCUMENT : CY COUNTRY OF REF DOCUMENT : CZ COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : EE COUNTRY OF REF DOCUMENT : ES COUNTRY OF REF DOCUMENT : FI COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : GR COUNTRY OF REF DOCUMENT : HU COUNTRY OF REF DOCUMENT : IE COUNTRY OF REF DOCUMENT : IT COUNTRY OF REF DOCUMENT : LI COUNTRY OF REF DOCUMENT : LU COUNTRY OF REF DOCUMENT : MC COUNTRY OF REF DOCUMENT : NL COUNTRY OF REF DOCUMENT : PL COUNTRY OF REF DOCUMENT : PT COUNTRY OF REF DOCUMENT : RO COUNTRY OF REF DOCUMENT : SE COUNTRY OF REF DOCUMENT : SI COUNTRY OF REF DOCUMENT : SK COUNTRY OF REF DOCUMENT : TR
EP1523881 B1	20070228	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1523881 B1	20070228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228

EP1523881 B1	20070228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228
EP1523881 B1	20070228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228
EP1523881 B1	20070228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228
EP1523881 B1	20070228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228
EP1523881 B1	20070228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228
EP1523881 B1	20070228	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1523881 B1	20070330	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1523881 B1	20070418	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1523881 B1	20070529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070529
EP1523881 B1	20070608	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070608
EP1523881 B1	20070730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070730
EP1523881 B1	20070831	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1523881 B1	20071228	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HU REF LEGAL EVENT CODE :

					AG4A REF DOCUMENT NUMBER : E002073 COUNTRY OF REF DOCUMENT : HU
EP1523881 B1	20080102	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228
EP1523881 B1	20080206	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20071129
EP1523881 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070529
EP1523881 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228
EP1523881 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070930
EP1523881 B1	20081031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20071001
EP1523881 B1	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228
EP1523881 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228
EP1523881 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070930
EP1523881 B1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070228
EP1523881 B1	20101029	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU PAYMENT DATE : 20100914 YEAR OF FEE PAYMENT : 7
EP1523881 B1	20111130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : SK PAYMENT DATE : 20110902

EP1523881 B1	20111130	LSFE	+PGFP	NATIONAL OFFICE TO EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 8 COUNTRY OF REF DOCUMENT : CZ PAYMENT DATE : 20110912 YEAR OF FEE PAYMENT : 8
EP1523881 B1	20120731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20111001
EP1523881 B1	20130603	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SK REF LEGAL EVENT CODE : MM4A REF DOCUMENT NUMBER : E 1994 COUNTRY OF REF DOCUMENT : SK EFFECTIVE DATE : 20120930
EP1523881 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120930
EP1523881 B1	20131031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20130925 YEAR OF FEE PAYMENT : 10
EP1523881 B1	20131129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20130903 YEAR OF FEE PAYMENT : 10
EP1523881 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20130930
EP1523881 B1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20140929 YEAR OF FEE PAYMENT : 11
EP1523881 B1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20140917 YEAR OF FEE PAYMENT : 11
EP1523881 B1	20150227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20140926 YEAR OF FEE PAYMENT : 11
EP1523881 B1	20150420	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20140930
EP1523881 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140930
EP1523881 B1	20151231	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : PL REF LEGAL EVENT CODE : LAPE
EP1523881 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140930
EP1523881 B1	20160525	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20150930
EP1523881 B1	20160701	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20160531

EP1523881 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150930
EP1523881 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20151001
EP1523881 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150930
EP1523881 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 13
EP1523881 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20170927 YEAR OF FEE PAYMENT : 14
EP1523881 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170927 YEAR OF FEE PAYMENT : 14
EP1523881 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 15
EP1523881 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 15
EP1523881 B1	20240930	PEXP		Calculated Patent Term Expiry	
NL1024519 C2	20050414	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1024519 C2	20050601	LSES	+PD2B	A SEARCH REPORT HAS BEEN DRAWN UP	
NL1024519 C2	20120516	LSLE	-V1	LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 20120501
NL1024519 C2	20231013	PEXP		Calculated Patent Term Expiry	
NZ535848 A	20060224	LSPB	+	published / reissued	
NZ535848 A	20060630	LSGT	+PSEA	PATENT SEALED	
NZ535848 A	20081031	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ535848 A	20111125	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ535848 A	20140926	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 08 OCT 2015 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20140918
NZ535848 A	20160429	LSLE	-LAPS	PATENT LAPSED	
US2005120965 AA	20050609	LSPB	+	published / reissued	
US7370604 BB	20080513	LSGT	+	granted / extensions (spc, cpc, pte)	
US7370604 BB	20050126	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES AG, SWITZERLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BERG, KAREL VAN DEN; BOS, GEORGIUS RUDOLPHIUS; REEL/FRAME:016222/0967 EFFECTIVE DATE : 20040730

US7370604 BB	20080423	LSGT	PAT1	Patented Case	
US7370604 BB	20111114	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7370604 BB	20160513	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7370604 BB	20160613	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7370604 BB	20160613	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7370604 BB	20160705	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160513
US7370604 BB	20250511	PEXP		Calculated Patent Term Expiry (PTA 210 days)	

Title: ASSEMBLY FOR AND A METHOD OF FEEDING AND MILKING ANIMALS, AND A FEED PLATFORM SUITABLE FOR USE IN SUCH AN ASSEMBLY

Abstract: An assembly for feeding and milking animals. The assembly is provided with a feeding system comprising a movable feed platform and a drive unit for driving the feed platform, a number of feeding places being provided on the feed platform. The assembly is further provided with a milking system for, in particular automatically, milking animals on the feed platform, which milking system comprises a number of sets of teat cups. The feed platform is at least for the greater part free from separating elements between the feeding places, i.e. the feed platform is at least for the greater part free from separating elements for confining animals.

Classifications:

International (IPC 8-9): A01J5/00 A01J5/003 A01J5/017 A01K1/12 A01K5/00 (Advanced/Invention);

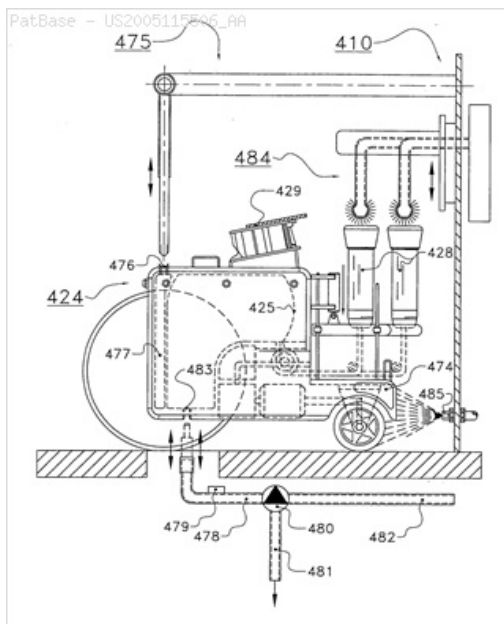
A01J5/00 A01J5/003 A01K1/00 (Core/Invention)

International (IPC 1-7): A01J3/00 A01J5/00 A01J5/017 A01K1/12 A01K5/00

CPC: A01J5/017 A01J5/0175 A01K1/12 A01K1/126

European: A01J5/017 A01J5/017A A01K1/12 A01K1/12B

US: 119/14.03 119/14.04



Family:

Publication number	Publication date	Application number	Application date
AT428297 E	20090515	AT20040077696T	20040930
CA2484370 AA	20050413	CA20042484370	20041012
CA2484370 C	20110705	CA20042484370	20041012
DE602004020564 D1	20090528	DE200460020564T	20040930
DK1523879 T3	20090720	DK20040077696T	20040930
EP1523879 A2	20050420	EP20040077696	20040930
EP1523879 A3	20060201	EP20040077696	20040930
EP1523879 B1	20090415	EP20040077696	20040930
NL1024520 C2	20050414	NL20031024520	20031013
NZ535847 A	20060728	NZ20040535847	20041008
US2005115506 AA	20050602	US20040962602	20041013
US7255063 BB	20070814	US20040962602	20041013

Priority:

NL20031024520 20031013 CA20042484370 20041012

Probable Assignee: LELY ENTERPRISES AG

Assignee(s): (std): BOS GREORGIUS R ; BOS GREORGIUS RUDOLPHIUS ; LELY ENTPR AG ; VAN DEN BERG KAREL

Assignee(s): LELY ENTERPRISES AG

Inventor(s): (std): BERG KAREL VAN DEN ; BOS GREORGIUS RUDOLPHIUS ; KAREL VAN DEN BERG ; GREORGIUS RUDOLPHIUS BOS ; BOS GREORGIUS R ; VAN DEN BERG KAREL

Inventor(s): BOS GREORGIUS

Agent(s): FETHERSTONHAUGH AND CO; CORTEN MAURICE JEAN FM ET AL; HOWREY SIMON ARNOLD AND WHITE LLP

Designated states: 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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT428297 E	20090515	LSGT	+	granted / extensions (spc, cpc, pte)	
AT428297 E	20091015	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT428297 E	20240930	PEXP		Calculated Patent Term Expiry	

CA2484370 AA	20050413	LSPB	+	published / reissued	
CA2484370 AA	20090707	LSES	+EEER	EXAMINATION REQUEST	
CA2484370 AA	20161123	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20161012
CA2484370 C	20110705	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2484370 C	20241012	PEXP		Calculated Patent Term Expiry	
DE602004020564 D1	20100401	LSOP	-8363	OPPOSITION AGAINST THE PATENT	
DK1523879 T3	20090720	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1523879 T3	20240930	PEXP		Calculated Patent Term Expiry	
EP1523879 A2	20050420	LSPB	+	published / reissued	
EP1523879 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20150929 YEAR OF FEE PAYMENT : 12
EP1523879 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 13
EP1523879 A3	20060517	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060322
EP1523879 A3	20060927	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20060828
EP1523879 A3	20061004	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : BG COUNTRY OF REF DOCUMENT : CH COUNTRY OF REF DOCUMENT : CY COUNTRY OF REF DOCUMENT : CZ COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : EE COUNTRY OF REF DOCUMENT : ES COUNTRY OF REF DOCUMENT : FI COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : GR COUNTRY OF REF DOCUMENT : HU COUNTRY OF REF DOCUMENT : IE COUNTRY OF REF DOCUMENT : IT COUNTRY OF REF DOCUMENT : LI COUNTRY OF REF DOCUMENT : LU COUNTRY OF REF DOCUMENT : MC COUNTRY OF REF DOCUMENT : NL COUNTRY OF REF DOCUMENT : PL COUNTRY OF REF DOCUMENT : PT COUNTRY OF REF DOCUMENT : RO COUNTRY OF REF DOCUMENT : SE COUNTRY OF REF DOCUMENT : SI COUNTRY OF REF DOCUMENT : SK COUNTRY OF REF DOCUMENT : TR

EP1523879 A3	20080924	LSRE	RTI1	TITLE (CORRECTION)	TEXT : METHOD OF MILKING ANIMALS
EP1523879 B1	20090415	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1523879 B1	20090415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1523879 B1	20090415	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1523879 B1	20090513	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1523879 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090726
EP1523879 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090915
EP1523879 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415

EP1523879 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20100217	LSOP	-26	OPPOSITION FILED	PARTYTYPE : OPPONENT OPPONENT : DELAVAL INTELLECTUAL PROPERTY & L EFFECTIVE DATE : 20100111
EP1523879 B1	20100226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20100226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20100331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090715
EP1523879 B1	20100401	LSOP	-NLR1	NL: OPPOSITION HAS BEEN FILED WITH THE EPO	PARTYTYPE : OPPONENT REF COUNTRY CODE : EP OPPONENT : DELAVAL INTELLECTUAL PROPERTY & L
EP1523879 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523879 B1	20100430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1523879 B1	20100623	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1523879 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523879 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523879 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090716
EP1523879 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-

				INFORMATION FROM NATIONAL OFFICE TO EPO]	PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523879 B1	20101124	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : DELAVAL INTELLECTUAL PROPERTY & L EFFECTIVE DATE : 20100111
EP1523879 B1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523879 B1	20110630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20091016
EP1523879 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090415
EP1523879 B1	20111109	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : DELAVAL INTELLECTUAL PROPERTY & L EFFECTIVE DATE : 20100111
EP1523879 B1	20130123	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : DELAVAL INTELLECTUAL PROPERTY & L EFFECTIVE DATE : 20100111
EP1523879 B1	20131031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20130925 YEAR OF FEE PAYMENT : 10
EP1523879 B1	20140702	LSOP	-R26	OPPOSITION FILED (CORRECTED)	PARTYTYPE : OPPONENT OPPONENT : DELAVAL INTELLECTUAL PROPERTY & L EFFECTIVE DATE : 20100111
EP1523879 B1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20140917 YEAR OF FEE PAYMENT : 11
EP1523879 B1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20140929 YEAR OF FEE PAYMENT : 11
EP1523879 B1	20150227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20140926

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 11
EP1523879 B1	20150420	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20140930
EP1523879 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140930
EP1523879 B1	20160525	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20150930
EP1523879 B1	20160701	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20160531
EP1523879 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150930
EP1523879 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150930
EP1523879 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20151001
EP1523879 B1	20161114	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R100 REF DOCUMENT NUMBER : 602004020564 COUNTRY OF REF DOCUMENT : DE
EP1523879 B1	20170125	LSRE	+270	OPPOSITION REJECTED	EFFECTIVE DATE : 20161114
EP1523879 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 13
EP1523879 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20170927 YEAR OF FEE PAYMENT : 14
EP1523879 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170927 YEAR OF FEE PAYMENT : 14
EP1523879 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 15
EP1523879 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 15
EP1523879 B1	20240930	PEXP		Calculated Patent Term Expiry	
NL1024520 C2	20050414	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1024520 C2	20050601	LSSES	+PD2B	A SEARCH REPORT HAS BEEN DRAWN UP	

NL1024520 C2	20120516	LSLE	-V1	LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 20120501
NL1024520 C2	20231013	PEXP		Calculated Patent Term Expiry	
NZ535847 A	20060728	LSPB	+	published / reissued	
NZ535847 A	20061130	LSGT	+PSEA	PATENT SEALED	
NZ535847 A	20081031	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ535847 A	20111125	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ535847 A	20140926	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 08 OCT 2015 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20140918
NZ535847 A	20160429	LSLE	-LAPS	PATENT LAPSED	
US2005115506 AA	20050602	LSPB	+	published / reissued	
US2005115506 AA	20070725	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7255063 BB	20070814	LSGT	+	granted / extensions (spc, cpc, pte)	
US7255063 BB	20050308	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES AG, SWITZERLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BERG, KAREL VAN DEN; BOS, GEORGIUS RUDOLPHIUS; REEL/FRAME:016342/0044 EFFECTIVE DATE : 20040730
US7255063 BB	20070725	LSGT	PAT1	Patented Case	
US7255063 BB	20110214	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7255063 BB	20150216	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7255063 BB	20190401	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7255063 BB	20250313	PEXP		Calculated Patent Term Expiry (PTA 151 days)	

Title: ARRANGEMENT AND METHOD FOR THREAT MANAGEMENT FOR GROUND-BASED **VEHICLES**

Abstract: The invention relates to a method for threat handling of ground based **vehicles**, comprising the steps of: - continuously determining (s410) presence of threats; and - automatically determining (s420) information pertaining to threat characteristics; - based on said threat, automatically determining (s430) at least one instruction for at least one operator of said **vehicle** (100) for handling of said threat; and - automatically presenting (s440) said at least one instruction for said operator. The invention also relates to a computer program product comprising program code (P) for a computer (200; 210) for implementing a method according to the invention. The invention also relates to a device and a motor **vehicle** (100) which is equipped with the device.

Classifications:**International (IPC 8-9):** F41H11/00 F41H13/00 F41H7/02

G05D1/00 (Advanced/Invention)

CPC: G05D1/0055 G05D1/0088 G05D1/021 G05D2201/0209

G06Q10/0635 F41H11/00 F41H7/02 F41H13/00

PatBase - WO14129962_A1

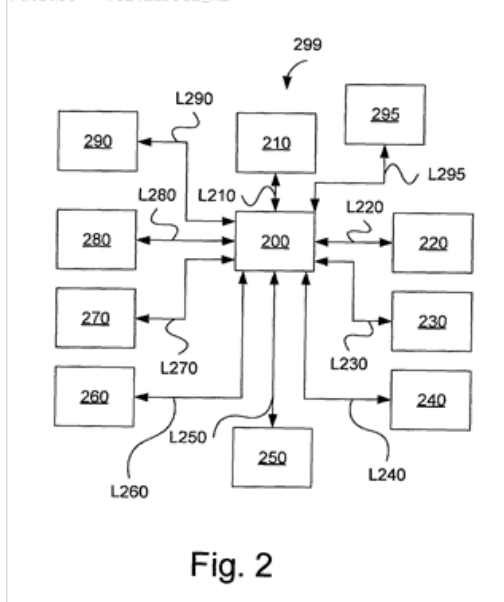


Fig. 2

Family:

Publication number	Publication date	Application number	Application date
SE201350218 A1	20140826	SE20130050218	20130225
WO14129962 A1	20140828	WO2014SE50218	20140221

Priority:

SE20130050218 20130225

Probable Assignee: BAE SYSTEMS HAEGGLUNDS AKTIEBOLAG**Assignee(s):** (std): BAE SYSTEMS HAEGGLUNDS AKTIEBOLAG**Inventor(s):** (std): BACKSTROEM RONNY ; LINDELL DAN ; SVENSSON GOESTA**Inventor(s):** RONNY BACKSTROEM ; DAN LINDELL ; GOESTA SVENSSON**Agent(s):** ZACCO SWEDEN AB

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
SE201350218 A1	20140826	LSPB	+	published / reissued	
SE201350218 A1	20150331	LSLE	-NAV	PATENT APPLICATION HAS LAPSED	
WO14129962 A1	20140828	LSPB	+	published / reissued	
WO14129962 A1	20150825	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO14129962 A1	20160323	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14753577 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: Rescuing **vehicle** to be deployed in radioactively contaminated areas.

Abstract: The invention relates to a rescue **vehicle** (1) for rescuing human beings, clearing building or other debris and/or carrying out repairs within irradiated areas by remote control via a power cable (3), the rescue **vehicle** (1) being connected electrically to the external control desk (16) via a power cable (3). The cable runs between the rescue **vehicle** (1) and control desk (16) in synchronism with the travelling speed of the rescue **vehicle**. The control desk (16) is connected to the existing mains network and receives all the means for a completely external control and monitoring of the rescue **vehicle** and its accessories. The rescue **vehicle** (1) and manipulator (9) are driven by direct-current motors, whilst a hydraulic unit (13) driven by direct-current motor is provided for driving the tower (6) and jib (7) and the gripper (8).

Classifications:

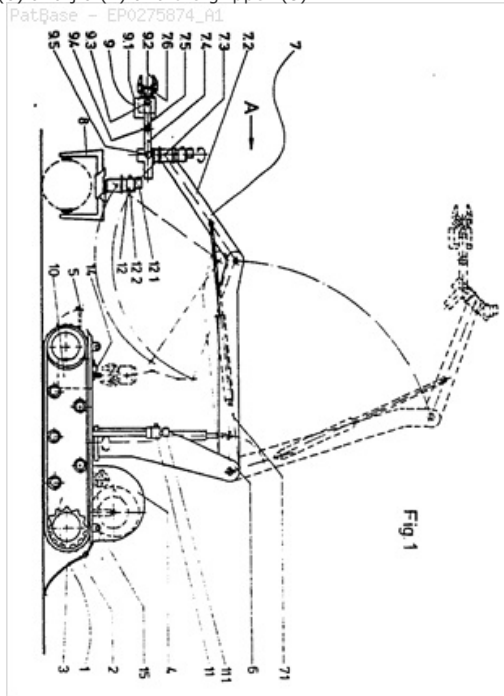
International (IPC 8-9): A62B99/00 B25J13/06 B25J5/00

G21C17/013 (Advanced/Invention)

International (IPC 1-7): A62B37/00 B25J13/06 B25J5/00 B60P3/00 B60R27/00 B62D63/00 G21C19/32

CPC: B25J5/005 B25J13/065 G21C17/013

European: B25J13/06B B25J5/00T G21C17/013



Family:

Publication number	Publication date	Application number	Application date
AT64881 E	19910715	AT19880100094T	19880107
DE3700814 A1	19880728	DE19873700814	19870114
DE3863431 D1	19910808	DE19883863431	19880107
EP0275874 A1	19880727	EP19880100094	19880107
EP0275874 B1	19910703	EP19880100094	19880107
JP63183077 A2	19880728	JP19870027435	19870210

Priority:

DE19873700814 19870114 DE19883863431 19880107 EP19880100094 19880107
EP19880100094 19880107

Probable Assignee: NTG NEUE TECHNOLOGIEN GMBH AND C

Assignee(s): (std): NTG NEUE TECHNOLOGIEN GMBH AND C ; N T G NOIE TEHINOROGIIN GMBH AND

Assignee(s): N T G NOIE TEHINOROGIIN GMBH AND CO KG ; NTG NEUE TECHNOLOGIEN GMBH AND CO KG ; NTG NEUE TECHNOLOGIEN GMBH AND CO KG 6460 GELNHAUS ; NTG NEUE TECHNOLOGIEN GMBH AND CO KG 6460 GELNHAUSEN DE

Inventor(s): (std): ORTMAYER RUDOLF M ; PICK WERNER ; RUUDORUFU EMU OKUTOMAIERU ; UERUNERU PITSUKU ; ORTMAYER RUDOLF M ING GRAD

Inventor(s): PICK WERNER W 6483 BAD SODEN SALMUENSTER DE ; ORTMAYER ING GRAD RUDOLF M W 6460 GELNHAUSEN 1 DE ; M ORTMAYER RUDOLF

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
AT64881 E	19910715	LSGT	+	granted / extensions (spc, cpc, pte)	
AT64881 E	19930415	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT64881 E	20080107	PEXP		Calculated Patent Term Expiry	
DE3700814 A1	19880728	LSPB	+	published / reissued	
DE3700814 A1	19940414	LSLE	-8141	DISPOSAL/NO REQUEST FOR EXAMINATION	

DE3863431 D1	19920730	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3863431 D1	19940113	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
EP0275874 A1	19880727	LSPB	+	published / reissued	
EP0275874 A1	19890329	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19890124
EP0275874 A1	19900530	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19900418
EP0275874 B1	19910703	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0275874 B1	19910703	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE LAPSED DATE : 19910703
EP0275874 B1	19910703	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB LAPSED DATE : 19910703
EP0275874 B1	19910703	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL LAPSED DATE : 19910703
EP0275874 B1	19910703	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE LAPSED DATE : 19910703
EP0275874 B1	19910703	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATION OF LAPSE : THE PATENT HAS BEEN ANNULLED BY A DECISION OF A NATIONAL AUTHORITY LAPSED DATE : 19910703
EP0275874 B1	19910703	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 19910703
EP0275874 B1	19910703	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 19910703
EP0275874 B1	19911122	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR LAPSED DATE : 19911122
EP0275874 B1	19911216	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
EP0275874 B1	19920107	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT LAPSED DATE : 19920107
EP0275874 B1	19920108	LSWD	-GBV	GB: EP PATENT (UK) TREATED AS ALWAYS HAVING BEEN VOID IN ACCORDANCE WITH GB SECTION 77(7)/1977	REF COUNTRY CODE : EP

EP0275874 B1	19920131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH LAPSED DATE : 19920131
EP0275874 B1	19920131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI LAPSED DATE : 19920131
EP0275874 B1	19920131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 19920131
EP0275874 B1	19920326	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 19920326 YEAR OF FEE PAYMENT : 5
EP0275874 B1	19920624	LSGT	+26N	NO OPPOSITION FILED	
EP0275874 B1	19920930	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0275874 B1	19921127	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0275874 B1	19931001	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE LAPSED DATE : 19931001
EP0275874 B1	20080107	PEXP		Calculated Patent Term Expiry	
JP63183077 A2	19880728	LSPB	+	published / reissued	

Title: ASSEMBLY FOR AND A METHOD OF FEEDING AND MILKING ANIMALS

Abstract: An assembly for feeding and milking animals. The assembly is provided with a feeding system comprising a movable feed platform and a drive unit for driving the feed platform, a number of feeding places being provided on the feed platform. The assembly also includes a milking system for, in particular automatically, milking animals on the feed platform, which milking system comprises a number of sets of teat cups. An area where the animals are allowed to move freely communicates via an entrance with the feed platform, the width of the entrance being sufficiently large to enable simultaneous access of several animals to the feed platform. The entrance is free from a closing device.

Classifications:

International (IPC 8-9): A01J5/00 A01J5/003 A01J5/017 A01J7/04 A01K1/12 A01K5/00 A01K5/02 (Advanced/Invention);

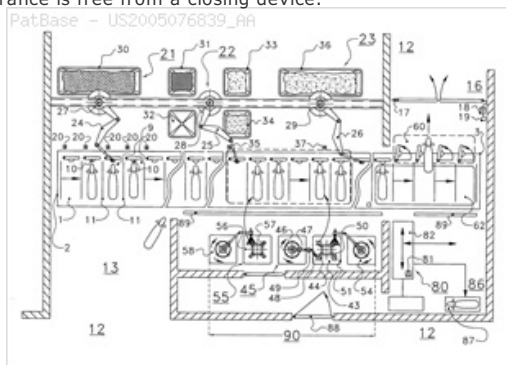
A01J5/00 A01J5/003 A01J7/00 A01K1/00 A01K5/00 (Core/Invention)

International (IPC 1-7): A01J5/00 A01J5/17 A01J7/4 A01K1/12 A01K5/00 A01K5/2

CPC: A01J5/017 A01J5/0175 A01J7/04 A01K1/12 A01K1/126 A01K5/02

European: A01J5/017 A01J5/017A A01J7/04 A01K1/12 A01K1/12B A01K5/02

US: 119/14.03 119/14.04

**Family:**

Publication number	Publication date	Application number	Application date
CA2484478 AA	20050413	CA20042484478	20041012
CA2484478 C	20111206	CA20042484478	20041012
DE602004019612 D1	20090409	DE200460019612T	20040930
DK1523880 T3	20090622	DK20040077698T	20040930
EP1523880 A2	20050420	EP20040077698	20040930
EP1523880 A3	20060201	EP20040077698	20040930
EP1523880 B1	20090225	EP20040077698	20040930
ES2323061 T3	20090706	ES20040077698T	20040930
NL1024521 C2	20050414	NL20031024521	20031013
NZ535849 A	20060728	NZ20040535849	20041008
US2005076839 AA	20050414	US20040962476	20041013
US7261054 BB	20070828	US20040962476	20041013

Priority:

NL20031024521 20031013 CA20042484478 20041012

Probable Assignee: LELY ENTERPRISES AG

Assignee(s): (std): BOS GREORGIUS RUDOLPHIUS ; LELY ENTERPRISES AG ; LELY ENTPR AG ; VAN DEN BERG KAREL

Inventor(s): (std): VAN DEN BERG KAREL ; KAREL VAN DEN BERG ; GREORGIUS RUDOLPHIUS BOS ; BOS GREORGIUS RUDOLPHIUS ; BERG KAREL VAN DEN ; BOS GREGORIUS RUDOLPHIUS

Inventor(s): BOS GREORGIUS

Agent(s): FETHERSTONHAUGH AND CO; CORTEN MAURICE JEAN FM ET AL; HOWREY SIMON ARNOLD AND WHITE LLP; DAVID P; HOWREY LLP

Designated states: 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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
CA2484478 AA	20050413	LSPB	+	published / reissued	
CA2484478 AA	20090707	LSES	+EEER	EXAMINATION REQUEST	
CA2484478 AA	20161123	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20161012
CA2484478 C	20111206	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2484478 C	20241012	PEXP		Calculated Patent Term Expiry	
DE602004019612 D1	20100325	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DK1523880 T3	20090622	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1523880 T3	20240930	PEXP		Calculated Patent Term Expiry	
EP1523880 A2	20050420	LSPB	+	published / reissued	

EP1523880 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20150929 YEAR OF FEE PAYMENT : 12
EP1523880 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 13
EP1523880 A3	20060517	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060322
EP1523880 A3	20061004	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20060830
EP1523880 A3	20061004	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : BG COUNTRY OF REF DOCUMENT : CH COUNTRY OF REF DOCUMENT : CY COUNTRY OF REF DOCUMENT : CZ COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : EE COUNTRY OF REF DOCUMENT : ES COUNTRY OF REF DOCUMENT : FI COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : GR COUNTRY OF REF DOCUMENT : HU COUNTRY OF REF DOCUMENT : IE COUNTRY OF REF DOCUMENT : IT COUNTRY OF REF DOCUMENT : LI COUNTRY OF REF DOCUMENT : LU COUNTRY OF REF DOCUMENT : MC COUNTRY OF REF DOCUMENT : NL COUNTRY OF REF DOCUMENT : PL COUNTRY OF REF DOCUMENT : PT COUNTRY OF REF DOCUMENT : RO COUNTRY OF REF DOCUMENT : SE COUNTRY OF REF DOCUMENT : SI COUNTRY OF REF DOCUMENT : SK COUNTRY OF REF DOCUMENT : TR
EP1523880 B1	20090225	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1523880 B1	20090225	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1523880 B1	20090227	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1523880 B1	20090401	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1523880 B1	20090706	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2323061 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :

EP1523880 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1523880 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1523880 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1523880 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1523880 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1523880 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090812
EP1523880 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1523880 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1523880 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090525
EP1523880 B1	20100203	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20091126
EP1523880 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				FROM NATIONAL OFFICE TO EPO]	LAPSED DATE : 20090930
EP1523880 B1	20100430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1523880 B1	20100623	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1523880 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523880 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523880 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090526
EP1523880 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523880 B1	20101130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20100923 YEAR OF FEE PAYMENT : 7
EP1523880 B1	20101231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20100903 YEAR OF FEE PAYMENT : 7
EP1523880 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20090930
EP1523880 B1	20110630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090826
EP1523880 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1523880 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090225
EP1523880 B1	20111130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20110926 YEAR OF FEE PAYMENT : 8

EP1523880 B1	20120531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110930
EP1523880 B1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110930
EP1523880 B1	20121231	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : PL REF LEGAL EVENT CODE : LAPE
EP1523880 B1	20131021	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20131021
EP1523880 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20121001
EP1523880 B1	20131031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20130925 YEAR OF FEE PAYMENT : 10
EP1523880 B1	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20130927 YEAR OF FEE PAYMENT : 10
EP1523880 B1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20140917 YEAR OF FEE PAYMENT : 11
EP1523880 B1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20140929 YEAR OF FEE PAYMENT : 11
EP1523880 B1	20150227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20140926 YEAR OF FEE PAYMENT : 11
EP1523880 B1	20150420	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20140930
EP1523880 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140930
EP1523880 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140930
EP1523880 B1	20160525	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20150930
EP1523880 B1	20160701	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20160531
EP1523880 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL	COUNTRY OF REF DOCUMENT : GB NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150930

EP1523880 B1	20160831	LSLE	-PG25	OFFICE TO EPO] LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20150930
EP1523880 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20151001
EP1523880 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 13
EP1523880 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20170927 YEAR OF FEE PAYMENT : 14
EP1523880 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170927 YEAR OF FEE PAYMENT : 14
EP1523880 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 15
EP1523880 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 15
EP1523880 B1	20240930	PEXP		Calculated Patent Term Expiry	
ES2323061 T3	20090706	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2323061 T3	20240930	PEXP		Calculated Patent Term Expiry	
NL1024521 C2	20050414	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1024521 C2	20050601	LSES	+PD2B	A SEARCH REPORT HAS BEEN DRAWN UP	
NL1024521 C2	20120516	LSLE	-V1	LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 20120501
NL1024521 C2	20231013	PEXP		Calculated Patent Term Expiry	
NZ535849 A	20060728	LSPB	+	published / reissued	
NZ535849 A	20061130	LSGT	+PSEA	PATENT SEALED	
NZ535849 A	20081031	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ535849 A	20111125	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ535849 A	20140926	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 08 OCT 2015 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20140918
NZ535849 A	20160429	LSLE	-LAPS	PATENT LAPSED	
US2005076839 AA	20050414	LSPB	+	published / reissued	
US2005076839 AA	20070808	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7261054 BB	20070828	LSGT	+	granted / extensions (spc, cpc, pte)	
US7261054 BB	20050127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

OWNER : LELY ENTERPRISES
 AG, SWITZERLAND
 OLDPARTY : ASSIGNMENT OF
 ASSIGNORS INTEREST;
 ASSIGNORS:VAN DEN BERG,
 KAREL; BOS, GREGORIUS
 RUDOLPHIUS;
 REEL/FRAME:016204/0258
 EFFECTIVE DATE : 20040730

US7261054 BB	20070808	LSGT	PAT1	Patented Case	
US7261054 BB	20110228	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7261054 BB	20150302	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7261054 BB	20190415	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7261054 BB	20250316	PEXP		Calculated Patent Term Expiry (PTA 154 days)	

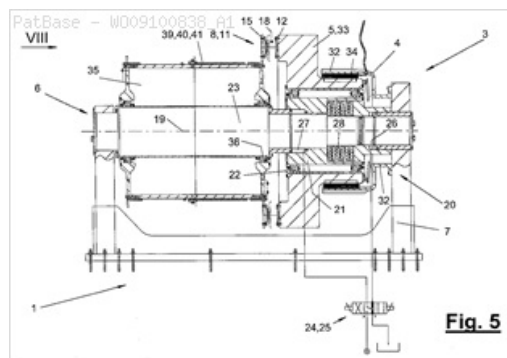
Title: TRACTIVE DRIVE AND TRACTIVE METHOD FOR **VEHICLES**

Abstract: The invention relates to a tractive drive (1) for **vehicles** (2), comprising a drive (3), a coupling (8) and a traction system (6) that can be connected to the **vehicle** (2), wherein the coupling (8) is designed as magnetic coupling. The drive (3) may comprise a kinetic accumulator (5). The coupling (8) can be adjusted with regard to the force transmission and may be connected to a controller (29). The coupling (8) may be designed as an eddy current coupling (11) or as an inductive coupling (60).

Classifications:

International (IPC 8-9): A63G21/04 A63G7/00 (Advanced/Invention);
A63G21/00 A63G7/00 (Core/Invention)

CPC: A63G7/00



Family:

Publication number	Publication date	Application number	Application date
DE202008002097 U1	20090702	DE200820002097U	20080214
WO09100838 A1	20090820	WO2009EP00715	20090204

Priority:

DE200820002097U 20080214

Probable Assignee: RAW TEX INTERNAT AG

Assignee(s): (std): RAW TEX INTERNAT AG ; SPIELDIENER PATRICK ; SPIELDIENER ROBERT

Assignee(s): RAW TEX INTERNATIONAL AG

Inventor(s): (std): SPIELDIENER ROBERT ; SPIELDIENER PATRICK

Agent(s): ERNICKE H D

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
DE202008002097 U1	20090702	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202008002097 U1	20090806	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20090806
DE202008002097 U1	20110331	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	EFFECTIVE DATE : 20110127
DE202008002097 U1	20140320	LSGT	+R151	TERM OF PROTECTION EXTENDED TO 8 YEARS	EFFECTIVE DATE : 20140212
DE202008002097 U1	20160129	LSGT	+R152	TERM OF PROTECTION EXTENDED TO 10 YEARS	
DE202008002097 U1	20180228	LSLE	-R071	EXPIRY OF RIGHT	
DE202008002097 U1	20180214	PEXP		Calculated Patent Term Expiry	
WO09100838 A1	20090820	LSPB	+	published / reissued	
WO09100838 A1	20100817	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09100838 A1	20110309	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 09710233 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: MOBILE LIFTING DEVICE WITH AUXILIARY LIFTING ATTACHMENT

Abstract: A mobile lifting machine having a body (3.004) and a boom (3.010) connected to the body, the lifting machine including a support beam (3.016) connected to the boom at a distance from the connection of the boom to the body. Attached to the boom is a lifting apparatus (3.040) which can move along the boom.

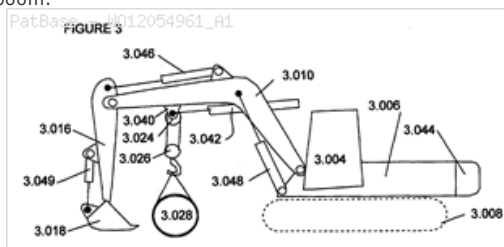
Classifications:

International (IPC 8-9): B66C1/42 E02F9/14

F16L1/028 (Advanced/Invention)

CPC: B66C23/44 B66C23/72 E02F3/301 E02F3/964 E02F9/024 E02F9/06 E02F9/085 E02F9/2016

European: B66C23/44 B66C23/72 E02F3/30A E02F3/96D2 E02F9/02D E02F9/06 E02F9/08L E02F9/20D



Family:

Publication number	Publication date	Application number	Application date
WO12054961 A1	20120503	WO2011AU01290	20111007

Priority:

AU20100904768 20101026

Probable Assignee: HOUGH JOHN EUGENE

Assignee(s): (std): HOUGH JOHN EUGENE

Inventor(s): (std): HOUGH JOHN EUGENE

Agent(s): CONRICK PATRICK MICHAEL ET AL

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
WO12054961 A1	20120503	LSPB	+	published / reissued	
WO12054961 A1	20130426	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12054961 A1	20131120	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 11835333 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: MODULAR ROBOT ASSEMBLY KIT, SWARM OF MODULARIZED ROBOTS AND METHOD OF FULFILLING TASKS BY A SWARM OF MODULARIZED ROBOT

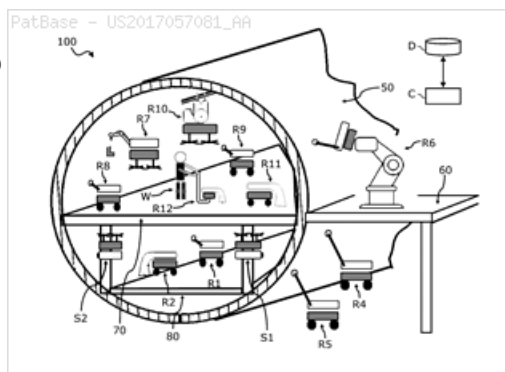
Abstract: A modularized robot includes a robot platform configured to convey mobility and connectivity to external components to the modularized robot, a robot workhead configured to convey the ability to perform an operational task to the modularized robot, and a robot adapter attached to either the robot platform or the robot workhead and configured to mechanically link the robot platform to the robot workhead. Moreover, a swarm of modularized robots and a robot system include such modularized robots.

Classifications:

International (IPC 8-9): B25J11/00 B25J15/04 B25J19/00 B25J19/02 B25J5/00 B25J9/00 B25J9/08 B25J9/16 B64F5/00 (Advanced/Invention)

CPC: B25J9/0084 B25J19/023 B25J11/005 B25J15/04 B25J19/021 B25J5/007 B25J9/08 B25J11/0085 B64F5/10 B64C39/024 B25J9/1602 B25J19/00

US: 700/248



Family:

Publication number	Publication date	Application number	Application date
CN106476003 A	20170308	CN201610841543	20160825
DE102015216272 A1	20170302	DE201510216272	20150826
EP3135441 A1	20170301	EP20160182725	20160804
US2017057081 AA	20170302	US20160247033	20160825

Priority:

DE201510216272 20150826

Probable Assignee: AIRBUS OPERATIONS GMBH

Assignee(s): (std): AIRBUS OPERATIONS GMBH

Inventor(s): (std): GOEHLICH ROBERT ALEXANDER ; KROHNE INGO ; FRAGA SERAFIM CAMILA ; BORCHERT TOM ; SERAFIM CAMILA FRAGA

Agent(s): ISARPATENT

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
CN106476003 A	20170308	LSPB	+	published / reissued	
CN106476003 A	20170308	LSPB	+C06	PUBLICATION	
CN106476003 A	20190402	LSDW	-WD01	INVENTION PATENT APPLICATION DEEMED WITHDRAWN AFTER PUBLICATION	
DE102015216272 A1	20170302	LSPB	+	published / reissued	
DE102015216272 A1	20180301	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
EP3135441 A1	20170301	LSPB	+	published / reissued	
EP3135441 A1	20171004	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20170828
EP3135441 A1	20190313	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20190207
US2017057081 AA	20170302	LSPB	+	published / reissued	
US2017057081 AA	20170208	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

OWNER : AIRBUS OPERATIONS
GMBH, GERMANY
OLDPARTY : ASSIGNMENT OF
ASSIGNORS INTEREST;
ASSIGNORS:GOEHLICH, ROBERT
ALEXANDER; BORCHERT, TOM;
KROHNE, INGO; AND OTHERS;
SIGNING DATES FROM 20161005
TO 20161228;
REEL/FRAME:041203/0189

US2017057081 AA	20180320	LSES	NFA1	Non Final Action Mailed
US2017057081 AA	20180926	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action

Title: AMPHIBO-RESCUE OPERATION **VEHICLE**

Abstract: An amphibious rescue operation **vehicle** for rescue operation both on land and in water contains firefighting nozzle 5, sensor and Ray marine radar 10. The said nozzle 5 contains brushless DC electric stepper motor 7 and gear arrangement for its rotation at 360 degrees with equal spray flow on all directions. The said nozzle 5 is operated even when the **vehicle** is in motion in water. Specifically, the present invention contains retractable suspension unit attached to the chassis of the said **vehicle** for efficient movement of **vehicle** in water. The said **vehicle** has transaxle unit with two magnetic clutches and powerful jet engines. The said **vehicle** travels at a maximum speed of at least 40 to 50 knots in water during rescue operation. The present invention minimizes the work load, avoid loss of property, rescue the people in minimal time and increase the chance of survival.

Classifications:

International (IPC 8-9): B60F (Advanced/Invention)

Family:

Publication number	Publication date	Application number	Application date
IN02487CH2014 A	20160115	IN2014CH02487	20140519

Priority:

IN2014CH02487 20140519

Probable Assignee: GOVIND SANJEEV KUMAR L

Assignee(s): GOVIND SANJEEV KUMAR L ; NARESH A

Inventor(s): GOVIND SANJEEV KUMAR L ; NARESH A

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
IN02487CH2014 A	20160115	LSPB	+	published / reissued	

Title: AMPHIBIOUS **VEHICLE**

Abstract: An amphibious **vehicle** is capable of traveling on water by controlling a manipulation panel installed in the **vehicle** when the **vehicle** moves from land to water or from water to land. The **vehicle** includes a pair of piston propellers that are mounted on a lower surface of a rear bumper of a **vehicle** body, and configured to operate with crossing each other to push back water on a water surface while moving from up to down upon a rotation in one direction, wherein the pair of piston propellers comprises: a pair of first and second motors that are configured to generate preset driving forces, respectively, according to a control of a manipulation panel installed in the **vehicle** body; first and second crankshafts that are rotated in a predetermined direction, in response to operations of the pair of first and second motors; and first and second cylinders that are connected and fixed to end portions of first and second connecting rods, respectively, and configured to form linear motion paths of first and second pistons executing linear reciprocating motions.

Classifications:

International (IPC 8-9): B60F3/00 B63B43/12 B63H1/36

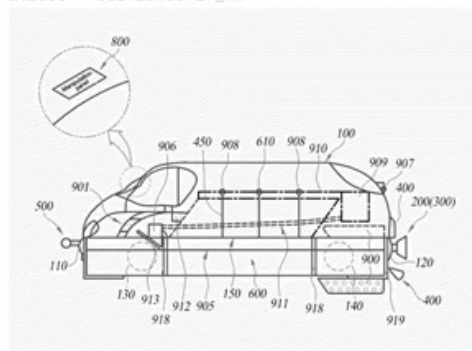
B63H25/06 (Advanced/Invention)

CPC: B60F3/0038 B60F3/0007 B63H1/025 B60K1/02 B60W2300/32

B60Y2200/42 B63H1/18 F16H9/12

US: 440/12.5 440/12.66

PatBase - US2015038027_AA



Family:

Publication number	Publication date	Application number	Application date
CN104340000 A	20150211	CN201410370055	20140730
JP2015030456 A2	20150216	JP20140156236	20140731
KR20150015366 A	20150210	KR20140086824	20140710
US2015038027 AA	20150205	US20140447420	20140730

Priority:

KR20130090928 20130731 KR20140086824 20140710

Probable Assignee:

PARK YOUNG CHAN

Assignee(s): (std):

PARK YOUNG CHAN

Inventor(s): (std):

PARK YOUNG CHAN

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
CN104340000 A	20150211	LSPB	+	published / reissued	
CN104340000 A	20150211	LSPB	+C06	PUBLICATION	
CN104340000 A	20170308	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
JP2015030456 A2	20150216	LSPB	+	published / reissued	
KR20150015366 A	20150210	LSPB	+	published / reissued	
KR20150015366 A	20140710	LSSES	A201	REQUEST FOR EXAMINATION	
KR20150015366 A	20150601	LSSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
US2015038027 AA	20150205	LSPB	+	published / reissued	
US2015038027 AA	20170322	LSSES	NFA1	Non Final Action Mailed	
US2015038027 AA	20171212	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	

Title: ARMORED ATTACK **VEHICLE**

Abstract: Aspects of the present disclosure provide an armored helmet assembly that is fully or completely assembled and quickly mounted onto a host **vehicle** to form a military **vehicle**. The armored helmet assembly provides protection, weapons, cameras, and other equipment for the driver. When desired, the armored helmet assembly in a completely assembled state is unlocked and removed from the host **vehicle**. The host **vehicle** is typically a construction **vehicle** and useful as such. In some embodiments, a weapons platform assembly is mounted on the armored helmet assembly. Other embodiments include one or more of an expandable battle shield, a front end container for storage of equipment or weapons, and a command surveillance module. In certain embodiments, in addition to the armored helmet assembly, a lower armored assembly in a completely assembled state is mounted onto a lower portion of the host **vehicle**.

Classifications:

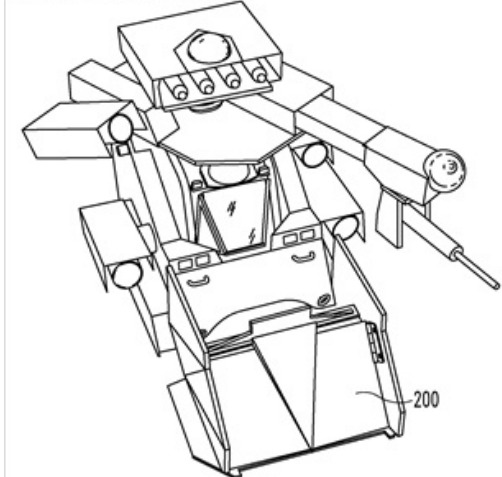
International (IPC 8-9): F41A23/24 F41A23/34 F41F3/04 F41H7/00 F41H7/02 F41H7/04 (Advanced/Invention)

CPC: F41H7/02

European: F41H7/02

US: 172/810 172/810S 89/1.8 89/1.800P 89/36.07 89/36.08 89/36.080S 89/930 89/930S

PatBase - US2012060673 AA



Family:

Publication number	Publication date	Application number	Application date
US2012060673 AA	20120315	US20110113155	20110523
US8430014 BB	20130430	US20110113155	20110523
WO11149858 A2	20111201	WO2011US37628	20110524
WO11149858 A3	20120503	WO2011US37628	20110524

Priority:

US20100347597P 20100524 US20110113155 20110523

Probable Assignee: BURTON TODD

Assignee(s): (std): BURTON TODD

Inventor(s): (std): BURTON TODD

Agent(s): WOODARD EMHARDT MORIARTY MCNETT AND HENRY LLP; SHUSTER ELIZABETH A ET AL

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
US2012060673 AA	20120315	LSPB	+	published / reissued	
US2012060673 AA	20130410	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8430014 BB	20130430	LSGT	+	granted / extensions (spc, cpc, pte)	
US8430014 BB	20130410	LSGT	PAT1	Patented Case	
US8430014 BB	20161026	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8430014 BB	20310729	PEXP		Calculated Patent Term Expiry (PTA 67 days)	
WO11149858 A2	20111201	LSPB	+	published / reissued	
WO11149858 A3	20121126	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11149858 A3	20130612	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 11787206 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF

Title: AUTONOMOUS TRAVELING APPARATUS

Abstract: This invention is an autonomous traveling apparatus having a traveling control part for controlling a driving member; an imaging part for photographing an image data of a predetermined external space; an image recognition part for extracting a human body included in the image data photographed by the imaging part, and recognizing an image data of the extracted human body; a sensor for preventing theft; and a controller for executing operation in emergency corresponding to a recognition result by the image recognition part, and a detection result by the sensor for preventing theft.

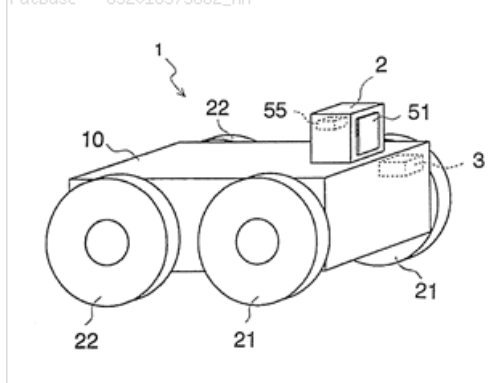
Classifications:

International (IPC 8-9): B60R1/00 B60R25/10 B60R25/30 F41B15/00 F41H13/00 F41H5/02 F41H7/04 G05D1/00 G05D1/02 G08B13/02 G08B13/196 G08B15/00 G08B25/04 (Advanced/Invention)

CPC: B60R25/1004 B60R25/305 B60R25/30 B60R1/00 G05D1/024 G05D1/0246 G05D1/0255 G05D2201/0209 G08B13/19647 G08B15/00

US: 348/148

PatBase - US2016375862_AA



Family:

Publication number	Publication date	Application number	Application date
JP2017016249 A2	20170119	JP20150129923	20150629
JP6562736 B2	20190802	JP20150129923	20150629
US2016375862 AA	20161229	US20160072700	20160317

Priority:

JP20150129923 20150629

Probable Assignee: SHARP KK

Assignee(s): (std): SHARP KK

Assignee(s): SHARP CORP

Inventor(s): (std): TAKA KYOSUKE ; ITO TETSUSHI ; YAMAMOTO HARUO ; KO KYOSUKE ; ITO TETSUTSUGU

Agent(s): NOGAWA SHINTARO

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
JP2017016249 A2	20170119	LSPB	+	published / reissued	
JP2017016249 A2	20180323	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20180323
JP2017016249 A2	20190416	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20190416
JP2017016249 A2	20190613	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190613
JP2017016249 A2	20190702	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20190702
JP6562736 B2	20190802	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6562736 B2	20190704	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6562736 B2	20190730	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6562736 B2	20190802	LSGT	+R150	特許証 (Patent certificate)	
JP6562736 B2	20350629	PEXP		Calculated Patent Term	

Expiry				
US2016375862 AA	20161229	LSPB	+	published / reissued
US2016375862 AA	20160321	LSAS	AS	ASSIGNMENT PARTYTYPE : OWNER OWNER : SHARP KABUSHIKI KAISHA, JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ITO, TETSUSHI; YAMAMOTO, HARUO; TAKA, KYOSUKE; SIGNING DATES FROM 20160217 TO 20160218; REEL/FRAME:038043/0586
US2016375862 AA	20171025	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed
US2016375862 AA	20171101	LSES	NFA1	Non Final Action Mailed
US2016375862 AA	20181220	LSES	NFA1	Non Final Action Mailed
US2016375862 AA	20190708	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action

Title: **UNMANNED VEHICLE** FOR DISPLACING MANURE

Abstract: An **unmanned vehicle** for displacing manure from the floor of a stable of the type used for dairy cattle. The **vehicle** comprises a steering unit and a frame to which are attached two wheels driven by separate motors at different control speeds for steering the **vehicle** as well as propelling and supporting it. Attached to the frame forward of the two wheels is a manure displacing member for displacing manure on the floor and which also serves the purpose of supporting the **vehicle**. Forward of the manure displacing member is a coaster. The **vehicle** also includes orientation apparatus for determining the relative position of the **vehicle** and guidance apparatus for determining and controlling the course which the **vehicle** follows for displacing manure from the stable floor. It further includes an anti-bumping device which senses obstacles and controls the **vehicle** to avoid them and prevents the **vehicle** from moving away from the area of the stable floor.

Classifications:

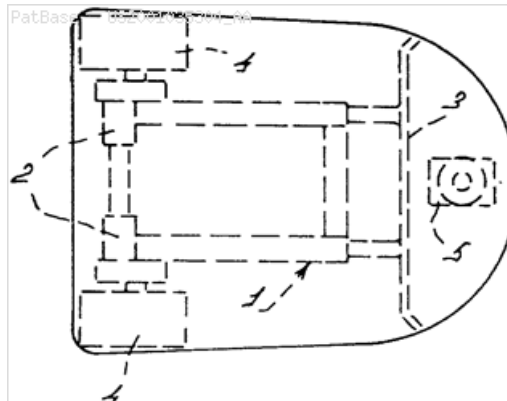
International (IPC 8-9): A01K1/01 (Advanced/Invention); A01K1/01 (Core/Invention)

International (IPC 1-7): A01K1/00 A01K1/01 B62D11/04

CPC: A47L2201/04 A01K1/01 A01K1/0128

European: A01K1/01 A01K1/01C K47L201/00

US: 180/6.48 180/6.480P



Family:

Publication number	Publication date	Application number	Application date
AT258747 E	20040215	AT20000927972T	20000510
AU200046274 A1	20001212	AU20000046274	20000510
AU200046274 A5	20001212	AU20000046274D	20000510
CA2337253 AA	20010112	CA20002337253	20000510
DE60008066 D1	20040311	DE20006008066	20000510
DE60008066 D1	20040311	DE20006008066T	20000510
DE60008066 T2	20040930	DE20006008066T	20000510
DE60029647 D1	20060907	DE20006029647	20000510
DE60029647 D1	20060907	DE20006029647T	20000510
DE60029647 T2	20070802	DE20006029647T	20000510
DK1100318 T3	20040607	DK20000927972T	20000510
DK1371285 T3	20061127	DK20000077928T	20000510
EP1100318 A1	20010523	EP20000927972	20000510
EP1100318 B1	20040204	EP20000927972	20000510
EP1371285 A1	20031217	EP20030077928	20000510
EP1371285 B1	20060726	EP20030077928	20000510
JP2003500027 T2	20030107	JP20000619261T	20000510
NL1012143 C2	20001128	NL19991012143	19990525
NZ509442 A	20030829	NZ20000509442	20000510
US2001035304 AA	20011101	US20010768441	20010125
WO0070938 A1	20001130	WO2000NL00314	20000510

Priority:

NL19991012143 19990525 EP20000927972 20000510 EP20000927972 20000510
WO2000NL00314 20000510

Probable Assignee: LELY ENTERPRISES A SWISS LIABILITY CO AG LTD

Assignee(s): (std): BERG KAREL VAN DEN ; LELY RES HOLDING AG ; LELY HOLDING AG ; LELY RES HOLDING A G A LTD LIA ; LELY RES HOLDING ; LELY ENTPR AG

Assignee(s): LELY RESEARCH HOLDING A G A LIMITED LIABILITY COMPANY ; LELY RESEARCH HOLDING A LIABILITY CO AG LTD ; LELY ENTPR ZUG AG ; VAN DEN BERG KAREL ; LELY RESEARCH HOLDING A G A LIMITED LIABILITY COMP ; LELY RESEARCH HOLDING AG ; LELY ENTERPRISES A SWISS LIABILITY CO AG LTD ; LELY ENTERPRISES AG ; LELY ENTERPRISES AG ZUG ; LELY ENTERPRISES ZUG AG

Inventor(s): (std): BERG KAREL VAN DEN ; KAREL VAN DEN BERG ; VAN DEN BERG KAREL

Agent(s): PHILLIPS ORMONDE FITZPATRICK; FETHERSTONHAUGH AND CO

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT258747 E	20040215	LSGT	+	granted / extensions (spc, cpc, pte)	
AT258747 E	20040815	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT258747 E	20200510	PEXP		Calculated Patent	

Term Expiry					
AU200046274 A1	20001212	LSPB	+	published / reissued	
AU200046274 A5	20020926	LSAS	TC	CHANGE OF APPLICANT'S NAME (SEC. 104)	PARTYTYPE : OWNER OWNER : LELY HOLDING AG OLDPARTY : FORMER NAME: LELY RESEARCH HOLDING AG
AU200046274 A5	20040819	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
CA2337253 AA	20010112	LSPB	+	published / reissued	
CA2337253 AA	20050510	LSLE	-FZDE	DEAD	
DE60008066 D1	20070405	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60008066 D1	20070405	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60008066 T2	20040930	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60008066 T2	20070405	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60008066 T2	20200510	PEXP		Calculated Patent Term Expiry	
DE60029647 D1	20070906	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60029647 D1	20070906	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60029647 T2	20070802	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60029647 T2	20070906	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60029647 T2	20200510	PEXP		Calculated Patent Term Expiry	
DK1100318 T3	20040607	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1100318 T3	20200510	PEXP		Calculated Patent Term Expiry	
DK1371285 T3	20061127	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1371285 T3	20200510	PEXP		Calculated Patent Term Expiry	
EP1100318 A1	20010523	LSPB	+	published / reissued	
EP1100318 A1	20010523	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20001215
EP1100318 A1	20010919	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : LELY HOLDING AG
EP1100318 A1	20010926	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES AG
EP1100318 A1	20030205	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20021219
EP1100318 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160527 YEAR OF FEE PAYMENT : 17
EP1100318 B1	20040204	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1100318 B1	20040204	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040204
EP1100318 B1	20040204	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040204
EP1100318 B1	20040204	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040204
EP1100318 B1	20040204	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040204
EP1100318 B1	20040204	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040204
EP1100318 B1	20040204	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040204
EP1100318 B1	20040204	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040204
EP1100318 B1	20040204	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1100318 B1	20040213	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1100318 B1	20040310	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1100318 B1	20040504	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040504
EP1100318 B1	20040510	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040510
EP1100318 B1	20040510	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040510
EP1100318 B1	20040515	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY

				EPO]	THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040515
EP1100318 B1	20040531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040531
EP1100318 B1	20040726	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20040204
EP1100318 B1	20040813	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1100318 B1	20050126	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20041105
EP1100318 B1	20050209	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1100318 B1	20080102	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20040704
EP1100318 B1	20130731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20130528 YEAR OF FEE PAYMENT : 14
EP1100318 B1	20150128	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20140510
EP1100318 B1	20150519	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 16
EP1100318 B1	20150529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140510
EP1100318 B1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20150528 YEAR OF FEE PAYMENT : 16
EP1100318 B1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20150526 YEAR OF FEE PAYMENT : 16
EP1100318 B1	20150831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20150519 YEAR OF FEE PAYMENT : 16
EP1100318 B1	20160630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160526 YEAR OF FEE PAYMENT : 17
EP1100318 B1	20170102	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20160531
EP1100318 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160511
EP1100318 B1	20170303	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20170131
EP1100318 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE

EP1100318 B1	20170531	LSLE	-PG25	POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO] LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160531 COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160531
EP1100318 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170530 YEAR OF FEE PAYMENT : 18
EP1100318 B1	20180330	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170601
EP1100318 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180529 YEAR OF FEE PAYMENT : 19
EP1100318 B1	20200510	PEXP		Calculated Patent Term Expiry	
EP1371285 A1	20031217	LSPB	+	published / reissued	
EP1371285 A1	20040623	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20040427
EP1371285 A1	20040721	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20040604
EP1371285 A1	20040908	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : NL COUNTRY OF REF DOCUMENT : SE
EP1371285 B1	20060726	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1371285 B1	20060726	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1371285 B1	20070704	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20070427
EP1371285 B1	20130830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20130606 YEAR OF FEE PAYMENT : 14
EP1371285 B1	20150227	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20150130
EP1371285 B1	20150529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140602
EP1371285 B1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20150527 YEAR OF FEE PAYMENT : 16
EP1371285 B1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20150526 YEAR OF FEE PAYMENT : 16
EP1371285 B1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20150528 YEAR OF FEE PAYMENT : 16
EP1371285 B1	20160630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160526

EP1371285 B1	20160729	LSFE	+PGFP	NATIONAL OFFICE TO EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 17 COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160527 YEAR OF FEE PAYMENT : 17
EP1371285 B1	20170102	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20160531
EP1371285 B1	20170125	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20160510
EP1371285 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160511
EP1371285 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160510
EP1371285 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160531
EP1371285 B1	20171201	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 60029647 COUNTRY OF REF DOCUMENT : DE
EP1371285 B1	20180330	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170601
EP1371285 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20171201
EP1371285 B1	20200510	PEXP		Calculated Patent Term Expiry	
JP2003500027 T2	20030107	LSPB	+	published / reissued	
JP2003500027 T2	20070807	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A300 EFFECTIVE DATE : 20070807
NL1012143 C2	20001128	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1012143 C2	20010201	LSSES	+PD2B	A SEARCH REPORT HAS BEEN DRAWN UP	
NL1012143 C2	20011001	LSAS	SD	ASSIGNMENTS OF PATENTS	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES AG
NL1012143 C2	20011001	LSAS	TD	MODIFICATIONS OF NAMES OF PROPRIETORS OF PATENTS	PARTYTYPE : OWNER OWNER : LELY HOLDING AG
NL1012143 C2	20190525	PEXP		Calculated Patent Term Expiry	
NZ509442 A	20030829	LSPB	+	published / reissued	
NZ509442 A	20040130	LSGT	+PSEA	PATENT SEALED	
US2001035304 AA	20011101	LSPB	+	published / reissued	
US2001035304 AA	20010125	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY RESEARCH HOLDING AG, SWITZERLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VAN DEN BERG,

					KAREL; REEL/FRAME:011496/0984 EFFECTIVE DATE : 20001214
US2001035304 AA	20030203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY HOLDING A.G., SWITZERLAND OLDPARTY : CHANGE OF NAME; ASSIGNOR:LELY RESEARCH HOLDING A.G.; REEL/FRAME:013740/0688 EFFECTIVE DATE : 20010516
US2001035304 AA	20030203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES A.G., A SWISS LIMITED LIABILITY OLDPARTY : CHANGE OF NAME; ASSIGNOR:LELY HOLDING A.G.; REEL/FRAME:013740/0904 EFFECTIVE DATE : 20030123
US2001035304 AA	20030224	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
WO0070938 A1	20001130	LSPB	+	published / reissued	
WO0070938 A1	20001215	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2000927972 COUNTRY OF REF DOCUMENT : EP
WO0070938 A1	20001221	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 46274/00 COUNTRY OF REF DOCUMENT : AU
WO0070938 A1	20010112	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2337253 COUNTRY OF REF DOCUMENT : CA
WO0070938 A1	20010117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 509442 COUNTRY OF REF DOCUMENT : NZ
WO0070938 A1	20010122	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2000 619261 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0070938 A1	20010125	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 09768441 COUNTRY OF REF DOCUMENT : US
WO0070938 A1	20010523	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000927972 COUNTRY OF REF DOCUMENT : EP
WO0070938 A1	20040204	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000927972 COUNTRY OF REF DOCUMENT : EP

Title: DEVICE FOR DEMARCATING AN AREA

Abstract: A device for demarcating an area, in particular for limiting the freedom of movement of animals walking about freely, is provided with a demarcating element (2) that is connected with a first **vehicle** (1) and with at least a second **vehicle** (10). At least the first **vehicle** (1) is provided with a tracking arm structure (3) for making it possible to track a guide element (4) disposed in the area, such as for example a wire fencing. The demarcating element (2) is disposed in a stretched position between the two **vehicles** (1, 10) in such a way that the demarcating element (2) does not exert force on the tracking arm structure (3).

Classifications:

International (IPC 8-9): A01K29/00 A01K3/00 E04H17/00 E04H17/26 G05D1/00 (Advanced/Invention);

A01K3/00 (Advanced/Non-invention);

A01K29/00 A01K3/00 E04H17/00 E04H17/26

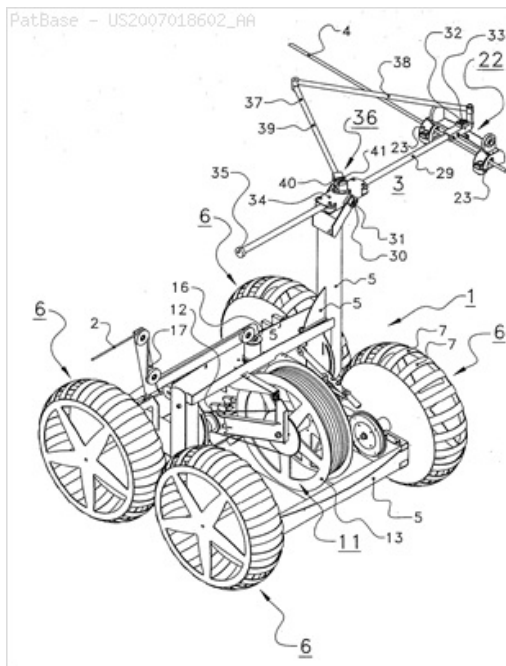
G05D1/00 (Core/Invention)

International (IPC 1-7): A01K3/00 B60P3/00 B65H54/00 E04H17/26

CPC: A01K3/005 A01K3/00

European: A01K3/00 A01K3/00C

US: 242/557 318/580 318/587



Family:

Publication number	Publication date	Application number	Application date
AU2006202410 AA	20070208	AU20060202410	20060607
AU2006202410 BB	20110512	AU20060202410	20060607
AU2006202410 CA	20111006	AU20060202410	20060607
CA2547541 AA	20070125	CA20062547541	20060523
CA2547541 C	20150721	CA20062547541	20060523
DE602006005427 D1	20090416	DE200660005427T	20060505
DK1747719 T3	20090602	DK20060076023T	20060505
EP1747719 A1	20070131	EP20060076023	20060505
EP1747719 B1	20090304	EP20060076023	20060505
IL175560 A0	20060905	IL20060175560	20060511
JP2007032259 A2	20070208	JP20060169637	20060620
KR20070013204 A	20070130	KR20060051099	20060607
NL1029600 C2	20070126	NL20051029600	20050725
NZ547400 A	20070531	NZ20060547400	20060523
US2007018602 AA	20070125	US20060487475	20060717
US7573223 BB	20090811	US20060487475	20060717

Priority:

NL20051029600 20050725 CA20062547541 20060523

Probable Assignee: LELY ENTERPRISES

Assignee(s): (std): LELY ENTPR A G ; LELY ENTPR AG

Assignee(s): RERI EN TAPURAIJIZU BITTER TASTE CHAIN GESELLSCHAFT ; VAN KUILENBURG JAN MARTINUS ; VLAAR IWAN YVES ; VAN DEN BERG KAREL ; LELY ENTERPRISES ; LELY ENTERPRISES A G ; LELY ENTERPRISES AG

Inventor(s): (std): BERG KAREL VAN DEN ; KAREL DEN BERG VAN ; KUILENBURG JAN MARTINUS VAN ; MARTINUS KUILENBURG JAN VAN ; VAN DEN BERG KAREL ; VAN KUILENBURG JAN M ; VAN KUILENBURG JAN MARTINUS ; VLAAR IWAN Y ; VLAAR IWAN YVES ; YVES VLAAR IWAN

Inventor(s): VLAAR IWAN ; VAN KUILENBURG JAN ; KAREL VAN DEN BERG ; IWAN YVES VLAAR ; JAN MARTINUS VAN KUILENBURG

Agent(s): PHILLIPS ORMONDE FITZPATRICK; FETHERSTONHAUGH AND CO; CORTEN MAURICE JEAN FM ET AL; HOWREY LLP; DAVID P

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent Date recorded Event group Code Event Details

AU2006202410 AA	20070208	LSPB	+	published /
-----------------	----------	------	---	-------------

reissued					
AU2006202410 AA	20110616	LSRE	DA2	APPLICATIONS FOR AMENDMENT SECTION 104	TEXT : THE NATURE OF THE AMENDMENT IS AS SHOWN IN THE STATEMENT(S) FILED 16 MAY 2011.
AU2006202410 AA	20111006	LSRE	DA3	AMENDMENTS MADE SECTION 104	TEXT : THE NATURE OF THE AMENDMENT IS AS SHOWN IN THE STATEMENT(S) FILED 16 MAY 2011
AU2006202410 AA	20111013	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2006202410 AA	20170105	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2006202410 BB	20110512	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2006202410 BB	20260607	PEXP		Calculated Patent Term Expiry	
CA2547541 AA	20070125	LSPB	+	published / reissued	
CA2547541 AA	20110418	LSES	+EEER	EXAMINATION REQUEST	
CA2547541 AA	20170704	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20170523
CA2547541 C	20150721	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2547541 C	20260523	PEXP		Calculated Patent Term Expiry	
DE602006005427 D1	20100325	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DK1747719 T3	20090602	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1747719 T3	20260505	PEXP		Calculated Patent Term Expiry	
EP1747719 A1	20070131	LSPB	+	published / reissued	
EP1747719 A1	20070502	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20070323
EP1747719 A1	20070523	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20070420
EP1747719 A1	20071003	LSFE	+AKX	DESIGNATION FEES PAID	COUNTRY OF REF DOCUMENT : AT COUNTRY OF REF DOCUMENT : BE COUNTRY OF REF DOCUMENT : BG COUNTRY OF REF DOCUMENT : CH COUNTRY OF REF DOCUMENT : CY COUNTRY OF REF DOCUMENT : CZ COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : DK COUNTRY OF REF DOCUMENT : EE COUNTRY OF REF DOCUMENT : ES COUNTRY OF REF DOCUMENT : FI COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : GR COUNTRY OF REF DOCUMENT : HU COUNTRY OF REF DOCUMENT : IE COUNTRY OF REF DOCUMENT : IS COUNTRY OF REF DOCUMENT : IT COUNTRY OF REF DOCUMENT : LI

COUNTRY OF REF DOCUMENT
: LT
COUNTRY OF REF DOCUMENT
: LU
COUNTRY OF REF DOCUMENT
: LV
COUNTRY OF REF DOCUMENT
: MC
COUNTRY OF REF DOCUMENT
: NL
COUNTRY OF REF DOCUMENT
: PL
COUNTRY OF REF DOCUMENT
: PT
COUNTRY OF REF DOCUMENT
: RO
COUNTRY OF REF DOCUMENT
: SE
COUNTRY OF REF DOCUMENT
: SI
COUNTRY OF REF DOCUMENT
: SK
COUNTRY OF REF DOCUMENT
: TR

EP1747719 A1	20090304	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1747719 A1	20090313	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1747719 A1	20090401	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1747719 A1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : BE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE

				INFORMATION FROM NATIONAL OFFICE TO EPO]	TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090615
EP1747719 A1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090818
EP1747719 A1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090704
EP1747719 A1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20091231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20090531
EP1747719 A1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090604
EP1747719 A1	20100210	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20091207
EP1747719 A1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING	COUNTRY OF REF DOCUMENT : GR

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090605
EP1747719 A1	20101231	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1747719 A1	20110228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20100531
EP1747719 A1	20110228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20100531
EP1747719 A1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20090505
EP1747719 A1	20110630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090905
EP1747719 A1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090304
EP1747719 A1	20140930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20140602 YEAR OF FEE PAYMENT : 9
EP1747719 A1	20150519	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 10
EP1747719 A1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20150528 YEAR OF FEE PAYMENT : 10
EP1747719 A1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20150528 YEAR OF FEE PAYMENT : 10

EP1747719 A1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20150527 YEAR OF FEE PAYMENT : 10
EP1747719 A1	20150831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20150526 YEAR OF FEE PAYMENT : 10
EP1747719 A1	20150831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20150529 YEAR OF FEE PAYMENT : 10
EP1747719 A1	20150831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20150519 YEAR OF FEE PAYMENT : 10
EP1747719 A1	20151221	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20150531
EP1747719 A1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150531
EP1747719 A1	20161201	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602006005427 COUNTRY OF REF DOCUMENT : DE
EP1747719 A1	20170125	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20160505
EP1747719 A1	20170222	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1747719 A1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160601
EP1747719 A1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160506
EP1747719 A1	20170303	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20170131
EP1747719 A1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20161201
EP1747719 A1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160531
EP1747719 A1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160505
EP1747719 A1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	COUNTRY OF REF DOCUMENT : GB NOTIFICATION OF LAPSE :

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20160505
EP1747719 B1	20090304	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1747719 B1	20260505	PEXP		Calculated Patent Term Expiry	
JP2007032259 A2	20070208	LSPB	+	published / reissued	
JP2007032259 A2	20090415	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20090414
JP2007032259 A2	20100914	LSWD	-A761	WRITTEN WITHDRAWAL OF APPLICATION	TEXT : JAPANESE INTERMEDIATE CODE: A761 EFFECTIVE DATE : 20100913
KR20070013204 A	20070130	LSPB	+	published / reissued	
KR20070013204 A	20110708	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
NL1029600 C2	20070126	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1029600 C2	20070402	LSES	+PD2B	A SEARCH REPORT HAS BEEN DRAWN UP	
NL1029600 C2	20120208	LSLE	-V1	LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 20120201
NL1029600 C2	20250725	PEXP		Calculated Patent Term Expiry	
NZ547400 A	20070531	LSPB	+	published / reissued	
NZ547400 A	20071026	LSGT	+PSEA	PATENT SEALED	
NZ547400 A	20100528	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ547400 A	20130531	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 3 YEARS UNTIL 23 MAY 2016 BY ANDY BREEDEN EFFECTIVE DATE : 20130529
NZ547400 A	20160527	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 23 MAY 2017 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20160503
NZ547400 A	20170526	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	TEXT : PATENT RENEWED FOR 1 YEAR UNTIL 23 MAY 2018 BY COMPUTER PACKAGES INC EFFECTIVE DATE : 20170502
NZ547400 A	20181130	LSLE	-LAPS	PATENT LAPSED	
US2007018602 AA	20070125	LSPB	+	published / reissued	
US7573223 BB	20090811	LSGT	+	granted / extensions (spc, cpc, pte)	
US7573223 BB	20060717	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES, SWITZERLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:VLAAR, IWAN YVES; VAN DEN BERG, KAREL; VAN KUILENBERG, JAN MARTINUS; REEL/FRAME:018111/0058 EFFECTIVE DATE : 20060502
US7573223 BB	20090722	LSGT	PAT1	Patented Case	
US7573223 BB	20130211	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7573223 BB	20170911	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7573223 BB	20170911	LSLE	-PEX1	Patent Expired Due	

US7573223 BB	20170911	LSLE	-STCH	to NonPayment of Maintenance Fees Under 37 CFR 1.362	
				INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
				EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20170811
US7573223 BB	20260717	PEXP		Calculated Patent Term Expiry	

Title: Turning and/or sideways displacement device for rail **vehicle**

Abstract: The device has at least three lift-and-roll devices (4) each comprising at least one electric lift-drive with an electric motor drive for the roller wheels, tracks or rollers of the lifting-and rolling devices (4), and associated with each carriage (1) for lifting the wheels (2) of the rail **vehicle** from the rail track, to allow the **vehicle** to be turned and/or displaced sideways. A centring device, used to centre the rail **vehicle** relative to the rail track axis, is mounted on the underside of each carriage. Pref. the centring device uses a transverse beam provided with rail profile shoes, brought into contact with the track rails.

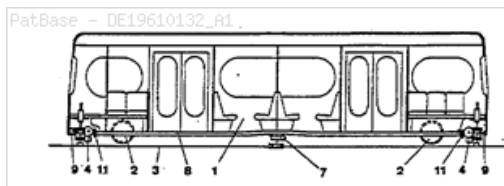
Classifications:

International (IPC 8-9): B60S9/215 B61K5/02 (Advanced/Invention);
B60S9/00 B61K5/00 (Core/Invention)

International (IPC 1-7): B60S9/14

CPC: B60S9/215 B61K5/02

European: B60S9/215 B61K5/02



Family:

Publication number	Publication date	Application number	Application date
DE19610132 A1	19970918	DE19961010132	19960314
DE19610132 C2	19980806	DE19961010132	19960314

Priority:

DE19961010132 19960314

Probable Assignee: SIEMENS AG

Assignee(s): (std): SIEMENS AG

Inventor(s): (std): SCHEUCKEN HEINRICH DIPL ING ; KORN GERHARD ; GIROD HANSJOCHEN

Inventor(s): SCHEUCKEN HEINRICH DIPL ING 45470 MUELHEIM DE ; KORN GERHARD 45470 MUELHEIM DE ; GIROD HANSJOCHEN 45470 MUELHEIM DE

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
DE19610132 A1	19970918	LSPB	+	published / reissued	
DE19610132 A1	19970918	LSSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE19610132 C2	19980806	LSGT	+	granted / extensions (spc, cpc, pte)	
DE19610132 C2	19980806	LSGT	+D2	GRANT AFTER EXAMINATION	
DE19610132 C2	19990211	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE19610132 C2	20000511	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE19610132 C2	20160314	PEXP		Calculated Patent Term Expiry	

Title: EQUIPMENT AND SYSTEM FOR STRUCTURE INSPECTION AND MONITORING

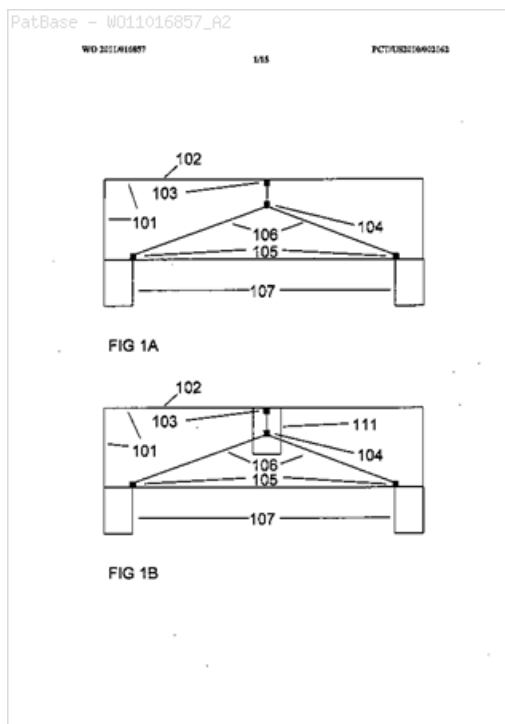
Abstract: Machines and processes for collecting and using data from structures or portions of structures that may be otherwise difficult to access. Certain embodiments provide dynamic measurement of deflection or movement of a physical structure in response to changes in load or carrying capacity of the structure. Other embodiments provide robots or remotely controlled devices to support close approach inspection and work on structures or parts of structures that are otherwise difficult to access. Methods for data compression using state space techniques are also taught, thereby minimizing the requirements for data communication and storage.

Classifications:

International (IPC 8-9): B25J5/00 B64C29/00 G01B11/16
G01B17/04 G01B21/32 G01B5/30 G01B7/16 (Advanced/Invention)

CPC: B62D57/024 B64C27/006 G01B21/32

European: B62D57/024 B64C27/00D G01B21/32



Family:

Publication number	Publication date	Application number	Application date
WO11016857 A2	20110210	WO2010US02162	20100804
WO11016857 A3	20110630	WO2010US02162	20100804

Priority:

US20090231460P 20090805 US20090236900P 20090826

Probable Assignee: ELLIOTT JAMES C

Assignee(s): (std): ELLIOTT JAMES C ; GRAVES SPENCER ; KOVNAT SAM

Inventor(s): (std): ELLIOTT JAMES C ; GRAVES SPENCER ; KOVNAT SAM

Agent(s): TEDESCHI BRUCE W

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
WO11016857 A2	20110210	LSPB	+	published / reissued	
WO11016857 A3	20120227	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11016857 A3	20120829	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 10806749 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :

IL218906 A0	20120531	IL20070218906	20070924
IL218906 A1	20141130	IL20070218906	20070924
IL218907 A0	20120531	IL20070218907	20070924
IL218907 A1	20151130	IL20070218907	20070924
IL218908 A0	20120531	IL20070218908	20070924
IL218908 A1	20141130	IL20070218908	20070924
IL230196 A0	20140227	IL20080230196	20080402
IL230196 A1	20160131	IL20080230196	20080402
IN00837MN2009 A	20120914	IN2009MN00837	20090428
IN02123MN2009 A	20100507	IN2009MN02123	20091114
IN304556 B	20181221	IN2009MN02123	20091114
IN311215 B	20190419	IN2009MN00837	20090428
JP2010504883 T2	20100218	JP20090529853T	20070924
JP2010526726 T2	20100805	JP20100508026T	20080402
JP2013224144 A2	20131031	JP20130131738	20130624
JP2015083460 A2	20150430	JP20140239026	20141126
JP5069304 B2	20121107	JP20090529853T	20070924
JP5662524 B2	20150128	JP20130131738	20130624
KR101422874 B1	20140723	KR20097008413	20070924
KR101485312 B1	20150122	KR20097026266	20080402
KR101485313 B1	20150122	KR20137033389	20080402
KR20090076930 A	20090713	KR20097008413	20070924
KR20100040802 A	20100421	KR20097026266	20080402
KR20140041558 A	20140404	KR20137033389	20080402
PT2086837 T	20130401	PT20070827146T	20070924
PT2272760 T	20130522	PT20100177889T	20070924
SG10201509321P A1	20151230	SG20151009321	20080402
SG174843 A1	20111028	SG20110071107	20070924
SG174844 A1	20111028	SG20110071115	20070924
SG181349 A1	20120628	SG20120003551	20080402
TR201905299 T4	20190521	TR20190005299T	20080402
TW200930621 A	20090716	TW20080100697	20080108
TWI398382 B	20130611	TW20080100697	20080108
US2008083851 AA	20080410	US20070798777	20070516
US2008099600 AA	20080501	US20060528647	20060928
US2010096494 AA	20100422	US20090619130	20091116
US2010140392 AA	20100610	US20090619123	20091116
US2012061521 AA	20120315	US20110238636	20110921
US2012119018 AA	20120517	US20120358659	20120126
US2013333971 AA	20131219	US20130010415	20130826
US7975959 BB	20110712	US20060528647	20060928
US8245980 BB	20120821	US20070798777	20070516
US8544792 BB	20131001	US20090619123	20091116
US9022317 BB	20150505	US20130010415	20130826
US9090358 BB	20150728	US20120358659	20120126
US9199745 BB	20151201	US20090619130	20091116
US9403604 BB	20160802	US20110238636	20110921
WO08038270 A2	20080403	WO20071L01172	20070924
WO08038270 A3	20080626	WO20071L01172	20070924
WO08139437 A1	20081120	WO20081L00036	20080108
WO08139437 A4	20090129	WO20081L00036	20080108
WO08139440 A2	20081120	WO20081L00459	20080402
WO08139440 A3	20100114	WO20081L00459	20080402
WO13042114 A1	20130328	WO20121L50357	20120910

Priority:

US20060528647	20060928	US20070798777	20070516	EP20070827146	20070924
EP20100177831	20070924	EP20100177889	20070924	WO20071L01172	20070924
WO20081L00036	20080108	CA20082687433	20080402	CN200880024713	20080402
EP20080738163	20080402	WO20081L00459	20080402	JP20100508026	20080402
JP20130131738	20080402	IL20090197748	20090323	HK20090107477	20090814
IL20090202072	20091112	IL20090202081	20091112	US20090619130	20091116
US20090619123	20091116	US20110238636	20110921	US20120358659	20120126
IL20120218906	20120328	IL20120218907	20120328	IL20120218908	20120328
US20130010415	20130826	CA20152687433	20150420		

Probable Assignee: ISRAEL AEROSPACE IND LTD

Assignee(s): (std): BRAIER RAN ; ISRAEL AEROSPACE IND LTD ; ISRAEL AIRCRAFT IND LTD ; ISRAEL AEROSPACE IND LTD IAI ; PERRY ARIE

Assignee(s): ISRAEL AIRCRAFT INDUSTRIES LTD ; ISRAEL AEROSPACE INDUSTRIES LTD IAI ; ISRAEL AIRCRAFT IND ; ISRAEL AEROSPACE INDUSTRIES LTD IL ; ISRAEL AEROSPACE IND ; ISRAEL AEROSPACE INDUSTRIES LTD

Inventor(s): (std): PERRY ARIE ; BRAIER RAN ; ARIE PERRY ; RAN BRAIER

Inventor(s): PERRY ARIE 45257 ; BRAIER RAN 73142

Agent(s): OGILVY RENAULT LLP SENCRL SRL; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; BECKER KURIG STRAUS; Becker Kurig Straus; GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAUESSER ANWALTSSOZIIETAET; GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB; CARPINTERO MARIO; RIZZO SERGIO; ELLA CHEONG HONG KONG LTD; SPRUSON AND FERGUSON HONG KONG LTD; REINHOLD COHN AND PARTNERS; MIYOSHI HIDEKAZU; MARKS AND CLERK SINGAPORE LLP; TOLGA CAYLAK; GARY M NATH NATH LAW GROUP; NATH AND ASSOCIATES PLLC SIXTH FLOOR; OLIFF AND BERRIDGE PLC; JIAXIAO; NATH LAW GROUP; WILLIAM L; SUSANNE M; DORSEY AND WHITNEY LLP; OLIFF PLC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
CA2664155 AA	20090320	LSPB	+	published / reissued	
CA2664155 AA	20120717	LSES	+EEER	EXAMINATION REQUEST	
CA2664155 C	20150630	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2664155 C	20270924	PEXP		Calculated Patent Term Expiry	
CA2687433 AA	20081120	LSPB	+	published / reissued	
CA2687433 AA	20130227	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130214
CA2687433 C	20150630	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2687433 C	20280402	PEXP		Calculated Patent Term Expiry	
CA2887075 AA	20081120	LSPB	+	published / reissued	
CA2887075 AA	20150421	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20150401
CA2887075 C	20170228	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2887075 C	20280402	PEXP		Calculated Patent Term Expiry	
CN101553400 A	20091007	LSPB	+	published / reissued	
CN101553400 A	20091007	LSPB	+C06	PUBLICATION	
CN101553400 B	20130522	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101553400 B	20130522	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101553400 B	20270924	PEXP		Calculated Patent Term Expiry	
CN101918277 A	20101215	LSPB	+	published / reissued	
CN101918277 A	20101215	LSPB	+C06	PUBLICATION	
CN101918277 B	20140108	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101918277 B	20140108	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101918277 B	20280402	PEXP		Calculated Patent Term Expiry	
CN103803096 A	20140521	LSPB	+	published / reissued	
CN103803096 A	20140521	LSPB	+C06	PUBLICATION	
CN103803096 A	20160914	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103803096 A	20170908	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1195289 COUNTRY OF REF DOCUMENT : HK
CN103803096 B	20160914	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103803096 B	20280402	PEXP		Calculated Patent Term Expiry	
DK2086837 T3	20130408	LSGT	+	granted / extensions (spc,	

cpc, pte)					
DK2086837 T3	20270924	PEXP		Calculated Patent Term Expiry	
DK2272760 T3	20130527	LSGT	+	granted / extensions (spc, cpc, pte)	
DK2272760 T3	20270924	PEXP		Calculated Patent Term Expiry	
EP2086837 A2	20090812	LSPB	+	published / reissued	
EP2086837 A2	20090812	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20090427
EP2086837 A2	20091118	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20091016
EP2086837 A2	20150831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20130924 YEAR OF FEE PAYMENT : 7
EP2086837 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 9
EP2086837 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151230 YEAR OF FEE PAYMENT : 9
EP2086837 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20151221 YEAR OF FEE PAYMENT : 9
EP2086837 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20151224 YEAR OF FEE PAYMENT : 9
EP2086837 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2086837 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160930 YEAR OF FEE PAYMENT : 10
EP2086837 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 10
EP2086837 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160927 YEAR OF FEE PAYMENT : 10
EP2086837 A2	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20121226	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2086837 B1	20121226	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2086837 B1	20121231	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2086837 B1	20130115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER :

					590289 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20130115
EP2086837 B1	20130307	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602007027691 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130307
EP2086837 B1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121226
EP2086837 B1	20130430	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2402269 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20130430
EP2086837 B1	20130501	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3
EP2086837 B1	20130510	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1128265 COUNTRY OF REF DOCUMENT : HK
EP2086837 B1	20130520	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GR REF LEGAL EVENT CODE : EP REF DOCUMENT NUMBER : 20130400598 COUNTRY OF REF DOCUMENT : GR EFFECTIVE DATE : 20130418
EP2086837 B1	20130527	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2086837 B1	20130531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121226
EP2086837 B1	20130531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121226
EP2086837 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121226
EP2086837 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121226

EP2086837 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130426
EP2086837 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121226
EP2086837 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130326
EP2086837 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121226
EP2086837 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121226
EP2086837 B1	20131204	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20130927
EP2086837 B1	20140123	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602007027691 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130927
EP2086837 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121226
EP2086837 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121226
EP2086837 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20130924
EP2086837 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO LAPSED DATE : 20070924

EP2086837 B1	20151228	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 9
EP2086837 B1	20160927	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 10
EP2086837 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI PAYMENT DATE : 20160930 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20160923 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20160922 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20161230	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20160923 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20161230	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161024 YEAR OF FEE PAYMENT : 10
EP2086837 B1	20170929	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 11
EP2086837 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11

				FROM NATIONAL OFFICE TO EPO]	
EP2086837 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20171002 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20171004 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI PAYMENT DATE : 20171002 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171130 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20171002 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20171025 YEAR OF FEE PAYMENT : 11

EP2086837 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2086837 B1	20181001	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20180926 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20180921 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20180921 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20180926 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180928 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI PAYMENT DATE : 20180921 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20181231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20180919 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181130 YEAR OF FEE PAYMENT : 12

EP2086837 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181001 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20181024 YEAR OF FEE PAYMENT : 12
EP2086837 B1	20270924	PEXP		Calculated Patent Term Expiry	
EP2152584 A1	20100217	LSPB	+	published / reissued	
EP2152584 A1	20100217	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20091210
EP2152584 A1	20100519	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20100419
EP2152584 A1	20180803	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1135947 COUNTRY OF REF DOCUMENT : HK
EP2152584 A1	20190102	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20180801
EP2155550 A2	20100224	LSPB	+	published / reissued	
EP2155550 A2	20100224	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20091211
EP2155550 A4	20171227	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20171123
EP2155550 A4	20180822	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180723
EP2155550 B1	20190109	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2155550 B1	20190109	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2155550 B1	20190115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2155550 B1	20190115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1086999 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190115
EP2155550 B1	20190124	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602008058682 COUNTRY OF REF DOCUMENT : DE
EP2155550 B1	20190206	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2155550 B1	20190527	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2155550 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190109
EP2155550 B1	20190715	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1086999 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190109
EP2155550 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190109
EP2155550 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190109
EP2155550 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190109
EP2155550 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190409
EP2155550 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190109
EP2155550 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190509
EP2155550 B1	20280402	PEXP		Calculated Patent Term Expiry	
EP2272759 A1	20110112	LSPB	+	published / reissued	
EP2272759 A1	20110112	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100921
EP2272759 A1	20110810	LSES	D17P	REQUEST FOR EXAMINATION FILED (DELETED)	
EP2272759 A1	20110914	LSES	+R17P	REQUEST FOR EXAMINATION FILED (CORRECTED)	EFFECTIVE DATE : 20110706
EP2272759 A1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 A1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 A1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 A1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121027
EP2272759 A1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151230 YEAR OF FEE PAYMENT : 9
EP2272759 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20151221 YEAR OF FEE PAYMENT : 9
EP2272759 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20151224 YEAR OF FEE PAYMENT : 9
EP2272759 B1	20120627	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2272759 B1	20120627	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2272759 B1	20120629	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2272759 B1	20120715	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 564044 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20120715
EP2272759 B1	20120718	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2272759 B1	20120823	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602007023761 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20120823

EP2272759 B1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20121107	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20120627
EP2272759 B1	20121115	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 564044 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20120627
EP2272759 B1	20121126	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D EFFECTIVE DATE : 20120606
EP2272759 B1	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120928
EP2272759 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121027
EP2272759 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT

EP2272759 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	LAPSED DATE : 20120627 COUNTRY OF REF DOCUMENT : RO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121029
EP2272759 B1	20130322	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1149530 COUNTRY OF REF DOCUMENT : HK
EP2272759 B1	20130329	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20121008

EP2272759 B1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120930
EP2272759 B1	20130430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2272759 B1	20130605	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20130328
EP2272759 B1	20130619	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2272759 B1	20130725	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602007023761 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130328
EP2272759 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120924
EP2272759 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120930
EP2272759 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120927
EP2272759 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120930
EP2272759 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20120627
EP2272759 B1	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120924
EP2272759 B1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070924

EP2272759 B1	20151228	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 9
EP2272759 B1	20160927	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 10
EP2272759 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160930 YEAR OF FEE PAYMENT : 10
EP2272759 B1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2272759 B1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160927 YEAR OF FEE PAYMENT : 10
EP2272759 B1	20161230	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2272759 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 10
EP2272759 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2272759 B1	20180404	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602007023761 COUNTRY OF REF DOCUMENT : DE
EP2272759 B1	20180502	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SE REF LEGAL EVENT CODE : EUG
EP2272759 B1	20180523	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20170924
EP2272759 B1	20180629	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20180531
EP2272759 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170924
EP2272759 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180404
EP2272759 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170924

EP2272759 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20171002
EP2272759 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170930
EP2272759 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170925
EP2272759 B1	20270924	PEXP		Calculated Patent Term Expiry	
EP2272760 A1	20110112	LSPB	+	published / reissued	
EP2272760 A1	20110824	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20110706
EP2272760 A1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 A1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 A1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 A1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 A1	20131129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20130904 YEAR OF FEE PAYMENT : 7
EP2272760 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 9
EP2272760 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151230 YEAR OF FEE PAYMENT : 9
EP2272760 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20151221 YEAR OF FEE PAYMENT : 9

EP2272760 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20151224 YEAR OF FEE PAYMENT : 9
EP2272760 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160930 YEAR OF FEE PAYMENT : 10
EP2272760 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2272760 A1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 10
EP2272760 A1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160927 YEAR OF FEE PAYMENT : 10
EP2272760 A1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20130220	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2272760 B1	20130220	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2272760 B1	20130228	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2272760 B1	20130315	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 597425 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20130315
EP2272760 B1	20130327	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2272760 B1	20130418	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602007028615 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130418
EP2272760 B1	20130610	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2406811 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20130610
EP2272760 B1	20130628	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : GR REF DOCUMENT NUMBER : 1149529 COUNTRY OF REF DOCUMENT : HK
EP2272760 B1	20130717	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3
EP2272760 B1	20130725	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2272760 B1	20130731	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130520
EP2272760 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130620
EP2272760 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 B1	20130830	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GR REF LEGAL EVENT CODE : EP REF DOCUMENT NUMBER : 20130400974 COUNTRY OF REF DOCUMENT : GR EFFECTIVE DATE : 20130614
EP2272760 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 B1	20140129	LSGT	+26N	NO OPPOSITION	EFFECTIVE DATE : 20131121

FILED					
EP2272760 B1	20140306	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602007028615 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20131121
EP2272760 B1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130220
EP2272760 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20130924
EP2272760 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO LAPSED DATE : 20070924
EP2272760 B1	20151228	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 9
EP2272760 B1	20160927	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 10
EP2272760 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI PAYMENT DATE : 20160930 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL	COUNTRY OF REF DOCUMENT : SE

EP2272760 B1	20161130	LSFE	+PGFP	OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10 COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20160923 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20160923 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20161230	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20161230	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20160923 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161024 YEAR OF FEE PAYMENT : 10
EP2272760 B1	20170929	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 11
EP2272760 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID	COUNTRY OF REF DOCUMENT :

				TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	DK PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20171002 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20171004 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI PAYMENT DATE : 20171002 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20171025 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20170929 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20171002 YEAR OF FEE PAYMENT : 11
EP2272760 B1	20180927	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180928 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20180926 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 12

EP2272760 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR PAYMENT DATE : 20180921 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI PAYMENT DATE : 20180921 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20180926 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20180921 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20181231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT PAYMENT DATE : 20180919 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181130 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20181024 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 12
EP2272760 B1	20270924	PEXP		Calculated Patent Term Expiry	
EP2289804 A2	20110302	LSPB	+	published / reissued	
EP2289804 A3	20180420	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1154833 COUNTRY OF REF DOCUMENT : HK
EP2289804 A3	20180905	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20180404
ES2402269 T3	20130430	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2402269 T3	20270924	PEXP		Calculated Patent	

ES2406811 T3	20130610	LSGT	+	Term Expiry granted / extensions (spc, cpc, pte)
ES2406811 T3	20270924	PEXP		Calculated Patent Term Expiry
HK1128265 A1	20091023	LSPB	+	published / reissued
HK1128265 A1	20130510	LSPB	+	published / reissued
HK1128265 A1	20290814	PEXP		Calculated Patent Term Expiry
HK1128265 A1	20290814	PEXP		Calculated Patent Term Expiry
HK1128265 B	20130510	LSGT	+	granted / extensions (spc, cpc, pte)
HK1128265 B	20290814	PEXP		Calculated Patent Term Expiry
HK1135946 A1	20100618	LSPB	+	published / reissued
HK1135947 A1	20100618	LSPB	+	published / reissued
HK1149529 A1	20111007	LSPB	+	published / reissued
HK1149529 A1	20130628	LSPB	+	published / reissued
HK1149529 A1	20290814	PEXP		Calculated Patent Term Expiry
HK1149529 A1	20290814	PEXP		Calculated Patent Term Expiry
HK1149529 B	20130628	LSGT	+	granted / extensions (spc, cpc, pte)
HK1149529 B	20290814	PEXP		Calculated Patent Term Expiry
HK1149530 A1	20111007	LSPB	+	published / reissued
HK1149530 A1	20130322	LSPB	+	published / reissued
HK1149530 A1	20290814	PEXP		Calculated Patent Term Expiry
HK1149530 A1	20290814	PEXP		Calculated Patent Term Expiry
HK1149530 B	20130322	LSGT	+	granted / extensions (spc, cpc, pte)
HK1149530 B	20290814	PEXP		Calculated Patent Term Expiry
HK1154833 A1	20120504	LSPB	+	published / reissued
HK1195289 A1	20141107	LSPB	+	published / reissued
HK1195289 B	20170908	LSGT	+	granted / extensions (spc, cpc, pte)
HK1195289 B	20340828	PEXP		Calculated Patent Term Expiry
IL197748 A1	20120531	LSPB	+	published / reissued
IL197748 A1	20120924	LSGT	+FF	PATENT GRANTED
IL197748 A1	20121031	LSFE	+KB	PATENT RENEWED
IL197748 A1	20130930	LSFE	+KB	PATENT RENEWED
IL197748 A1	20171031	LSFE	+KB	PATENT RENEWED
IL202072 A1	20140227	LSPB	+	published / reissued
IL202072 A1	20140630	LSGT	+FF	PATENT GRANTED
IL202072 A1	20140731	LSFE	+KB	PATENT RENEWED
IL202072 A1	20180329	LSFE	+KB	PATENT RENEWED
IL202081 A0	20151130	LSGT	+FF	PATENT GRANTED
IL202081 A0	20151231	LSFE	+KB	PATENT RENEWED

IL202081 A1	20150730	LSPB	+	published / reissued	
IL202081 A1	20151130	LSGT	+FF	PATENT GRANTED	
IL202081 A1	20151231	LSFE	+KB	PATENT RENEWED	
IL202081 A1	20180830	LSLE	-MM9K	PATENT NOT IN FORCE DUE TO NON-PAYMENT OF RENEWAL FEES	
IL218906 A0	20150331	LSGT	+FF	PATENT GRANTED	
IL218906 A0	20150430	LSFE	+KB	PATENT RENEWED	
IL218906 A1	20141130	LSPB	+	published / reissued	
IL218906 A1	20150331	LSGT	+FF	PATENT GRANTED	
IL218906 A1	20150430	LSFE	+KB	PATENT RENEWED	
IL218906 A1	20171031	LSFE	+KB	PATENT RENEWED	
IL218907 A0	20160331	LSGT	+FF	PATENT GRANTED	
IL218907 A0	20160421	LSFE	+KB	PATENT RENEWED	
IL218907 A1	20151130	LSPB	+	published / reissued	
IL218907 A1	20160331	LSGT	+FF	PATENT GRANTED	
IL218907 A1	20160421	LSFE	+KB	PATENT RENEWED	
IL218907 A1	20171031	LSFE	+KB	PATENT RENEWED	
IL218908 A0	20150331	LSGT	+FF	PATENT GRANTED	
IL218908 A0	20150430	LSFE	+KB	PATENT RENEWED	
IL218908 A1	20141130	LSPB	+	published / reissued	
IL218908 A1	20150331	LSGT	+FF	PATENT GRANTED	
IL218908 A1	20150430	LSFE	+KB	PATENT RENEWED	
IL218908 A1	20171031	LSFE	+KB	PATENT RENEWED	
IL230196 A1	20160131	LSPB	+	published / reissued	
IN00837MN2009 A	20120914	LSPB	+	published / reissued	
IN02123MN2009 A	20100507	LSPB	+	published / reissued	
IN304556 B	20181221	LSGT	+	granted / extensions (spc, cpc, pte)	
IN304556 B	20291114	PEXP		Calculated Patent Term Expiry	
IN311215 B	20190419	LSGT	+	granted / extensions (spc, cpc, pte)	
IN311215 B	20290428	PEXP		Calculated Patent Term Expiry	
JP2010504883 T2	20100218	LSPB	+	published / reissued	
JP2010504883 T2	20100925	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100924
JP2010504883 T2	20100925	LSSE	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20100924
JP2010504883 T2	20110913	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110912
JP2010504883 T2	20120706	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2010504883 T2	20120718	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20120717
JP2010504883 T2	20120719	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A	TEXT : JAPANESE INTERMEDIATE CODE: A01

JP2010504883 T2	20120823	LSFE	+A61	REGISTRATION (UTILITY MODEL) FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20120816
JP2010504883 T2	20120824	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2010504883 T2	20120824	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2010526726 T2	20100805	LSPB	+	published / reissued	
JP2010526726 T2	20110402	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110401
JP2010526726 T2	20120822	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120821
JP2010526726 T2	20130214	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130213
JP2010526726 T2	20130327	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130326
JP2010526726 T2	20130828	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20130827
JP2013224144 A2	20131031	LSPB	+	published / reissued	
JP2013224144 A2	20140409	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140408
JP2013224144 A2	20140627	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140626
JP2013224144 A2	20141110	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2013224144 A2	20141119	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20141118
JP2013224144 A2	20141211	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20141204
JP2013224144 A2	20141212	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5662524 COUNTRY OF REF DOCUMENT : JP
JP2015083460 A2	20150430	LSPB	+	published / reissued	
JP2015083460 A2	20151202	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20151201
JP2015083460 A2	20160421	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20160421
JP5069304 B2	20121107	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5069304 B2	20120821	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5069304 B2	20151217	LSFE	R20	特許料納付書 (Patent fee	

				payment form)		
JP5069304 B2	20151222	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP5069304 B2	20160825	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP5069304 B2	20160830	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP5069304 B2	20170810	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP5069304 B2	20170815	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP5069304 B2	20180802	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP5069304 B2	20180807	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP5069304 B2	20190808	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP5069304 B2	20270924	PEXP		Calculated Patent Term Expiry		
JP5662524 B2	20150128	LSGT	+	granted / extensions (spc, cpc, pte)		
JP5662524 B2	20141120	LSGT	+A01	特許査定書 (Decision of patent grant)		
JP5662524 B2	20141209	LSFE	R100	特許料納付書 (Patent fee payment form)		
JP5662524 B2	20141212	LSGT	+R150	特許証 (Patent certificate)		
JP5662524 B2	20171214	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP5662524 B2	20171226	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP5662524 B2	20181129	LSFE	R20	特許料納付書 (Patent fee payment form)		
JP5662524 B2	20181204	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250	
JP5662524 B2	20330624	PEXP		Calculated Patent Term Expiry		
KR101422874 B1	20140723	LSGT	+	granted / extensions (spc, cpc, pte)		
KR101422874 B1	20170616	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170616 YEAR OF FEE PAYMENT : 4	
KR101422874 B1	20180725	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180726 YEAR OF FEE PAYMENT : 5	
KR101422874 B1	20190717	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20190718 YEAR OF FEE PAYMENT : 6	
KR101422874 B1	20270924	PEXP		Calculated Patent Term Expiry		
KR101485312 B1	20150122	LSGT	+	granted / extensions (spc, cpc, pte)		
KR101485312 B1	20180109	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180109 YEAR OF FEE PAYMENT : 4	
KR101485312 B1	20190709	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20190710 YEAR OF FEE PAYMENT : 5	
KR101485312 B1	20280402	PEXP		Calculated Patent Term Expiry		
KR101485313 B1	20150122	LSGT	+	granted / extensions (spc, cpc, pte)		

KR101485313 B1	20131216	LSES	A201	REQUEST FOR EXAMINATION	
KR101485313 B1	20180109	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180109 YEAR OF FEE PAYMENT : 4
KR101485313 B1	20190709	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20190710 YEAR OF FEE PAYMENT : 5
KR101485313 B1	20280402	PEXP		Calculated Patent Term Expiry	
KR20090076930 A	20090713	LSPB	+	published / reissued	
KR20090076930 A	20120906	LSES	A201	REQUEST FOR EXAMINATION	
KR20090076930 A	20131018	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090076930 A	20140625	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20100040802 A	20100421	LSPB	+	published / reissued	
KR20100040802 A	20130329	LSES	A201	REQUEST FOR EXAMINATION	
KR20100040802 A	20140602	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20100040802 A	20141217	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20100040802 A	20150116	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20140041558 A	20140404	LSPB	+	published / reissued	
KR20140041558 A	20140605	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20140041558 A	20141217	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20140041558 A	20150116	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
PT2086837 T	20130401	LSGT	+	granted / extensions (spc, cpc, pte)	
PT2086837 T	20270924	PEXP		Calculated Patent Term Expiry	
PT2272760 T	20130522	LSGT	+	granted / extensions (spc, cpc, pte)	
PT2272760 T	20270924	PEXP		Calculated Patent Term Expiry	
SG10201509321P A1	20151230	LSPB	+	published / reissued	
SG174843 A1	20111028	LSPB	+	published / reissued	
SG174844 A1	20111028	LSPB	+	published / reissued	
SG181349 A1	20120628	LSPB	+	published / reissued	
TR201905299 T4	20190521	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201905299 T4	20280402	PEXP		Calculated Patent Term Expiry	
TW200930621 A	20090716	LSPB	+	published / reissued	
TWI398382 B	20130611	LSGT	+	granted / extensions (spc, cpc, pte)	
TWI398382 B	20280108	PEXP		Calculated Patent Term Expiry	

US2008083851 AA	20080410	LSPB	+	published / reissued	
US2008083851 AA	20120801	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2008099600 AA	20080501	LSPB	+	published / reissued	
US2008099600 AA	20110622	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2010096494 AA	20100422	LSPB	+	published / reissued	
US2010096494 AA	20151111	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2010140392 AA	20100610	LSPB	+	published / reissued	
US2010140392 AA	20130911	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012061521 AA	20120315	LSPB	+	published / reissued	
US2012061521 AA	20160713	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012119018 AA	20120517	LSPB	+	published / reissued	
US2012119018 AA	20150708	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013333971 AA	20131219	LSPB	+	published / reissued	
US2013333971 AA	20150415	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7975959 BB	20110712	LSGT	+	granted / extensions (spc, cpc, pte)	
US7975959 BB	20060928	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISRAEL AIRCRAFT INDUSTRIES LTD., ISRAEL OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PERRY, ARIE; BRAIER, RAN; REEL/FRAME:018360/0343 EFFECTIVE DATE : 20060928
US7975959 BB	20070228	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISRAEL AEROSPACE INDUSTRIES LTD., ISRAEL OLDPARTY : CHANGE OF NAME; ASSIGNOR:ISRAEL AIRCRAFT INDUSTRIES LTD.; REEL/FRAME:018944/0532 EFFECTIVE DATE : 20061106
US7975959 BB	20070228	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISRAEL AEROSPACE INDUSTRIES LTD.,ISRAEL OLDPARTY : CHANGE OF NAME; ASSIGNOR:ISRAEL AIRCRAFT INDUSTRIES LTD.; REEL/FRAME:018944/0532 EFFECTIVE DATE : 20061106
US7975959 BB	20110622	LSGT	PAT1	Patented Case	
US7975959 BB	20150520	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7975959 BB	20190304	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7975959 BB	20190701	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : 7.5 YR SURCHARGE - LATE PMT W/IN 6 MO, LARGE ENTITY (ORIGINAL EVENT CODE: M1555); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7975959 BB	20190701	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7975959 BB	20290416	PEXP		Calculated Patent	

				Term Expiry (PTA 931 days)	
US8245980 BB	20120821	LSGT	+	granted / extensions (spc, cpc, pte)	
US8245980 BB	20070814	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISRAEL AEROSPACE INDUSTRIES LTD., ISRAEL OLDPARTY : ASSIGNMENT OF ASSIGNNORS INTEREST; ASSIGNNORS:PERRY, ARIE; BRAIER, RAN; REEL/FRAME:019700/0915 EFFECTIVE DATE : 20070723
US8245980 BB	20120801	LSGT	PAT1	Patented Case	
US8245980 BB	20160321	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8245980 BB	20291026	PEXP		Calculated Patent Term Expiry (PTA 894 days and a terminal disclaimer has been filed)	
US8544792 BB	20131001	LSGT	+	granted / extensions (spc, cpc, pte)	
US8544792 BB	20100203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISRAEL AEROSPACE INDUSTRIES LTD.,ISRAEL OLDPARTY : ASSIGNMENT OF ASSIGNNORS INTEREST; ASSIGNNORS:PERRY, ARIE; BRAIER, RAN; REEL/FRAME:023896/0213 EFFECTIVE DATE : 20100131
US8544792 BB	20100203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISRAEL AEROSPACE INDUSTRIES LTD., ISRAEL OLDPARTY : ASSIGNMENT OF ASSIGNNORS INTEREST; ASSIGNNORS:PERRY, ARIE; BRAIER, RAN; REEL/FRAME:023896/0213 EFFECTIVE DATE : 20100131
US8544792 BB	20130911	LSGT	PAT1	Patented Case	
US8544792 BB	20170403	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8544792 BB	20310217	PEXP		Calculated Patent Term Expiry (PTA 458 days)	
US9022317 BB	20150505	LSGT	+	granted / extensions (spc, cpc, pte)	
US9022317 BB	20150415	LSGT	PAT1	Patented Case	
US9022317 BB	20181105	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9022317 BB	20330826	PEXP		Calculated Patent Term Expiry	
US9090358 BB	20150728	LSGT	+	granted / extensions (spc, cpc, pte)	
US9090358 BB	20150708	LSGT	PAT1	Patented Case	
US9090358 BB	20190318	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9090358 BB	20190701	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE FOR LATE PAYMENT, LARGE ENTITY (ORIGINAL EVENT CODE: M1554); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9090358 BB	20190701	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9090358 BB	20320714	PEXP		Calculated Patent Term Expiry (PTA 170 days)	
US9199745 BB	20151201	LSGT	+	granted / extensions (spc, cpc, pte)	
US9199745 BB	20091223	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

					OWNER : ISRAEL AEROSPACE INDUSTRIES LTD.,ISRAEL OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRAIER, RAN; PERRY, ARIE; REEL/FRAME:023700/0215 EFFECTIVE DATE : 20091130
US9199745 BB	20091223	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISRAEL AEROSPACE INDUSTRIES LTD., ISRAEL OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRAIER, RAN; PERRY, ARIE; REEL/FRAME:023700/0215 EFFECTIVE DATE : 20091130
US9199745 BB	20151026	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US9199745 BB	20151111	LSGT	PAT1	Patented Case	
US9199745 BB	20190722	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9199745 BB	20310211	PEXP		Calculated Patent Term Expiry (PTA 452 days)	
US9403604 BB	20160802	LSGT	+	granted / extensions (spc, cpc, pte)	
US9403604 BB	20111122	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ISRAEL AEROSPACE INDUSTRIES LTD., ISRAEL OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PERRY, ARIE; BRAIER, RAN; REEL/FRAME:027270/0554 EFFECTIVE DATE : 20111106
US9403604 BB	20150904	LSSES	NFA1	Non Final Action Mailed	
US9403604 BB	20160713	LSGT	PAT1	Patented Case	
US9403604 BB	20340422	PEXP		Calculated Patent Term Expiry (PTA 944 days)	
WO08038270 A2	20080403	LSPB	+	published / reissued	
WO08038270 A2	20070924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200780044062.0 COUNTRY OF REF DOCUMENT : CN
WO08038270 A3	20090320	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2664155 COUNTRY OF REF DOCUMENT : CA
WO08038270 A3	20090324	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2009529853 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO08038270 A3	20090331	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO08038270 A3	20090424	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020097008413 COUNTRY OF REF DOCUMENT : KR
WO08038270 A3	20090427	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007827146 COUNTRY OF REF DOCUMENT : EP
WO08038270 A3	20090428	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 837/MUMNP/2009 COUNTRY OF REF DOCUMENT : IN

WO08038270 A3	20120328	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 218908 COUNTRY OF REF DOCUMENT : IL
WO08038270 A3	20120328	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 218907 COUNTRY OF REF DOCUMENT : IL
WO08038270 A3	20120328	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 218906 COUNTRY OF REF DOCUMENT : IL
WO08038270 A3	20130723	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0715266 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20090327
WO08139437 A1	20081120	LSPB	+	published / reissued	
WO08139437 A4	20091117	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO08139437 A4	20091210	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008700260 COUNTRY OF REF DOCUMENT : EP
WO08139440 A2	20081120	LSPB	+	published / reissued	
WO08139440 A2	20080402	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200880024713.4 COUNTRY OF REF DOCUMENT : CN
WO08139440 A2	20091113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010508026 COUNTRY OF REF DOCUMENT : JP
WO08139440 A2	20091113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2687433 COUNTRY OF REF DOCUMENT : CA
WO08139440 A2	20091114	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2123/MUMNP/2009 COUNTRY OF REF DOCUMENT : IN
WO08139440 A2	20091117	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO08139440 A2	20091211	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008738163 COUNTRY OF REF DOCUMENT : EP
WO08139440 A2	20091216	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20097026266 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO08139440 A3	20190226	LSNP	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : BR TEXT : APRESENTE NOVAS VIAS DA CESSAO DA PRIORIDADE REIVINDICADA US 11/798,777 DE 16.05.2007, UMA VEZ QUE A CESSAO APRESENTADA NA INDICA O NUMERO DA PRIORIDADE CEDIDA. REF LEGAL EVENT CODE : B01E REF DOCUMENT NUMBER : PI0810298 COUNTRY OF REF DOCUMENT : BR
WO08139440 A3	20190507	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0810298 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT :

A2
DESIGNATED STATE(S) :
EFFECTIVE DATE : 20091113

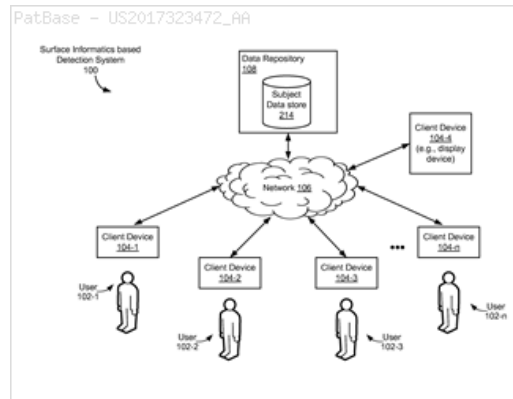
WO13042114 A1	20130328	LSPB	+	published / reissued	
WO13042114 A1	20140321	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13042114 A1	20141015	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12778438 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: METHODS AND SYSTEMS FOR SURFACE INFORMATICS BASED DETECTION WITH MACHINE-TO-MACHINE NETWORKS AND SMARTPHONES

Abstract: At a computer-enabled imaging device, a workflow including a plurality of time-stamped images is obtained. Each time-stamped image has a respective time point at which the respective time-stamped image was obtained. A first plurality of time-stamped accelerometer interval readings and a first plurality of time-stamped interval gyroscope readings are acquired, each of the readings having a respective time point at which the respective reading was acquired. A first real-time translational and rotational trajectory of the first computer-enabled imaging device is thereby obtained. Time-stamped coordinates of feature points in the first workflow are acquired at a plurality of time points during which the time-stamped images were acquired. A first dataset including the workflow, time-stamped coordinates, the real-time translational and rotational trajectory, and translational movement of the coordinates of the feature points is communicated to a data processing and display system for image processing and analysis.

Classifications:

International (IPC 8-9): F21K5/06 G01C11/02 G01C11/34 G01C19/5776 G01S17/88 G03B15/00 G05D1/00 G05D1/10 G06F17/30 G06F7/60 G06K9/32 G06K9/46 G06K9/62 G06T15/00 G06T15/04 G06T15/08 G06T17/00 G06T17/20 G06T3/00 G06T5/00 G06T7/00 G06T7/40 G06T7/73 H04N5/04 H04N5/232 H04W4/70 (Advanced/Invention)
CPC: H04N5/23219 G05D1/104 G01C19/5776 G06T7/40 G06T15/04 G06T17/20 G06T2200/04 G06T2207/10028 G06T2207/30196 G06T2207/30241 G06T2207/30244 G06T2215/16 G06T2200/08 G05D1/101 G01C11/34 G03B15/0447 G01C11/02 G01S17/88 G03B15/006 G05D1/0094 G06K9/3208 G06K9/46 G06K9/6251 G06T15/08 H04W4/70 H04N5/23206 G06T7/74 G06F16/58
US: 345/419 345/420 382/100 701/2



Family:

Publication number	Publication date	Application number	Application date
US2017323472 AA	20171109	US20150521572	20151026
US2017336203 AA	20171123	US20150522175	20151026
US2018253862 AA	20180906	US20150521871	20151026
US2018278827 AA	20180927	US20150521578	20151026
WO16069496 A1	20160506	WO2015US57419	20151026
WO16069497 A1	20160506	WO2015US57420	20151026
WO16069498 A1	20160506	WO2015US57421	20151026
WO16069499 A1	20160506	WO2015US57422	20151026

Priority:

US20140068738P 20141026	US20150203310P 20150810	US20150203312P 20150810
US20150206754P 20150818	US20150209787P 20150825	US20150521572 20151026
WO2015US57422 20151026	WO2015US57420 20151026	US20150522175 20151026
WO2015US57421 20151026	US20150521871 20151026	WO2015US57419 20151026
US20150521578 20151026		

Probable Assignee: GALILEO GROUP INC

Assignee(s): (std): GALILEO GROUP INC

Inventor(s): (std): GRICHNIK JAMES MICHAEL ; BARNES DONALD MICHAEL

Agent(s): LOVEJOY BRETT A ET AL

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
US2017323472 AA	20171109	LSPB	+	published / reissued	
US2017323472 AA	20170424	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GALILEO GROUP, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: BARNES, DONALD MICHAEL; GRICHNIK, JAMES MICHAEL; REEL/FRAME: 042131/0530 EFFECTIVE DATE : 20170422
US2017323472 AA	20180801	LSES	NFA1	Non Final Action Mailed	
US2017323472 AA	20190807	LSES	NFA1	Non Final Action Mailed	
US2017336203 AA	20171123	LSPB	+	published / reissued	

US2017336203 AA	20170426	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GALILEO GROUP, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BARNES, DONALD MICHAEL; GRICHNIK, JAMES MICHAEL; REEL/FRAME:042154/0629 EFFECTIVE DATE : 20170422
US2017336203 AA	20180721	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2017336203 AA	20180724	LSES	NFA1	Non Final Action Mailed	
US2017336203 AA	20190129	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2018253862 AA	20180906	LSPB	+	published / reissued	
US2018253862 AA	20170425	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GALILEO GROUP, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BARNES, DONALD MICHAEL; GRICHNIK, JAMES MICHAEL; REEL/FRAME:042143/0001 EFFECTIVE DATE : 20170422
US2018253862 AA	20180920	LSES	NFA1	Non Final Action Mailed	
US2018253862 AA	20190610	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018278827 AA	20180927	LSPB	+	published / reissued	
US2018278827 AA	20170424	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GALILEO GROUP, INC., FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BARNES, DONALD MICHAEL; GRICHNIK, JAMES MICHAEL; REEL/FRAME:042131/0694 EFFECTIVE DATE : 20170422
US2018278827 AA	20180724	LSES	NFA1	Non Final Action Mailed	
US2018278827 AA	20190424	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018278827 AA	20190724	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
WO16069496 A1	20160506	LSPB	+	published / reissued	
WO16069496 A1	20170424	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15521578 COUNTRY OF REF DOCUMENT : US
WO16069496 A1	20170426	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO16069496 A1	20171122	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 15854780 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO16069497 A1	20160506	LSPB	+	published / reissued	
WO16069497 A1	20170426	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO16069497 A1	20171122	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN	REF DOCUMENT NUMBER : 15853755 COUNTRY OF REF DOCUMENT : EP

				EUROPEAN PHASE	KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO16069498 A1	20160506	LSPB	+	published / reissued	
WO16069498 A1	20170425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15521871 COUNTRY OF REF DOCUMENT : US
WO16069498 A1	20170426	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO16069498 A1	20171122	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 15855584 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO16069499 A1	20160506	LSPB	+	published / reissued	
WO16069499 A1	20170424	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15521572 COUNTRY OF REF DOCUMENT : US
WO16069499 A1	20170426	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO16069499 A1	20171122	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 15854790 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: STEAM TYPE PEST EXTERMINATION APPARATUS

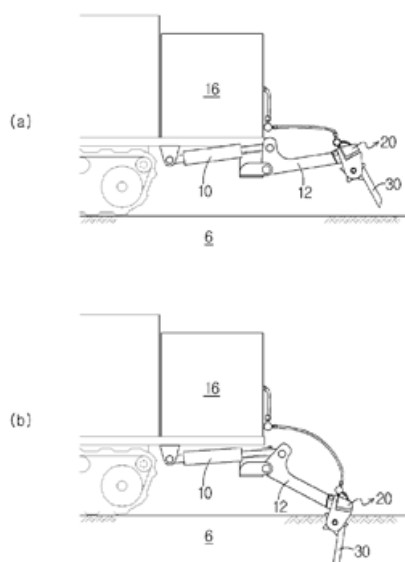
Abstract: The present invention relates to an apparatus and a method for exterminating pests by injecting high-temperature steam into the ground including sand and the like, wherein a needle rod fixing plate (20) in which a plurality of needle rods (30) is arranged and fixed at the left and right sides thereof is coupled with a lever plate (12) rotated upward and downward by an operating cylinder (10) at a backside of autonomous power equipment (2), a steam generation unit (16) is provided to generate high-temperature steam enabling insect extermination and sterilization and supply the steam to steam injection holes (36) of the needle rods (30), a steam generation unit (16) and a needle rod (30) are connected by a hose, a steam distributor (44-1, 44-2) for supplying the steam to each needle rod (30) is provided on the hose, both ends of the steam distributor (44-1, 44-2) are coupled with a cover (48) so as to be sealed, a heating wire (49) for increasing the temperature of the steam again is provided therein, the needle rods (30) are inserted and moved forward in the bowels of the earth (6) by operating the autonomous power equipment (2), and a pest extermination operation unit (4) includes a control unit (80) for controlling the continuous injection of steam into the ground (6) so as to exterminate insects and sterilize the ground by enabling the dry or wet high-temperature steam to continuously permeate into the ground.

Classifications:**International (IPC 8-9):** A01B77/00 A01M17/00

A01M19/00 (Advanced/Invention)

CPC: A01M17/00 A01M17/002 A01B77/00 A01M19/00 A01M2200/011 Y10S43/00**US:** 43/130

PatBase - US2016120166_AA

**Family:**

Publication number	Publication date	Application number	Application date
CN105338810 A	20160217	CN201480030397	20140613
KR101331416 B1	20131120	KR20130071306	20130621
US2016120166 AA	20160505	US20140896759	20140613
US9795127 BB	20171024	US20140896759	20140613
WO14204139 A1	20141224	WO2014KR05213	20140613

Priority:

KR20130071306 20130621 WO2014KR05213 20140613

Probable Assignee: KIM JEONG HO**Assignee(s):** (std): KIM JEONG HO ; KIM JUNG HO ; KIM YOO SHIN**Inventor(s):** (std): SONG SUK GYU ; KIM JUNG HO ; KIM YOO SHIN ; KIM SUK KYEOM**Agent(s):** STIP LAW GROUP LLC; BAEK HONG KI

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 LK LR LS LT LU LV LY MA MC MD ME MG MH 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
CN105338810 A	20160217	LSPB	+	published / reissued	
CN105338810 A	20160217	LSPB	+C06	PUBLICATION	
KR101331416 B1	20131120	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101331416 B1	20130621	LSSES	A201	REQUEST FOR EXAMINATION	
KR101331416 B1	20130626	LSSES	A302	REQUEST FOR ACCELERATED EXAMINATION	
KR101331416 B1	20130826	LSSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101331416 B1	20131108	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT	

				RIGHT	
KR101331416 B1	20131114	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101331416 B1	20160922	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160922 YEAR OF FEE PAYMENT : 4
KR101331416 B1	20171206	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20171206 YEAR OF FEE PAYMENT : 5
KR101331416 B1	20180829	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180829 YEAR OF FEE PAYMENT : 6
KR101331416 B1	20330621	PEXP		Calculated Patent Term Expiry	
US2016120166 AA	20160505	LSPB	+	published / reissued	
US2016120166 AA	20170612	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016120166 AA	20170622	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2016120166 AA	20170623	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016120166 AA	20170629	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2016120166 AA	20170705	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016120166 AA	20170914	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2016120166 AA	20170915	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016120166 AA	20171004	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9795127 BB	20171024	LSGT	+	granted / extensions (spc, cpc, pte)	
US9795127 BB	20171004	LSGT	PAT1	Patented Case	
US9795127 BB	20341004	PEXP		Calculated Patent Term Expiry (PTA 113 days)	
WO14204139 A1	20141224	LSPB	+	published / reissued	
WO14204139 A1	20140613	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201480030397.7 COUNTRY OF REF DOCUMENT : CN
WO14204139 A1	20151208	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 14896759 COUNTRY OF REF DOCUMENT : US
WO14204139 A1	20151221	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO14204139 A1	20170531	LSNE	-122	EP: PCT APPLICATION NON- ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14813430 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: CONSTRUCTION FOR AUTOMATICALLY MILKING ANIMALS

Abstract: A construction for automatically milking animals is provided with a milk reservoir (3; 13), with milk lines and with a milking robot (5) having at least one teat cup (6; 20) and means (9, 10; 19) for connecting the teat cup(s) (6, 20) to the teats of an animal (1; 11) to be milked. The construction (2; 12; 25, 26) is designed so as to be displaceable as a whole. The construction (2; 12; 25, 26) is further provided with own propulsion means (7; 23, 24), which results in a wide range of application possibilities and a high degree of flexibility in use.

Classifications:

International (IPC 8-9): A01J5/00 A01J5/003 A01J5/017

A01J7/00 (Advanced/Invention);

A01J5/00 A01J5/003 A01J7/00 (Core/Invention)

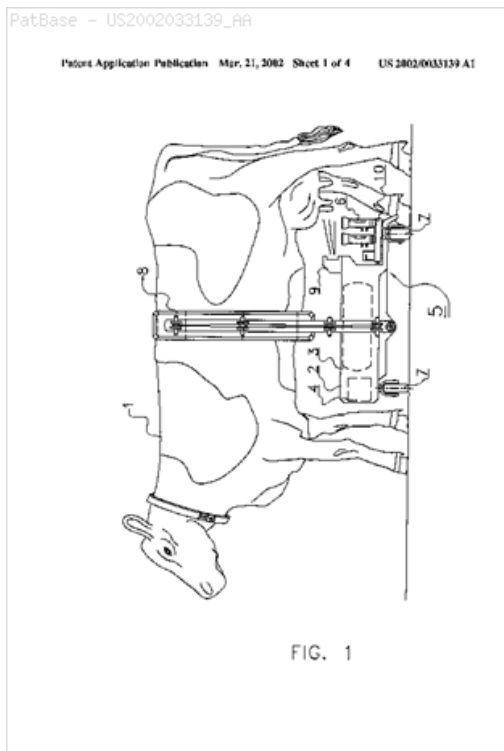
International (IPC 1-7): A01J3/00 A01J5/00 A01J5/017 A01J5/17

A01J7/00 A01K1/12

CPC: A01J5/003 A01J5/0175

European: A01J5/003 A01J5/017A

US: 119/14.02 119/14.11



Family:

Publication number	Publication date	Application number	Application date
AT356545 E	20070415	AT20010203433T	20010911
DE60127214 D1	20070426	DE20016027214	20010911
DE60127214 D1	20070426	DE20016027214T	20010911
DE60127214 T2	20071220	DE20016027214T	20010911
DK1188367 T3	20070917	DK20010203433T	20010911
EP1188367 A1	20020320	EP20010203433	20010911
EP1188367 B1	20070314	EP20010203433	20010911
ES2283373 T3	20071101	ES20010203433T	20010911
JP2002084907 A2	20020326	JP20010280099	20010914
JP4544799 B2	20100915	JP20010280099	20010914
NL1016195 C2	20020318	NL20001016195	20000915
US2002033139 AA	20020321	US20010953147	20010917
US6981467 BB	20060103	US20010953147	20010917

Priority:

NL20001016195 20000915

Probable Assignee: LELY ENTPR AG

Assignee(s): (std): LELY ENTPR AG ; LELY ENTPR A G A SWISS LTD LIA ; LELY ENTPR A G ; LELY ENTERPRISES AG

Assignee(s): LELY ENTERPRISES A G ; LELY ENTERPRISES A G A SWISS LIMITED LIABILITY COM ; LELY ENTERPRISES A G A SWISS LIMITED LIABILITY COMPANY ; LELY ENTERPRISES A SWISS LIABILITY CO AG LTD

Inventor(s): (std): ALEXANDER VAN D LELY ; BERG KAREL VAN DEN ; FRANSSEN RENATUS IGNATIUS J ; FRANSSEN RENATUS IGNATIUS JOSEP ; KAREL VAN DEN BERG ; LELY ALEXANDER VAN D ; RENATUS IGNATIUS JOSUPHUS FRANSSEN ; VAN DEN BERG KAREL ; VAN DER LELY ALEXANDER ; LELY ALEXANDER VAN DER ; FRANSSEN RENATUS IGNATIUS JOSUP ; JOSEPHUS FRANSSEN RENATUS IGNAT

Inventor(s): JOSEPHUS FRANSSEN RENATUS IGNATIUS ; ALEXANDER VAN DER LELY ; FRANSSEN RENATUS IGNATIUS JOSEPHUS

Agent(s): PENROSE LUCAS

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT356545 E	20070415	LSGT	+	granted / extensions (spc, cpc, pte)	

AT356545 E	20070915	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT356545 E	20210911	PEXP		Calculated Patent Term Expiry	
DE60127214 D1	20080403	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60127214 D1	20080403	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60127214 T2	20071220	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60127214 T2	20080403	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60127214 T2	20210911	PEXP		Calculated Patent Term Expiry	
DK1188367 T3	20070917	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1188367 T3	20210911	PEXP		Calculated Patent Term Expiry	
EP1188367 A1	20020320	LSPB	+	published / reissued	
EP1188367 A1	20020911	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020712
EP1188367 A1	20021211	LSFE	+AKX	DESIGNATION FEES PAID	TEXT : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1188367 A1	20061108	LSRE	RTI1	TITLE (CORRECTION)	TEXT : A CONSTRUCTION FOR AUTOMATICALLY MILKING ANIMALS
EP1188367 B1	20070314	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1188367 B1	20070314	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070314
EP1188367 B1	20070314	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070314
EP1188367 B1	20070314	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070314
EP1188367 B1	20070314	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070314
EP1188367 B1	20070314	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1188367 B1	20070413	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP

EP1188367 B1	20070502	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1188367 B1	20070814	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070814
EP1188367 B1	20070928	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1188367 B1	20071101	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2283373 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP1188367 B1	20080220	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20071217
EP1188367 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070930
EP1188367 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070615
EP1188367 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070314
EP1188367 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070911
EP1188367 B1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070314
EP1188367 B1	20101130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20100923 YEAR OF FEE PAYMENT : 10
EP1188367 B1	20120531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110911
EP1188367 B1	20121231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20120926 YEAR OF FEE PAYMENT : 12
EP1188367 B1	20131031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20130925 YEAR OF FEE PAYMENT : 13

EP1188367 B1	20140131	LSFE	+PGFP	TO EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20130927 YEAR OF FEE PAYMENT : 13
EP1188367 B1	20141007	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20141007
EP1188367 B1	20141031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20140925 YEAR OF FEE PAYMENT : 14
EP1188367 B1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20140929 YEAR OF FEE PAYMENT : 14
EP1188367 B1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20140917 YEAR OF FEE PAYMENT : 14
EP1188367 B1	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20140929 YEAR OF FEE PAYMENT : 14
EP1188367 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20130912
EP1188367 B1	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20140929 YEAR OF FEE PAYMENT : 14
EP1188367 B1	20150227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20140926 YEAR OF FEE PAYMENT : 14
EP1188367 B1	20150617	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1188367 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140930
EP1188367 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140911
EP1188367 B1	20160401	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 60127214 COUNTRY OF REF DOCUMENT : DE
EP1188367 B1	20160425	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20150930
EP1188367 B1	20160503	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SE REF LEGAL EVENT CODE : EUG
EP1188367 B1	20160525	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20150911
EP1188367 B1	20160531	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150912
EP1188367 B1	20160701	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20160531
EP1188367 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150911
EP1188367 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160401
EP1188367 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150930
EP1188367 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20151001
EP1188367 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20150930
EP1188367 B1	20210911	PEXP		Calculated Patent Term Expiry	
ES2283373 T3	20071101	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2283373 T3	20210911	PEXP		Calculated Patent Term Expiry	
JP2002084907 A2	20020326	LSPB	+	published / reissued	
JP2002084907 A2	20080719	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080718
JP2002084907 A2	20100127	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A132 EFFECTIVE DATE : 20100126
JP2002084907 A2	20100514	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100513
JP2002084907 A2	20100527	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2002084907 A2	20100602	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20100601
JP2002084907 A2	20100603	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2002084907 A2	20100708	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20100629
JP2002084907 A2	20100709	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3

JP2002084907 A2	20100709	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4544799 B2	20100915	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4544799 B2	20100706	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4544799 B2	20130627	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4544799 B2	20130702	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4544799 B2	20140626	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4544799 B2	20140701	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4544799 B2	20150625	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4544799 B2	20150630	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4544799 B2	20160630	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4544799 B2	20160705	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4544799 B2	20170709	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4544799 B2	20210914	PEXP		Calculated Patent Term Expiry	
NL1016195 C2	20020318	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1016195 C2	20020501	LSSES	+PD2B	A SEARCH REPORT HAS BEEN DRAWN UP	
NL1016195 C2	20120411	LSLE	-V1	LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 20120401
NL1016195 C2	20200915	PEXP		Calculated Patent Term Expiry	
US2002033139 AA	20020321	LSPB	+	published / reissued	
US6981467 BB	20060103	LSGT	+	granted / extensions (spc, cpc, pte)	
US6981467 BB	20010917	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES A.G., A SWISS LIMITED LIABILITY C OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:VAN DER LELY, ALEXANDER; VAN DER BERG, KAREL; FRANSEN, RENATUS IGNATIUS JOSEPHUS; REEL/FRAME:012176/0843 EFFECTIVE DATE : 20010903
US6981467 BB	20051214	LSGT	PAT1	Patented Case	
US6981467 BB	20090706	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6981467 BB	20130703	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6981467 BB	20180129	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US6981467 BB	20180129	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6981467 BB	20180129	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362

US6981467 BB	20180220	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20180103
US6981467 BB	20210917	PEXP		Calculated Patent Term Expiry	

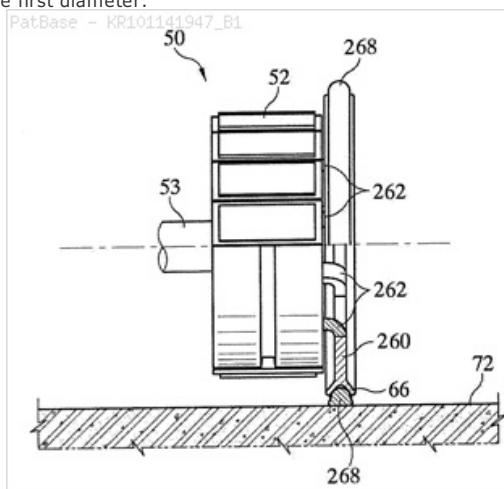
Title: WHEEL DEVICE AND COMPLEX WHEELED **VEHICLE** HAVING THE SAME

Abstract: PURPOSE: A wheel apparatus and a **vehicle** equipped with the wheel apparatus is able to be applied a remote control robot, a self control moving robot, and a compact **unmanned** robot and driven at high speed in the paved road and driven in the unpaved road with getting over the obstacle. CONSTITUTION: A wheel apparatus comprises a track assembly, a track wheel, and driving wheel(260). The track assemblies are connected with each other and forms a **caterpillar**(52). The traveling wheel is connected to the track assembly to be rotated and comprises a first diameter. The driving wheel is coupled with the track wheel and comprises a second diameter longer than the first diameter.

Classifications:

International (IPC 8-9): B62D55/04 B62D55/08
B62D55/18 (Advanced/Invention)

CPC: B62D55/04 B25J5/005 B62D57/024



Family:

Publication number	Publication date	Application number	Application date
KR101141947 B1	20120504	KR20110121725	20111121

Priority:

KR20110121725 20111121

Probable Assignee: AGENCY DEFENSE DEV

Assignee(s): (std): AGENCY DEFENSE DEV

Assignee(s): AGENCY FOR DEFENSE DEVELOPMENT

Inventor(s): (std): LEE SANG HOON ; HUH JIN WOOK ; KANG SIN CHEON ; LEE MYUNG CHUN

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
KR101141947 B1	20120504	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101141947 B1	20111121	LSES	A201	REQUEST FOR EXAMINATION	
KR101141947 B1	20111124	LSES	A302	REQUEST FOR ACCELERATED EXAMINATION	
KR101141947 B1	20120110	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101141947 B1	20120417	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101141947 B1	20120425	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101141947 B1	20180426	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR101141947 B1	20311121	PEXP		Calculated Patent Term Expiry	

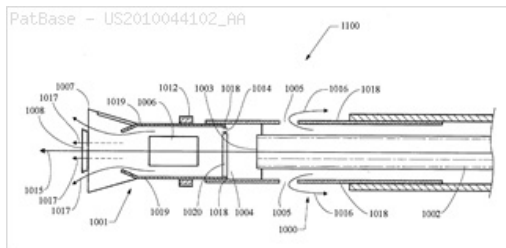
Title: METHODS AND APPARATUS FOR REMOVAL AND CONTROL OF MATERIAL IN LASER DRILLING OF A BOREHOLE

Abstract: There is provided a system, apparatus and methods for removal of material for the path of a laser beam during laser drilling of a borehole and for removal of displaced borehole material from the borehole during laser drilling. In particular, there are provided paths, dynamics and parameters of fluid flows, and apparatus for obtaining such, for use in conjunction with a laser bottom hole assembly.

Classifications:

International (IPC 8-9): A61K48/00 B01J19/12 B08B7/00 B08B9/02

B08B9/023 B08B9/027 B08B9/043 B08B9/055 B23K26/00
B23K26/04 B23K26/046 B23K26/06 B23K26/064 B23K26/073
B23K26/08 B23K26/10 B23K26/12 B23K26/122 B23K26/14
B23K26/146 B23K26/16 B23K26/24 B23K26/352 B23K26/36
B23K26/38 B23K26/382 B23K26/40 B23K26/402 B23K26/70
B23K37/02 B23K37/00 B63B17/00 B63B35/28 B63C11/40
B63C11/44 B63C11/48 B63G8/00 B63G8/08 B65H55/00 B65H59/00
E01C23/08 E01C23/12 E02B17/00 E02D17/00 E21B10/00 E21B10/50
E21B10/54 E21B10/60 E21B17/00 E21B17/20 E21B19/00 E21B19/22
E21B21/00 E21B21/08 E21B21/10 E21B21/14 E21B21/16 E21B23/00
E21B23/14 E21B29/00 E21B29/02 E21B29/06 E21B29/08 E21B29/12 E21B33/00 E21B33/06 E21B33/064 E21B33/12
E21B33/13 E21B34/04 E21B36/04 E21B37/00 E21B37/08 E21B4/02 E21B4/04 E21B41/00 E21B43/00 E21B43/01
E21B43/11 E21B43/114 E21B43/116 E21B43/119 E21B43/24 E21B43/26 E21B43/267 E21B44/00 E21B47/00 E21B47/113
E21B47/12 E21B49/00 E21B7/00 E21B7/12 E21B7/14 E21B7/15 E21B7/16 E21C25/64 E21C27/24 E21C35/00 E21C37/16
E21C37/18 E21C41/00 E21D9/10 F21V15/01 F21V15/06 F21V29/00 F21V8/00 G01J1/04 G01M11/00 G01M5/00 G02B26/08
G02B27/14 G02B27/20 G02B6/02 G02B6/26 G02B6/28 G02B6/32 G02B6/36 G02B6/38 G02B6/42 G02B6/44 H01J27/24
H01J40/14 H01L21/00 H01L31/00 H01L31/02 H01L31/0224 H01L31/0304 H01L31/05 H01L31/054 H01L31/055 H01S3/00
H01S3/04 H01S3/042 H01S3/067 H01S3/08 H01S3/094 H01S3/0941 H01S3/109 H01S3/16 H01S3/23 H01S3/30 H01S5/00
H01S5/022 H01S5/024 H01S5/042 H01S5/40 H02G1/08 H04B10/079 H04B10/80 H05K7/20 (Advanced/Invention);
B08B7/00 B23K101/04 B23K103/00 B23K103/10 B60P1/54 B63B19/00 B63B21/00 B63B35/00 B66C23/36 E02B17/00
E21B15/00 E21B23/00 E21B37/00 E21B43/00 E21B43/11 E21B43/116 E21B43/16 E21B49/00 E21B7/04 E21B7/15 G02B23/24
G02B6/32 G02B6/36 G02B6/38 G02B6/42 G02B6/44 G02B6/50 G21C17/017 H01S3/00 H01S3/094 H01S3/16 (Advanced/Non-
invention);
B65H55/00 E21B17/00 E21B7/00 E21B7/14 G02B6/44 (Core/Invention)
CPC: E21B4/18 E21B17/203 E21B21/12 E21B21/16 H01L31/03046 Y02E10/544 H04B10/807 H01L2924/01015
H01L2924/01047 H01L2924/00014 E21C37/18 E21D9/1073 G02B6/4413 E02B2017/0095 B23K26/24 B23K26/36 G02B6/4402
E01C23/08 E21B4/02 E21C25/00 E21D9/08 E01C23/12 E21B44/00 E21B33/076 E21B37/00 F17D5/00 B08B9/04 B08B9/0436
B08B7/0071 B08B9/023 B08B9/027 B23K26/0093 B23K26/0648 B23K26/10 E21B4/04 E21B2023/008 H01L31/0201
H01L31/022433 H01L31/0508 H01L31/054 E02B2017/0052 B08B9/02 B08B9/055 G02B6/502 B23K26/142 B63G2008/007
B63G8/001 E21B41/04 B23K26/1462 E01C23/127 G01M5/0025 G01M5/0033 G01M5/0091 G01M11/35 Y02E10/52
G02B6/4415 G02B6/443 G02B6/4436 G02B6/4492 E21B33/064 B23K26/14 E02D17/00 B23K26/0732 B23K26/0736 H01S3/04
G02B6/44 E21B17/00 G02B6/02395 B23K26/04 G02B2006/4297 E21B43/119 E21B43/26 H01S3/0071 B60P1/5423
B66C23/36 H01S5/02423 G02B26/0875 E21B33/1204 H01L2924/00011 B23K26/402 E21B43/162 E21B49/00 H01S3/06733
H01S3/1603 H01S3/0941 H01S3/094007 G02B6/2817 G02B6/3871 G02B6/3897 H01S3/08 G02B6/3604 H01S3/302
H01S3/094046 H01S3/09415 H01S3/06708 H01S3/109 E21B29/06 E21B43/2405 B23K26/06 H01S3/094015 H01S3/094092
H01S3/094096 H01S3/1693 H01S3/1695 H01S3/2383 E21B7/15 G02B6/4458 E21B21/00 E21B21/08 E21B21/103 E21B29/00
E21B43/11 E02B17/027 B23K26/03 B23K26/0622 B23K26/1476 B23K37/02 G02B6/262 G02B6/3813 H01S3/042 G02B6/14
G02B6/3814 G02B6/3818 E21B41/00 H01S5/4025 H01S5/0071 H01S5/02296 H01S5/042 B23K26/0608 B23K26/046
B23K26/0869 B23K26/703 E21B33/13 B23K26/0096 H01S3/0064 E21B33/063 B23K2103/30 B23K26/12 B63B17/00
B63B19/00 B63B21/00 B63B35/00 B63B35/28 E21B19/002 B23K2101/04 B23K2101/06 B23K2103/04 B23K26/0626
B23K26/40 B23K37/0288 B23K2103/52 E21C25/64 E21C27/24 G02B6/0229 B82Y20/00 F16L41/004 F16L55/46 H01S3/02
B23K26/382 B23K2103/50 G02B6/32 G02B23/2492 H01S3/005 H01S3/0675 H01S3/094003 H01S3/094042 H01S3/1608
H01S3/1616 B23K26/38 E21B7/14 E21B29/02 B08B7/0042 B08B9/043 B23K26/064 B23K26/0652 B23K26/106 B23K26/1224
B23K26/127 B23K26/146 B23K26/1464 B23K2103/10 E21B10/60 E21B36/04 E21B37/08 E21B43/00 E21B43/01 G21C17/017
G02B6/3624 G02B6/4296 G02B6/4417 G02B6/4427 E21B36/00 B23K26/073 B23K26/384 B23K26/386
European: B08B7/00S2 B23K26/00M B23K26/06C B23K26/06C3 B23K26/06C5 B23K26/10 B23K26/10R1 B23K26/12B
B23K26/12F B23K26/14D B23K26/14N1 B23K26/38 B23K26/40B7 B63G8/00B E21B10/60 E21B17/20B E21B21/08 E21B21/12
E21B21/16 E21B4/18 E21B7/14 E21B7/15 G02B6/44C1 G02B6/44C6 G02B6/44C7A H04B10/807 L23K203/10 S02B6/42H
S02B6/44C10 S02B6/44C5B S02B6/44C6 S02B6/44C7A S02B6/44C7F
US: 1/1 114/26 114/312 114/313 114/337 134/1.1 166/242.2 166/250.1 166/280.1 166/288 166/297 166/298 166/304
166/361 166/363 166/363S 166/376 166/384 166/385 166/55 166/55.1 166/55.2 166/55.6 166/65.1 166/65.100S 166/66
166/77.1 166/77.2 175/107 175/11 175/15 175/16 175/16 175/167 175/167 175/16S 175/40 175/424 175/5 175/57 175/5S
175/6 175/65 175/65S 175/65 175/92 175/92S 219/121.61 219/121.67 219/121.670S 219/121.7 219/121.72 219/121.720P
219/121.84 219/60R 219/61 242/159 242/159S 250/215 250/227.11 250/492.1 250/492.100P 254/134.3FT 254/134.3R
254/134.4 29/428 29/428S 299/14 299/29 359/226.2 362/259 362/317 362/553 362/553S 372/14 372/4 372/9 385/100
385/102 385/104 385/109 385/109P 385/111 385/12 385/13 385/134 385/26 385/88 385/89 385/92 385/93 385/94



Family:

Publication number	Publication date	Application number	Application date
AU2009340454 AA	20100826	AU2009340454	20090819
AU2012259435 AA	20121129	AU20120259435	20120224
AU2012259435 BB	20160922	AU20120259435	20120224
AU2014228980 AA	20151008	AU20140228980	20140314
AU2014228980 BB	20180222	AU20140228980	20140314
BR112013001512 A2	20160607	BR20131101512	20110719
BR112013021478 A2	20161011	BR20131121478	20120223
BR112015004458 A2	20170704	BR20151104458	20130830
BRP10918403 A2	20151124	BR2009P18403	20090819
CA2734492 AA	20100826	CA20092734492	20090819
CA2734492 C	20160517	CA20092734492	20090819
CA2805437 AA	20130114	CA20112805437	20110719
CA2805437 C	20160906	CA20112805437	20110719
CA2808214 AA	20130212	CA20112808214	20110816
CA2808214 C	20160223	CA20112808214	20110816
CA2823922 AA	20100826	CA20092823922	20090819
CA2827958 AA	20130821	CA20122827958	20120224
CA2891500 AA	20150513	CA20132891500	20131115
CA2906738 AA	20150914	CA20142906738	20140314
CN102187046 A	20110914	CN200980141304	20090819
CN102187046 B	20150429	CN200980141304	20090819

CN103492668 A	20140101	CN201280019899	20120224
CN103492668 B	20170215	CN201280019899	20120224
DE602013044874 D1	20181108	DE201360044874T	20130219
EP2315904 A1	20110504	EP20090840554	20090819
EP2315904 A4	20160420	EP20090840554	20090819
EP2315904 B1	20190206	EP20090840554	20090819
EP2399155 A1	20111228	EP20100786516	20100217
EP2399155 A4	20140709	EP20100786516	20100217
EP2596395 A2	20130529	EP20110810287	20110719
EP2596395 A4	20171227	EP20110810287	20110719
EP2606201 A1	20130626	EP20110818657	20110816
EP2606201 A4	20180307	EP20110818657	20110816
EP2611566 A1	20130710	EP20110822594	20110831
EP2611566 A4	20171108	EP20110822594	20110831
EP2664010 A2	20131120	EP20120734537	20120110
EP2664010 A4	20180627	EP20120734537	20120110
EP2678512 A1	20140101	EP20120749304	20120223
EP2678512 A4	20170614	EP20120749304	20120223
EP2678521 A1	20140101	EP20120789937	20120224
EP2678521 A4	20180307	EP20120789937	20120224
EP2715887 A1	20140409	EP20120793799	20120601
EP2715887 A4	20161123	EP20120793799	20120601
EP2739429 A2	20140611	EP20120820743	20120802
EP2739429 A4	20161102	EP20120820743	20120802
EP2820466 A1	20150107	EP20130754543	20130219
EP2820466 A4	20160330	EP20130754543	20130219
EP2820466 B1	20181010	EP20130754543	20130219
EP2890859 A2	20150708	EP20130833557	20130830
EP2890859 A4	20161102	EP20130833557	20130830
EP2929602 A2	20151014	EP20130860660	20131207
EP2929602 A4	20161221	EP20130860660	20131207
GC3576 A	20150604	GC2009P014608	20091031
GC5934 A	20170716	GC2013P023714	20130302
JP2012500350 T2	20120105	JP20110523959T	20090819
JP2012518210 T2	20120809	JP20110551172T	20100217
JP2015017498 A2	20150129	JP20140191026	20140919
JP5684151 B2	20150311	JP20110551172T	20100217
JP5844868 B2	20160120	JP20140191026	20140919
MX2011001908 A1	20110620	MX20110001908	20090819
MX355677 B	20180425	MX20110001908	20090819
RU2011110388 A	20120927	RU20110110388	20090819
RU2011138270 A	20130327	RU20110138270	20100217
RU2522016 C2	20140710	RU20110110388	20090819
RU2551392 C2	20150520	RU20110138270	20100217
SG192915 A1	20130930	SG20130063839	20120224
US2010044102 AA	20100225	US20090543968	20090819
US2010044103 AA	20100225	US20090543986	20090819
US2010044104 AA	20100225	US20090544038	20090819
US2010044105 AA	20100225	US20090544094	20090819
US2010044106 AA	20100225	US20090544136	20090819
US2010215326 AA	20100826	US20100706576	20100216
US2012020631 AA	20120126	US20100840978	20100721
US2012067643 AA	20120322	US20110211729	20110817
US2012068086 AA	20120322	US20110210581	20110816
US2012074110 AA	20120329	US20110222931	20110831
US2012217018 AA	20120830	US20110034175	20110224
US2012248078 AA	20121004	US20120403692	20120223
US2012255774 AA	20121011	US20120403615	20120223
US2012255933 AA	20121011	US20120366882	20120206
US2012261188 AA	20121018	US20120403132	20120223
US2012266803 AA	20121025	US20120347445	20120110
US2012267168 AA	20121025	US20120403287	20120223
US2012273269 AA	20121101	US20120403723	20120223
US2012273470 AA	20121101	US20120403741	20120223
US2012275159 AA	20121101	US20120403509	20120223
US2013011102 AA	20130110	US20120486795	20120601
US2013175090 AA	20130711	US20130777650	20130226
US2013192893 AA	20130801	US20130800559	20130313
US2013192894 AA	20130801	US20130800933	20130313
US2013228372 AA	20130905	US20130782869	20130301
US2013228557 AA	20130905	US20130768149	20130215
US2013266031 AA	20131010	US20130782942	20130301
US2013319984 AA	20131205	US20130966969	20130814
US2014000902 AA	20140102	US20130015003	20130830
US2014060802 AA	20140306	US20130800820	20130313
US2014060930 AA	20140306	US20130800879	20130313
US2014090846 AA	20140403	US20130105949	20131213
US2014190949 AA	20140710	US20140213212	20140314
US2014231085 AA	20140821	US20120565345	20120802
US2014231398 AA	20140821	US20130139680	20131223
US2014248025 AA	20140904	US20130057567	20131018

US2015307194 AA	20150514	US20130987072	20130715
US2015308194 AA	20151029	US20140330980	20140714
US2015321290 AA	20151112	US20150803228	20150720
US2015322738 AA	20151112	US20130104395	20131212
US2016017661 AA	20160121	US20140335627	20140718
US2016084008 AA	20160324	US20150958864	20151203
US2016090790 AA	20160331	US20130852719	20130328
US2016186497 AA	20160630	US20150746382	20150622
US2016186524 AA	20160630	US20160064165	20160308
US2016187588 AA	20160630	US20160997072	20160115
US2016221125 AA	20160804	US20130080722	20131114
US2016222763 AA	20160804	US20130058681	20131021
US2016251940 AA	20160901	US20140214304	20140314
US2016299304 AA	20161013	US20160154718	20160513
US2016341906 AA	20161124	US20160147269	20160505
US2017016299 AA	20170119	US20160218509	20160725
US2017059854 AA	20170302	US20160140412	20160427
US2017183913 A9	20170629	US20130782869	20130301
US2017191314 AA	20170706	US20170445238	20170228
US2017214213 AA	20170727	US20130099948	20131207
US2017252858 AA	20170907	US20160349914	20161111
US2017266760 AA	20170921	US20170612679	20170602
US2017321486 AA	20171109	US20170656976	20170721
US2018045024 AA	20180215	US20170603192	20170523
US2018045895 AA	20180215	US20170788752	20171019
US2018163477 AA	20180614	US20170821411	20171122
US2018328150 AA	20181115	US20180048238	20180728
US2019040726 AA	20190207	US20180058546	20180808
US2019178036 AA	20190613	US20190267327	20190204
US2019240770 AA	20190808	US20190237691	20190101
US8424617 BB	20130423	US20090544094	20090819
US8511401 BB	20130820	US20090544136	20090819
US8571368 BB	20131029	US20100840978	20100721
US8627901 BA	20140114	US20100896021	20101001
US8636085 BB	20140128	US20090543968	20090819
US8662160 BB	20140304	US20110210581	20110816
US8701794 BB	20140422	US20130800559	20130313
US8757292 BB	20140624	US20130800933	20130313
US8783361 BB	20140722	US20110034175	20110224
US8820434 BB	20140902	US20090544038	20090819
US8826973 BB	20140909	US20090543986	20090819
US8869914 BB	20141028	US20130800820	20130313
US8879876 BB	20141104	US20130057567	20131018
US8936108 BB	20150120	US20130800879	20130313
US8997894 BB	20150407	US20130777650	20130226
US9027668 BB	20150512	US20120403692	20120223
US9074422 BB	20150707	US20120403287	20120223
US9080425 BB	20150714	US20120347445	20120110
US9089928 BB	20150728	US20120565345	20120802
US9138786 BB	20150922	US20120366882	20120206
US9242309 BB	20160126	US20130768149	20130215
US9244235 BB	20160126	US20130782942	20130301
US9267330 BB	20160223	US20120403723	20120223
US9284783 BA	20160315	US20130852719	20130328
US9327810 BB	20160503	US20150791172	20150702
US9347271 BB	20160524	US20100706576	20100216
US9360631 BB	20160607	US20120403509	20120223
US9360643 BB	20160607	US20120486795	20120601
US9399269 BB	20160726	US20140213212	20140314
US9492885 BB	20161115	US20150803228	20150720
US9512679 BB	20161206	US20130104395	20131212
US9534447 BB	20170103	US20140335627	20140718
US9545692 BB	20170117	US20130080722	20131114
US9562395 BB	20170207	US20120403615	20120223
US9664012 BB	20170530	US20130105949	20131213
US9669492 BB	20170606	US20130966969	20130814
US9719302 BB	20170801	US20130782869	20130301
US9784037 BB	20171010	US20150746382	20150622
US9845652 BB	20171219	US20130015003	20130830
US10001612 BB	20180619	US20160154718	20160513
US10036232 BB	20180731	US20130058681	20131021
US10042123 BB	20180807	US20160147269	20160505
US10053967 BB	20180821	US20130082026	20131115
US10195687 BB	20190205	US20130139680	20131223
US10199798 BB	20190205	US20150958864	20151203
US10301912 BB	20190528	US20140214304	20140314
US10323460 BB	20190618	US20170821411	20171122
US10337273 BB	20190702	US20160218509	20160725
WO10096086 A1	20100826	WO2009US54295	20090819
WO10144160 A1	20101216	WO2010US24368	20100217
WO12012436 A2	20120126	WO2011US44548	20110719

WO12012436 A3	20120315	WO2011US44548	20110719
WO12024285 A1	20120223	WO2011US47902	20110816
WO12031009 A1	20120308	WO2011US50044	20110831
WO12096966 A2	20120719	WO2012US20789	20120110
WO12096966 A3	20121004	WO2012US20789	20120110
WO12116148 A1	20120830	WO2012US26265	20120223
WO12116153 A1	20120830	WO2012US26277	20120223
WO12116155 A1	20120830	WO2012US26280	20120223
WO12161789 A1	20121129	WO2012US26471	20120224
WO12167102 A1	20121206	WO2012US40490	20120601
WO13019959 A2	20130207	WO2012US49338	20120802
WO13019959 A3	20130328	WO2012US49338	20120802
WO13130302 A1	20130906	WO2013US26673	20130219
WO14036430 A2	20140306	WO2013US57569	20130830
WO14036430 A3	20140626	WO2013US57569	20130830
WO14078663 A2	20140522	WO2013US70321	20131115
WO14078663 A3	20140821	WO2013US70321	20131115
WO14089544 A2	20140612	WO2013US73760	20131207
WO14089544 A3	20140807	WO2013US73760	20131207
WO14144591 A2	20140918	WO2014US29067	20140314
WO14144591 A3	20141211	WO2014US29067	20140314
WO14144887 A2	20140918	WO2014US29482	20140314
WO14144887 A3	20141204	WO2014US29482	20140314
WO14149114 A2	20140925	WO2013US77614	20131223
WO14149114 A3	20150115	WO2013US77614	20131223
WO18075799 A1	20180426	WO2017US57442	20171019

Priority:

US20080090384P	20080820	US20080102730P	20081003	US20080110273P	20081003
US20080106472P	20081017	US20090320581	20090129	US20090153271P	20090217
CA20092734492	20090819	CA20092823922	20090819	JP20110523959	20090819
JP20110523959T	20090819	US20090543968	20090819	US20090543986	20090819
US20090544038	20090819	US20090544094	20090819	US20090544136	20090819
WO2009US54295	20090819	US20090247796P	20091001	US20100295562P	20100115
US20100706576	20100216	WO2010US24368	20100217	US20100840978	20100721
US20100374594P	20100817	US20100378910P	20100831	US20100896021	20101001
US20110431827P	20110111	US20110439970P	20110207	US20110431830P	20110207
US20110034037	20110224	US20110034183	20110224	US20110034017	20110224
US20110034175	20110224	US20110446042P	20110224	US20110446043P	20110224
US20110446312P	20110224	US20110446040P	20110224	US20110446041P	20110224
US20110446412P	20110224	US20110446407P	20110224	US20110446047P	20110224
US20110493174P	20110603	WO2011US44548	20110719	US20110514391P	20110802
US20110210581	20110816	WO2011US47902	20110816	US20110211729	20110817
US20110222931	20110831	WO2011US50044	20110831	US20120347445	20120110
WO2012US20789	20120110	US20120366882	20120206	US20120403692	20120223
US20120403615	20120223	US20120403132	20120223	US20120403287	20120223
US20120403723	20120223	US20120403741	20120223	US20120403509	20120223
WO2012US26265	20120223	WO2012US26471	20120224	US20120605429P	20120301
US20120605434P	20120301	US20120605422P	20120301	US20120605413P	20120301
US20120605401P	20120301	US20120486795	20120601	WO2012US40490	20120601
US20120565345	20120802	WO2012US49338	20120802	US20120696142P	20120901
US20120727096P	20121115	US20120734809P	20121207	US20120745661P	20121224
US20130755745P	20130123	US20130768149	20130215	US20130768149P	20130215
EP20130754543	20130219	WO2013US26673	20130219	US20130777650	20130226
US20130782869	20130301	US20130782942	20130301	US20130800559	20130313
US20130800933	20130313	US20130800820	20130313	US20130800879	20130313
US20130786687P	20130315	US20130798875P	20130315	US20130786875P	20130315
US20130786763P	20130315	US20130852719	20130328	US20130966969	20130814
US20130015003	20130830	WO2013US57569	20130830	US20130057567	20131018
US20130058681	20131021	US20130080722	20131114	US20130082026	20131115
WO2013US70321	20131115	US20130099948	20131207	WO2013US73760	20131207
US20130104395	20131212	US20130105949	20131213	US20130139680	20131223
US20140213212	20140314	US20140214304	20140314	WO2014US29067	20140314
US20140270288	20140505	US20140330980	20140714	US20140335627	20140718
US20150746382	20150622	US20150791172	20150702	US20150803228	20150720
US20150958864	20151203	US20150262870P	20151203	US20150266509P	20151211
US20160997072	20160115	US20160064165	20160308	US20160140412	20160427
US20160147269	20160505	US20160154718	20160513	US20160218509	20160725
US20160410724P	20161020	US20160349914	20161111	US20160425793P	20161123
US20170445238	20170228	US20170603192	20170523	US20170612679	20170602
US20170656976	20170721	US20170788752	20171019	US20170821411	20171122
US20180048238	20180728	US20180058546	20180808	US20190237691	20190101
US20190267327	20190204				

Probable Assignee: FORO ENERGY INC

Assignee(s): (std): CLARK PHILIP V ; ELY JOHN ; FAIRCLOTH BRIAN O ; LAND MARK S ; KOBlick YESHAYA ; FORO ENERGY INC ; GRUBB DARYL L ; GRAY WILLIAM C ; KOLACHALAM SHARATH K ; JONES ALBERTUS REBECCA ; FRAZE JASON D ; FORD ENERGY INC ; FAIRDOTH BRIAN O ; HAVLINEK KENNETH L ; FORO EHNERDZHI INK ; KOLACHALAM SHARARTH ; KELLERMANN FRED C ; KOLACHALAM SHARARTH K ; FORO ENERGY ; FORO ENERGY INC STAR ; RINZLER CHARLES C ; ZEDIKER MARK S ; MOXLEY JOEL F ; UNDERWOOD LANCE D ; SCHROIT SAM N ; MCKAY RYAN P ; MAKKI SIAMAK ; LINYAEV EUGENE J ; MARSHALL SCOTT A ; NORTON RYAN J ; MESNARD DAVID R ; VOLKMAR JOHN F ; YEARWOOD JOHN ; ZIMMERMAN TOM ; LINYAEV EUGENCE J ; NEHLSSEN JAMES P ; WOLFE DANIEL L ; CHEVRON USA INC ; FAIRCLOTH BRIAN O ; DE WITT RONALD A ; DEWITT RON A ; DEWITT RONALD A ; DEUTCH PAUL D ; ALLEN ERIK C ; BAILEY ANDYLE G ; BERGERON HENRY A

Assignee(s): CHEVRON U S A INC ; ELY JOHN L ; DEUTSCH PAUL D ; ENERGY UNITED STATES DEPARTMENT OF ; FORO ENERGY INC LITTLETON

Inventor(s): (std): FAIRCLOTH BRIAN O ; RINZLER CHARLES C ; ZEDIKER MARK S ; MOXLEY JOEL F ; LAND MARK S ; KOBlick YESHAYA ; FAIRCLOTH BRIAN O ; YESHAYA KOBlick ; DE WITT RONALD A ; KOLACHALAM SHARATH K ; FEHRKLOT BRAJAN O ; KOBlick JESHAYA ; RINZLER CHARL Z K ; MOKSLI DZHOEL F ; LEHND MARK S ; NEHLSSEN JAMES P ; DARYL L GRUBB ; SHARATH K KOLACHALAM ; CLARK PHILIP V ; BERGERON HENRY A ; WOLFE DANIEL L ; BAILEY ANDYLE G ; PAUL D DEUTCH ; DANIEL L WOLFE ; ANDYLE G BAILEY ; ALLEN ERIK C ; KOLACHALAM SHARARTH K ; LINYAEV EUGENCE J ; ELY JOHN ; VOLKMAR JOHN F ; KOLACHALAM SHARARTH ; YEARWOOD JOHN ; KELLERMANN FRED C ; ELY JOHN L ;

ZIMMERMAN TOM ; FAIRDOTH BRIAN O ; MESNARD DAVID R ; NORTON RYAN J ; FRAZE JASON D ; JONES ALBERTUS REBECCA ; MAKKI SIAMAK ; MCKAY RYAN P ; DEUTCH PAUL D ; GRAY WILLIAM C ; DEWITT RONALD A ; SCHROIT SAM N ; GRUBB DARYL L ; UNDERWOOD LANCE D ; DEWITT RON A ; BRIAN O FAIRCLOTH ; CHARLES C RINZLER ; JOEL F MOXLEY ; MARK S ZEDIKER ; MARK S LAND ; HAVLINEK KENNETH L ; MARSHALL SCOTT A ; LINYAEV EUGENE J ; FAIRCLOTH BRIAN ; KUZNETSOV ANDREY ; LEE IAN ; GRUBB DARYL

Inventor(s): ERIK C ALLEN ; GRUBB DARYL L HOUSTON ; KOLACHALAM SHARATH K SUGAR LAND ; FAIRCLOTH BRIAN O EVERGREEN ; ZEDIKER MARK S CASTLE ROCK ; MARK SZEDIKER ; JOEL FMOXLEY ; CHARLES CRINZLER ; BRIAN OFAIRCLOTH ; DEUTSCH PAUL D

Agent(s): SPRUSON AND FERGUSON; CASSAN MACLEAN; CASSAN MACLEAN IP AGENCY INC; BUNGARTZ KLAUS PETER; BUNGARTZ CHRISTOPHERSEN PARTNERSCHAFT MBB PATENTANWAELTE; TERSTEEGEN FELIX; BUNGARTZ CHRISTOPHERSEN PARTNERSCHAFT MBB PATENTANWAELTE; SABA AND CO TMP; SAUD M A SHAWWAF LAW OFFICE; ITOH SHIGERU; BRINKS HOFER GILSON AND LIONE; FORO ENERGY/BHGL; FORO ENERGY BHGL; GLEN; GLEN P; STEPTOE AND JOHNSON LLP; STEPTOE AND JOHNSON; BRIAN; STEPTOE AND JOHNSON LLC; BELVIS LAW LLC; BELVIS GLEN P; FREEMAN JOHN C; BELVIS GLEN P ET AL

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AU2009340454 AA	20100826	LSPB	+	published / reissued	
AU2009340454 AA	20170323	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2) (E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
AU2012259435 AA	20121129	LSPB	+	published / reissued	
AU2012259435 AA	20170119	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012259435 BB	20160922	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2012259435 BB	20320224	PEXP		Calculated Patent Term Expiry	
AU2014228980 AA	20151008	LSPB	+	published / reissued	
AU2014228980 BB	20180222	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2014228980 BB	20180621	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2014228980 BB	20340314	PEXP		Calculated Patent Term Expiry	
BRPI0918403 A2	20181023	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION (OPINION)	
BRPI0918403 A2	20190129	LSRV	B09B	DECISION: REFUSAL	
BRPI0918403 A2	20190416	LSRV	B09B	DECISION: REFUSAL	TEXT : MANTIDO O INDEFERIMENTO UMA VEZ QUE NAO FOI APRESENTADO RECURSO DENTRO DO PRAZO LEGAL
CA2734492 AA	20100826	LSPB	+	published / reissued	
CA2734492 AA	20110216	LSES	+EEER	EXAMINATION REQUEST	
CA2734492 C	20160517	LSGT	+	granted / extensions (spc, cpc, pte)	

CA2734492 C	20290819	PEXP		Calculated Patent Term Expiry	
CA2805437 AA	20130114	LSPB	+	published / reissued	
CA2805437 AA	20130224	LSSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130114
CA2805437 C	20160906	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2805437 C	20310719	PEXP		Calculated Patent Term Expiry	
CA2808214 AA	20130212	LSPB	+	published / reissued	
CA2808214 AA	20130321	LSSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130212
CA2808214 C	20160223	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2808214 C	20310816	PEXP		Calculated Patent Term Expiry	
CA2823922 AA	20100826	LSPB	+	published / reissued	
CA2823922 AA	20130925	LSSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130819
CA2823922 AA	20180220	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20180109
CA2827958 AA	20130821	LSPB	+	published / reissued	
CA2827958 AA	20180409	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20180226
CA2891500 AA	20150513	LSPB	+	published / reissued	
CA2891500 AA	20180703	LSSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20180626
CA2906738 AA	20150914	LSPB	+	published / reissued	
CA2906738 AA	20190205	LSSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20190131
CN102187046 A	20110914	LSPB	+	published / reissued	
CN102187046 A	20110914	LSPB	+C06	PUBLICATION	
CN102187046 B	20150429	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102187046 B	20150429	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102187046 B	20290819	PEXP		Calculated Patent Term Expiry	
CN103492668 A	20140101	LSPB	+	published / reissued	
CN103492668 A	20140101	LSPB	+C06	PUBLICATION	
CN103492668 A	20170215	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103492668 B	20170215	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103492668 B	20320224	PEXP		Calculated Patent Term Expiry	
EP2315904 A1	20110504	LSPB	+	published / reissued	
EP2315904 A1	20110504	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20110218
EP2315904 A4	20160420	LSSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20160321
EP2315904 A4	20170301	LSSES	+17Q	FIRST EXAMINATION	EFFECTIVE DATE : 20170130

				REPORT DESPATCHED		
EP2315904 A4	20181212	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20181116	
EP2315904 B1	20190206	LSGT	+	granted / extensions (spc, cpc, pte)		
EP2315904 B1	20190206	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D	
EP2315904 B1	20190215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP	
EP2315904 B1	20190215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1095022 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190215	
EP2315904 B1	20190306	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D	
EP2315904 B1	20190307	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602009056961 COUNTRY OF REF DOCUMENT : DE	
EP2315904 B1	20190513	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NO REF LEGAL EVENT CODE : T2 EFFECTIVE DATE : 20190206	
EP2315904 B1	20190625	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D	
EP2315904 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190206	
EP2315904 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190206	
EP2315904 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190606	
EP2315904 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190206	
EP2315904 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190206	
EP2315904 B1	20290819	PEXP		Calculated Patent Term Expiry		
EP2399155 A1	20111228	LSPB	+	published / reissued		
EP2399155 A1	20111228	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20110919	

EP2399155 A4	20140709	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20140610
EP2399155 A4	20150408	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20150304
EP2399155 A4	20151216	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20150715
EP2596395 A2	20130529	LSPB	+	published / reissued	
EP2596395 A2	20130529	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130218
EP2596395 A4	20171227	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20171129
EP2606201 A1	20130626	LSPB	+	published / reissued	
EP2606201 A1	20130626	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130314
EP2606201 A4	20180307	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20180207
EP2611566 A1	20130710	LSPB	+	published / reissued	
EP2611566 A1	20130710	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130325
EP2611566 A4	20171108	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20171009
EP2611566 A4	20180808	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20180301
EP2664010 A2	20131120	LSPB	+	published / reissued	
EP2664010 A2	20131120	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130730
EP2664010 A4	20180627	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20180528
EP2678512 A1	20140101	LSPB	+	published / reissued	
EP2678512 A1	20140101	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130920
EP2678512 A4	20170614	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20170517
EP2678512 A4	20180627	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20171213
EP2678521 A1	20140101	LSPB	+	published / reissued	
EP2678521 A1	20140101	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130920
EP2678521 A4	20180307	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20180207
EP2678521 A4	20190213	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20180901

EP2715887 A1	20140409	LSPB	+	published / reissued	
EP2715887 A1	20140409	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20131219
EP2715887 A4	20161123	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20161020
EP2715887 A4	20171115	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20170519
EP2739429 A2	20140611	LSPB	+	published / reissued	
EP2739429 A2	20140611	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140228
EP2739429 A4	20161102	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20161006
EP2739429 A4	20171004	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20170904
EP2739429 A4	20180711	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180615
EP2820466 A1	20150107	LSPB	+	published / reissued	
EP2820466 A1	20150107	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20141001
EP2820466 A4	20160330	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20160229
EP2820466 A4	20180829	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180803
EP2820466 B1	20181010	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2820466 B1	20181010	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2820466 B1	20181015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2820466 B1	20181015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1051920 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181015
EP2820466 B1	20181031	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2820466 B1	20181108	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602013044874 COUNTRY OF REF DOCUMENT : DE
EP2820466 B1	20190225	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2820466 B1	20190315	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1051920 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181010
EP2820466 B1	20190329	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION	COUNTRY OF REF DOCUMENT : NL NOTIFICATION OF LAPSE : 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]	LAPSED DATE : 20181010
EP2820466 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190210
EP2820466 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190110
EP2820466 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190110
EP2820466 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190312 YEAR OF FEE PAYMENT : 7

EP2820466 B1	20190430	LSFE	+PGFP	FROM NATIONAL OFFICE TO EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190118 YEAR OF FEE PAYMENT : 7
EP2820466 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190111
EP2820466 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RS NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AL NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190210
EP2820466 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181010
EP2820466 B1	20330219	PEXP		Calculated Patent Term Expiry	
EP2890859 A2	20150708	LSPB	+	published / reissued	
EP2890859 A2	20150708	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150331
EP2890859 A4	20161102	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20161006

EP2890859 A4	20171115	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20170505
EP2929602 A2	20151014	LSPB	+	published / reissued	
EP2929602 A2	20151014	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150707
EP2929602 A4	20161221	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20161123
EP2929602 A4	20190710	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20190605
GC3576 A	20150604	LSGT	+	granted / extensions (spc, cpc, pte)	
GC3576 A	20291031	PEXP		Calculated Patent Term Expiry	
GC5934 A	20170716	LSGT	+	granted / extensions (spc, cpc, pte)	
GC5934 A	20330302	PEXP		Calculated Patent Term Expiry	
JP2012500350 T2	20120105	LSPB	+	published / reissued	
JP2012500350 T2	20120821	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120820
JP2012500350 T2	20120821	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20120820
JP2012500350 T2	20120904	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120903
JP2012500350 T2	20130828	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130827
JP2012500350 T2	20140227	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140226
JP2012500350 T2	20140521	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20140520
JP2012518210 T2	20120809	LSPB	+	published / reissued	
JP2012518210 T2	20130216	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130215
JP2012518210 T2	20130216	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20130215
JP2012518210 T2	20130918	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130917
JP2012518210 T2	20140318	LSRE	A524	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 19 (PCT)	TEXT : JAPANESE INTERMEDIATE CODE: A524 EFFECTIVE DATE : 20140317
JP2012518210 T2	20140910	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140909
JP2012518210 T2	20141202	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20141201
JP2012518210 T2	20141212	LSGT	+TRDD	DECISION OF GRANT OR	

JP2012518210 T2	20150107	LSGT	+A01	REJECTION WRITTEN WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20150106
JP2012518210 T2	20150122	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20150114
JP2012518210 T2	20150123	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5684151 COUNTRY OF REF DOCUMENT : JP
JP2015017498 A2	20150129	LSPB	+	published / reissued	
JP2015017498 A2	20150708	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150707
JP2015017498 A2	20151001	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151001
JP2015017498 A2	20151105	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2015017498 A2	20151112	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20151111
JP2015017498 A2	20151126	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20151119
JP2015017498 A2	20151127	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5844868 COUNTRY OF REF DOCUMENT : JP
JP5684151 B2	20150311	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5684151 B2	20150108	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5684151 B2	20150120	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5684151 B2	20150123	LSGT	+R150	特許証 (Patent certificate)	
JP5684151 B2	20180125	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5684151 B2	20180130	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5684151 B2	20181227	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5684151 B2	20190108	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5684151 B2	20300217	PEXP		Calculated Patent Term Expiry	
JP5844868 B2	20160120	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5844868 B2	20151119	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5844868 B2	20151124	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5844868 B2	20151127	LSGT	+R150	特許証 (Patent	

certificate)					
JP5844868 B2	20181011	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5844868 B2	20181016	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5844868 B2	20340919	PEXP		Calculated Patent Term Expiry	
MX2011001908 A1	20110620	LSPB	+	published / reissued	
MX2011001908 A1	20180425	LSGT	+FG	GRANT OR REGISTRATION	
MX355677 B	20180425	LSGT	+	granted / extensions (spc, cpc, pte)	
MX355677 B	20290819	PEXP		Calculated Patent Term Expiry	
RU2011110388 A	20120927	LSPB	+	published / reissued	
RU2011138270 A	20130327	LSPB	+	published / reissued	
RU2522016 C2	20140710	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2522016 C2	20290819	PEXP		Calculated Patent Term Expiry	
RU2551392 C2	20150520	LSGT	+	granted / extensions (spc, cpc, pte)	
RU2551392 C2	20300217	PEXP		Calculated Patent Term Expiry	
SG192915 A1	20130930	LSPB	+	published / reissued	
US10001612 BB	20180619	LSGT	+	granted / extensions (spc, cpc, pte)	
US10001612 BB	20360513	PEXP		Calculated Patent Term Expiry	
US10036232 BB	20180731	LSGT	+	granted / extensions (spc, cpc, pte)	
US10036232 BB	20140106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEWITT, RONALD A.; ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20111107 TO 20111202; REEL/FRAE:031900/0416
US10036232 BB	20180711	LSGT	PAT1	Patented Case	
US10036232 BB	20350131	PEXP		Calculated Patent Term Expiry (PTA 467 days and a terminal disclaimer has been filed)	
US10042123 BB	20180807	LSGT	+	granted / extensions (spc, cpc, pte)	
US10042123 BB	20160728	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RINZLER, CHARLES C; GRAY, WILLIAM C; FRAZE, JASON D; AND OTHERS; REEL/FRAE:039284/0712 EFFECTIVE DATE : 20120919
US10042123 BB	20180718	LSGT	PAT1	Patented Case	
US10042123 BB	20360505	PEXP		Calculated Patent Term Expiry	

US10053967 BB	20180821	LSGT	+	granted / extensions (spc, cpc, pte)	
US10053967 BB	20140815	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEUTCH, PAUL D.; DE WITT, RONALD A.; KELLERMANN, FRED C.; AND OTHERS; SIGNING DATES FROM 20140204 TO 20140209; REEL/FRAME:033545/0460
US10053967 BB	20180801	LSGT	PAT1	Patented Case	
US10053967 BB	20350405	PEXP		Calculated Patent Term Expiry (PTA 506 days)	
US10195687 BB	20190205	LSGT	+	granted / extensions (spc, cpc, pte)	
US10195687 BB	20140814	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LAND, MARK S.; VOLKMAR, JOHN F.; ZEDIKER, MARK S.; AND OTHERS; SIGNING DATES FROM 20140203 TO 20140725; REEL/FRAME:033535/0209
US10195687 BB	20190116	LSGT	PAT1	Patented Case	
US10195687 BB	20351211	PEXP		Calculated Patent Term Expiry (PTA 718 days)	
US10199798 BB	20190205	LSGT	+	granted / extensions (spc, cpc, pte)	
US10199798 BB	20190116	LSGT	PAT1	Patented Case	
US10199798 BB	20351226	PEXP		Calculated Patent Term Expiry (PTA 23 days)	
US10301912 BB	20190528	LSGT	+	granted / extensions (spc, cpc, pte)	
US10301912 BB	20160622	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEWITT, RONALD A; NEHLSSEN, JAMES P; MOXLEY, JOEL F; AND OTHERS; SIGNING DATES FROM 20160421 TO 20160610; REEL/FRAME:038980/0071
US10301912 BB	20190508	LSGT	PAT1	Patented Case	
US10301912 BB	20361202	PEXP		Calculated Patent Term Expiry (PTA 994 days)	
US10323460 BB	20190618	LSGT	+	granted / extensions (spc, cpc, pte)	
US10323460 BB	20171122	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10323460 BB	20171227	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10323460 BB	20371122	PEXP		Calculated Patent Term Expiry	
US10337273 BB	20190702	LSGT	+	granted / extensions (spc, cpc, pte)	
US10337273 BB	20370810	PEXP		Calculated Patent Term Expiry (PTA 381	

days)					
US2010044102 AA	20100225	LSPB	+	published / reissued	
US2010044102 AA	20140108	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2010044103 AA	20100225	LSPB	+	published / reissued	
US2010044103 AA	20140820	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2010044104 AA	20100225	LSPB	+	published / reissued	
US2010044104 AA	20140813	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2010044105 AA	20100225	LSPB	+	published / reissued	
US2010044105 AA	20130403	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2010044106 AA	20100225	LSPB	+	published / reissued	
US2010044106 AA	20130307	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; RINZLER, CHARLES C.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:029938/0294
US2010044106 AA	20130731	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2010215326 AA	20100826	LSPB	+	published / reissued	
US2010215326 AA	20110304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:KOBlick, YESHAYA; REEL/FRAME:025900/0904 EFFECTIVE DATE : 20110213
US2010215326 AA	20160504	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012020631 AA	20120126	LSPB	+	published / reissued	
US2012020631 AA	20131009	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012067643 AA	20120322	LSPB	+	published / reissued	
US2012067643 AA	20111206	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEWITT, RON A.; ZEDIKER, MARK S.; RINZLER, CHARLES S.; AND OTHERS; SIGNING DATES FROM 20111110 TO 20111202; REEL/FRAME:027340/0897
US2012067643 AA	20170405	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012068086 AA	20120322	LSPB	+	published / reissued	
US2012068086 AA	20140106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEWITT, RONALD A.; ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20111107 TO 20111202; REEL/FRAME:031900/0416

US2012068086 AA	20140212	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012074110 AA	20120329	LSPB	+	published / reissued	
US2012074110 AA	20111215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; GRUBB, DARYL L.; KOLACHALAM, SHARATH K.; AND OTHERS; SIGNING DATES FROM 20111107 TO 20111201; REEL/FRAME:027391/0191
US2012074110 AA	20150706	LSES	NFA1	Non Final Action Mailed	
US2012074110 AA	20161121	LSES	NFA1	Non Final Action Mailed	
US2012074110 AA	20170731	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012217018 AA	20120830	LSPB	+	published / reissued	
US2012217018 AA	20140702	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012248078 AA	20121004	LSPB	+	published / reissued	
US2012248078 AA	20150422	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012255774 AA	20121011	LSPB	+	published / reissued	
US2012255774 AA	20170118	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012255933 AA	20121011	LSPB	+	published / reissued	
US2012255933 AA	20150902	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012261188 AA	20121018	LSPB	+	published / reissued	
US2012261188 AA	20120706	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; ALLEN, ERIK C.; SIGNING DATES FROM 20120517 TO 20120605; REEL/FRAME:028497/0831
US2012261188 AA	20161102	LSES	NFA1	Non Final Action Mailed	
US2012261188 AA	20170824	LSES	NFA1	Non Final Action Mailed	
US2012261188 AA	20180411	LSES	NFA1	Non Final Action Mailed	
US2012261188 AA	20190219	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012266803 AA	20121025	LSPB	+	published / reissued	
US2012266803 AA	20150624	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012267168 AA	20121025	LSPB	+	published / reissued	
US2012267168 AA	20150617	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012273269 AA	20121101	LSPB	+	published / reissued	
US2012273269 AA	20160203	LSGT	STCF	INFORMATION ON STATUS:	TEXT : PATENTED CASE

PATENT GRANT					
US2012273470 AA	20121101	LSPB	+	published / reissued	
US2012273470 AA	20120713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; REEL/FRAME:028541/0978 EFFECTIVE DATE : 20120517
US2012273470 AA	20170307	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012275159 AA	20121101	LSPB	+	published / reissued	
US2012275159 AA	20160518	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013011102 AA	20130110	LSPB	+	published / reissued	
US2013011102 AA	20160518	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013175090 AA	20130711	LSPB	+	published / reissued	
US2013175090 AA	20150220	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S., MR.; RINZLER, CHARLES C., MR.; FAIRCLOTH, BRIAN O., MR.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:034999/0249
US2013175090 AA	20150318	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013192893 AA	20130801	LSPB	+	published / reissued	
US2013192893 AA	20140402	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013192894 AA	20130801	LSPB	+	published / reissued	
US2013192894 AA	20140509	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; RINZLER, CHARLES C.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:032861/0013
US2013192894 AA	20140604	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013228372 AA	20130905	LSPB	+	published / reissued	
US2013228372 AA	20160125	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LINYAEV, EUGENE J.; ZEDIKER, MARK S.; GRUBB, DARYL L.; AND OTHERS; SIGNING DATES FROM 20150120 TO 20150602; REEL/FRAME:037575/0336
US2013228372 AA	20160125	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : EMPLOYEE AGREEMENT; ASSIGNOR: SCHROIT, SAM; REEL/FRAME:037590/0976 EFFECTIVE DATE : 20100322
US2013228372 AA	20170525	LSES	+NAM1	Notice of Allowance Mailed --	

					Application Received in Office of Publications
US2013228372 AA	20170623	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2013228372 AA	20170626	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2013228557 AA	20130905	LSPB	+	published / reissued	
US2013228557 AA	20150522	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; KOLACHALAM, SHARATH K.; AND OTHERS; SIGNING DATES FROM 20150420 TO 20150422; REEL/FRAME:035702/0220
US2013228557 AA	20160106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013266031 AA	20131010	LSPB	+	published / reissued	
US2013266031 AA	20141018	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NORTON, RYAN J.; MCKAY, RYAN P.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20140909 TO 20140915; REEL/FRAME:033976/0255
US2013266031 AA	20160106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013319984 AA	20131205	LSPB	+	published / reissued	
US2013319984 AA	20140806	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LINYAEV, EUGENE J.; MARSHALL, SCOTT A.; GRUBB, DARYL L.; AND OTHERS; SIGNING DATES FROM 20140203 TO 20140207; REEL/FRAME:033474/0049
US2013319984 AA	20170427	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2013319984 AA	20170517	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014000902 AA	20140102	LSPB	+	published / reissued	
US2014000902 AA	20150515	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CHEVRON U.S.A. INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WOLFE, DANIEL L.; GRUBB, DARYL L.; DEUTCH, PAUL D.; AND OTHERS; SIGNING DATES FROM 20150420 TO 20150427; REEL/FRAME:035652/0351
US2014000902 AA	20150515	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WOLFE, DANIEL L.; GRUBB, DARYL L.; DEUTCH, PAUL D.; AND OTHERS; SIGNING DATES FROM 20150420 TO 20150427; REEL/FRAME:035652/0351
US2014000902 AA	20170321	LSSES	NFA1	Non Final Action Mailed	

US2014000902 AA	20170616	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CHEVRON, U.S.A. INC.,; REEL/FRAME:042734/0962 EFFECTIVE DATE : 20170117
US2014000902 AA	20170810	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014000902 AA	20171113	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2014000902 AA	20171114	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2014000902 AA	20171129	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014060802 AA	20140306	LSPB	+	published / reissued	
US2014060802 AA	20140723	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; RINZLER, CHARLES C.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:033373/0862
US2014060802 AA	20141008	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014060930 AA	20140306	LSPB	+	published / reissued	
US2014060930 AA	20140722	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; RINZLER, CHARLES C.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:033364/0486
US2014060930 AA	20141230	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014090846 AA	20140403	LSPB	+	published / reissued	
US2014090846 AA	20140814	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEUTCH, PAUL D.; MARSHALL, SCOTT A.; GRUBB, DARYL L.; AND OTHERS; SIGNING DATES FROM 20140812 TO 20140813; REEL/FRAME:033536/0434
US2014090846 AA	20170510	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014190949 AA	20140710	LSPB	+	published / reissued	
US2014190949 AA	20140827	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; GRUBB, DARYL L.; AND OTHERS; SIGNING DATES FROM 20140815 TO 20140818; REEL/FRAME:033621/0769

US2014190949 AA	20160705	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014231085 AA	20140821	LSPB	+	published / reissued	
US2014231085 AA	20150708	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014231398 AA	20140821	LSPB	+	published / reissued	
US2014231398 AA	20180316	LSES	NFA1	Non Final Action Mailed	
US2014231398 AA	20190116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014248025 AA	20140904	LSPB	+	published / reissued	
US2014248025 AA	20141015	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015129203 AA	20150514	LSPB	+	published / reissued	
US2015129203 AA	20150715	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ENERGY, UNITED STATES DEPARTMENT OF, DISTRICT OF C OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:FORO ENERGY, INC.; REEL/FRAME:036109/0947 EFFECTIVE DATE : 20150323
US2015129203 AA	20171207	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2015129203 AA	20171208	LSES	NFA1	Non Final Action Mailed	
US2015129203 AA	20180421	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2015129203 AA	20180423	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015129203 AA	20180428	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2015129203 AA	20180430	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015129203 AA	20180717	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2015129203 AA	20180801	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015307174 AA	20151029	LSPB	+	published / reissued	
US2015307174 AA	20151214	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; RINZLER, CHARLES C.; REEL/FRAME:037283/0491 EFFECTIVE DATE : 20120706
US2015307174 AA	20160413	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015308194 AA	20151029	LSPB	+	published / reissued	
US2015308194 AA	20150220	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOXLEY, JOEL F., MR.; LAND, MARK S., MR.; RINZLER,

CHARLES C., MR.; AND OTHERS;
SIGNING DATES FROM 20090818 TO
20090819;
REEL/FRAME:034999/0661

US2015308194 AA	20170505	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015321290 AA	20151112	LSPB	+	published / reissued	
US2015321290 AA	20161003	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S; GRUBB, DARYL L; DE WITT, RONALD A; AND OTHERS; SIGNING DATES FROM 20121003 TO 20121005; REEL/FRAME:039924/0987
US2015321290 AA	20161026	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015322738 AA	20151112	LSPB	+	published / reissued	
US2015322738 AA	20160128	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RINZLER, CHARLES C.; ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; AND OTHERS; REEL/FRAME:037614/0307 EFFECTIVE DATE : 20090818
US2015322738 AA	20161116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016017661 AA	20160121	LSPB	+	published / reissued	
US2016017661 AA	20161214	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016084008 AA	20160324	LSPB	+	published / reissued	
US2016084008 AA	20160401	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FAIRCLOTH, BRIAN O.; KOBICK, YESHAYA; MOXLEY, JOEL F.; AND OTHERS; SIGNING DATES FROM 20160210 TO 20160401; REEL/FRAME:038176/0033
US2016084008 AA	20170322	LSES	NFA1	Non Final Action Mailed	
US2016084008 AA	20170906	LSES	NFA1	Non Final Action Mailed	
US2016084008 AA	20190116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016090790 AA	20160331	LSPB	+	published / reissued	
US2016186497 AA	20160630	LSPB	+	published / reissued	
US2016186497 AA	20170606	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016186497 AA	20170901	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016186497 AA	20170920	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016186524 AA	20160630	LSPB	+	published / reissued	
US2016186524 AA	20160805	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC.,

					TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FAIRCLOTH, BRIAN O; ZEDIKER, MARK S; SIGNING DATES FROM 20160802 TO 20160803; REEL/FRAME:039359/0170
US2016186524 AA	20170616	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CHEVRON, U.S.A. INC.,; REEL/FRAME:042734/0962 EFFECTIVE DATE : 20170117
US2016186524 AA	20170927	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2016186524 AA	20171002	LSES	NFA1	Non Final Action Mailed	
US2016186524 AA	20180402	LSES	NFA1	Non Final Action Mailed	
US2016186524 AA	20190611	LSES	NFA1	Non Final Action Mailed	
US2016187588 AA	20160630	LSPB	+	published / reissued	
US2016187588 AA	20160304	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NORTON, RYAN J; MCKAY, RYAN P; FRAZE, JASON D; AND OTHERS; SIGNING DATES FROM 20140909 TO 20140915; REEL/FRAME:037897/0747
US2016187588 AA	20170418	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2016221125 AA	20160804	LSPB	+	published / reissued	
US2016221125 AA	20161228	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016222763 AA	20160804	LSPB	+	published / reissued	
US2016222763 AA	20170807	LSES	NFA1	Non Final Action Mailed	
US2016222763 AA	20180322	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016222763 AA	20180323	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016222763 AA	20180403	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2016222763 AA	20180405	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016222763 AA	20180627	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2016222763 AA	20180628	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016222763 AA	20180711	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016251940 AA	20160901	LSPB	+	published / reissued	
US2016251940 AA	20171220	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	

US2016251940 AA	20171227	LSES	NFA1	Non Final Action Mailed	
US2016251940 AA	20190103	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016251940 AA	20190508	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016299304 AA	20161013	LSPB	+	published / reissued	
US2016299304 AA	20161214	LSES	NFA1	Non Final Action Mailed	
US2016299304 AA	20180222	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016299304 AA	20180306	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC, COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S; RINZLER, CHARLES C; FAIRCLOTH, BRIAN O; AND OTHERS; REEL/FRAME:045117/0305 EFFECTIVE DATE : 20100504
US2016299304 AA	20180530	LSGT	PAT1	Patented Case	
US2016299304 AA	20180530	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016341906 AA	20161124	LSPB	+	published / reissued	
US2016341906 AA	20170731	LSES	NFA1	Non Final Action Mailed	
US2016341906 AA	20180325	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016341906 AA	20180326	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016341906 AA	20180627	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2016341906 AA	20180628	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016341906 AA	20180718	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017016299 AA	20170119	LSPB	+	published / reissued	
US2017016299 AA	20161004	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FAIRCLOTH, BRIAN O; GRUBB, DARYL; MARSHALL, SCOTT A; AND OTHERS; SIGNING DATES FROM 20160810 TO 20160829; REEL/FRAME:039929/0822
US2017016299 AA	20190208	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017016299 AA	20190513	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017016299 AA	20190612	LSGT	PAT1	Patented Case	
US2017016299 AA	20190612	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US2017059854 AA	20170302	LSPB	+	published / reissued	
US2017059854 AA	20160805	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FRAZE, JASON D; FAIRCLOTH, BRIAN O; ZEDIKER, MARK S; SIGNING DATES FROM 20160802 TO 20160803; REEL/FRAME:039359/0122
US2017059854 AA	20170818	LSES	NFA1	Non Final Action Mailed	
US2017059854 AA	20171228	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2017059854 AA	20180104	LSES	NFA1	Non Final Action Mailed	
US2017059854 AA	20180730	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2017183913 A9	20170712	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017191314 AA	20170706	LSPB	+	published / reissued	
US2017191314 AA	20170530	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FAIRCLOTH, BRIAN O; ZEDIKER, MARK S; LAND, MARK S; AND OTHERS; SIGNING DATES FROM 20170424 TO 20170523; REEL/FRAME:042525/0352
US2017191314 AA	20180605	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2017191314 AA	20180606	LSES	NFA1	Non Final Action Mailed	
US2017214213 AA	20170727	LSPB	+	published / reissued	
US2017214213 AA	20140813	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; RINZLER, CHARLES C.; SIGNING DATES FROM 20140210 TO 20140812; REEL/FRAME:033525/0747
US2017214213 AA	20170907	LSES	NFA1	Non Final Action Mailed	
US2017214213 AA	20180130	LSES	NFA1	Non Final Action Mailed	
US2017214213 AA	20180904	LSES	NFA1	Non Final Action Mailed	
US2017252858 AA	20170907	LSPB	+	published / reissued	
US2017252858 AA	20170628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; GRUBB, DARYL L.; DEWITT, RONALD A.; AND OTHERS; SIGNING DATES FROM 20121003 TO 20121005; REEL/FRAME:043019/0860
US2017252858 AA	20190329	LSES	NFA1	Non Final Action Mailed	
US2017252858 AA	20190705	LSES	NFA1	Non Final Action Mailed	
US2017266760 AA	20170921	LSPB	+	published / reissued	
US2017321486 AA	20171109	LSPB	+	published / reissued	
US2017321486 AA	20181219	LSES	NFA1	Non Final Action	

Mailed				
US2018045024 AA	20180215	LSPB	+	published / reissued
US2018045024 AA	20181212	LSES	NFA1	Non Final Action Mailed
US2018045895 AA	20180215	LSPB	+	published / reissued
US2018045895 AA	20181207	LSES	NFA1	Non Final Action Mailed
US2018045895 AA	20190716	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications
US2018163477 AA	20180614	LSPB	+	published / reissued
US2018163477 AA	20190204	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications
US2018163477 AA	20190313	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid
US2018163477 AA	20190322	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications
US2018163477 AA	20190529	LSGT	PAT1	Patented Case
US2018163477 AA	20190529	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT
US2018328150 AA	20181115	LSPB	+	published / reissued
US2018328150 AA	20190328	LSES	NFA1	Non Final Action Mailed
US2018328150 AA	20190702	LSAS	AS	ASSIGNMENT PARTYTYPE : OWNER OWNER : FORO ENERGY INC, COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEWITT, RONALD A; ZEDIKER, MARK S; FAIRCLOTH, BRIAN O; AND OTHERS; SIGNING DATES FROM 20111107 TO 20111202; REEL/FRAME:049659/0177
US2019040726 AA	20190207	LSPB	+	published / reissued
US2019178036 AA	20190613	LSPB	+	published / reissued
US2019178036 AA	20190411	LSES	NFA1	Non Final Action Mailed
US2019240770 AA	20190808	LSPB	+	published / reissued
US8424617 BB	20130423	LSGT	+	granted / extensions (spc, cpc, pte)
US8424617 BB	20090821	LSAS	AS	ASSIGNMENT PARTYTYPE : OWNER OWNER : FORO ENERGY INC.,COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FAIRCLOTH, BRIAN O.; ZEDIKER, MARK S.; RINZLER, CHARLES C.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:023131/0563
US8424617 BB	20090821	LSAS	AS	ASSIGNMENT PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FAIRCLOTH, BRIAN O.; ZEDIKER, MARK S.; RINZLER, CHARLES C.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819;

US8424617 BB	20130403	LSGT	PAT1	Patented Case	
US8424617 BB	20130709	LSRE	CC	CERTIFICATE OF CORRECTION	
US8424617 BB	20141230	LSRE	CC	CERTIFICATE OF CORRECTION	
US8424617 BB	20161024	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8424617 BB	20300303	PEXP		Calculated Patent Term Expiry (PTA 196 days)	
US8511401 BB	20130820	LSGT	+	granted / extensions (spc, cpc, pte)	
US8511401 BB	20090821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; RINZLER, CHARLES C.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:023131/0870
US8511401 BB	20090821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; RINZLER, CHARLES C.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:023131/0870
US8511401 BB	20130731	LSGT	PAT1	Patented Case	
US8511401 BB	20170220	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8511401 BB	20310310	PEXP		Calculated Patent Term Expiry (PTA 568 days)	
US8571368 BB	20131029	LSGT	+	granted / extensions (spc, cpc, pte)	
US8571368 BB	20100727	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RINZLER, CHARLES C.; ZEDIKER, MARK S.; REEL/FRAME:024843/0221 EFFECTIVE DATE : 20100721
US8571368 BB	20131009	LSGT	PAT1	Patented Case	
US8571368 BB	20140311	LSRE	CC	CERTIFICATE OF CORRECTION	
US8571368 BB	20170501	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8571368 BB	20301024	PEXP		Calculated Patent Term Expiry (PTA 95 days)	
US8627901 BA	20140114	LSGT	+	granted / extensions (spc, cpc, pte)	
US8627901 BA	20101123	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:UNDERWOOD, LANCE D.; NORTON, RYAN J.; MCKAY, RYAN P.; AND OTHERS; REEL/FRAME:025308/0653 EFFECTIVE DATE : 20101116
US8627901 BA	20131224	LSGT	PAT1	Patented Case	
US8627901 BA	20131224	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US8627901 BA	20170714	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8627901 BA	20311203	PEXP		Calculated Patent Term Expiry (PTA 428 days)	
US8636085 BB	20140128	LSGT	+	granted / extensions (spc, cpc, pte)	
US8636085 BB	20090821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC.,COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RINZLER, CHARLES C.; ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; AND OTHERS; REEL/FRAME:023131/0725 EFFECTIVE DATE : 20090818
US8636085 BB	20090821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RINZLER, CHARLES C.; ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; AND OTHERS; REEL/FRAME:023131/0725 EFFECTIVE DATE : 20090818
US8636085 BB	20140108	LSGT	PAT1	Patented Case	
US8636085 BB	20170728	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8636085 BB	20320117	PEXP		Calculated Patent Term Expiry (PTA 881 days)	
US8662160 BB	20140304	LSGT	+	granted / extensions (spc, cpc, pte)	
US8662160 BB	20140212	LSGT	PAT1	Patented Case	
US8662160 BB	20140715	LSRE	CC	CERTIFICATE OF CORRECTION	
US8662160 BB	20170831	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8662160 BB	20320731	PEXP		Calculated Patent Term Expiry (PTA 350 days)	
US8701794 BB	20140422	LSGT	+	granted / extensions (spc, cpc, pte)	
US8701794 BB	20140402	LSGT	PAT1	Patented Case	
US8701794 BB	20160824	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S; RINZLER, CHARLES C; FAIRCLOTH, BRIAN O; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:039520/0954
US8701794 BB	20171010	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8701794 BB	20330313	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8757292 BB	20140624	LSGT	+	granted / extensions (spc, cpc, pte)	
US8757292 BB	20140604	LSGT	PAT1	Patented Case	
US8757292 BB	20171110	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8757292 BB	20330313	PEXP		Calculated Patent Term Expiry	
US8783361 BB	20140722	LSGT	+	granted / extensions (spc, cpc, pte)	

US8783361 BB	20110825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S., MR.; BERGERON, HENRY A., MR.; CLARK, PHILIP V., MR.; AND OTHERS; SIGNING DATES FROM 20110713 TO 20110817; REEL/FRAME:026806/0781
US8783361 BB	20110825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CHEVRON U.S.A. INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S., MR.; BERGERON, HENRY A., MR.; CLARK, PHILIP V., MR.; AND OTHERS; SIGNING DATES FROM 20110713 TO 20110817; REEL/FRAME:026806/0781
US8783361 BB	20110913	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE OMISSION OF PAUL D. DEUTCH AS AN ASSIGNOR TO PREVIOUSLY MAILED NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT PREVIOUSLY RECORDED ON REEL 026806 FRAME 0781. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT OF U.S. APPLN. 13/034,175 TO CHEVRON U.S.A. INC. AND FORO ENERGY INC.; ASSIGNORS:ZEDIKER, MARK S., MR.; BERGERON, HENRY A., MR.; CLARK, PHILIP V., MR.; AND OTHERS; SIGNING DATES FROM 20110713 TO 20110817; REEL/FRAME:026893/0644
US8783361 BB	20110913	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CHEVRON U.S.A. INC., TEXAS OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE OMISSION OF PAUL D. DEUTCH AS AN ASSIGNOR TO PREVIOUSLY MAILED NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT PREVIOUSLY RECORDED ON REEL 026806 FRAME 0781. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT OF U.S. APPLN. 13/034,175 TO CHEVRON U.S.A. INC. AND FORO ENERGY INC.; ASSIGNORS:ZEDIKER, MARK S., MR.; BERGERON, HENRY A., MR.; CLARK, PHILIP V., MR.; AND OTHERS; SIGNING DATES FROM 20110713 TO 20110817; REEL/FRAME:026893/0644
US8783361 BB	20140702	LSGT	PAT1	Patented Case	
US8783361 BB	20170616	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CHEVRON, U.S.A. INC.,; REEL/FRAME:042734/0962 EFFECTIVE DATE : 20170117
US8783361 BB	20171224	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL)
US8783361 BB	20180110	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8783361 BB	20321021	PEXP		Calculated Patent Term Expiry (PTA 605 days)	
US8820434 BB	20140902	LSGT	+	granted / extensions (spc, cpc, pte)	
US8820434 BB	20090821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC.,COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; LAND, MARK S.; RINZLER, CHARLES C.; AND OTHERS; SIGNING DATES

					FROM 20090818 TO 20090819; REEL/FRAME:023131/0922
US8820434 BB	20090821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; LAND, MARK S.; RINZLER, CHARLES C.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:023131/0922
US8820434 BB	20140813	LSGT	PAT1	Patented Case	
US8820434 BB	20180221	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8820434 BB	20320720	PEXP		Calculated Patent Term Expiry (PTA 1066 days)	
US8826973 BB	20140909	LSGT	+	granted / extensions (spc, cpc, pte)	
US8826973 BB	20090821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC.,COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOXLEY, JOEL F.; LAND, MARK S.; RINZLER, CHARLES C.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:023640/0326
US8826973 BB	20090821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOXLEY, JOEL F.; LAND, MARK S.; RINZLER, CHARLES C.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:023640/0326
US8826973 BB	20140820	LSGT	PAT1	Patented Case	
US8826973 BB	20180221	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8826973 BB	20310726	PEXP		Calculated Patent Term Expiry (PTA 706 days)	
US8869914 BB	20141028	LSGT	+	granted / extensions (spc, cpc, pte)	
US8869914 BB	20141008	LSGT	PAT1	Patented Case	
US8869914 BB	20180314	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8869914 BB	20330313	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8879876 BB	20141104	LSGT	+	granted / extensions (spc, cpc, pte)	
US8879876 BB	20140728	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RINZLER, CHARLES C.; ZEDIKER, MARK S.; REEL/FRAME:033400/0559 EFFECTIVE DATE : 20100721
US8879876 BB	20141015	LSGT	PAT1	Patented Case	
US8879876 BB	20180424	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8879876 BB	20331018	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8936108 BB	20150120	LSGT	+	granted / extensions (spc,	

cpc, pte)					
US8936108 BB	20141230	LSGT	PAT1	Patented Case	
US8936108 BB	20180628	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8936108 BB	20330313	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8997894 BB	20150407	LSGT	+	granted / extensions (spc, cpc, pte)	
US8997894 BB	20150318	LSGT	PAT1	Patented Case	
US8997894 BB	20180912	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8997894 BB	20330226	PEXP		Calculated Patent Term Expiry	
US9027668 BB	20150512	LSGT	+	granted / extensions (spc, cpc, pte)	
US9027668 BB	20120621	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; MAKKI, SIAMAK; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20120517 TO 20120614; REEL/FRAME:028419/0715
US9027668 BB	20150422	LSGT	PAT1	Patented Case	
US9027668 BB	20181017	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9027668 BB	20330310	PEXP		Calculated Patent Term Expiry (PTA 381 days)	
US9074422 BB	20150707	LSGT	+	granted / extensions (spc, cpc, pte)	
US9074422 BB	20120710	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GRUBB, DARYL L.; FAIRCLOTH, BRIAN O.; ZEDIKER, MARK S.; SIGNING DATES FROM 20120516 TO 20120517; REEL/FRAME:028523/0749
US9074422 BB	20150617	LSGT	PAT1	Patented Case	
US9074422 BB	20151009	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GRUBB, DARYL L.; ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; SIGNING DATES FROM 20120516 TO 20120517; REEL/FRAME:036769/0244
US9074422 BB	20181210	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9074422 BB	20330716	PEXP		Calculated Patent Term Expiry (PTA 509 days)	
US9080425 BB	20150714	LSGT	+	granted / extensions (spc, cpc, pte)	
US9080425 BB	20120709	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC.,, COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; JONES-ALBERTUS, REBECCA; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20120706 TO 20120708; REEL/FRAME:028515/0625
US9080425 BB	20150624	LSGT	PAT1	Patented Case	

US9080425 BB	20151002	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; JONES-ALBERTUS, REBECCA; FAIRCLOTH, BRIAN O.; AND OTHERS; REEL/FRAME:036715/0504 EFFECTIVE DATE : 20120706	
US9080425 BB	20181217	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US9080425 BB	20330119	PEXP		Calculated Patent Term Expiry (PTA 375 days)		
US9089928 BB	20150728	LSGT	+	granted / extensions (spc, cpc, pte)		
US9089928 BB	20121016	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; GRUBB, DARYL L.; DE WITT, RONALD A.; AND OTHERS; SIGNING DATES FROM 20121003 TO 20121005; REEL/FRAME:029135/0702	
US9089928 BB	20150708	LSGT	PAT1	Patented Case		
US9089928 BB	20181218	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US9089928 BB	20330412	PEXP		Calculated Patent Term Expiry (PTA 253 days)		
US9138786 BB	20150922	LSGT	+	granted / extensions (spc, cpc, pte)		
US9138786 BB	20120629	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCKAY, RYAN P.; RINZLER, CHARLES C.; MOXLEY, JOEL F.; AND OTHERS; SIGNING DATES FROM 20120516 TO 20120614; REEL/FRAME:028467/0757	
US9138786 BB	20150902	LSGT	PAT1	Patented Case		
US9138786 BB	20190222	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US9138786 BB	20321206	PEXP		Calculated Patent Term Expiry (PTA 304 days)		
US9242309 BB	20160126	LSGT	+	granted / extensions (spc, cpc, pte)		
US9242309 BB	20151027	LSFE	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications		
US9242309 BB	20151216	LSFE	+PPR1	Publications -- Issue Fee Payment Received		
US9242309 BB	20151222	LSFE	+PPV1	Publications -- Issue Fee Payment Verified		
US9242309 BB	20160106	LSGT	PAT1	Patented Case		
US9242309 BB	20190626	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US9242309 BB	20331117	PEXP		Calculated Patent Term Expiry (PTA 275 days)		
US9244235 BB	20160126	LSGT	+	granted / extensions (spc,		

US9244235 BB	20151029	LSSES	+NAM1	cpc, pte) Notice of Allowance Mailed -- Application Received in Office of Publications	
US9244235 BB	20151113	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US9244235 BB	20151218	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US9244235 BB	20160106	LSGT	PAT1	Patented Case	
US9244235 BB	20190626	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9244235 BB	20331205	PEXP		Calculated Patent Term Expiry (PTA 279 days)	
US9267330 BB	20160223	LSGT	+	granted / extensions (spc, cpc, pte)	
US9267330 BB	20120716	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RINZLER, CHARLES C.; GRAY, WILLIAM C.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20120516 TO 20120517; REEL/FRAME:028554/0242
US9267330 BB	20151221	LSSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9267330 BB	20160203	LSGT	PAT1	Patented Case	
US9267330 BB	20320810	PEXP		Calculated Patent Term Expiry (PTA 169 days)	
US9284783 BA	20160315	LSGT	+	granted / extensions (spc, cpc, pte)	
US9284783 BA	20140815	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FAIRCLOTH, BRIAN O.; ZEDIKER, MARK S.; RINZLER, CHARLES C.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:033542/0310
US9284783 BA	20160224	LSGT	PAT1	Patented Case	
US9284783 BA	20160224	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9284783 BA	20331105	PEXP		Calculated Patent Term Expiry (PTA 222 days)	
US9327810 BB	20160503	LSGT	+	granted / extensions (spc, cpc, pte)	
US9327810 BB	20150824	LSSES	NFA1	Non Final Action Mailed	
US9327810 BB	20160413	LSGT	PAT1	Patented Case	
US9327810 BB	20350702	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9347271 BB	20160524	LSGT	+	granted / extensions (spc, cpc, pte)	

US9347271 BB	20100507	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; RINZLER, CHARLES C.; FAIRCLOTH, BRIAN O.; AND OTHERS; REEL/FRAME:024384/0594 EFFECTIVE DATE : 20100504
US9347271 BB	20160420	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US9347271 BB	20160504	LSGT	PAT1	Patented Case	
US9347271 BB	20311207	PEXP		Calculated Patent Term Expiry (PTA 659 days)	
US9360631 BB	20160607	LSGT	+	granted / extensions (spc, cpc, pte)	
US9360631 BB	20120713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FRAZE, JASON D.; FAIRCLOTH, BRIAN O.; ZEDIKER, MARK S.; SIGNING DATES FROM 20120516 TO 20120517; REEL/FRAME:028542/0338
US9360631 BB	20151127	LSES	NFA1	Non Final Action Mailed	
US9360631 BB	20160518	LSGT	PAT1	Patented Case	
US9360631 BB	20350301	PEXP		Calculated Patent Term Expiry (PTA 1102 days)	
US9360643 BB	20160607	LSGT	+	granted / extensions (spc, cpc, pte)	
US9360643 BB	20120926	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RINZLER, CHARLES C.; GRAY, WILLIAM C.; FRAZE, JASON D.; AND OTHERS; REEL/FRAME:029029/0609 EFFECTIVE DATE : 20120919
US9360643 BB	20150925	LSES	NFA1	Non Final Action Mailed	
US9360643 BB	20160518	LSGT	PAT1	Patented Case	
US9360643 BB	20330509	PEXP		Calculated Patent Term Expiry (PTA 342 days)	
US9399269 BB	20160726	LSGT	+	granted / extensions (spc, cpc, pte)	
US9399269 BB	20160705	LSGT	PAT1	Patented Case	
US9399269 BB	20350111	PEXP		Calculated Patent Term Expiry (PTA 303 days)	
US9492885 BB	20161115	LSGT	+	granted / extensions (spc, cpc, pte)	
US9492885 BB	20161026	LSGT	PAT1	Patented Case	
US9492885 BB	20350720	PEXP		Calculated Patent Term Expiry	
US9512679 BB	20161206	LSGT	+	granted / extensions (spc, cpc, pte)	
US9512679 BB	20151207	LSES	NFA1	Non Final Action Mailed	
US9512679 BB	20161116	LSGT	PAT1	Patented Case	
US9512679 BB	20340815	PEXP		Calculated Patent Term	

				Expiry (PTA 246 days)	
US9534447 BB	20170103	LSGT	+	granted / extensions (spc, cpc, pte)	
US9534447 BB	20151202	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZEDIKER, MARK S.; LAND, MARK S.; RINZLER, CHARLES C.; AND OTHERS; SIGNING DATES FROM 20090818 TO 20090819; REEL/FRAME:037193/0679
US9534447 BB	20161214	LSGT	PAT1	Patented Case	
US9534447 BB	20350130	PEXP		Calculated Patent Term Expiry (PTA 196 days)	
US9545692 BB	20170117	LSGT	+	granted / extensions (spc, cpc, pte)	
US9545692 BB	20140814	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FAIRCLOTH, BRIAN O.; ZEDIKER, MARK S.; KOLACHALAM, SHARATH K.; AND OTHERS; SIGNING DATES FROM 20140203 TO 20140207; REEL/FRAME:033536/0573
US9545692 BB	20161228	LSGT	PAT1	Patented Case	
US9545692 BB	20350818	PEXP		Calculated Patent Term Expiry (PTA 642 days)	
US9562395 BB	20170207	LSGT	+	granted / extensions (spc, cpc, pte)	
US9562395 BB	20120625	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY INC., COLORADO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GRUBB, DARYL L.; KOLACHALAM, SHARATH K.; FAIRCLOTH, BRIAN O.; AND OTHERS; SIGNING DATES FROM 20120516 TO 20120611; REEL/FRAME:028433/0832
US9562395 BB	20170118	LSGT	PAT1	Patented Case	
US9562395 BB	20341231	PEXP		Calculated Patent Term Expiry (PTA 1042 days)	
US9664012 BB	20170530	LSGT	+	granted / extensions (spc, cpc, pte)	
US9664012 BB	20170510	LSGT	PAT1	Patented Case	
US9664012 BB	20350223	PEXP		Calculated Patent Term Expiry (PTA 437 days)	
US9669492 BB	20170606	LSGT	+	granted / extensions (spc, cpc, pte)	
US9669492 BB	20170517	LSGT	PAT1	Patented Case	
US9669492 BB	20360311	PEXP		Calculated Patent Term Expiry (PTA 940 days)	
US9719302 BB	20170801	LSGT	+	granted / extensions (spc, cpc, pte)	
US9719302 BB	20151123	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9719302 BB	20170712	LSGT	PAT1	Patented Case	

US9719302 BB	20340416	PEXP		Calculated Patent Term Expiry (PTA 411 days)	
US9784037 BB	20171010	LSGT	+	granted / extensions (spc, cpc, pte)	
US9784037 BB	20151014	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FORO ENERGY, INC., COLORADO OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE APPLICATION SERIAL 13/403,287 PREVIOUSLY RECORDED ON REEL 036769 FRAME 0244. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNORS:GRUBB, DARYL L.; ZEDIKER, MARK S.; FAIRCLOTH, BRIAN O.; SIGNING DATES FROM 20120516 TO 20120517; REEL/FRAME:036955/0440
US9784037 BB	20170920	LSGT	PAT1	Patented Case	
US9784037 BB	20350622	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9845652 BB	20171219	LSGT	+	granted / extensions (spc, cpc, pte)	
US9845652 BB	20171129	LSGT	PAT1	Patented Case	
US9845652 BB	20350402	PEXP		Calculated Patent Term Expiry (PTA 580 days and a terminal disclaimer has been filed)	
WO10096086 A1	20100826	LSPB	+	published / reissued	
WO10096086 A1	20090819	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200980141304.7 COUNTRY OF REF DOCUMENT : CN
WO10096086 A1	20110210	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009340454 COUNTRY OF REF DOCUMENT : AU
WO10096086 A1	20110216	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2734492 COUNTRY OF REF DOCUMENT : CA
WO10096086 A1	20110218	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009840554 COUNTRY OF REF DOCUMENT : EP
WO10096086 A1	20110218	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2011/001908 COUNTRY OF REF DOCUMENT : MX
WO10096086 A1	20110221	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2011523959 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO10096086 A1	20110222	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO10096086 A1	20110303	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2009340454 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20090819 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO10096086 A1	20110316	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1983/DELNP/2011 COUNTRY OF REF DOCUMENT : IN

WO10096086 A1	20110321	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2011110388 COUNTRY OF REF DOCUMENT : RU
WO10096086 A1	20151124	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0918403 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20110221
WO10144160 A1	20101216	LSPB	+	published / reissued	
WO10144160 A1	20110817	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2011551172 COUNTRY OF REF DOCUMENT : JP
WO10144160 A1	20110916	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010786516 COUNTRY OF REF DOCUMENT : EP
WO10144160 A1	20110919	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2011138270 COUNTRY OF REF DOCUMENT : RU
WO10144160 A1	20120816	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12012436 A2	20120126	LSPB	+	published / reissued	
WO12012436 A3	20130114	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2805437 COUNTRY OF REF DOCUMENT : CA
WO12012436 A3	20130121	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12012436 A3	20130121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2011810287 COUNTRY OF REF DOCUMENT : EP
WO12012436 A3	20160607	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112013001512 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20130121
WO12024285 A1	20120223	LSPB	+	published / reissued	
WO12024285 A1	20130212	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2808214 COUNTRY OF REF DOCUMENT : CA
WO12024285 A1	20130214	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2011818657 COUNTRY OF REF DOCUMENT : EP
WO12024285 A1	20130218	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12031009 A1	20120308	LSPB	+	published / reissued	
WO12031009 A1	20130228	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12031009 A1	20130228	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2011822594 COUNTRY OF REF DOCUMENT : EP
WO12096966 A2	20120719	LSPB	+	published / reissued	
WO12096966 A3	20130710	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012734537 COUNTRY OF REF DOCUMENT : EP
WO12096966 A3	20130711	LSNE	NENP	NON-ENTRY	REF COUNTRY CODE : DE

				INTO THE NATIONAL PHASE IN:	
WO12116148 A1	20120830	LSPB	+	published / reissued	
WO12116148 A1	20130821	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012749304 COUNTRY OF REF DOCUMENT : EP
WO12116148 A1	20130826	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12116148 A1	20161011	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112013021478 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20130822
WO12116153 A1	20120830	LSPB	+	published / reissued	
WO12116153 A1	20130826	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12116153 A1	20140319	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12749831 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO12116155 A1	20120830	LSPB	+	published / reissued	
WO12116155 A1	20130826	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12116155 A1	20140319	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12750243 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO12161789 A1	20121129	LSPB	+	published / reissued	
WO12161789 A1	20130821	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2827958 COUNTRY OF REF DOCUMENT : CA
WO12161789 A1	20130821	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012789937 COUNTRY OF REF DOCUMENT : EP
WO12161789 A1	20130826	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12161789 A1	20130912	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2012259435 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20120224 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO12167102 A1	20121206	LSPB	+	published / reissued	
WO12167102 A1	20131203	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13019959 A2	20130207	LSPB	+	published / reissued	
WO13019959 A3	20140203	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13019959 A3	20140221	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012820743 COUNTRY OF REF DOCUMENT : EP
WO13130302 A1	20130906	LSPB	+	published / reissued	
WO13130302 A1	20140901	LSNE	NENP	NON-ENTRY	REF COUNTRY CODE : DE

				INTO THE NATIONAL PHASE IN:	
WO13130302 A1	20140922	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2013754543 COUNTRY OF REF DOCUMENT : EP
WO14036430 A2	20140306	LSPB	+	published / reissued	
WO14036430 A3	20170704	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112015004458 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20150227
WO14078663 A2	20140522	LSPB	+	published / reissued	
WO14078663 A3	20150513	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2891500 COUNTRY OF REF DOCUMENT : CA
WO14078663 A3	20151209	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 13855812 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :
WO14089544 A2	20140612	LSPB	+	published / reissued	
WO14089544 A3	20150706	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2013860660 COUNTRY OF REF DOCUMENT : EP
WO14144591 A2	20140918	LSPB	+	published / reissued	
WO14144591 A3	20150914	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2906738 COUNTRY OF REF DOCUMENT : CA
WO14144591 A3	20151008	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014228980 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20140314 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO14144591 A3	20160406	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14764013 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :
WO14144887 A2	20140918	LSPB	+	published / reissued	
WO14144887 A3	20160406	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14763264 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :
WO14149114 A2	20140925	LSPB	+	published / reissued	
WO14149114 A3	20160120	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 13879091 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :
WO18075799 A1	20180426	LSPB	+	published / reissued	
WO18075799 A1	20190424	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

Title: CONSTRUCTION FOR AUTOMATICALLY MILKING ANIMALS

Abstract: A construction for automatically milking animals is provided with a milking robot having at least one teat cup (2) and means (3 to 8) for connecting the teat cup(s) (2) to the teats of an animal to be milked. The construction comprises at least one milk collecting unit and at least one milking unit (1) which is movable relative to the milk collecting unit, said milking unit (1) being provided with own propulsion means (10, 11, 14, 15). The mobile milking units (1) may be designed as light and compact ones. The own propulsion means of the milking units (1) result in a multifunctional construction.

Classifications:

International (IPC 8-9): A01J5/00 A01J5/003

A01J5/017 (Advanced/Invention);

A01J5/00 A01J5/003 (Core/Invention)

International (IPC 1-7): A01J3/00 A01J5/00 A01J5/017 A01J5/17 A01K1/12

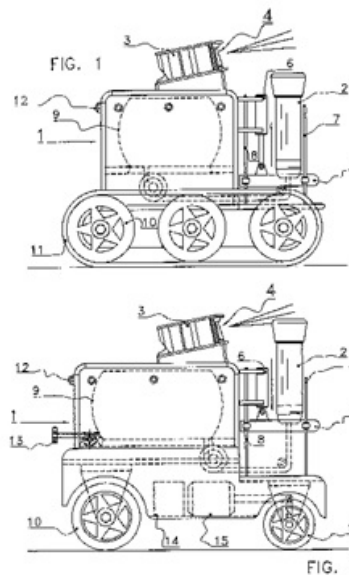
CPC: A01J5/003 A01J5/0175

European: A01J5/003 A01J5/017A

US: 119/14.1

PatBase - US2002033137_AA

Patent Application Publication Mar. 21, 2002 Sheet 1 of 2 US 2002/003137 A1



Family:

Publication number	Publication date	Application number	Application date
DE60126030 D1	20070308	DE20016026030	20010911
DE60126030 D1	20070308	DE20016026030T	20010911
DE60126030 T2	20070712	DE20016026030T	20010911
DK1188368 T3	20070521	DK20010203434T	20010911
EP1188368 A1	20020320	EP20010203434	20010911
EP1188368 B1	20070117	EP20010203434	20010911
ES2279785 T3	20070901	ES20010203434T	20010911
JP2002095371 A2	20020402	JP20010281450	20010917
JP4490612 B2	20100630	JP20010281450	20010917
NL1016196 C2	20020318	NL20001016196	20000915
US2002033137 AA	20020321	US20010953181	20010917

Priority:

NL20001016196 20000915

Probable Assignee: LELY ENTPR AG

Assignee(s): (std): LELY ENTPR AG ; LELY ENTPR A G A SWISS LTD LIA

Assignee(s): LELY ENTERPRISES A G A SWISS LIMITED LIABILITY COM ; LELY ENTERPRISES A G A SWISS LIMITED LIABILITY COMPANY ; LELY ENTERPRISES A SWISS LIABILITY CO AG LTD ; LELY ENTERPRISES AG

Inventor(s): (std): BERG KAREL VAN DEN ; FRANSSEN RENATUS IGNATIUS J ; FRANSSEN RENATUS IGNATIUS JOSEP ; FRANSSEN RENATUS IGNATIUS JOSUP ; KAREL VAN DEN BERG ; LELY ALEXANDER VAN D ; LELY ALEXANDER VAN DER ; RENATUS IGNATIUS JOSUPHUS FRANSSEN ; VAN DEN BERG KAREL ; VAN DER LELY ALEXANDER ; ALEXANDER VAN D LELY ; FRANSSEN RENATUS

Inventor(s): ALEXANDER VAN DER LELY ; FRANSSEN RENATUS IGNATIUS JOSEPHUS

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
DE60126030 D1	20080207	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60126030 D1	20080207	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60126030 T2	20070712	LSGT	+	granted /	

DE60126030 T2	20080207	LSGT	+8364	extensions (spc, cpc, pte) NO OPPOSITION DURING TERM OF OPPOSITION	
DE60126030 T2	20210911	PEXP		Calculated Patent Term Expiry	
DK1188368 T3	20070521	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1188368 T3	20210911	PEXP		Calculated Patent Term Expiry	
EP1188368 A1	20020320	LSPB	+	published / reissued	
EP1188368 A1	20020911	LSSE	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020712
EP1188368 A1	20021211	LSFE	+AKX	DESIGNATION FEES PAID	TEXT : AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1188368 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160926 YEAR OF FEE PAYMENT : 16
EP1188368 B1	20070117	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1188368 B1	20070117	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070117
EP1188368 B1	20070117	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070117
EP1188368 B1	20070117	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070117
EP1188368 B1	20070117	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1188368 B1	20070215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1188368 B1	20070307	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1188368 B1	20070618	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070618
EP1188368 B1	20070731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1188368 B1	20070901	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2279785 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :

EP1188368 B1	20071226	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20071018
EP1188368 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070418
EP1188368 B1	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070930
EP1188368 B1	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070117
EP1188368 B1	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20070911
EP1188368 B1	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : TR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20070117
EP1188368 B1	20120629	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20120321 YEAR OF FEE PAYMENT : 11
EP1188368 B1	20121231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20120926 YEAR OF FEE PAYMENT : 12
EP1188368 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20120911
EP1188368 B1	20131031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI PAYMENT DATE : 20130927 YEAR OF FEE PAYMENT : 13
EP1188368 B1	20141008	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20141008
EP1188368 B1	20150130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20130912
EP1188368 B1	20150430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20140911
EP1188368 B1	20150917	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 15

EP1188368 B1	20151030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20150928 YEAR OF FEE PAYMENT : 15
EP1188368 B1	20151030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20150929 YEAR OF FEE PAYMENT : 15
EP1188368 B1	20151130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20150928 YEAR OF FEE PAYMENT : 15
EP1188368 B1	20151130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20150929 YEAR OF FEE PAYMENT : 15
EP1188368 B1	20151130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20150917 YEAR OF FEE PAYMENT : 15
EP1188368 B1	20151231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20150928 YEAR OF FEE PAYMENT : 15
EP1188368 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160928 YEAR OF FEE PAYMENT : 16
EP1188368 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160930
EP1188368 B1	20170424	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20160930
EP1188368 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160912
EP1188368 B1	20170502	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : SE REF LEGAL EVENT CODE : EUG
EP1188368 B1	20170524	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20160911
EP1188368 B1	20170628	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1188368 B1	20170630	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20170531
EP1188368 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160911
EP1188368 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160911
EP1188368 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING	COUNTRY OF REF DOCUMENT : FR

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160930
EP1188368 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160930
EP1188368 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20170926 YEAR OF FEE PAYMENT : 17
EP1188368 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170927 YEAR OF FEE PAYMENT : 17
EP1188368 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180927 YEAR OF FEE PAYMENT : 18
EP1188368 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20180926 YEAR OF FEE PAYMENT : 18
EP1188368 B1	20210911	PEXP		Calculated Patent Term Expiry	
ES2279785 T3	20070901	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2279785 T3	20210911	PEXP		Calculated Patent Term Expiry	
JP2002095371 A2	20020402	LSPB	+	published / reissued	
JP2002095371 A2	20080719	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080718
JP2002095371 A2	20091224	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20091222
JP2002095371 A2	20100213	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100212
JP2002095371 A2	20100302	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2002095371 A2	20100310	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20100309
JP2002095371 A2	20100311	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2002095371 A2	20100408	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20100402
JP2002095371 A2	20100409	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2002095371 A2	20100409	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4490612 B2	20100630	LSGT	+	granted / extensions (spc, cpc, pte)	

JP4490612 B2	20100406	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4490612 B2	20130328	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4490612 B2	20130402	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4490612 B2	20140327	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4490612 B2	20140401	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4490612 B2	20150326	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4490612 B2	20150331	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4490612 B2	20160728	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4490612 B2	20160802	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4490612 B2	20170409	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4490612 B2	20210917	PEXP		Calculated Patent Term Expiry	
NL1016196 C2	20020318	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1016196 C2	20020501	LSSES	+PD2B	A SEARCH REPORT HAS BEEN DRAWN UP	
NL1016196 C2	20120411	LSLE	-V1	LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 20120401
NL1016196 C2	20200915	PEXP		Calculated Patent Term Expiry	
US2002033137 AA	20020321	LSPB	+	published / reissued	
US2002033137 AA	20010917	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES A.G., A SWISS LIMITED LIABILITY C OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:VAN DER LELY, ALEXANDER; VAN DEN BERG, KAREL; FRANSEN, RENATUS IGNATIUS JOSEPHUS; REEL/FRAME:012170/0823 EFFECTIVE DATE : 20010907
US2002033137 AA	20090827	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	

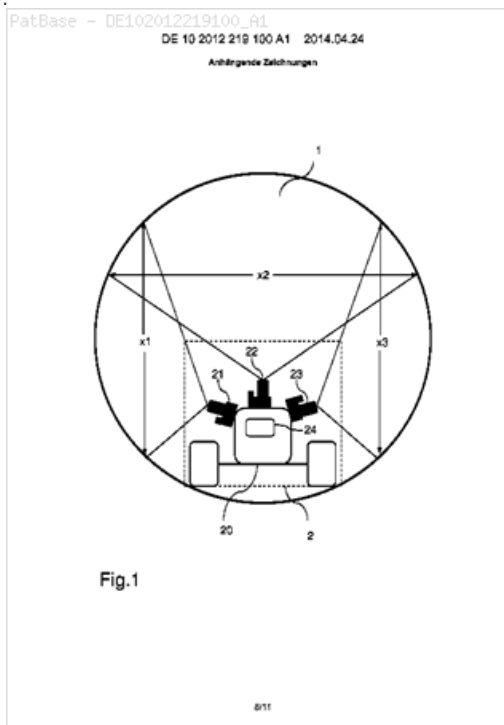
Title: SYSTEM FOR MEASURING SIZE OF SPACE E.G. SEWER CHANNEL, HAS EVALUATION UNIT THAT DETERMINES TOPOGRAPHIC CHARACTERISTICS OF CHANNEL, BASED ON PHOTOGRAPHS OF TRACK OF CHANNEL OBTAINED FROM CAMERAS

Abstract: The system (2) has a **vehicle** (20) which moves along a track in the channel (1) to be measured. The cameras (21-23) attached to the **vehicle**, are configured to take photographs of the track of the channel, when the **vehicle** is moved inside the channel. The adjoining photographs produced by the cameras are overlapped. An evaluation unit (24) is configured to determine the topographic characteristics of the channel, based on the photographs obtained from cameras. An independent claim is included for method for measuring size of space.

Classifications:

International (IPC 8-9): E21B47/02 E21D9/10 G01C11/02
G01C11/28 G01C7/06 (Advanced/Invention)

CPC: G01C11/06 E21D9/004



Family:

Publication number	Publication date	Application number	Application date
DE102012219100 A1	20140424	DE201210219100	20121019

Priority:

DE201210219100 20121019

Probable Assignee:

GEBAUER OLIVER

Assignee(s): (std):

GEBAUER OLIVER

Inventor(s): (std):

GEBAUER OLIVER

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
DE102012219100 A1	20140424	LSPB	+	published / reissued	
DE102012219100 A1	20130108	LSSES	+R012	REQUEST FOR EXAMINATION VALIDLY FILED	
DE102012219100 A1	20140807	LSRV	-R002	REFUSAL DECISION IN EXAMINATION/REGISTRATION PROCEEDINGS	
DE102012219100 A1	20140912	LSRV	-R003	REFUSAL DECISION NOW FINAL	
DE102012219100 A1	20141127	LSRV	-R003	REFUSAL DECISION NOW FINAL	EFFECTIVE DATE : 20140912

Title: **UNMANNED VEHICLE** FOR USE IN COW SHED, HAS DRIVE UNIT ATTACHED TO FRAME, ENERGY SOURCE ATTACHED TO FRAME, OPERATING SYSTEM ATTACHED TO FRAME FOR DRIVING **VEHICLE**, AND STEERABLE WHEEL WITH SHAFT THAT IS CONNECTED WITH FRAME

Abstract: The **vehicle** (1) has a drive unit attached to a frame (5), and an energy source attached to the frame. An operating system (40) for driving the **vehicle** is attached to the frame, where the frame is made of self-compacting concrete. A shaft of a steerable wheel is connected with the frame. A bolt is inserted into a hole, and a plate (12) is attached to the frame by utilizing another bolt (14). An independent claim is also included for a process for manufacturing an **unmanned vehicle**.

Classifications:

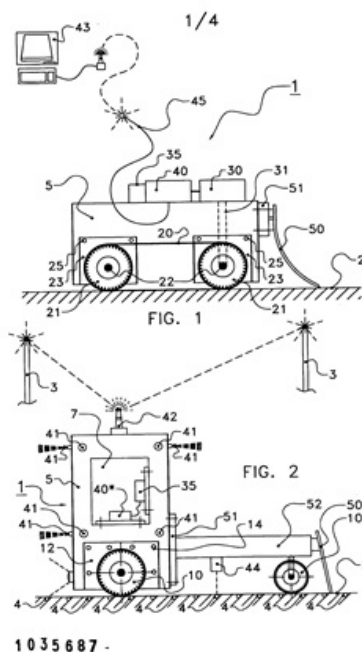
International (IPC 8-9): A01K1/01 B62D29/00

F41H11/16 (Advanced/Invention)

CPC: A01K1/01 B62D21/18 B62D29/00 F41H7/005 F41H11/28 F41H11/30

European: A01K1/01 B62D21/18 B62D29/00 F41H11/16F F41H11/28 F41H11/30 F41H7/00B

PatBase - NL1035687_C2



Family:

Publication number	Publication date	Application number	Application date
NL1035687 C2	20100112	NL20081035687	20080711

Priority:

NL20081035687 20080711

Probable Assignee:

LELY PATENT NV

Assignee(s): (std):

LELY PATENT N V ; LELY PATENT NV

Inventor(s): (std):

BERG KAREL VAN DEN

Inventor(s):

KAREL VAN DEN BERG

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
NL1035687 C2	20100112	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1035687 C2	20100301	LSSES	+PD2B	A SEARCH REPORT HAS BEEN DRAWN UP	
NL1035687 C2	20280711	PEXP		Calculated Patent Term Expiry	

Title: IRREGULAR MOTION COMPENSATION FOR THREE-DIMENSIONAL SPECTROSCOPY

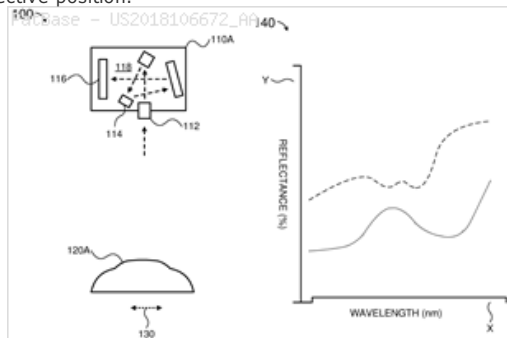
Abstract: Methods and media for compensating for irregular motion in three-dimensional spectroscopy are provided herein. Exemplary methods include: receiving a plurality of spectrographs for a series of respective locations and corresponding images of the respective locations, each spectrograph of the plurality of spectrographs being produced using a spectrographic data set of a plurality of spectrographic data sets, each of the plurality of spectrographic data sets being measured by a spectrograph and each of the corresponding images being captured by a camera at substantially the same time, the spectrograph being coupled to the camera such that the spectrograph and camera move in tandem and at least partially share the same point of view; generating a continuous image using the images; identifying a respective corresponding position in the continuous image for each spectrograph, such that each spectrograph is a measurement of the respective position; and associating each spectrograph with the respective position.

Classifications:**International (IPC 8-9):** G01J3/02 G01J3/28

G06T7/33 (Advanced/Invention)

CPC: G01J2003/283 G01J3/0248 G01J3/0294 G01J3/2803

G01J3/0289 G01J3/2823 G01J3/0278 G01J3/28 G06T7/33

**Family:**

Publication number	Publication date	Application number	Application date
US2018106672 AA	20180419	US20160294435	20161014
US9784615 BA	20171010	US20160362108	20161128
US10161795 BB	20181225	US20160294435	20161014

Priority:

US20160294435 20161014 US20160362108 20161128

Probable Assignee: BAYSPEC INC**Assignee(s):** (std): BAYSPEC INC**Inventor(s):** (std): ZHANG SHU ; SHU GUOCAI ; YANG WILLIAM**Agent(s):** CARR AND FERRELL LLP**Legal status (INPADOC)**[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
US10161795 BB	20181225	LSGT	+	granted / extensions (spc, cpc, pte)	
US10161795 BB	20161101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BAYSPEC, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ZHANG, SHU; SHU, GUOCAI; YANG, WILLIAM; REEL/FRAME:040191/0026 EFFECTIVE DATE : 20161014
US10161795 BB	20361025	PEXP		Calculated Patent Term Expiry (PTA 11 days and a terminal disclaimer has been filed)	
US2018106672 AA	20180419	LSPB	+	published / reissued	
US2018106672 AA	20180626	LSES	ADV2	Advisory Action Counted, Not Yet Mailed	
US2018106672 AA	20180702	LSES	ADV1	Advisory Action Mailed	
US2018106672 AA	20180807	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2018106672 AA	20181205	LSGT	PAT1	Patented Case	
US2018106672 AA	20181205	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9784615 BA	20171010	LSGT	+	granted / extensions (spc, cpc, pte)	

US9784615 BA	20170111	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BAYSPEC, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SHU, GUOCAI; ZHANG, SHU; YANG, WILLIAM; REEL/FRAME:040944/0609 EFFECTIVE DATE : 20161123
US9784615 BA	20170920	LSGT	PAT1	Patented Case	
US9784615 BA	20170920	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9784615 BA	20361128	PEXP		Calculated Patent Term Expiry	

Title: SUBSOIL TEMPERATURE MEASUREMENT BY MEANS OF A ROAD FINISHING MACHINE

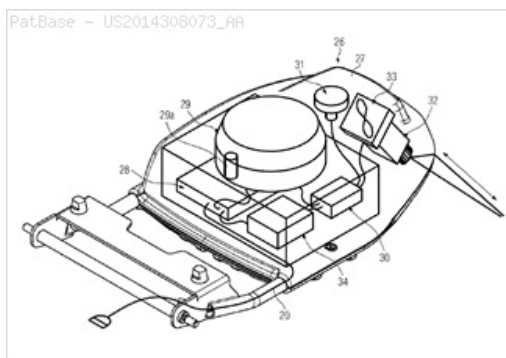
Abstract: The present disclosure relates to a road finishing machine, comprising a screed for laying a paving layer on a subsoil and at least one temperature sensor. According to the disclosure, the temperature sensor is fixed to the road finishing machine and directed to the subsoil such that it may detect a temperature at least of a region of the subsoil which is located in front of the screed, seen in the direction of travel. In accordance with the disclosure, the temperature data of the subsoil region may be georeferenced and sent to a following compacting **vehicle** for determining a rolling pattern, said **vehicle** determining or adapting its rolling pattern based on said data.

Classifications:

International (IPC 8-9): E01C19/00 E01C19/28 E01C19/48 G01J5/02 G01J5/10 H04N5/33 (Advanced/Invention)

CPC: E01C19/002 G01J5/02 E01C19/288 E01C19/48

US: 1/1 404/118 404/72



Family:

Publication number	Publication date	Application number	Application date
CN104101434 A	20141015	CN201410146169	20140411
CN104101434 B	20180501	CN201410146169	20140411
CN203866678 U	20141008	CN201420176586U	20140411
DE502013008904 D1	20180104	DE201350008904T	20130412
EP2789740 A1	20141015	EP20130163559	20130412
EP2789740 B1	20171129	EP20130163559	20130412
IN01820CH2014 A	20160101	IN2014CH01820	20140404
JP2014206043 A2	20141030	JP20140038164	20140228
JP5794459 B2	20151014	JP20140038164	20140228
PL2789740 T3	20180530	PL20130163559T	20130412
US2014308073 AA	20141016	US20140249622	20140410
US9447549 BB	20160920	US20140249622	20140410

Priority:

EP20130163559 20130412 CN201420176586U 20140411

Probable Assignee: JOSEPH VOEGELE AG

Assignee(s): (std): JOSEPH VOEGELE AG ; VOEGELE J AG

Assignee(s): JOSEPH V GELE AG ; JOSEPH VOEGELE AG

Inventor(s): (std): DELIUS HENNING ; HENNING DELIUS ; BUSCHMANN MARTIN ; RUTZ ARNOLD ; GOTTERBARM TOBIAS

Agent(s): GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB; GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAUESSER; NISHIYAMA HARUYUKI; BROOKS KUSHMAN PC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC 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
CN104101434 A	20141015	LSPB	+	published / reissued	
CN104101434 A	20141015	LSPB	+C06	PUBLICATION	
CN104101434 A	20160217	LSRE	COR	CHANGE OF BIBLIOGRAPHIC DATA	
CN104101434 B	20180501	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104101434 B	20180501	LSGT	+GR01	PATENT GRANT	
CN104101434 B	20340411	PEXP		Calculated Patent Term Expiry	
CN203866678 U	20141008	LSGT	+	granted / extensions (spc, cpc, pte)	
CN203866678 U	20141008	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN203866678 U	20180511	LSWD	-AV01	PATENT RIGHT ACTIVELY ABANDONED	
CN203866678 U	20240411	PEXP		Calculated Patent Term Expiry	
EP2789740 A1	20141015	LSPB	+	published / reissued	

EP2789740 A1	20141015	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20131021
EP2789740 A1	20151007	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20150903
EP2789740 A1	20170830	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20170804
EP2789740 B1	20171129	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2789740 B1	20171130	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2789740 B1	20171215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 950518 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20171215
EP2789740 B1	20171227	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : LANGUAGE OF EP DOCUMENT: GERMAN
EP2789740 B1	20180104	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 502013008904 COUNTRY OF REF DOCUMENT : DE
EP2789740 B1	20180410	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2789740 B1	20180426	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 6
EP2789740 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180228
EP2789740 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO	COUNTRY OF REF DOCUMENT :

				NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	GB PAYMENT DATE : 20180326 YEAR OF FEE PAYMENT : 6
EP2789740 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180228
EP2789740 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180301
EP2789740 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : HR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20180323 YEAR OF FEE PAYMENT : 6
EP2789740 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129

EP2789740 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180425 YEAR OF FEE PAYMENT : 6
EP2789740 B1	20180830	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 502013008904 COUNTRY OF REF DOCUMENT : DE
EP2789740 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SM NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180426 YEAR OF FEE PAYMENT : 6
EP2789740 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180430 YEAR OF FEE PAYMENT : 6
EP2789740 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20181107	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20180830
EP2789740 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATION OF LAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20171129
EP2789740 B1	20181130	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL

EP2789740 B1	20190123	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2789740 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180412
EP2789740 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180430
EP2789740 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180430
EP2789740 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180430
EP2789740 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20180412
EP2789740 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PL PAYMENT DATE : 20190326 YEAR OF FEE PAYMENT : 7
EP2789740 B1	20190615	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MM01 REF DOCUMENT NUMBER : 950518 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20180412
EP2789740 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190430 YEAR OF FEE PAYMENT : 7
EP2789740 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190424 YEAR OF FEE PAYMENT : 7
EP2789740 B1	20330412	PEXP		Calculated Patent Term Expiry	
IN01820CH2014 A	20160101	LSPB	+	published / reissued	
JP2014206043 A2	20141030	LSPB	+	published / reissued	
JP2014206043 A2	20150309	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150306
JP2014206043 A2	20150603	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150603
JP2014206043 A2	20150624	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014206043 A2	20150701	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20150630
JP2014206043 A2	20150724	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150724
JP2014206043 A2	20150806	LSFE	+A61	FIRST PAYMENT OF	TEXT : JAPANESE

				ANNUAL FEES (DURING GRANT PROCEDURE)	INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20150729
JP2014206043 A2	20150811	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A821 EFFECTIVE DATE : 20150724
JP2014206043 A2	20150821	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5794459 COUNTRY OF REF DOCUMENT : JP
JP5794459 B2	20151014	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5794459 B2	20150702	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5794459 B2	20150804	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5794459 B2	20150821	LSGT	+R150	特許証 (Patent certificate)	
JP5794459 B2	20180712	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5794459 B2	20180724	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5794459 B2	20190725	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5794459 B2	20190730	LSFE	+R250	年金領収書, 年金領収書 (分納) (Pension receipt, annuity receipt (scheduled))	
JP5794459 B2	20340228	PEXP		Calculated Patent Term Expiry	
PL2789740 T3	20180530	LSGT	+	granted / extensions (spc, cpc, pte)	
US2014308073 AA	20141016	LSPB	+	published / reissued	
US2014308073 AA	20150324	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JOSEPH VOEGELE AG, GERMANY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BUSCHMANN, MARTIN; GOTTERBARM, TOBIAS; RUTZ, ARNOLD; REEL/FRAME:035240/0279 EFFECTIVE DATE : 20150317
US2014308073 AA	20160831	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9447549 BB	20160920	LSGT	+	granted / extensions (spc, cpc, pte)	
US9447549 BB	20140609	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JOSEPH VOEGELE AG, GERMANY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DELIUS, HENNING; REEL/FRAME:033054/0964 EFFECTIVE DATE : 20140505
US9447549 BB	20160831	LSGT	PAT1	Patented Case	
US9447549 BB	20340410	PEXP		Calculated Patent Term Expiry	

Title: Apparatus and method for demolishing a building

Abstract: The demolition plant, to break up construction work, is a **vehicle** (1) with at least one lower roller (11a,11b) for movement over the structure being demolished. A jib block (2), fitted to the **vehicle**, carries the demolition tool (3). One or more units (4) to steer or support the **vehicle** are situated at least at one side of the construction. They ensure that, as the structure is demolished, the **vehicle** moves along an edge (52) of the construction e.g. a wall, while the wall is demolished from the top downwards.

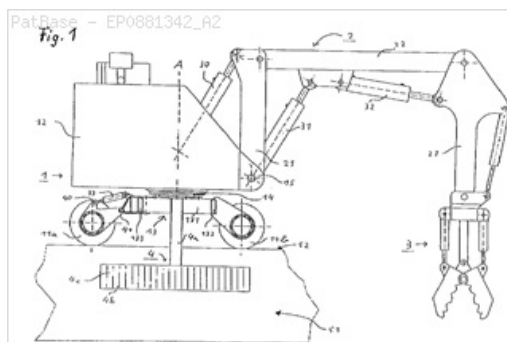
Classifications:

International (IPC 8-9): E02F3/96 E04G23/08 (Advanced/Invention);
E02F3/04 E04G23/08 (Core/Invention)

International (IPC 1-7): E04G23/08

CPC: E02F3/965 E04G23/08

European: E02F3/96F E04G23/08



Family:

Publication number	Publication date	Application number	Application date
DE19722185 A1	19981210	DE19971022185	19970527
EP0881342 A2	19981202	EP19980109669	19980527
EP0881342 A3	19990324	EP19980109669	19980527

Priority:

DE19971022185 19970527

Probable Assignee: BARNSTEINER MICHAEL

Assignee(s): (std): BARNSTEINER MICHAEL

Assignee(s): BARNSTEINER MICHAEL 87724 OTTOBEUREN DE

Inventor(s): (std): BARNSTEINER MICHAEL

Inventor(s): BARNSTEINER MICHAEL 87724 OTTOBEUREN DE

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

Legal status (INPADOC)

[View legal status timeline](#)

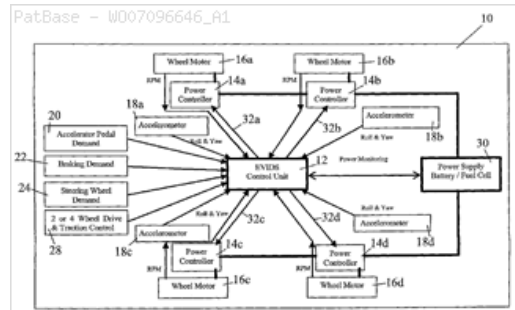
Patent	Date recorded	Event group	Code	Event	Details
DE19722185 A1	19981210	LSPB	+	published / reissued	
DE19722185 A1	19981210	LSSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE19722185 A1	20020117	LSRV	-8131	REJECTION	
EP0881342 A2	19981202	LSPB	+	published / reissued	
EP0881342 A3	19991006	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19990806
EP0881342 A3	19991208	LSFE	+AKX	DESIGNATION FEES PAID	TEXT : AT BE CH CY DE DK ES FI FR GB GR IE IT LI
EP0881342 A3	20010404	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20010214
EP0881342 A3	20020306	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20010825

Title: A CONTROL UNIT FOR A **VEHICLE**

Abstract: The invention relates to a control unit and method for a **vehicle** having a plurality of independently-driven wheels. A control unit for a **vehicle** having a plurality of independently-driven wheels, the control unit comprising an input unit for receiving a steering command, a speed command and outputs from acceleration sensing units being locatable at respective wheels of the **vehicle**; and a processor in communication with the input unit and being operable to calculate for each wheel a desired wheel rate including (i) a main component based on the speed command; and (ii) a manoeuvre response component based on the steering command and on accelerations induced by the steering command and/or terrain conditions.

Classifications:

International (IPC 8-9): B60K23/04 B60K23/08 B60L15/20 B60L3/00 (Advanced/Invention); B60K23/04 B60K23/08 B60L15/20 B60L3/00 (Core/Invention)
CPC: B60G17/0195 B60G2400/102 B60G2400/208 B60G2400/34 B60G2400/39 B60G2400/412 B60G2400/821 B60G2400/822 B60G2800/16 B60G2800/182 B60G2800/21 B60G2800/212 B60G2800/213 B60G2800/24 B60G2800/952 B60K7/0007 B60K17/356 B60K23/0808 B60K28/16 Y02T10/7258 B60K23/04 B60L3/00 B60L15/20
European: B60G17/0195 B60K17/356 B60K23/04 B60K23/08B B60K28/16 B60L15/20 B60L3/00 L60G400/102 L60G400/208 L60G400/34 L60G400/39 L60G400/412 L60G400/821 L60G400/822 L60G800/16 L60G800/182 L60G800/21 L60G800/212 L60G800/213 L60G800/24 L60G800/952 L60K7/00E Y02T10/72D



Family:

Publication number	Publication date	Application number	Application date
GB200603746 A0	20060405	GB20060003746	20060225
GB200816533 A0	20081015	GB20080016533	20080910
GB2449047 A1	20081105	GB20080016533	20080910
WO07096646 A1	20070830	WO2007GB00652	20070226

Priority:

GB20060003746 20060225 WO2007GB00652 20070226

Probable Assignee: SILICON VALLEY GROUP PLC

Assignee(s): (std): AYRES RAYMOND MAURICE ; NEWTON JOHN WILLIAM ; SILICON VALLEY GROUP PLC ; WILSON NORMAN REGINALD

Inventor(s): (std): WILSON NORMAN REGINALD ; NEWTON JOHN WILLIAM ; AYRES RAYMOND MAURICE

Inventor(s): JOHN WILLIAM NEWTON ; NORMAN REGINALD WILSON ; RAYMOND MAURICE AYRES

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
GB200603746 A0	20070801	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB2449047 A1	20081105	LSPB	+	published / reissued	
GB2449047 A1	20110914	LSWD	-WAP	APPLICATION WITHDRAWN, TAKEN TO BE WITHDRAWN OR REFUSED ** AFTER PUBLICATION UNDER SECTION 16(1)	
WO07096646 A1	20070830	LSPB	+	published / reissued	
WO07096646 A1	20080826	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO07096646 A1	20080910	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	TEXT : PCT FILING DATE = 20070226 REF DOCUMENT NUMBER : 0816533 COUNTRY OF REF DOCUMENT : GB KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO07096646 A1	20080910	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 816533 COUNTRY

					OF REF DOCUMENT : GB
WO07096646 A1	20080910	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 0816533.4 COUNTRY OF REF DOCUMENT : GB
WO07096646 A1	20090325	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 07712776 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: ARRANGEMENT FOR OPTIMIZING LOAD POSITION IN RELATION TO TRANSPORTATION **VEHICLE**

Abstract: A method and an arrangement for optimizing load position in relation to a transportation **vehicle**, comprising a platform arranged to the transportation **vehicle** for receiving a load; an actuating device for moving the platform in relation to the transportation **vehicle**; a sensing device configured to generate a **vehicle** sensing signal and/or a non-**vehicle** sensing signal; a controlling device configured to receive at least one of the **vehicle** sensing signal and the non-**vehicle** sensing signal; generate controlling commands based on the received at least one of the **vehicle** sensing signal and the non-**vehicle** sensing signal; and transmit the controlling commands to the actuating device; wherein the actuating device is configured to receive the controlling commands and to move the platform in relation to the transportation **vehicle** based on the controlling commands.

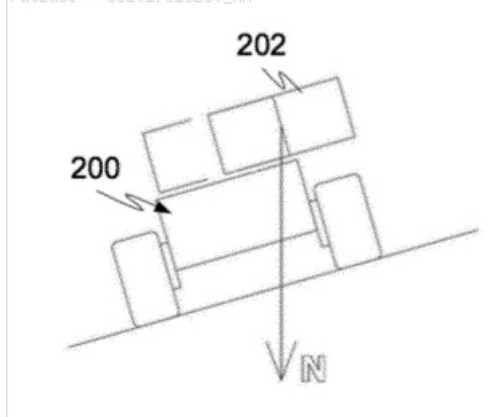
Classifications:

International (IPC 8-9): B60P1/04 B60P1/24 B60P1/28 B60P1/30 B60P1/32 B60P1/34 B60P1/44 B60P1/48 B60P1/64 B60W30/04 (Advanced/Invention)

CPC: B60P1/045 B60P1/6454 B60P1/6436 B60P1/6427 B60P1/486 B60P1/483 B60P1/04 B60P1/34 B60P1/32 B60P1/30 B60P1/28 B60P1/24 B60P1/4471 B60P1/00 B62D33/00 B62D37/04

US: 701/49

PatBase - US2017313230_AA



Family:

Publication number	Publication date	Application number	Application date
US2017313230 AA	20171102	US20160140933	20160428

Priority:

US20160140933 20160428

Probable Assignee:

RAKKATEC OY

Assignee(s): (std):

RAKKATEC OY

Inventor(s): (std):

VALTANEN JARKKO

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
US2017313230 AA	20171102	LSPB	+	published / reissued	
US2017313230 AA	20160516	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RAKKATEC OY, FINLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VALTANEN, JARKKO; REEL/FRAME:038603/0430 EFFECTIVE DATE : 20160504
US2017313230 AA	20170913	LSES	NFA1	Non Final Action Mailed	
US2017313230 AA	20181022	LSAL	NAF1	Notice of Appeal Filed	
US2017313230 AA	20181022	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	TEXT : NOTICE OF APPEAL FILED
US2017313230 AA	20190506	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017313230 AA	20190810	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	

Title: MOBILITY DEVICE FOR A DOMESTIC OR INDUSTRIAL CLEANING APPLIANCE, IN PARTICULAR A CYLINDER VACUUM CLEANER

Abstract: The present invention relates to a mobility device (100) for a domestic or industrial cleaning appliance (1), comprising at least one obstacle bypass means (200) positioned on at least one portion of the periphery of the vacuum cleaner (1) and serving as a bumper, said obstacle bypass means (200) comprising at least one movable part consisting of a strip (5) which is mounted free to rotate in a plane parallel to the plane of movement of said appliance (1) and which is placed so as to protrude with respect to the body of the appliance. It is characterized in that it comprises means (300) for rotationally guiding said strip (5) that are designed to be able to be fitted onto the outside of a shell (20) belonging to said appliance (1).

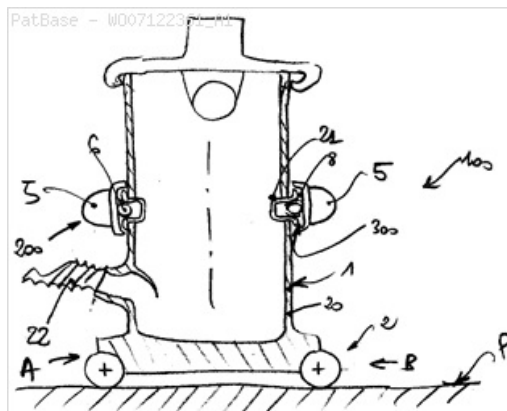
Classifications:

International (IPC 8-9): A47L9/00 (Advanced/Invention);

A47L9/00 (Core/Invention)

CPC: A47L9/009

European: A47L9/00E



Family:

Publication number	Publication date	Application number	Application date
FR2900042 A1	20071026	FR20060003601	20060424
FR2900042 B1	20121228	FR20060003601	20060424
WO07122361 A1	20071101	WO2007FR51160	20070423
WO07122361 B1	20071227	WO2007FR51160	20070423

Priority:

FR20060003601 20060424

Probable Assignee: WINDDROP SARL

Assignee(s): (std): CURIEN GERARD ; WINDDROP SARL

Assignee(s): WINDDROP SOC A RESPONSABILITE LIMITEE ; WINDDROP SOCIETE A RESPONSABILITE LIMITEE ; GERARD CURIEN

Inventor(s): (std): CURIEN GERARD

Inventor(s): GERARD CURIEN

Agent(s): CABINET BLEGER RHEIN; CABINET BLEGER RHEIN POUPON

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 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 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
FR2900042 A1	20071026	LSPB	+	published / reissued	
FR2900042 A1	20080516	LSAS	TP	TRANSMISSION OF PROPERTY	
FR2900042 A1	20150428	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 10
FR2900042 A1	20151127	LSAS	CD	CHANGE OF NAME OR COMPANY NAME	PARTYTYPE : OWNER OWNER : ECODROP, FR EFFECTIVE DATE : 20151023
FR2900042 A1	20170127	LSLE	-ST	NOTIFICATION OF LAPSE	EFFECTIVE DATE : 20161230
FR2900042 B1	20121228	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2900042 B1	20260424	PEXP		Calculated Patent Term Expiry	
WO07122361 A1	20071101	LSPB	+	published / reissued	
WO07122361 B1	20081025	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

WO07122361 B1	20090715	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 07731934 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
---------------	----------	------	------	---	---

Title: METHODS AND SYSTEMS FOR AUTOMATED PROPERTY INSURANCE INSPECTION

Abstract: Methods and systems for automated property insurance inspection include a remote inspection device having video inspection equipment capable of providing video images of property for use by an insurance company. The images may be used for expediting claim processing, inspecting damage in hazardous or hard to reach places, loss avoidance/risk control, fraud detection, detecting changes in risk profile, underwriting, rating, and quoting on new accounts and renewals, and prospecting new customers. The inspections may be performed on the exterior or interior of the property, and may be performed periodically, on-demand or continuously.

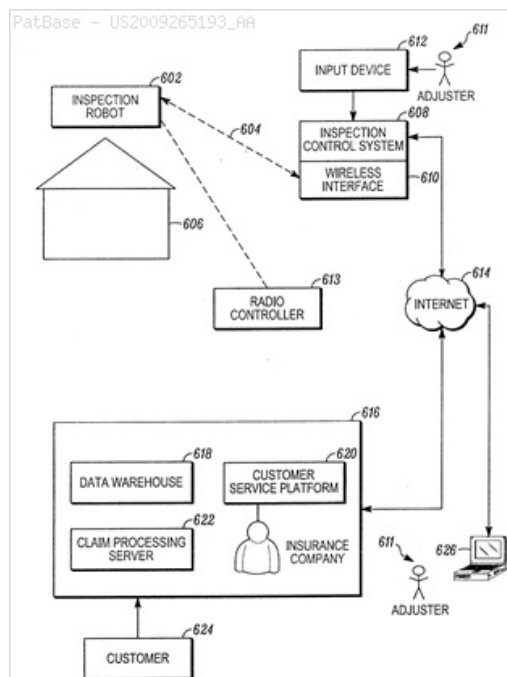
Classifications:

International (IPC 8-9): G01M99/00 G06F19/00 G06Q G06Q10/00 G06Q40/00 G06Q40/08 G06Q50/00 G07C1/10 (Advanced/Invention); B25J19/02 (Advanced/Non-invention)

CPC: G05D1/0094 G06Q30/0185 G06Q40/08

European: G06Q30/0185 G06Q40/00 G06Q40/08

US: 705/318 705/318S 705/4 705/4P 705/7 705/7S 901/46 901/46S

**Family:**

Publication number	Publication date	Application number	Application date
BRPI0910573 A2	20150929	BR2009PI10573	20090417
CA2721708 AA	20091022	CA20092721708	20090417
CA2721708 C	20180109	CA20092721708	20090417
CN102077230 A	20110525	CN200980123104	20090417
EP2281255 A2	20110209	EP20090732355	20090417
EP2281255 A4	20130220	EP20090732355	20090417
HK1158347 A1	20120713	HK20110112468	20111118
HK1158347 A3	20120713	HK20110112468	20111118
US2009265193 AA	20091022	US20090426039	20090417
WO09129496 A2	20091022	WO2009US41020	20090417
WO09129496 A3	20100218	WO2009US41020	20090417

Priority:

US20080045929P 20080417 US20090426039 20090417 WO2009US41020 20090417

Probable Assignee: TRAVELERS INDEMNITY CO

Assignee(s): (std): COLLINS DEAN ; EDINGER HENRY ; KAPROVE ADAM ; KRECHKO JARED ; NAIR ERIN MACK ; TRAVELERS INDEMNITY COMPANY ; TRAVELERS INDEMNITY CO

Assignee(s): MACK NAIR ERIN ; THE TRAVELERS INDEMNITY COMPANY

Inventor(s): (std): KRECHKO JARED ; NAIR ERIN MACK ; KAPROVE ADAM ; EDINGER HENRY ; COLLINS DEAN ; DEAN COLLINS ; ADAM KAPROVE ; MACK NAIR ERIN ; HENRY EDINGER ; JARED KRECHKO

Inventor(s): ERIN MACK NAIR

Agent(s): GOWLING WLG CANADA LLP; HUGHES ANDREA MICHELLE; AGNES LEUNG; WILMERHALE/NEW YORK; WILMERHALE NEW YORK; DONNER IRAH H ET AL

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA2721708 AA	20091022	LSPB	+	published / reissued	
CA2721708 AA	20130515	LSSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20130502
CA2721708 C	20180109	LSGT	+	granted /	

				extensions (spc, cpc, pte)		
CA2721708 C	20290417	PEXP		Calculated Patent Term Expiry		
CN102077230 A	20110525	LSPB	+	published / reissued		
CN102077230 A	20110525	LSPB	+C06	PUBLICATION		
CN102077230 A	20170208	LSRV	-C12	REJECTION OF A PATENT APPLICATION AFTER ITS PUBLICATION		
CN102077230 A	20181109	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1158347 COUNTRY OF REF DOCUMENT : HK	
EP2281255 A2	20110209	LSPB	+	published / reissued		
EP2281255 A2	20110209	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20101117	
EP2281255 A2	20130220	LSSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20130118	
EP2281255 A2	20160330	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20160229	
EP2281255 A2	20170301	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20160913	
HK1158347 A1	20120713	LSPB	+	published / reissued		
HK1158347 A3	20120713	LSPB	+	published / reissued		
US2009265193 AA	20091022	LSPB	+	published / reissued		
US2009265193 AA	20090902	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE TRAVELERS INDEMNITY COMPANY, CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:COLLINS, DEAN; MACK NAIR, ERIN; KRECHKO, JARED; AND OTHERS; REEL/FRAME:023179/0902; SIGNING DATES FROM 20090714 TO 20090731	
US2009265193 AA	20151105	LSSES	NFA1	Non Final Action Mailed		
US2009265193 AA	20170421	LSAL	APL5	On Appeal -- Awaiting Decision by the Board of Appeals		
US2009265193 AA	20190114	LSWD	-ABD1	Abandoned -- After Examiner's Answer or Board of Appeals Decision		
WO09129496 A2	20091022	LSPB	+	published / reissued		
WO09129496 A2	20090417	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200980123104.9 COUNTRY OF REF DOCUMENT : CN	
WO09129496 A3	20101015	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2721708 COUNTRY OF REF DOCUMENT : CA	
WO09129496 A3	20101019	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE	
WO09129496 A3	20101116	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 7392/CHENP/2010 COUNTRY OF REF DOCUMENT : IN	

WO09129496 A3	20101117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009732355 COUNTRY OF REF DOCUMENT : EP
WO09129496 A3	20150929	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : PI0910573 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20101018

Title: ELECTRICALLY DRIVEN **VEHICLE**

Abstract: The invention relates to an electrically driven **vehicle**, preferably a crawler-type agricultural implement for use by operators in a lying position. Said crawler-type implement has tracks (3) in order to move. At least one pivotally mounted photovoltaic panel (4) is provided in the top region. The **vehicle** is driven directly or using the electric power supplied by the photovoltaic panels (4) or rechargeable batteries (5) fed by the photovoltaic panel (4). The rechargeable batteries (5) and at least one optional driving motor (6) are arranged within the track (3). The photovoltaic panel (4) can be moved about three axes using a controller, preferably by means of at least one universal joint (7) and at least one adjusting lever (8).

Classifications:

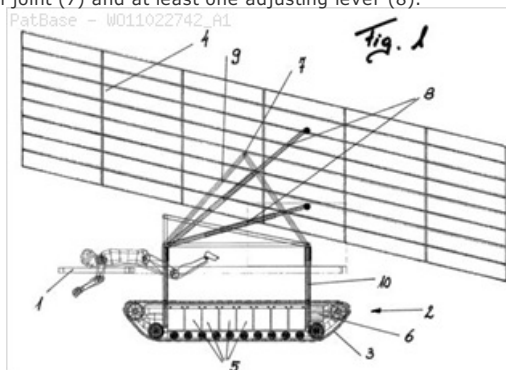
International (IPC 8-9): B60L13/00 B60L8/00 B62D55/00

F24J2/54 (Advanced/Invention);

B60L13/00 (Core/Invention)

CPC: B60L8/003 B60K2016/003 B60L2200/40 B62D55/10 Y02E10/47 Y02T10/7083 B60W2300/15 Y02T10/90 Y02T10/7005 Y02T10/7061 F24S30/48 B60L50/64 B60L50/66 B60L58/21 B60L13/00

European: B60L8/00 B62D55/10 F24J2/54D L60L200/40 Y02E10/47 Y02T10/702B



Family:

Publication number	Publication date	Application number	Application date
AT507274 A2	20100315	AT20090001338	20090825
AT507274 A3	20190215	AT20090001338	20090825
AT507274 B1	20190315	AT20090001338	20090825
WO11022742 A1	20110303	WO2010AT00302	20100817

Priority:

AT20080001366 20080903 AT20090001338 20090825

Probable Assignee: PROHASKA PETER

Assignee(s): (std): EMMINGER FRANZ ; FRANZ EMMINGER ; PETER PROHASKA ; PROHASKA PETER

Inventor(s): (std): FRANZ EMMINGER ; EMMINGER FRANZ

Agent(s): KRAUSE PETER

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 LR 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
AT507274 A2	20100315	LSPB	+	published / reissued	
AT507274 B1	20190315	LSGT	+	granted / extensions (spc, cpc, pte)	
AT507274 B1	20290825	PEXP		Calculated Patent Term Expiry	
WO11022742 A1	20110303	LSPB	+	published / reissued	
WO11022742 A1	20120227	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11022742 A1	20121114	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 10754655 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

Title: **UNMANNED VEHICLE** ADAPTED TO BE USED IN A STABLE, SUCH AS A COWSHED

Abstract: The invention relates to an **unmanned vehicle** (1) which is adapted to be used in a stable, such as a cowshed. The **unmanned vehicle** (1) is provided with a manure displacing device (2) which is capable of being moved to a place at a distance from the **vehicle**. The manure displacing device (2) comprises a manure slide (12). The manure displacing device (2) is further provided with pressure setting means (9) for determining the force with which the manure displacing device (2) is active on a stable floor.

Classifications:

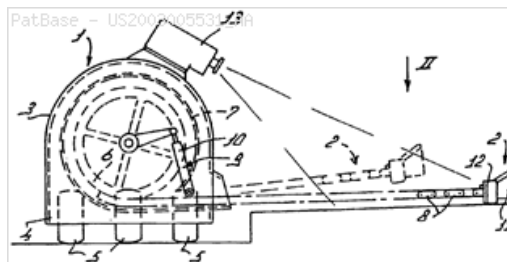
International (IPC 8-9): A01K1/01 B60P3/00 (Advanced/Invention); B60P3/00 (Advanced/Non-invention); A01K1/01 B60P3/00 (Core/Invention)

International (IPC 1-7): A01K1/00 A01K1/01 A01K1/01 B08B1/00 B60P3/00

CPC: A01K1/01 A47L2201/00 A47L2201/06 A01K1/0128

European: A01K1/01 K47L201/00

US: 134/18 134/18S 15/3 15/319 15/319S 15/3P 15/49.1 15/49.100S 15/491 422/292 422/292S



Family:

Publication number	Publication date	Application number	Application date
AT271773 E	20040815	AT20000927970T	20000510
AU200046272 A1	20001212	AU20000046272	20000510
AU200046272 A5	20001212	AU20000046272D	20000510
CA2337252 AA	20010112	CA20002337252	20000510
DE60012454 D1	20040902	DE20006012454	20000510
DE60012454 D1	20040902	DE20006012454T	20000510
DE60012454 T2	20050818	DE20006012454T	20000510
DK1100316 T3	20041206	DK20000927970T	20000510
EP1100316 A1	20010523	EP20000927970	20000510
EP1100316 B1	20040728	EP20000927970	20000510
JP2003500025 T2	20030107	JP20000619259T	20000510
NL1012141 C2	20001128	NL19991012141	19990525
US2003005531 AA	20030109	US20010765385	20010122
WO0070936 A1	20001130	WO2000NL00312	20000510

Priority:

NL19991012141 19990525 EP20000927970 20000510 WO2000NL00312 20000510

Probable Assignee: LELY ENTERPRISES A SWISS LIABILITY CO AG LTD

Assignee(s): (std): BERG KAREL VAN DEN ; LELY ENTPR AG ; LELY RES HOLDING AG ; LELY RES HOLDING ; LELY RES HOLDING A G

Assignee(s): LELY HOLDING AG ; LELY RESEARCH HOLDING A SWISS LIABILITY CO AG LTD ; LELY ENTPR ZUG AG ; LELY RESEARCH HOLDING AG ; VAN DEN BERG KAREL ; LELY RESEARCH HOLDING A G ; LELY ENTERPRISES A SWISS LIABILITY CO AG LTD ; LELY ENTERPRISES AG ; LELY ENTERPRISES AG ZUG ; LELY ENTERPRISES ZUG AG

Inventor(s): (std): BERG KAREL VAN DEN ; VAN DEN BERG KAREL

Inventor(s): KAREL VAN DEN BERG

Agent(s): PHILLIPS ORMONDE FITZPATRICK; FETHERSTONHAUGH AND CO

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

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT271773 E	20040815	LSGT	+	granted / extensions (spc, cpc, pte)	
AT271773 E	20050115	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT271773 E	20200510	PEXP		Calculated Patent Term Expiry	
AU200046272 A1	20001212	LSPB	+	published / reissued	
AU200046272 A5	20020926	LSAS	TC	CHANGE OF APPLICANT'S NAME (SEC. 104)	PARTYTYPE : OWNER OWNER : LELY HOLDING AG OLDPARTY : FORMER NAME: LELY RESEARCH HOLDING AG
AU200046272 A5	20040812	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
CA2337252 AA	20010112	LSPB	+	published / reissued	
CA2337252 AA	20050510	LSLE	-FZDE	DEAD	

DE60012454 D1	20071011	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60012454 D1	20071011	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60012454 T2	20050818	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60012454 T2	20071011	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60012454 T2	20200510	PEXP		Calculated Patent Term Expiry	
DK1100316 T3	20041206	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1100316 T3	20200510	PEXP		Calculated Patent Term Expiry	
EP1100316 A1	20010523	LSPB	+	published / reissued	
EP1100316 A1	20010523	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20001215
EP1100316 A1	20010919	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : LELY HOLDING AG
EP1100316 A1	20010926	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES AG
EP1100316 A1	20030305	LSSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20030115
EP1100316 A1	20040728	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040728
EP1100316 A1	20040728	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040728
EP1100316 A1	20040728	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040728
EP1100316 A1	20040728	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040728
EP1100316 A1	20040728	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040728
EP1100316 A1	20040728	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20040728
EP1100316 A1	20040728	LSGT	REG	REFERENCE TO A	REF COUNTRY CODE : GB

				NATIONAL CODE	REF LEGAL EVENT CODE : FG4D
EP1100316 A1	20040730	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1100316 A1	20040825	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1100316 A1	20041028	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20041028
EP1100316 A1	20041028	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20041028
EP1100316 A1	20041108	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20041108
EP1100316 A1	20050125	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20040728
EP1100316 A1	20050215	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1100316 A1	20050510	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20050510
EP1100316 A1	20050510	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050510
EP1100316 A1	20050510	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050510
EP1100316 A1	20050531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050531
EP1100316 A1	20050720	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20050429
EP1100316 A1	20060222	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1100316 A1	20080102	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20041228
EP1100316 A1	20101130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20100824 YEAR OF FEE PAYMENT : 11

EP1100316 A1	20101130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20100525 YEAR OF FEE PAYMENT : 11
EP1100316 A1	20120125	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20110510
EP1100316 A1	20120217	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20120131
EP1100316 A1	20120430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110531
EP1100316 A1	20120629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20110510
EP1100316 A1	20120731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20120525 YEAR OF FEE PAYMENT : 13
EP1100316 A1	20140210	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20130531
EP1100316 A1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20130531
EP1100316 A1	20150731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20150528 YEAR OF FEE PAYMENT : 16
EP1100316 A1	20150831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20150526 YEAR OF FEE PAYMENT : 16
EP1100316 A1	20161201	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 60012454 COUNTRY OF REF DOCUMENT : DE
EP1100316 A1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20160601
EP1100316 A1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20161201
EP1100316 B1	20040728	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1100316 B1	20200510	PEXP		Calculated Patent Term Expiry	
JP2003500025 T2	20030107	LSPB	+	published / reissued	
JP2003500025 T2	20070807	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A300 EFFECTIVE DATE : 20070807
NL1012141 C2	20001128	LSGT	+	granted / extensions (spc, cpc, pte)	
NL1012141 C2	20010201	LSSES	+PD2B	A SEARCH REPORT HAS BEEN DRAWN UP	

NL1012141 C2	20011001	LSAS	SD	ASSIGNMENTS OF PATENTS	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES AG
NL1012141 C2	20011001	LSAS	TD	MODIFICATIONS OF NAMES OF PROPRIETORS OF PATENTS	PARTYTYPE : OWNER OWNER : LELY HOLDING AG
NL1012141 C2	20050201	LSLE	-VD1	LAPSED DUE TO NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 20041201
NL1012141 C2	20190525	PEXP		Calculated Patent Term Expiry	
US2003005531 AA	20030109	LSPB	+	published / reissued	
US2003005531 AA	20010122	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY RESEARCH HOLDING AG A SWISS LIMITED LIABILITY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VAN DEN BERG, KAREL; REEL/FRAME:011476/0432 EFFECTIVE DATE : 20001214
US2003005531 AA	20030203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY HOLDING A.G., SWITZERLAND OLDPARTY : CHANGE OF NAME; ASSIGNOR:LELY RESEARCH HOLDING A.G.; REEL/FRAME:013740/0688 EFFECTIVE DATE : 20010516
US2003005531 AA	20030203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LELY ENTERPRISES A.G., A SWISS LIMITED LIABILITY OLDPARTY : CHANGE OF NAME; ASSIGNOR:LELY HOLDING A.G.; REEL/FRAME:013740/0904 EFFECTIVE DATE : 20030123
US2003005531 AA	20040317	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
WO0070936 A1	20001130	LSPB	+	published / reissued	
WO0070936 A1	20001215	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2000927970 COUNTRY OF REF DOCUMENT : EP
WO0070936 A1	20001221	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 46272/00 COUNTRY OF REF DOCUMENT : AU
WO0070936 A1	20010112	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2337252 COUNTRY OF REF DOCUMENT : CA
WO0070936 A1	20010119	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2000 619259 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO0070936 A1	20010122	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 09765385 COUNTRY OF REF DOCUMENT : US
WO0070936 A1	20010523	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000927970 COUNTRY OF REF DOCUMENT : EP
WO0070936 A1	20040728	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2000927970 COUNTRY OF REF DOCUMENT : EP