PatBase - Search results 20 February 2020
Search query (4): FT=((WORK~ AND MACHINE~ AND ASSIST~ OR AUXILIARY~ AND DEVICE~ AND TOOL~ AND HANDLING~ AND WHEEL~ AND VEHICLE~) AND IC = (B25J~))
Results: 189

Search history

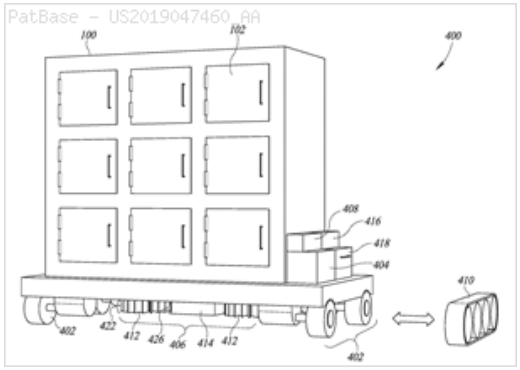
Search 1:	FT=(WORK~ AND ASSIST~ OR AUXILIARY~ AND DEVICE~ AND TOOL~ AND HANDLING~) (Results 103091)
Search 2:	FT=(WORK~ AND ASSIST~ OR AUXILIARY~ AND DEVICE~ AND TOOL~ AND HANDLING~) AND IC =(B25J) (Results 1649)
Search 3:	FT=((WORKSHOP~ AND MACHINE~ AND ASSIST~ OR AUXILIARY~ AND DEVICE~ AND TOOL~ AND HANDLING~ AND WHEEL~ AND VEHICLE~) AND IC = (B25J~)) (Results 10)
Search 4:	FT=((WORK~ AND MACHINE~ AND ASSIST~ OR AUXILIARY~ AND DEVICE~ AND TOOL~ AND HANDLING~ AND WHEEL~ AND VEHICLE~) AND IC = (B25J~)) (Results 189)

1) Family number: 72876000 (US2019047460A)

Title: MULTI-MODAL DISTRIBUTION SYSTEMS AND METHODS USING VENDING KIOSKS AND AUTONOMOUS DELIVERY **VEHICLES**

Abstract: **Vehicles**, components, and methods are disclosed for distributing hot or cold food items from a vending kiosk, a locker system, or a self-propelled delivery **vehicle**. The vending kiosk may have multiple doors, at least one of which is unlocked responsive to confirming a purchase transaction or authenticating the presence of a person or **device** associated with the purchase transaction. The multiple doors provide access to respective compartments that may be selectively heated and refrigerated. Such temperature changes may be based upon a temperature control schedule. The locker system may include one or more configurable compartments that may be accessible via a set of set of doors that can be selectively coupled into larger doors. The self-propelled delivery **vehicle** may have a plurality of thermally insulated compartments that may be used to carry multiple items at different temperatures.

Classifications:
International (IPC 8-9): B25J11/00 B25J5/00 B25J9/02 B60P3/00 B60P3/025 B60P3/20 B60R11/02 B60R16/023 B62D33/04 B62D63/04 G05D1/00 G06Q10/08 G06Q20/18 G06Q20/40 G06Q50/12 G06Q50/28 G07C9/00 G07F11/00 G07F11/04 G07F11/38 G07F11/46 G07F11/62 G07F5/26 G07F9/00 G07F9/10 (Advanced/Invention)
CPC: G06Q10/0832 B25J5/007 B60P3/20 H05B3/00 B62D33/042 B62D63/04 G07C9/00563 G07F11/007 G07F11/04 G07F11/38 G05D2201/0216 G06Q50/12 G05D1/0088 G07F9/105 G07F11/62 G06Q20/40 G06Q20/18 G07F5/26 G07F9/10 G07F11/46 G07F17/0064 G07F17/12 B25J5/02 B60P3/025 B60P3/0257 B25J11/00
US: 1/1 180/167 221/124 221/130



Family:

Publication number	Publication date	Application number	Application date
IN201917053114 A	20200214	IN201917053114	20191220
TW201909052 A	20190301	TW20180122993	20180703
TW201909054 A	20190301	TW20180123006	20180703
US2019047460 AA	20190214	US20180163339	20181017
US2019051086 AA	20190214	US20180163317	20181017
US2019051087 AA	20190214	US20180163328	20181017
US2019051090 AA	20190214	US20180163323	20181017
WO19014023 A1	20190117	WO2018US40730	20180703
WO19014030 A1	20190117	WO2018US40785	20180703

Priority:

US20170531131P 20170711 US20170531136P 20170711 US20170532885P 20170714
US20180613272P 20180103 WO2018US40785 20180703 US20180163317 20181017
US20180163328 20181017 US20180163323 20181017 US20180163339 20181017

Probable Assignee: ZUME PIZZA INC

Assignee(s): (std): GOLDBERG JOSHUA GOULED ; ZUME INC ; ZUME PIZZA INC

Inventor(s): (std): GOLDBERG JOSHUA GOULED ; GARDEN ALEXANDER JOHN ; GOEL VAIBHAV ; GARDEN ALEXANDER ; GOLDBERG JOSHUA

Agent(s): ABRAMONTE FRANK ET AL; ABRAMONTE FRANK

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
IN201917053114 A	20200214	LSPB	+	published / reissued	
TW201909052 A	20190301	LSPB	+	published / reissued	
TW201909054 A	20190301	LSPB	+	published / reissued	
US2019047460 AA	20190214	LSPB	+	published / reissued	
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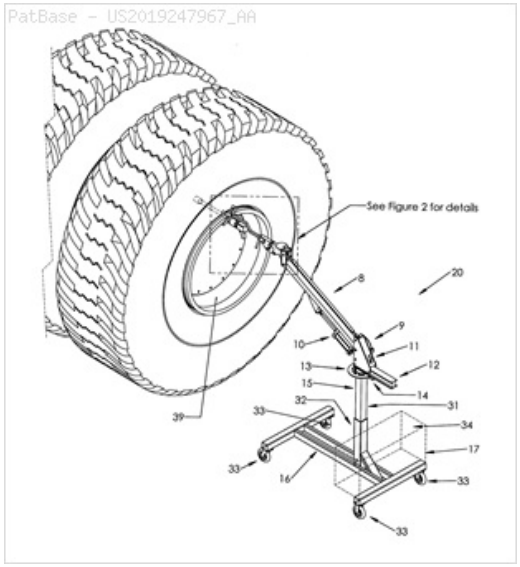
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US2019051086 AA	20190214	LSPB	+	published / reissued	
US2019051086 AA	20191203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ZUME INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GOLDBERG, JOSHUA GOULED; GARDEN, ALEXANDER JOHN; GOEL, VAIBHAV; SIGNING DATES FROM 20191113 TO 20191115; REEL/FRAME:051156/0848
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US2019051090 AA	20191203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ZUME INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GOLDBERG, JOSHUA GOULED; GARDEN, ALEXANDER JOHN; GOEL, VAIBHAV; SIGNING DATES FROM 20191113 TO 20191115; REEL/FRAME:051157/0412
WO19014023 A1	20190117	LSPB	+	published / reissued	
WO19014023 A1	20200114	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO19014030 A1	20190117	LSPB	+	published / reissued	
WO19014030 A1	20200114	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

2) Family number: 68877013 (US2019247967A)

Title: GRAVITY **ASSIST** SYSTEM

Abstract: According to at least one embodiment, a gravity **assist** system comprises a plurality links and a means for holding at least one **tool**, wherein the plurality links are configured to permit a user to reposition the at least one **tool** within a **work** envelope.

Classifications:
International (IPC 8-9): B23Q1/26 B23Q1/28 B25J1/00 B25J1/02 B25J1/12 B60B29/00 (Advanced/Invention)
CPC: B25J1/02 B25J1/12 B25J9/02 B25J19/002 B23Q1/262 B23Q1/28



Family:

Publication number	Publication date	Application number	Application date
AU2017323888 AA	20190321	AU20170323888	20170908
CA2941624 AA	20180309	CA20162941624	20160909
CL2019000574 A1	20190927	CL20190000574	20190306
CO20190002132 A2	20190318	CO20190002132	20190306
MX2019002796 A1	20190509	MX20190002796	20170908
US2019247967 AA	20190815	US20170331816	20170908
WO18045474 A1	20180315	WO2017CA51064	20170908

Priority:

CA20162941624 20160909 WO2017CA51064 20170908

Probable Assignee: KAL TIRE

Assignee(s): (std): KAL TIRE

Assignee(s): MCMUNN CLAYTON WILFORD RUSSELL ; NILSSON JAN PETER

Inventor(s): (std): MCMUNN CLAYTON WILFORD RUSSELL ; NILSSON JAN PETER ; JAN PETER NILSSON ; CLAYTON WILFORD RUSSELL MCMUNN

Agent(s): PHILLIPS ORMONDE FITZPATRICK; SMART AND BIGGAR; ESTUDIO VILLASECA Y CIA

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
AU2017323888 AA	20190321	LSPB	+	published / reissued	
CA2941624 AA	20180309	LSPB	+	published / reissued	
CL2019000574 A1	20190927	LSPB	+	published / reissued	
CO20190002132 A2	20190318	LSPB	+	published / reissued	
MX2019002796 A1	20190509	LSPB	+	published / reissued	
US2019247967 AA	20190815	LSPB	+	published / reissued	
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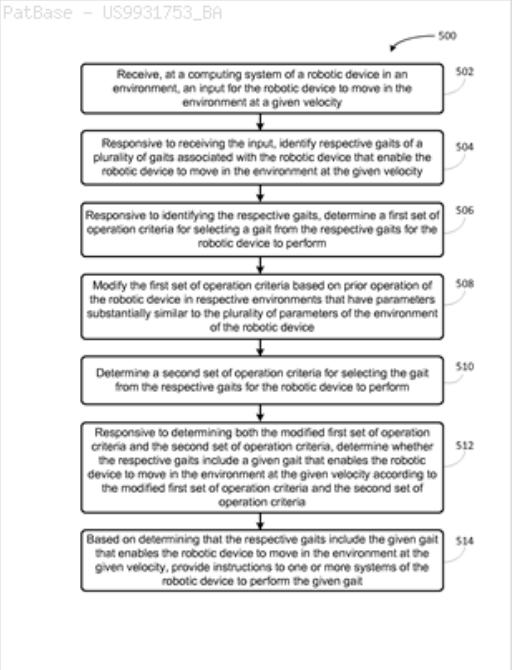
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WO18045474 A1	20180315	LSPB	+	published / reissued	
WO18045474 A1	20190312	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18045474 A1	20190321	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017323888 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20170908 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO18045474 A1	20191002	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 17847862 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

3) Family number: 69069014 (US9931753B)

Title: METHODS AND **DEVICES** FOR AUTOMATIC GAIT TRANSITION

Abstract: Examples method and **devices** for automatic gait transition are described herein. In an example embodiment, a computing system may identify gaits for the robotic **device** to perform in response to receiving an input for the robotic **device** to move at a velocity. The system may determine criteria for selecting a gait from the identified gaits for the robotic **device** to perform based on sensor data of the environment (e.g., slope and terrain) and based on the state of the robotic **device**. The system may modify the set of criteria based on prior operation of the robotic **device** in respective environments similar to the environment. Responsive to determining the criteria for selecting a gait, the computing system may determine whether the identified gaits include a gait that enables the robotic **device** to move at the velocity according to the set of criteria, and provide instructions to operate based on the determination.

Classifications:
International (IPC 8-9): B25J13/08 B25J19/02
B62D57/032 (Advanced/Invention);
G06N3/00 (Advanced/Non-invention)
CPC: B25J13/08 B25J19/02 G06N3/008 Y10S901/01 Y10S901/09



Family:

Publication number	Publication date	Application number	Application date
US9931753 BA	20180403	US20150807018	20150723

Priority:
US20140028616P 20140724 US20150807018 20150723

Probable Assignee: GOOGLE INC
Assignee(s): (std): BOSTON DYNAMICS INC ; GOOGLE INC
Assignee(s): US GOVERNMENT REPRESENTED BY SECRETARY OF ARMY AS
Inventor(s): (std): BLANKESPOOR KEVIN ; MALCHANO MATTHEW DAVID ; RIZZI ALFRED ANTHONY ; LIVIANU MATHEW
Agent(s): HONIGMAN MILLER SCHWARTZ AND COHN LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US9931753 BA	20180403	LSGT	+	granted / extensions (spc, cpc, pte)	
US9931753 BA	20170821	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RIZZI, ALFRED ANTHONY; BLANKESPOOR, KEVIN; MALCHANO, MATTHEW; AND OTHERS; REEL/FRAME:043346/0306 EFFECTIVE DATE : 20170817
US9931753 BA	20170911	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOSTON DYNAMICS, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE, INC.; REEL/FRAME:043811/0967 EFFECTIVE DATE : 20160307

US9931753 BA	20180314	LSGT	PAT1	Patented Case	
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US9931753 BA	20360613	PEXP		Calculated Patent Term Expiry (PTA 326 days)	

4) Family number: 54555020 (US2013211587A)

Title: SPACE EXPLORATION WITH HUMAN PROXY ROBOTS

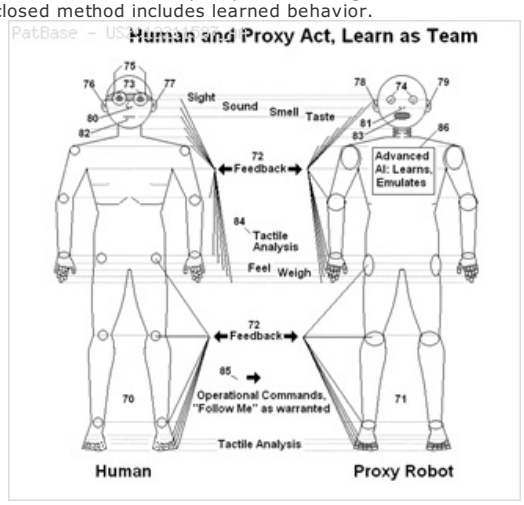
Abstract: A system and method of space exploration with a human-controlled proxy robot surrogates is disclosed. The method includes: training the human controlled proxy robot surrogates using human **handlers**; controlling the human-controlled proxy robot surrogates using the human **handlers**; and deploying a plurality of human-controlled proxy robot surrogates for extraterrestrial missions, missions on Earth, the Moon, and near-Earth locations. Each of the human-controlled proxy robot surrogates are in communication with each of the human **handlers** and wherein each one of the plurality of proxy robot surrogates is paired with each one of the plurality of human **handlers**. The human-controlled proxy robot surrogates further comprise an artificial intelligence (AI). The artificial intelligence of the disclosed method includes learned behavior.

Classifications:

International (IPC 8-9)**:** B25J11/00 B25J3/04 B25J9/16 B64G4/00 G05B15/00 G05B19/00 G05B19/04 (Advanced/Invention); B64G1/10 B64G4/00 G06N3/00 (Advanced/Non-invention)

CPC: B25J11/00 B64G4/00 G05B2219/40116 G05B2219/40191 G06N3/008 Y10S901/47 Y10S901/09 B25J9/1689 B25J3/04 B64G2001/1064 B64G2004/005

US: 1/1 700/246 700/258 700/259 700/264 901/1 901/46 901/47 901/9



Family:

Publication number	Publication date	Application number	Application date
US2013211587 AA	20130815	US20120479128	20120523
US2013211594 AA	20130815	US20120593518	20120824
US2017129105 AA	20170511	US20160384321	20161220
US9573276 BB	20170221	US20120479128	20120523
US9975248 BB	20180522	US20160384321	20161220

Priority:

US20120599204P 20120215 US20120613935P 20120321 US20120479128 20120523
US20120593518 20120824 US20160339929P 20160522 US20160384321 20161220

Probable Assignee: STEPHENS JR KENNETH DEAN

Assignee(s): (std)**:** STEPHENS JR KENNETH DEAN

Inventor(s): (std)**:** STEPHENS JR KENNETH DEAN

Inventor(s): STEPHENS JR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2013211587 AA	20130815	LSPB	+	published / reissued	
US2013211587 AA	20170201	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013211594 AA	20130815	LSPB	+	published / reissued	
US2013211594 AA	20170501	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2017129105 AA	20170511	LSPB	+	published / reissued	
US2017129105 AA	20180323	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017129105 AA	20180411	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2017129105 AA	20180417	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017129105 AA	20180502	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9573276 BB	20170221	LSGT	+	granted / extensions (spc, cpc, pte)	

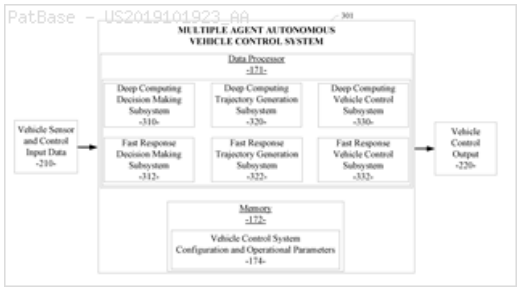
US9573276 BB	20170201	LSGT	PAT1	Patented Case
US9573276 BB	20331206	PEXP		Calculated Patent Term Expiry (PTA 562 days)
US9975248 BB	20180522	LSGT	+	granted / extensions (spc, cpc, pte)
US9975248 BB	20180502	LSGT	PAT1	Patented Case
US9975248 BB	20370120	PEXP		Calculated Patent Term Expiry (PTA 31 days)

5) Family number: 73843021 (US2019101923A)

Title: SYSTEM AND METHOD FOR PROVIDING MULTIPLE AGENTS FOR DECISION MAKING, TRAJECTORY PLANNING, AND CONTROL FOR AUTONOMOUS **VEHICLES**

Abstract: A system and method for providing multiple agents for decision making, trajectory planning, and control for autonomous **vehicles** are disclosed. A particular embodiment includes: partitioning a multiple agent autonomous **vehicle** control module for an autonomous **vehicle** into a plurality of subsystem agents, the plurality of subsystem agents including a deep computing **vehicle** control subsystem and a fast response **vehicle** control subsystem; receiving a task request from a **vehicle** subsystem; determining if the task request is appropriate for the deep computing **vehicle** control subsystem or the fast response **vehicle** control subsystem based on content of the task request or a context of the autonomous **vehicle**; dispatching the task request to the deep computing **vehicle** control subsystem or the fast response **vehicle** control subsystem based on the determination; causing execution of the deep computing **vehicle** control subsystem or the fast response **vehicle** control subsystem by use of a data processor to produce a **vehicle** control output; and providing the **vehicle** control output to a **vehicle** control subsystem of the autonomous **vehicle**.

Classifications:
International (IPC 8-9): B25J9/16 G05D1/00
G05D1/02 (Advanced/Invention)
CPC: G05D1/0088 G05D2201/0213 G06F9/46 B25J9/1664 G05D1/0212 G06F9/4881 B60W2050/0006
US: 1/1



Family:

Publication number	Publication date	Application number	Application date
US2019101923 AA	20190404	US20170721781	20170930

Priority:

US20170721781 20170930

Probable Assignee: TUSIMPLE

Assignee(s): (std): TUSIMPLE

Assignee(s): TUSIMPLE INC

Inventor(s): (std): SUN XING ; ZHAO YUFEI ; LIN WUTU ; XUAN ZIJIE ; LIU LIU ; MA KAI CHIEH

Legal status (INPADOC)

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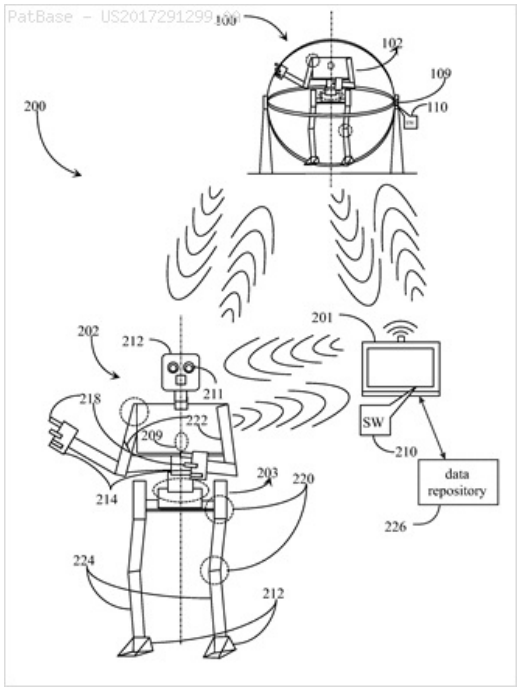
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US2019101923 AA	20181110	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TUSIMPLE, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SUN, XING; LIN, WUTU; LIU, LIU; AND OTHERS; SIGNING DATES FROM 20170927 TO 20170928; REEL/FRAME:047467/0716
US2019101923 AA	20190618	LSES	NFA1	Non Final Action Mailed	
US2019101923 AA	20191219	LSES	NFA1	Non Final Action Mailed	

6) Family number: 67172023 (US2017291299A)

Title: SYSTEM FOR COOPERATION BETWEEN A HUMAN AND A ROBOTIC **DEVICE**

Abstract: A robot control system has a jointed mechanism with sensors and actuators in a rotatable sphere, tracks movements of a person engaged in the jointed mechanism through the sensors, as commands causing movement of a robot **machine**, which also has sensors and actuators mirroring the sensors and actuators of the jointed mechanism. The robot **machine** sends activity data back to influence actuators at the jointed mechanism, providing tactile feedback to the person engaged in the jointed mechanism.

Classifications:
International (IPC 8-9): B25J13/08 B25J9/00 B25J9/16 G06F19/00 (Advanced/Invention)
CPC: B25J9/161 B25J3/04 B25J13/025 B25J9/0006
US: 1/1 700/257



Family:

Publication number	Publication date	Application number	Application date
US2017291299 AA	20171012	US20160094158	20160408
US2018065246 AA	20180308	US20170806750	20171108
US9895799 BB	20180220	US20160094158	20160408

Priority:
US20160094158 20160408 US20170806750 20171108

Probable Assignee: MULLEN PATRICK MICHAEL
Assignee(s): (std): MULLEN PATRICK MICHAEL
Inventor(s): (std): MULLEN PATRICK MICHAEL
Agent(s): CENTRAL COAST PATENT AGENCY LLC; DONALD R

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
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US2017291299 AA	20171017	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2017291299 AA	20171020	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017291299 AA	20171101	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017291299 AA	20171116	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017291299 AA	20180109	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017291299 AA	20180131	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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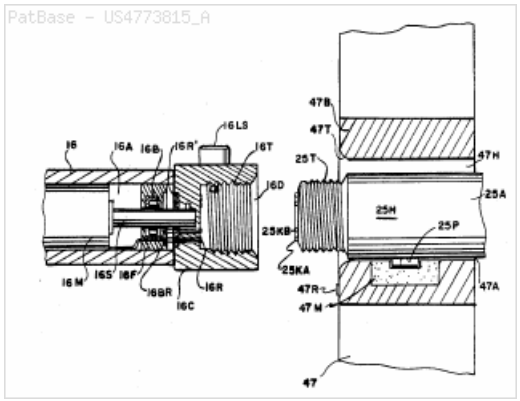
US9895799 BB	20180220	LSGT	+	granted / extensions (spc, cpc, pte)
US9895799 BB	20180131	LSGT	PAT1	Patented Case
US9895799 BB	20360824	PEXP		Calculated Patent Term Expiry (PTA 138 days)

7) Family number: 33533032 (US4773815A)

Title: AUTOMATIC MANIPULATION SYSTEM AND METHOD

Abstract: An automatic manipulator capable of performing various programs and adaptively controlled operations with respect to **work** including operations on **work**. Automatic **tool** changing means are provided wherein the manipulator changes **tools** with respect to its **tool** holding fixture, **tool** head or heads. In one form, a plurality of **tools** to be used are supported on a rack adjacent the manipulator and the manipulator is automatically operated to effect the uncoupling of one or more **tools** from its operating head and the coupling of one or more **tools** with respect to such operating head. In another form, the **tools** are supported by the manipulator itself and the manipulator is automatically controlled to effect the transfer of **tools** between its operating head and a storage location for the **tools**. In a third form, **tool** heads themselves are automtically changed and received either from storage on the manipulator or adjacent the manipulator. In a fourth form, the **tool** head is composed of a turret containing a plurality of different **tools** and manipulating **devices**, which turret is automatically operated to bring a selected **tool** or fixture into an operative location on the manipulator.

Classifications:
International (IPC 8-9): B25J15/04 B25J19/02 B25J5/00 B25J9/04 G05B19/425 (Advanced/Invention);
B25J15/04 B25J19/02 B25J5/00 B25J9/02 G05B19/425 (Core/Invention)
International (IPC 1-7): B25J15/04 B25J17/02
CPC: Y10S483/901 G05B19/425 B25J5/005 B25J9/041 B25J15/0491 B25J19/023 G05B2219/33192 G05B2219/33207 G05B2219/36395 G05B2219/36511 G05B2219/36513 G05B2219/37553 G05B2219/37572 G05B2219/40283 G05B2219/40284 G05B2219/40298 G05B2219/45045 Y10T29/5107
European: B25J15/04R B25J19/02B4 B25J5/00T B25J9/04B G05B19/425 S05B219/33192 S05B219/33207 S05B219/36395 S05B219/36511 S05B219/36513 S05B219/37553 S05B219/37572 S05B219/40283 S05B219/40284 S05B219/40298 S05B219/45045
US: 29/26A 29/568 414/744.3 414/744A 483/901 901/29 901/41



Family:

Publication number	Publication date	Application number	Application date
US4773815 A	19880927	US19860941554	19861211

Priority:

US19740436073 19740124
US19760753321 19761220
US19840639301 19840809
US19750544832 19750128
US19780910998 19780530
US19860941554 19861211
US19750544832 19750129
US19800200347 19801024

Probable Assignee: LEMELSON JEROME H

Assignee(s): (std): LEMELSON JEROME H

Inventor(s): (std): LEMELSON JEROME H

Legal status (INPADOC)

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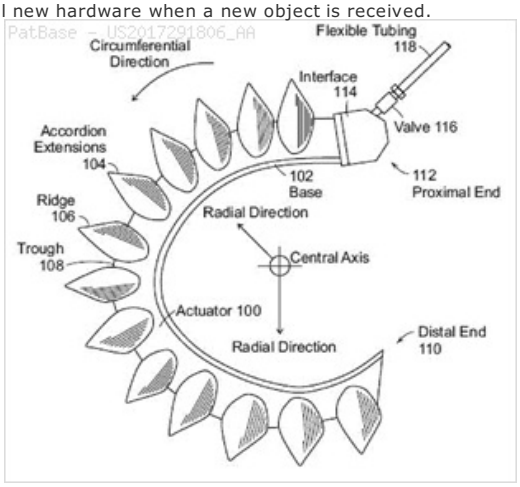
Patent	Date recorded	Event group	Code	Event	Details
US4773815 A	19880927	LSGT	+	granted / extensions (spc, cpc, pte)	
US4773815 A	19920927	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US4773815 A	19921201	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19920927
US4773815 A	19940930	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4773815 A	19950131	LSGT	PAT1	Patented Case	
US4773815 A	19950131	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4773815 A	19960327	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4773815 A	20000229	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12

8) Family number: 67172033 (US2017291806A)

Title: SOFT ROBOTIC ACTUATORS FOR POSITIONING, PACKAGING, AND ASSEMBLING

Abstract: Exemplary embodiments relate to applications for soft robotic actuators in the manufacturing, packaging, and food preparation industries, among others. Methods and systems are disclosed for fixing target objects and/or receptacles using soft robotic actuators, for positioning target objects and/or receptacles, and/or for diverting or sorting objects. By using soft robotic actuators to perform the fixing, positioning, and/or diverting, objects of different sizes and configurations may be manipulated on the same processing line, without the need to reconfigure the line or install new hardware when a new object is received.

Classifications:
International (IPC 8-9): A23L5/00 B25J15/00 B25J15/12 B25J9/00 B25J9/14 B25J9/16 B65B55/24 B65C3/06 B65C3/26 B65C9/02 B67B3/02 B67C3/00 B67C3/24 (Advanced/Invention)
CPC: B67C3/007 B65C3/26 B67B3/02 B67C3/24 B67C2003/228 B25J9/0093 B25J9/142 B25J9/1612 B25J15/12 G05B2219/39466 G05B2219/39554 G05B2219/40253 B25J15/0023
US: 1/1 53/415



Family:

Publication number	Publication date	Application number	Application date
AU2017248319 AA	20181025	AU20170248319	20170407
CA3019959 AA	20181003	CA20173019959	20170407
CN109153120 A	20190104	CN201780028455	20170407
EP3439835 A1	20190213	EP20170722194	20170407
JP2019513565 T2	20190530	JP20180552221T	20170407
US2017291806 AA	20171012	US20170482050	20170407
WO17177126 A1	20171012	WO2017US26581	20170407

Priority:

US20160319571P 20160407 US20170482050 20170407 WO2017US26581 20170407

Probable Assignee: SOFT ROBOTICS INC

Assignee(s): (std): SOFT ROBOTICS INC

Assignee(s): CURHAN JEFFREY ; HARBURG DANIEL VINCENT ; LESSING JOSHUA AARON ; SINGH SARV PARTEEK

Inventor(s): (std): SINGH SARV PARTEEK ; HARBURG DANIEL VINCENT ; CURHAN JEFFREY ; LESSING JOSHUA ; LESSING JOSHUA AARON

Agent(s): DAVIES COLLISON CAVE PTY LTD; KIRBY EADES GALE BAKER; SOMERVELL THOMAS RICHARD; FAGAN MATTHEW T

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2017248319 AA	20181025	LSPB	+	published / reissued	
CA3019959 AA	20181003	LSPB	+	published / reissued	
CN109153120 A	20190104	LSPB	+	published / reissued	
CN109153120 A	20190104	LSPB	PB01	PUBLICATION	
EP3439835 A1	20190213	LSPB	+	published / reissued	
EP3439835 A1	20190213	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20181106
JP2019513565 T2	20190530	LSPB	+	published / reissued	

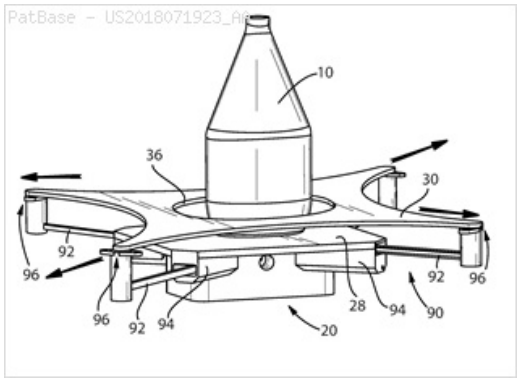
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US2017291806 AA	20170615	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SOFT ROBOTICS, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LESSING, JOSHUA AARON; HARBURG, DANIEL VINCENT; SINGH, SARV PARTEEK; REEL/FRAME:042723/0590 EFFECTIVE DATE : 20170426
US2017291806 AA	20190326	LSES	NFA1	Non Final Action Mailed	
US2017291806 AA	20190709	LSES	NFA1	Non Final Action Mailed	
US2017291806 AA	20191112	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
WO17177126 A1	20171012	LSPB	+	published / reissued	
WO17177126 A1	20181003	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 3019959 COUNTRY OF REF DOCUMENT : CA
WO17177126 A1	20181004	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018552221 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17177126 A1	20181009	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17177126 A1	20181025	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017248319 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20170407 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17177126 A1	20181107	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2017722194 COUNTRY OF REF DOCUMENT : EP
WO17177126 A1	20181116	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017722194 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20181107

9) Family number: 68878037 (US2018071923A)

Title: VACUUM HOLDER WITH EXTENSIBLE SKIRT GASKET

Abstract: A vacuum holder for articles, a combination of a vacuum holder and an article, a system for holding and conveying articles, and a method for holding and conveying articles are disclosed. The vacuum holder includes a main body having a surface and an air passageway leading to the surface, and a valve joined to the main body and in fluid communication with the air passageway. The vacuum holder includes an extensible skirt gasket with an opening therein. An article can be placed adjacent to the surface of the main body, and a vacuum can be drawn through the air passageway to hold the article to the vacuum holder. The valve maintains the vacuum between the article and the vacuum holder without being connected to a vacuum source, until it is desired to release the article from the vacuum holder.

Classifications:
International (IPC 8-9)**:** B25B11/00 B25J15/06 B65G21/20 (Advanced/Invention)
CPC: B25B11/005 B65G21/2036 B65G2201/0261 B25J15/0625
US: 1/1 198/689.1 294/189



Family:

Publication number	Publication date	Application number	Application date
CA3036087 AA	20190306	CA20173036087	20170908
CN109689303 A	20190426	CN201780054703	20170908
CN109689304 A	20190426	CN201780054707	20170908
EP3509794 A1	20190717	EP20170768932	20170908
EP3509795 A1	20190717	EP20170772168	20170908
JP2019529133 T2	20191017	JP20190513796T	20170908
MX2019002775 A1	20190829	MX20190002775	20170908
US2018071923 AA	20180315	US20170698693	20170908
US2018072505 AA	20180315	US20170698686	20170908
US2019161281 AA	20190530	US20190263755	20190131
US10221017 BB	20190305	US20170698693	20170908
US10442629 BB	20191015	US20170698686	20170908
WO18049090 A1	20180315	WO2017US50579	20170908
WO18049098 A1	20180315	WO2017US50592	20170908

Priority:

US20160385324P 20160909 US20170698686 20170908 US20170698693 20170908
WO2017US50592 20170908 WO2017US50579 20170908 US20190263755 20190131

Probable Assignee: PROCTER AND GAMBLE CO

Assignee(s): (std)**:** PROCTER AND GAMBLE

Assignee(s): PROCTER AND GAMBLE CO ; SHEN MARCUS ; LYMAN CHRISTOPHER ROBERT ; ORNDORFF JASON MATTHEW

Inventor(s): (std)**:** SHEN MARCUS ; LYMAN CHRISTOPHER ROBERT ; ORNDORFF JASON MATTHEW ; LEVANDOSKI MARK ; GRANITZ MICHAEL ; JASON MATTHEW ORNDORFF ; CHRISTOPHER ROBERT LYMAN ; MARCUS SHEN

Agent(s): KIRBY EADES GALE BAKER; HOYNG ROKH MONEGIER LLP; VELARDE ANDRES E; BAMBER JEFFREY; BAMBER JEFFREY V; KREBS JAY A

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA3036087 AA	20190306	LSPB	+	published / reissued	
CA3036087 AA	20190321	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20190306
CN109689303 A	20190426	LSPB	+	published / reissued	
CN109689303 A	20190426	LSPB	PB01	PUBLICATION	
CN109689304 A	20190426	LSPB	+	published /	

				reissued	
CN109689304 A	20190426	LSPB	PB01	PUBLICATION	
EP3509794 A1	20190717	LSPB	+	published / reissued	
EP3509794 A1	20190717	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190401
EP3509795 A1	20190717	LSPB	+	published / reissued	
EP3509795 A1	20190717	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190405
JP2019529133 T2	20191017	LSPB	+	published / reissued	
JP2019529133 T2	20190627	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20190416
MX2019002775 A1	20190829	LSPB	+	published / reissued	
US10221017 BB	20190305	LSGT	+	granted / extensions (spc, cpc, pte)	
US10221017 BB	20170908	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US10221017 BB	20171003	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE PROCTER & GAMBLE COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LYMAN, CHRISTOPHER ROBERT; ORNDORFF, JASON MATTHEW; SHEN, MARCUS; SIGNING DATES FROM 20170928 TO 20171002; REEL/FRAME:043760/0124
US10221017 BB	20190213	LSGT	PAT1	Patented Case	
US10221017 BB	20370908	PEXP		Calculated Patent Term Expiry	
US10442629 BB	20191015	LSGT	+	granted / extensions (spc, cpc, pte)	
US10442629 BB	20170908	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US10442629 BB	20171002	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE PROCTER & GAMBLE COMPANY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LYMAN, CHRISTOPHER ROBERT; LEVANDOSKI, MARK; GRANITZ, MICHAEL; AND OTHERS; REEL/FRAME:043751/0218 EFFECTIVE DATE : 20170912
US10442629 BB	20370908	PEXP		Calculated Patent Term Expiry	
US2018071923 AA	20180315	LSPB	+	published / reissued	
US2018071923 AA	20190118	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2018071923 AA	20190122	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2018071923 AA	20190213	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US2018072505 AA	20180315	LSPB	+	published / reissued	
US2018072505 AA	20180628	LSES	NFA1	Non Final Action Mailed	
US2018072505 AA	20190605	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018072505 AA	20190911	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2018072505 AA	20190925	LSGT	PAT1	Patented Case	
US2018072505 AA	20190925	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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WO18049090 A1	20190311	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2019513796 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO18049090 A1	20190312	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18049090 A1	20190412	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017772168 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190409
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WO18049098 A1	20190412	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017768932 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190409

10) Family number: 75906041 (US2019282131A)

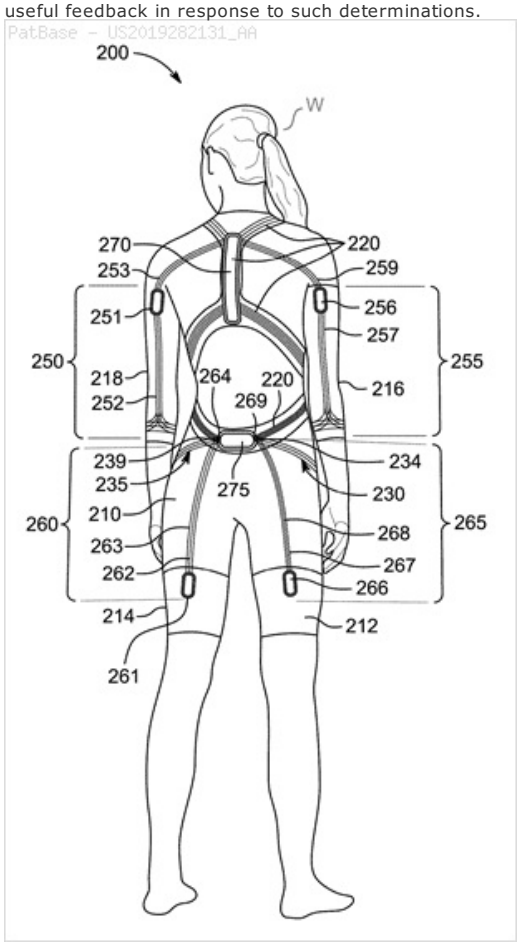
Title: MANAGEMENT OF BIOMECHANICAL ACHIEVEMENTS

Abstract: Systems and methods and media for managing biomechanical achievements are provided. An exosuit or any other suitable sensor assembly worn by a user can be utilized by a system to monitor several movement factors that may characterize the user's movement and any changes in the user's movement with a high degree of specificity that may enable various system algorithms and/or models to predict or otherwise determine one or more biomechanical achievements of the user, such as recovery from a particular type of event (e.g., surgery or therapy procedure) and/or distance traveled (e.g., without using any global positioning system capabilities). In addition, an exosuit can provide useful feedback in response to such determinations.

Classifications:

International (IPC 8-9): A41D1/00 A61B5/00 A61B5/11 A61H3/00 A63B24/00 B25J9/00 B25J9/16 G05B17/02 G06N20/00 G06N7/00 G09B19/00 (Advanced/Invention)

CPC: B25J9/163 B25J9/0006 G06N7/005 G06N20/00 G05B17/02 A61B5/1123 A61B2503/20 A61H3/00 A41D1/002 G09B19/003 A61B5/1112 A61B5/7267 A63B2220/12 A63B2220/803 A63B2220/51 A63B2220/54 A63B2230/60 A61H2201/165 A63B2230/04 A63B2024/0096 A61B2505/09 A63B24/0062 A61B5/112 A61B5/1121 A61B5/6804 A61B2503/10 A61B2562/0219 A61B2562/04 A61B2562/222 G09B19/0038



Family:

Publication number	Publication date	Application number	Application date
US2019282131 AA	20190919	US20190355340	20190315
US2019283247 AA	20190919	US20190355275	20190315

Priority:

US20180643640P 20180315 US20180646814P 20180322 US20190813387P 20190304
US20190355340 20190315 US20190355275 20190315

Probable Assignee: SEISMIC HOLDINGS INC

Assignee(s): (std): SEISMIC HOLDINGS INC

Inventor(s): (std): CHANG ANDREW ROBERT ; CHANG DEREK ; LY DANIEL LE ; COWAN RAY FRANKLIN

Legal status (INPADOC)

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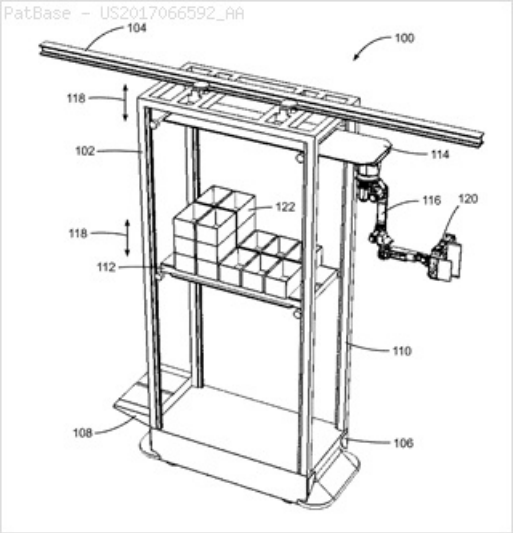
Patent	Date recorded	Event group	Code	Event	Details
US2019282131 AA	20190919	LSPB	+	published / reissued	
US2019283247 AA	20190919	LSPB	+	published / reissued	

11) Family number: 65128047 (US2017066592A)

Title: AUTOMATED GUIDED **VEHICLE** (AGV) WITH BATCH PICKING ROBOTIC ARM

Abstract: A system includes an automated guided **vehicle** (AGV). A loading table is positioned on the AGV. The loading table is configured and sized to hold more than one storage container. A frame extends from the AGV. A robotic arm is mounted to the frame. In one form, the frame includes a gantry that moves relative to the rest of the AGV. Alternatively or additionally, the robotic arm is able to move relative to the gantry. By holding more than one storage container, the AGV facilitates automatic batch picking or placing of items. The gantry increases the degrees of freedom of movement of the robotic arm.

Classifications:
International (IPC 8-9): B25J5/00 B25J5/02 B25J9/00 B25J9/02 B60P1/48 B62D63/04 B65G1/00 B65G1/04 B65G1/06 B65G15/00 B65G47/91 B65G67/04 B65G67/08 B65G67/24 B66C5/02 B66F9/06 B66F9/07 (Advanced/Invention)
International (IPC 1-7): B60P1/48 B62D63/04 B65G1/04 B65G1/06 B65G67/04 B65G67/08 B65G67/24
CPC: B66F9/063 B25J5/02 B25J5/007 B25J9/0018 B25J9/0096 B25J9/026 B65G47/915 B65G2207/34 B66F9/07
US: 1/1 414/730
JP F-Term: 3C707 3C707/AS01 3C707/BS10 3C707/CS05 3C707/CS08 3C707/NS19 3C707/WA16 3F022 3F022/FF12 3F022/JJ11 3F022/KK10 3F022/KK18 3F022/LL01 3F022/MM11 3F022/PP06 3F022/QQ17
JP F-Index: B25J5/00/A B25J5/02/B B65G1/00/501/C B65G1/04/555/Z



Family:

Publication number	Publication date	Application number	Application date
BR112018004649 A2	20180925	BR20181104649	20160908
CA2998118 AA	20180308	CA20162998118	20160908
CN108495798 A	20180904	CN201680064070	20160908
EP3347290 A1	20180718	EP20160844995	20160908
EP3347290 A4	20190529	EP20160844995	20160908
IN201837012400 A	20180518	IN201837012400	20180402
JP2018535163 T2	20181129	JP20180512879T	20160908
MX2018002905 A1	20180608	MX20180002905	20160908
US2017066592 AA	20170309	US20160258079	20160907
US2018333841 AA	20181122	US20180052009	20180801
US10137566 BB	20181127	US20160258079	20160907
WO17044522 A1	20170316	WO2016US50618	20160908

Priority:

US20150215948P 20150909 US20160258079 20160907 WO2016US50618 20160908 US20180052009 20180801

Probable Assignee: BASTIAN SOLUTIONS LLC

Assignee(s): (std): BASTIAN SOLUTIONS LLC ; BASTIAN WILLIAM A II ; JONES AARON M

Assignee(s): BASTIAN WILLIAM A

Inventor(s): (std): BASTIAN II WILLIAM A ; JONES AARON M ; BASTIAN WILLIAM A II ; AARON M JONES ; WILLIAM A BASTIAN II

Inventor(s): BASTIAN WILLIAM A

Agent(s): SMART AND BIGGAR; TEVLIN CHRISTOPHER MICHAEL; ONO SHINJIRO; YAMAMOTO OSAMU; MIYAMAE TORU; NAKANISHI MOTOHARU; WOODARD EMHARDT MORIARTY MCNETT AND HENRY LLP; SCHMAL CHARLES 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 DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2998118 AA	20180308	LSPB	+	published / reissued	
CN108495798 A	20180904	LSPB	+	published / reissued	
CN108495798 A	20180904	LSPB	PB01	PUBLICATION	

EP3347290 A1	20180718	LSPB	+	published / reissued	
EP3347290 A1	20180718	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20180409
EP3347290 A4	20190529	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20190429
IN201837012400 A	20180518	LSPB	+	published / reissued	
JP2018535163 T2	20181129	LSPB	+	published / reissued	
JP2018535163 T2	20190830	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20190830
MX2018002905 A1	20180608	LSPB	+	published / reissued	
US10137566 BB	20181127	LSGT	+	granted / extensions (spc, cpc, pte)	
US10137566 BB	20161122	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BASTIAN SOLUTIONS, LLC, INDIANA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BASTIAN, WILLIAM A., II; JONES, AARON M.; REEL/FRAME:040398/0444 EFFECTIVE DATE : 20161115
US10137566 BB	20181107	LSGT	PAT1	Patented Case	
US10137566 BB	20361024	PEXP		Calculated Patent Term Expiry (PTA 47 days)	
US2017066592 AA	20170309	LSPB	+	published / reissued	
US2017066592 AA	20170926	LSES	NFA1	Non Final Action Mailed	
US2017066592 AA	20171030	LSES	NFA1	Non Final Action Mailed	
US2017066592 AA	20180430	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017066592 AA	20180514	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2017066592 AA	20180516	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017066592 AA	20181107	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2018333841 AA	20181122	LSPB	+	published / reissued	
US2018333841 AA	20180801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BASTIAN SOLUTIONS, LLC, INDIANA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BASTIAN, WILLIAM A., II; JONES, AARON M.; REEL/FRAME:046526/0597 EFFECTIVE DATE : 20161115
US2018333841 AA	20190912	LSES	NFA1	Non Final Action Mailed	
US2018333841 AA	20191209	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018333841 AA	20200129	LSFE	+PPR1	Publications -- Issue Fee Payment	

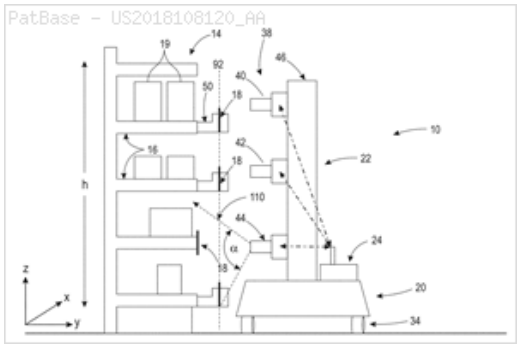
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WO17044522 A1	20170316	LSPB	+	published / reissued	
WO17044522 A1	20180307	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2018/002905 COUNTRY OF REF DOCUMENT : MX
WO17044522 A1	20180308	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2998118 COUNTRY OF REF DOCUMENT : CA
WO17044522 A1	20180309	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018512879 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17044522 A1	20180310	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17044522 A1	20180409	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016844995 COUNTRY OF REF DOCUMENT : EP
WO17044522 A1	20180925	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112018004649 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20180308

12) Family number: 69325060 (US2018108120A)

Title: STORE SHELF IMAGING SYSTEM AND METHOD

Abstract: A store profile generation system includes a mobile base and an image capture assembly mounted on the base. The assembly includes at least one image capture **device** for acquiring images of product display units in a retail environment. A control unit acquires the images captured by the at least one image capture **device** at a sequence of locations of the mobile base in the retail environment. The control unit extracts product-related data from the acquired images and generates a store profile indicating locations of products and their associated tags throughout the retail environment, based on the extracted product-related data. The store profile can be used for generating new product labels for a sale in an appropriate order for a person to match to the appropriate locations in a single pass through the store.

Classifications:
International (IPC 8-9)**:** B25J19/04 B25J5/00 B25J9/18 G01S17/88 G06Q10/08 G06T3/00 G06T3/40 G06T5/00 G06T5/20 G06T7/00 H04N5/232 (Advanced/Invention);
B65G1/04 G05D1/02 G06K9/00 G06T7/73 H04N5/225 H04N5/247 (Advanced/Non-invention)
CPC: G06T7/0071 B65G1/0492 G06Q10/087 G06K9/00664 G06T7/579 G06T7/74 G01S17/88 G06T3/0068 G06T3/4038 G06T5/006 G06T5/20 G06T7/0004 H04N5/2253 H04N5/23238 H04N5/247
US: 1/1 382/153



Family:

Publication number	Publication date	Application number	Application date
CA2981552 AA	20180417	CA20172981552	20171005
EP3309728 A1	20180418	EP20170196764	20171017
US2018108120 AA	20180419	US20160294937	20161017
US10210603 BB	20190219	US20160294937	20161017

Priority:
US20160294937 20161017

Probable Assignee: CONDUENT BUSINESS SERVICES LLC
Assignee(s): (std)**:** CONDUENT BUSINESS SERVICES LLC
Assignee(s): RIZZOLO CHARLES D ; SHEN ETHAN ; VENABLE DENNIS L ; XEROX CORP ; WU WENCHENG ; WADE THOMAS F
Inventor(s): (std)**:** VENABLE DENNIS L ; WU WENCHENG ; WADE THOMAS F ; SHEN ETHAN ; RIZZOLO CHARLES D
Agent(s): AIRD AND MCBURNEY LP; GILL JENNINGS AND EVERY LLP; FAY SHARPE LLP
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2981552 AA	20180417	LSPB	+	published / reissued	
CA2981552 AA	20190802	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20190716
EP3309728 A1	20180418	LSPB	+	published / reissued	
EP3309728 A1	20181107	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20180928
EP3309728 A1	20191009	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20190906
US10210603 BB	20190219	LSGT	+	granted / extensions (spc, cpc, pte)	
US10210603 BB	20161017	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XEROX CORPORATION, CONNECTICUT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:VENABLE, DENNIS L.; WU, WENCHENG; WADE, THOMAS F.; AND OTHERS; SIGNING DATES FROM 20160920 TO 20161003; REEL/FRAME:040029/0729

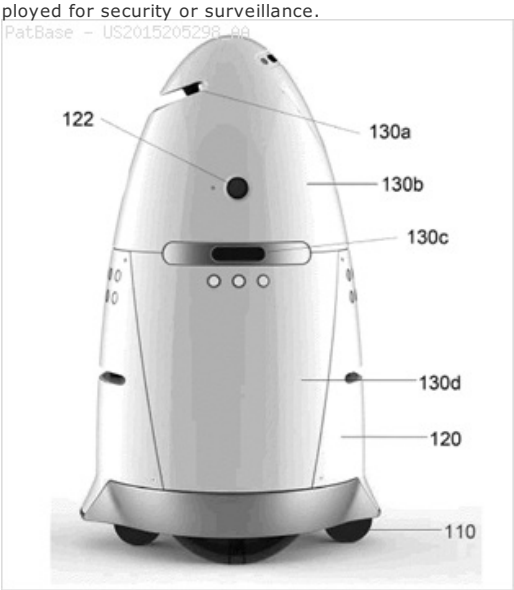
US10210603 BB	20170128	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CONDUENT BUSINESS SERVICES, LLC, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:XEROX CORPORATION; REEL/FRAME:041542/0022 EFFECTIVE DATE : 20170112
US10210603 BB	20190130	LSGT	PAT1	Patented Case	
US10210603 BB	20361226	PEXP		Calculated Patent Term Expiry (PTA 70 days)	
US2018108120 AA	20180419	LSPB	+	published / reissued	
US2018108120 AA	20180619	LSES	NFA1	Non Final Action Mailed	
US2018108120 AA	20181222	LSFE	+PPV1	Publications - - Issue Fee Payment Verified	
US2018108120 AA	20190130	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

13) Family number: 59880062 (US2015205298A)

Title: AUTONOMOUS DATA **MACHINES** AND SYSTEMS

Abstract: Autonomous data **machines** and systems may be provided, which may be deployed in an environment. The **machines** may roam within the environment and collect data with aid of one or more sensors. The data may be sent to a control center, which may optionally receive information from additional data sources, such as other on-site sensors, existing static data, or real-time social data. The control center may send instructions to the **machines** to perform one or more reaction based on the received information. The autonomous data **machines** may be capable of reacting autonomously to one or more detected condition. In some instances, the autonomous data **machines** may be employed for security or surveillance.

Classifications:
International (IPC 8-9): B25J19/00 B25J5/00 B60L11/18 B60L3/00 B60L9/00 B60Q5/00 B60W40/02 G01C22/00 G05D1/00 G05D1/02 G06N99/00 G08B13/00 G08B25/10 H02J7/00 (Advanced/Invention)
CPC: G05D1/021 Y10S901/01 G05D1/0297 B25J19/005 H02J7/0042 B25J5/007 B60Q5/005 B60W40/02 B60L50/50 B60L53/35 B60L11/182 B60L11/1816 B60L11/1827 B60L11/1829 B60L11/1835 G06N99/005 B60L2230/16 B60L3/0015 B60L53/12 B60L53/14 B60L53/305 B60L53/37 B60L53/38 B60L2240/70 G05D2201/0209 G06N20/00 G08B13/00 G08B25/10 Y02T10/7005 Y02T10/7088 Y02T10/7291 Y02T90/121 Y02T90/122 Y02T90/125 Y02T90/128 Y02T90/14 Y02T90/16 Y02T90/163
US: 1/1 701/22 701/23 901/1



Family:

Publication number	Publication date	Application number	Application date
US2015205298 AA	20150723	US20150599073	20150116
US2017136631 AA	20170518	US20160215540	20160720
US9329597 BB	20160503	US20150599073	20150116
US9910436 BA	20180306	US20150751115	20150625
US10279488 BB	20190507	US20160215540	20160720

Priority:

US20140929007P 20140117 US20150599073 20150116 US20150751115 20150625
US20150195242P 20150721 US20160215540 20160720

Probable Assignee: KNIGHTSCOPE INC

Assignee(s): (std): KNIGHTSCOPE INC

Inventor(s): (std): LI WILLIAM SANTANA ; SORIA LI MERCEDES ; LEHNHARDT AARON J ; STOSCHEK ARNE ; VILLA DOMINIC A ; STEPHENS STACY DEAN ; WONG PHILLIP

Agent(s): WILSON SONSINI GOODRICH AND ROSATI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10279488 BB	20190507	LSGT	+	granted / extensions (spc, cpc, pte)	
US10279488 BB	20170213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KNIGHTSCOPE, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LI, WILLIAM SANTANA; WONG, PHILLIP; STEPHENS, STACY DEAN; AND OTHERS; SIGNING DATES FROM 20161015 TO 20170213; REEL/FRAME:041243/0441
US10279488 BB	20190417	LSGT	PAT1	Patented Case	
US10279488 BB	20191119	LSRE	CC	CERTIFICATE OF CORRECTION	
US10279488 BB	20361116	PEXP		Calculated Patent Term	

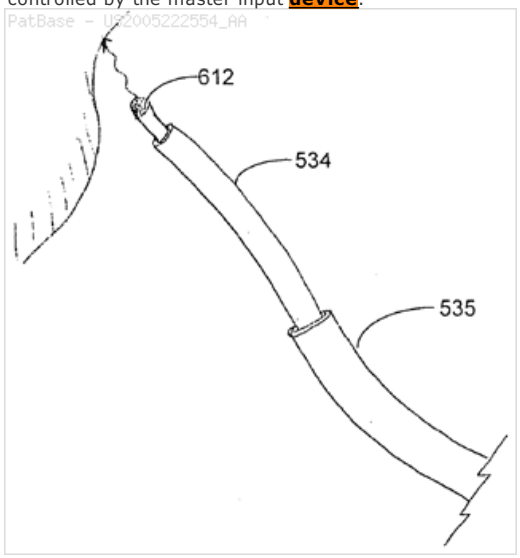
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US2015205298 AA	20150723	LSPB	+	published / reissued	
US2015205298 AA	20160413	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017136631 AA	20170518	LSPB	+	published / reissued	
US2017136631 AA	20180516	LSES	NFA1	Non Final Action Mailed	
US2017136631 AA	20181219	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017136631 AA	20190228	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017136631 AA	20190319	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017136631 AA	20190321	LSFE	+PPR1	Publications - - Issue Fee Payment Received	
US2017136631 AA	20190325	LSFE	+PPV1	Publications - - Issue Fee Payment Verified	
US2017136631 AA	20190417	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9329597 BB	20160503	LSGT	+	granted / extensions (spc, cpc, pte)	
US9329597 BB	20150413	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KNIGHTSCOPE, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:STOSCHEK, ARNE; LI, WILLIAM SANTANA; STEPHENS, STACY DEAN; AND OTHERS; REEL/FRAME:035421/0363 EFFECTIVE DATE : 20150325
US9329597 BB	20160413	LSGT	PAT1	Patented Case	
US9329597 BB	20191104	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9329597 BB	20350116	PEXP		Calculated Patent Term Expiry	
US9910436 BA	20180306	LSGT	+	granted / extensions (spc, cpc, pte)	
US9910436 BA	20160223	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KNIGHTSCOPE, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:STOSCHEK, ARNE; LI, WILLIAM SANTANA; STEPHENS, STACY DEAN; AND OTHERS; REEL/FRAME:037804/0733 EFFECTIVE DATE : 20150325
US9910436 BA	20180214	LSGT	PAT1	Patented Case	
US9910436 BA	20180214	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9910436 BA	20350625	PEXP		Calculated	

	Patent Term Expiry

14) Family number: 32253068 (US2005222554A)

Title: ROBOTIC CATHETER SYSTEM

Abstract: A robotic catheter system includes a controller with a master input **device**. An instrument driver is in communication with the controller and has a guide instrument interface including a plurality of guide instrument drive elements responsive to control signals generated, at least in part, by the master input **device**. An elongate guide instrument has a base, distal end, and a **working** lumen, wherein the guide instrument base is operatively coupled to the guide instrument interface. The guide instrument includes a plurality of guide instrument control elements operatively coupled to respective guide drive elements and secured to the distal end of the guide instrument. The guide instrument control elements are axially moveable relative to the guide instrument such that movement of the guide instrument distal end may be controlled by the master input **device**.



Classifications:

International (IPC 8-9): A61B1/00 A61B1/018 A61B1/04 A61B1/267 A61B1/273 A61B17/00 A61B17/062 A61B18/04 A61B18/12 A61B18/14 A61B19/00 A61B34/00 A61B34/20 A61B34/30 A61B34/35 A61B34/37 A61B46/10 A61B5/00 A61B5/042 A61B5/05 A61B5/055 A61B5/06 A61B6/00 A61B6/03 A61B8/00 A61B8/12 A61B90/50 A61K9/22 A61M25/00 A61M25/01 A61M25/09 A61M25/092 A61M31/00 A61M37/00 A61M5/14 A61N1/30 B25J3/00 C12Q1/00 (Advanced/Invention);
A61B1/00 A61B1/018 A61B10/00 A61B10/06 A61B17/00 A61B17/04 A61B17/34 A61B18/00 A61B18/08 A61B19/00 A61B19/08 A61B34/00 A61B34/10 A61B34/20 A61B34/30 A61B46/10 A61B5/00 A61B5/05 A61B5/053 A61B6/00 A61B8/08 A61B8/12 A61B90/00 A61M25/00 A61M25/01 B33Y70/00 B33Y80/00 (Advanced/Non-invention);
A61B17/00 A61B18/12 A61B18/14 A61B19/00 A61B8/12 A61K9/22 A61M25/00 A61M25/01 A61M31/00 A61M5/14 B25J3/00 C12Q1/00 (Core/Invention);
A61B1/00 A61B17/00 A61B17/04 A61B18/04 A61B5/00 A61B5/05 A61B5/053 A61M25/00 A61M25/01 (Core/Non-invention)

International (IPC 1-7): A61B17/00 A61B19/00 A61M25/01

CPC: A61B2017/00477 A61B17/0469 A61B17/29 A61B2017/00323 A61B2017/0472 A61B2017/06057 A61B2017/2905 A61B17/1114 A61B17/42 A61B2017/00827 A61B6/4423 A61B6/504 A61B8/0891 A61B8/4254 A61B8/4466 A61B8/543 A61B10/06 A61B2017/00247 A61B2017/00309 A61B2017/00327 A61B2018/00392 A61B5/066 A61B5/6852 A61B5/6885 A61M25/09041 A61B5/746 A61B50/13 A61B2090/506 A61B2090/508 A61B2034/742 A61B34/35 A61B50/15 A61B2090/3782 A61B8/0833 A61B6/12 A61B18/1492 A61B17/00234 A61B17/3478 A61B18/1477 A61B2017/00199 A61B2018/1425 A61B2017/00292 A61M25/0084 A61B34/32 A61B8/4461 A61B34/77 A61B2090/367 A61B2090/374 A61B2090/3925 A61B2090/397 A61B18/00 A61B5/042 A61B6/503 A61B1/018 A61B5/0006 A61B5/053 A61B5/7285 A61B6/541 A61B8/0808 A61B8/12 A61B17/0482 A61B17/062 A61B18/08 A61B34/20 A61B34/25 A61B34/30 A61B34/37 A61B34/71 A61B34/74 A61B34/76 A61B46/10 A61B90/361 A61B90/39 A61B90/50 A61B2017/00238 A61B2017/00243 A61B2017/00296 A61B2017/003 A61B2017/00336 A61B2017/00743 A61B2017/00805 A61B2034/102 A61B2034/105 A61B2034/107 A61B2034/2051 A61B2034/256 A61B2034/301 A61B2034/715 A61B2090/035 A61B2090/062 A61B2090/065 A61B2090/364 A61B2090/376 A61B2090/378 A61B2090/3784 A61M25/0105 A61B2034/303 B33Y70/00 B33Y80/00 A61B1/2676 A61B1/273 A61B2034/2063 A61M25/0113 A61M25/0147 A61M2025/0004

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US: 1/1 128/898 248/349.1 248/349.100P 435/4 435/4P 600/106 600/106P 600/108 600/108S 600/109 600/109S 600/113 600/113S 600/114 600/146 600/424 600/424P 600/437 600/585 604/21 604/21P 604/890.1 604/890.100P 604/95.01 604/95.010P 604/95.010S 604/95.04 604/97.02 606/1 606/108 606/130 606/130P 606/1P 606/1S 606/27 606/28 606/41 606/41P 606/41S

JP F-Term: 4C030 4C060 4C060/KK03 4C060/KK23 4C060/MM25 4C093 4C093/CA18 4C093/DA02 4C096 4C096/AA18 4C096/AB46 4C096/AC04 4C160 4C160/KK03 4C160/KK07 4C160/KK13 4C160/KK22 4C160/KK36 4C160/KK70 4C160/MM38 4C160/NN02 4C160/NN07 4C160/NN08 4C160/NN11 4C160/NN30 4C167 4C167/AA32 4C167/BB42 4C167/BB45 4C167/BB46 4C167/BB52 4C167/CC19 4C167/EE01 4C167/HH08 4C267 4C267/AA32 4C267/BB42 4C267/BB45 4C267/BB46 4C267/BB52 4C267/CC19 4C267/EE01 4C267/HH08 4C601 4C601/BB14 4C601/BB24 4C601/DD14 4C601/DD15 4C601/EE20 4C601/FE01 4C601/FE04 4C601/GA20 4C601/GA25 4C060/KK06 4C060/KK09 4C060/KK10 4C066 4C066/AA01 4C066/BB01 4C066/CC01 4C066/DD07 4C066/EE06 4C066/FF01 4C066/FF03 4C066/HH01 4C066/KK02 4C066/KK05 4C160/KK20 4C160/KK39 4C160/KL01 4C160/KL10 4C160/MM33 4C167/AA02 4C167/BB01 4C167/BB02 4C167/CC08 3C007 3C007/AS35 3C007/CU09 3C007/HT04 3C007/JT04 3C707 3C707/AS35 3C707/GS00 3C707/JT04 3C707/JU12 4C160/NN09 4C160/NN12 4C167/BB62 4C167/CC07 4C167/CC09 4C167/EE07 4C167/FF01 4C167/GG04 4C167/GG07 4C167/GG09 4C167/GG36 4C267/BB62 4C267/CC07 4C267/CC08 4C267/CC09 4C267/EE07 4C267/FF01 4C267/GG04 4C267/GG07 4C267/GG09 4C267/GG36 4C066/LL30 4C066/QQ92 4C160/JJ01 4C160/JK01 4C160/KL03

JP F-Index: A61B17/39/310 A61B18/12 A61B18/14 A61B19/00/502 A61B34/20 A61B34/35 A61B5/05/390 A61B5/055/390 A61B6/00/370 A61B6/03/377 A61B8/12 A61M25/00/309/B A61M25/082/500 A61B17/39 A61M25/00/309/Z A61M5/14/B A61M5/14/540 A61M5/172 A61M25/092/500 A61M25/092/510 B25J3/00/Z A61B17/39/317 A61M31/00

Family:

Publication number	Publication date	Application number	Application date
AT448746 E	20091215	AT20050786497T	20050812
DE602005017792 D1	20091231	DE200560017792T	20050812
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US20040550961P 20040305	US20040553029P 20040312	US20040553029P 20040313
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Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT448746 E	20091215	LSGT	+	granted / extensions (spc, cpc, pte)	
AT448746 E	20100515	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT448746 E	20250812	PEXP		Calculated Patent Term Expiry	
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DE602005017792 D1	20190805	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC. (N. D. GES. D. STAATES DELAWARE), REDWOOD CITY, CA, US OLDPARTY : HANSEN MEDICAL, INC., MOUNTAIN VIEW, CALIF., US
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EP1720480 A1	20061115	LSPB	+	published / reissued	
EP1720480 A1	20061115	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20060908
EP1720480 A1	20090708	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20090604
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EP1776057 A1	20070425	LSPB	+	published / reissued	
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EP1890630 A2	20080402	LSWD	-18W	APPLICATION WITHDRAWN	EFFECTIVE DATE : 20080219
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EP1906858 A1	20160525	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160425
EP1906858 A1	20160525	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC.
EP1906858 B1	20161116	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP1906858 B1	20161130	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1906858 B1	20161214	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1906858 B1	20161215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 845115 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20161215
EP1906858 B1	20161229	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER :

					602006050944 COUNTRY OF REF DOCUMENT : DE
EP1906858 B1	20170228	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 : 20161116
EP1906858 B1	20170327	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP1906858 B1	20170415	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 845115 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20161116
EP1906858 B1	20170428	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 : 20170217
EP1906858 B1	20170428	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 : 20161116
EP1906858 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161116
EP1906858 B1	20170531	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 : 20161116
EP1906858 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170316
EP1906858 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161116
EP1906858 B1	20170531	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 : 20161116
EP1906858 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161116
EP1906858 B1	20170717	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP1906858 B1	20170731	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 : 20161116
EP1906858 B1	20170731	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 : 20161116
EP1906858 B1	20170731	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 : 20161116
EP1906858 B1	20170731	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 : 20161116
EP1906858 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161116
EP1906858 B1	20170817	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006050944 COUNTRY OF REF DOCUMENT : DE
EP1906858 B1	20170831	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 : 20161116
EP1906858 B1	20170831	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 : 20170216
EP1906858 B1	20170831	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 : 20161116

EP1906858 B1	20171025	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20170817
EP1906858 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170717 YEAR OF FEE PAYMENT : 12
EP1906858 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170717 YEAR OF FEE PAYMENT : 12
EP1906858 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170717 YEAR OF FEE PAYMENT : 12
EP1906858 B1	20171130	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 : 20161116
EP1906858 B1	20180228	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1906858 B1	20180418	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1906858 B1	20180430	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 : 20170731
EP1906858 B1	20180430	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 : 20170731
EP1906858 B1	20180430	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 : 20170703
EP1906858 B1	20180430	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 : 20170801
EP1906858 B1	20180628	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 13
EP1906858 B1	20180629	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 : 20170703
EP1906858 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180628 YEAR OF FEE PAYMENT : 13
EP1906858 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180627 YEAR OF FEE PAYMENT : 13
EP1906858 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180626 YEAR OF FEE PAYMENT : 13

				EPO]	
EP1906858 B1	20190628	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 : 20161116
EP1906858 B1	20190628	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 : 20060703
EP1906858 B1	20190805	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : AURIS HEALTH, INC. (N. D. GES. D. STAATES DELA, US REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 602006050944 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: HANSEN MEDICAL, INC., MOUNTAIN VIEW, CALIF., US
EP1906858 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190510 YEAR OF FEE PAYMENT : 14
EP1906858 B1	20191031	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20161116
EP1906858 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190618 YEAR OF FEE PAYMENT : 14
EP1906858 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190703 YEAR OF FEE PAYMENT : 14
EP1906858 B1	20260703	PEXP		Calculated Patent Term Expiry	
EP2384715 A2	20111109	LSPB	+	published / reissued	
EP2384715 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160205 YEAR OF FEE PAYMENT : 12
EP2384715 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160111 YEAR OF FEE PAYMENT : 12
EP2384715 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160204 YEAR OF FEE PAYMENT : 12
EP2384715 A3	20130828	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130723
EP2384715 A3	20131016	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20130917
EP2384715 A3	20150311	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20150210
EP2384715 B1	20150708	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2384715 B1	20150708	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D

EP2384715 B1	20150715	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2384715 B1	20150715	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 734771 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150715
EP2384715 B1	20150812	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2384715 B1	20150820	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602005046949 COUNTRY OF REF DOCUMENT : DE
EP2384715 B1	20151115	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 734771 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20150708
EP2384715 B1	20151228	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2384715 B1	20160129	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 : 20150708
EP2384715 B1	20160129	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 : 20151009
EP2384715 B1	20160129	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 : 20150708
EP2384715 B1	20160204	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 : 12
EP2384715 B1	20160229	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 : 20151108
EP2384715 B1	20160229	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 : 20150708
EP2384715 B1	20160229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				INFORMATION FROM NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20151109
EP2384715 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150708
EP2384715 B1	20160229	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 : 20150708
EP2384715 B1	20160229	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 : 20150708
EP2384715 B1	20160411	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602005046949 COUNTRY OF REF DOCUMENT : DE
EP2384715 B1	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20150708
EP2384715 B1	20160429	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 : 20150708
EP2384715 B1	20160429	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 : 20150708
EP2384715 B1	20160429	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 : 20150708
EP2384715 B1	20160429	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 : 20150708
EP2384715 B1	20160531	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 : 20150708
EP2384715 B1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160128 YEAR OF FEE PAYMENT : 12
EP2384715 B1	20160615	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20160411
EP2384715 B1	20160831	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 : 20150708
EP2384715 B1	20160831	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 : 20160331
EP2384715 B1	20161031	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160304
EP2384715 B1	20161031	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 : 20150708
EP2384715 B1	20161031	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2384715 B1	20161228	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2384715 B1	20161230	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 : 20150708
EP2384715 B1	20170131	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 : 20160331
EP2384715 B1	20170131	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 : 20160331
EP2384715 B1	20170131	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 : 20160304
EP2384715 B1	20170327	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 : 13
EP2384715 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170327

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 13
EP2384715 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170328 YEAR OF FEE PAYMENT : 13
EP2384715 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170322 YEAR OF FEE PAYMENT : 13
EP2384715 B1	20180131	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 : 20170401
EP2384715 B1	20180223	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 14
EP2384715 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180228 YEAR OF FEE PAYMENT : 14
EP2384715 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180220 YEAR OF FEE PAYMENT : 14
EP2384715 B1	20180531	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 : 20050304
EP2384715 B1	20180531	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 : 20150708
EP2384715 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180223 YEAR OF FEE PAYMENT : 14
EP2384715 B1	20180629	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 : 20150708
EP2384715 B1	20180731	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 : 20150708
EP2384715 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190219 YEAR OF FEE PAYMENT : 15
EP2384715 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190305 YEAR OF FEE PAYMENT : 15

EP2384715 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190227 YEAR OF FEE PAYMENT : 15
EP2384715 B1	20190805	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : AURIS HEALTH, INC. (N. D. GES. D. STAATES DELA, US REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 602005046949 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: HANSEN MEDICAL, INC., MOUNTAIN VIEW, CALIF., US
EP2384715 B1	20250304	PEXP		Calculated Patent Term Expiry	
JP2007527296 T2	20070927	LSPB	+	published / reissued	
JP2007527296 T2	20080301	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080229
JP2007527296 T2	20100818	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20100817
JP2007527296 T2	20101126	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20101125
JP2007527296 T2	20110112	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110111
JP2007527296 T2	20110409	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110408
JP2007527296 T2	20110511	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20110510
JP2007527296 T2	20110512	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2007527296 T2	20110602	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20110527
JP2007527296 T2	20110603	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2007527296 T2	20110603	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2008509754 T2	20080403	LSPB	+	published / reissued	
JP2008509754 T2	20080809	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080808
JP2008509754 T2	20110119	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110118
JP2008509754 T2	20110518	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110517
JP2008509754 T2	20110615	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20110614
JP2008541797 T2	20081127	LSPB	+	published / reissued	

JP2009022764 A2	20090205	LSPB	+	published / reissued	
JP2009022764 A2	20110427	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110426
JP2009022764 A2	20110726	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110725
JP2009022764 A2	20120201	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120131
JP2009022764 A2	20120704	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20120703
JP2009500086 T2	20090108	LSPB	+	published / reissued	
JP2009500086 T2	20090606	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20090605
JP2009500086 T2	20111130	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20111129
JP2009500086 T2	20120529	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120528
JP2009500086 T2	20130109	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20130108
JP4755638 B2	20110824	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4755638 B2	20110531	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4755638 B2	20140529	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4755638 B2	20140603	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4755638 B2	20150806	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4755638 B2	20150811	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4755638 B2	20160603	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4755638 B2	20170817	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4755638 B2	20171205	LSRV	R260	却下理由通知書 (年金) (Rejection reason notice (pension))	
JP4755638 B2	20180328	LSLE	R270	手続却下の処分 (年金) (Disposition of procedure rejection (pension))	
JP4755638 B2	20180607	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4755638 B2	20190606	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4755638 B2	20250304	PEXP		Calculated Patent Term Expiry	
US10368951 BB	20190806	LSGT	+	granted / extensions (spc, cpc, pte)	
US10368951 BB	20161227	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; STAHLER, GREGORY J.; AND OTHERS; SIGNING DATES FROM 20061101

					TO 20061115; REEL/FRAME:040771/0849
US10368951 BB	20361003	PEXP		Calculated Patent Term Expiry	
US2005222554 AA	20051006	LSPB	+	published / reissued	
US2005222554 AA	20110615	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006057560 AA	20060316	LSPB	+	published / reissued	
US2006057560 AA	20110622	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006084945 AA	20060420	LSPB	+	published / reissued	
US2006084945 AA	20110831	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006095022 AA	20060504	LSPB	+	published / reissued	
US2006095022 AA	20101123	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006100610 AA	20060511	LSPB	+	published / reissued	
US2006100610 AA	20060110	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; YOUNGE, ROBERT G.; ZINN, MICHAEL R.; AND OTHERS; REEL/FRAME:016997/0325; SIGNING DATES FROM 20060109 TO 20060110
US2006100610 AA	20121024	LSWD	-ABD1	Abandoned -- After Examiner's Answer or Board of Appeals Decision	
US2006111692 AA	20060525	LSPB	+	published / reissued	
US2006111692 AA	20110803	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006200026 AA	20060907	LSPB	+	published / reissued	
US2006200026 AA	20060515	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; YOUNGE, ROBERT G.; MOLL, FREDERIC H.; AND OTHERS; REEL/FRAME:017615/0100 EFFECTIVE DATE : 20060424
US2006200026 AA	20121029	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006253108 AA	20061109	LSPB	+	published / reissued	
US2006253108 AA	20100818	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006276775 AA	20061207	LSPB	+	published / reissued	
US2006276775 AA	20110601	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006293643 AA	20061228	LSPB	+	published / reissued	
US2006293643 AA	20110615	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2007043338 AA	20070222	LSPB	+	published / reissued	
US2007043338 AA	20111019	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2010308195 AA	20101209	LSPB	+	published / reissued	
US2010308195 AA	20141125	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

					OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:YU, ALAN LAU; ADAMS, DANIEL T.; MOLL, FREDERIC H.; SIGNING DATES FROM 20050806 TO 20050824; REEL/FRAME:034262/0266
US2010308195 AA	20150211	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011160724 AA	20110630	LSPB	+	published / reissued	
US2011160724 AA	20141217	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011230896 AA	20110922	LSPB	+	published / reissued	
US2011230896 AA	20130220	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011238083 AA	20110929	LSPB	+	published / reissued	
US2011238083 AA	20130813	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012004668 AA	20120105	LSPB	+	published / reissued	
US2012004668 AA	20130313	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012016291 AA	20120119	LSPB	+	published / reissued	
US2012016291 AA	20121024	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012065467 AA	20120315	LSPB	+	published / reissued	
US2012065467 AA	20120815	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012209174 AA	20120816	LSPB	+	published / reissued	
US2012209174 AA	20131211	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013231679 AA	20130905	LSPB	+	published / reissued	
US2013231679 AA	20141215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; MOLL, FREDERIC H.; YOUNGE, ROBERT G.; AND OTHERS; SIGNING DATES FROM 20050606 TO 20050616; REEL/FRAME:034507/0763
US2013231679 AA	20150218	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014081292 AA	20140320	LSPB	+	published / reissued	
US2014081292 AA	20140723	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014296875 AA	20141002	LSPB	+	published / reissued	
US2014296875 AA	20150225	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; STAHLER, GREGORY J.; AND OTHERS; SIGNING DATES FROM 20061102 TO 20061115; REEL/FRAME:035027/0984
US2014296875 AA	20160914	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015157412 AA	20150611	LSPB	+	published / reissued	

US2015157412 AA	20170405	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017086929 AA	20170330	LSPB	+	published / reissued	
US2017086929 AA	20170322	LSES	NFA1	Non Final Action Mailed	
US2017086929 AA	20180510	LSES	NFA1	Non Final Action Mailed	
US2017086929 AA	20180911	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047050/0340 EFFECTIVE DATE : 20180823
US2017086929 AA	20190320	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017086929 AA	20190621	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2017086929 AA	20190624	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017086929 AA	20190717	LSGT	PAT1	Patented Case	
US2017086929 AA	20190717	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017215978 AA	20170803	LSPB	+	published / reissued	
US2017215978 AA	20180911	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; MOLL, FREDERIC H.; YOUNGE, ROBERT G.; AND OTHERS; SIGNING DATES FROM 20050614 TO 20050616; REEL/FRAME:046845/0912
US2017215978 AA	20180911	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047050/0340 EFFECTIVE DATE : 20180823
US2017215978 AA	20191002	LSES	NFA1	Non Final Action Mailed	
US2019350660 AA	20191121	LSPB	+	published / reissued	
US2019350660 AA	20191226	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; STAHLER, GREGORY J.; AND OTHERS; SIGNING DATES FROM 20061102 TO 20061115; REEL/FRAME:051372/0899
US2019350660 AA	20191227	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:051380/0572 EFFECTIVE DATE : 20180823
US7789874 BB	20100907	LSGT	+	granted / extensions (spc, cpc, pte)	
US7789874 BB	20050825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF

					ASSIGNORS INTEREST; ASSIGNORS:YU, ALAN LAU; ADAMS, DANIEL T.; MOLL, FREDERIC H.; REEL/FRAME:016451/0020; SIGNING DATES FROM 20050814 TO 20050824
US7789874 BB	20050825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:YU, ALAN LAU; ADAMS, DANIEL T.; MOLL, FREDERIC H.; SIGNING DATES FROM 20050814 TO 20050824; REEL/FRAME:016451/0020
US7789874 BB	20100818	LSGT	PAT1	Patented Case	
US7789874 BB	20140228	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7789874 BB	20180222	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7789874 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US7789874 BB	20290416	PEXP		Calculated Patent Term Expiry (PTA 1385 days)	
US7850642 BB	20101214	LSGT	+	granted / extensions (spc, cpc, pte)	
US7850642 BB	20060111	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; YOUNGE, ROBERT G.; AND OTHERS; REEL/FRAME:016999/0728; SIGNING DATES FROM 20060109 TO 20060110
US7850642 BB	20060111	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; YOUNGE, ROBERT G.; AND OTHERS; SIGNING DATES FROM 20060109 TO 20060110; REEL/FRAME:016999/0728
US7850642 BB	20101123	LSGT	PAT1	Patented Case	
US7850642 BB	20140605	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7850642 BB	20180531	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7850642 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US7850642 BB	20290704	PEXP		Calculated Patent Term Expiry (PTA 1459 days)	
US7963288 BB	20110621	LSGT	+	granted / extensions (spc, cpc, pte)	
US7963288 BB	20060810	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF

					ASSIGNORS INTEREST; ASSIGNORS:ROSENBERG, CRAIG R.; MOORE, DAVID F.; SCHLESINGER, RANDALL L.; AND OTHERS; REEL/FRAME:018085/0187; SIGNING DATES FROM 20060720 TO 20060809
US7963288 BB	20060810	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSENBERG, CRAIG R.; MOORE, DAVID F.; SCHLESINGER, RANDALL L.; AND OTHERS; SIGNING DATES FROM 20060720 TO 20060809; REEL/FRAME:018085/0187
US7963288 BB	20110601	LSGT	PAT1	Patented Case	
US7963288 BB	20121023	LSRE	CC	CERTIFICATE OF CORRECTION	
US7963288 BB	20141211	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7963288 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US7963288 BB	20181207	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7963288 BB	20300215	PEXP		Calculated Patent Term Expiry (PTA 1384 days)	
US7972298 BB	20110705	LSGT	+	granted / extensions (spc, cpc, pte)	
US7972298 BB	20050617	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; MOLL, FREDERIC H.; YOUNGE, ROBERT G.; AND OTHERS; REEL/FRAME:016167/0287; SIGNING DATES FROM 20050614 TO 20050616
US7972298 BB	20050617	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; MOLL, FREDERIC H.; YOUNGE, ROBERT G.; AND OTHERS; SIGNING DATES FROM 20050614 TO 20050616; REEL/FRAME:016167/0287
US7972298 BB	20110615	LSGT	PAT1	Patented Case	
US7972298 BB	20141231	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7972298 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US7972298 BB	20181220	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7972298 BB	20290111	PEXP		Calculated Patent Term Expiry (PTA 1409 days)	
US7974681 BB	20110705	LSGT	+	granted / extensions (spc, cpc, pte)	

US7974681 BB	20060111	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; YOUNGE, ROBERT G.; ZINN, MICHAEL R.; AND OTHERS; REEL/FRAME:016999/0444; SIGNING DATES FROM 20060109 TO 20060110
US7974681 BB	20060111	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; YOUNGE, ROBERT G.; ZINN, MICHAEL R.; AND OTHERS; SIGNING DATES FROM 20060109 TO 20060110; REEL/FRAME:016999/0444
US7974681 BB	20110615	LSGT	PAT1	Patented Case	
US7974681 BB	20141231	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7974681 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US7974681 BB	20181220	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7974681 BB	20300302	PEXP		Calculated Patent Term Expiry (PTA 1700 days)	
US7976539 BB	20110712	LSGT	+	granted / extensions (spc, cpc, pte)	
US7976539 BB	20051128	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HLAVKA, EDWIN J.; MOLL, FREDERIC H.; YOUNGE, ROBERT G.; AND OTHERS; REEL/FRAME:016821/0644; SIGNING DATES FROM 20051117 TO 20051121
US7976539 BB	20051128	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HLAVKA, EDWIN J.; MOLL, FREDERIC H.; YOUNGE, ROBERT G.; AND OTHERS; SIGNING DATES FROM 20051117 TO 20051121; REEL/FRAME:016821/0644
US7976539 BB	20110622	LSGT	PAT1	Patented Case	
US7976539 BB	20150108	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7976539 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US7976539 BB	20181228	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7976539 BB	20270703	PEXP		Calculated Patent Term Expiry (PTA 714 days)	
US8005537 BB	20110823	LSGT	+	granted / extensions (spc, cpc, pte)	

US8005537 BB	20060110	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HLAVKA, EDWIN J.; WALLACE, DANIEL T.; MOLL, FREDERIC H.; REEL/FRAME:016997/0339 EFFECTIVE DATE : 20060110
US8005537 BB	20110803	LSGT	PAT1	Patented Case	
US8005537 BB	20150219	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8005537 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8005537 BB	20190207	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8005537 BB	20290926	PEXP		Calculated Patent Term Expiry (PTA 1506 days)	
US8021326 BB	20110920	LSGT	+	granted / extensions (spc, cpc, pte)	
US8021326 BB	20051216	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; YOUNGE, ROBERT G.; AND OTHERS; REEL/FRAME:016907/0360; SIGNING DATES FROM 20051214 TO 20051216
US8021326 BB	20051216	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; YOUNGE, ROBERT G.; AND OTHERS; SIGNING DATES FROM 20051214 TO 20051216; REEL/FRAME:016907/0360
US8021326 BB	20110831	LSGT	PAT1	Patented Case	
US8021326 BB	20150312	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8021326 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8021326 BB	20190307	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8021326 BB	20300426	PEXP		Calculated Patent Term Expiry (PTA 1755 days)	
US8052636 BB	20111108	LSGT	+	granted / extensions (spc, cpc, pte)	
US8052636 BB	20061120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; STAHLER, GREGORY J.; AND OTHERS; REEL/FRAME:018539/0232; SIGNING DATES FROM 20061102 TO 20061115

US8052636 BB	20061120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; STAHLER, GREGORY J.; AND OTHERS; SIGNING DATES FROM 20061102 TO 20061115; REEL/FRAME:018539/0232
US8052636 BB	20111019	LSGT	PAT1	Patented Case	
US8052636 BB	20150511	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8052636 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8052636 BB	20190502	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8052636 BB	20300607	PEXP		Calculated Patent Term Expiry (PTA 1435 days)	
US8257303 BB	20120904	LSGT	+	granted / extensions (spc, cpc, pte)	
US8257303 BB	20120815	LSGT	PAT1	Patented Case	
US8257303 BB	20160118	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8257303 BB	20160317	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; STAHLER, GREGORY J.; AND OTHERS; SIGNING DATES FROM 20061101 TO 20061115; REEL/FRAME:038011/0157
US8257303 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8257303 BB	20310902	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8311626 BB	20121113	LSGT	+	granted / extensions (spc, cpc, pte)	
US8311626 BB	20121024	LSGT	PAT1	Patented Case	
US8311626 BB	20160415	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8311626 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8311626 BB	20181120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HLAVKA, EDWIN J.; WALLACE, DANIEL T.; MOLL, FREDERIC H.; REEL/FRAME:047558/0012 EFFECTIVE DATE : 20060110
US8311626 BB	20310721	PEXP		Calculated Patent	

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US8394054 BB	20130312	LSGT	+	granted / extensions (spc, cpc, pte)	
US8394054 BB	20130220	LSGT	PAT1	Patented Case	
US8394054 BB	20130528	LSRE	CC	CERTIFICATE OF CORRECTION	
US8394054 BB	20160719	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8394054 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8394054 BB	20181120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; MOLL, FREDERIC H.; YOUNGE, ROBERT G.; AND OTHERS; SIGNING DATES FROM 20050614 TO 20050616; REEL/FRAME:047557/0991
US8394054 BB	20310527	PEXP		Calculated Patent Term Expiry	
US8409136 BB	20130402	LSGT	+	granted / extensions (spc, cpc, pte)	
US8409136 BB	20130313	LSGT	PAT1	Patented Case	
US8409136 BB	20160928	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8409136 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8409136 BB	20181120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; MOLL, FREDERIC H.; YOUNGE, ROBERT G.; AND OTHERS; SIGNING DATES FROM 20050614 TO 20050616; REEL/FRAME:047557/0991
US8409136 BB	20310527	PEXP		Calculated Patent Term Expiry	
US8617102 BB	20131231	LSGT	+	granted / extensions (spc, cpc, pte)	
US8617102 BB	20131211	LSGT	PAT1	Patented Case	
US8617102 BB	20170526	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8617102 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8617102 BB	20181120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; STAHLER, GREGORY J.; AND OTHERS; SIGNING DATES FROM 20061102 TO 20061115;

					REEL/FRAME:047558/0001
US8617102 BB	20320417	PEXP		Calculated Patent Term Expiry (PTA 83 days and a terminal disclaimer has been filed)	
US8801661 BB	20140812	LSGT	+	granted / extensions (spc, cpc, pte)	
US8801661 BB	20140723	LSGT	PAT1	Patented Case	
US8801661 BB	20180208	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8801661 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8801661 BB	20181120	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOLL, FREDERIC H.; WALLACE, DANIEL T.; STAHLER, GREGORY J.; AND OTHERS; SIGNING DATES FROM 20061102 TO 20061115; REEL/FRAME:047558/0001
US8801661 BB	20331107	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8926603 BB	20150106	LSGT	+	granted / extensions (spc, cpc, pte)	
US8926603 BB	20110309	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HLAVKA, EDWIN J.; MOLL, FREDERIC H.; YOUNGE, ROBERT G.; AND OTHERS; SIGNING DATES FROM 20051117 TO 20051121; REEL/FRAME:025929/0438
US8926603 BB	20141217	LSGT	PAT1	Patented Case	
US8926603 BB	20180628	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8926603 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8926603 BB	20331106	PEXP		Calculated Patent Term Expiry (PTA 973 days)	
US8968333 BB	20150303	LSGT	+	granted / extensions (spc, cpc, pte)	
US8968333 BB	20150211	LSGT	PAT1	Patented Case	
US8968333 BB	20180823	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8968333 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8968333 BB	20330526	PEXP		Calculated Patent Term Expiry (PTA 1012 days)	

US8974408 BB	20150310	LSGT	+	granted / extensions (spc, cpc, pte)	
US8974408 BB	20150218	LSGT	PAT1	Patented Case	
US8974408 BB	20180830	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8974408 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US8974408 BB	20330301	PEXP		Calculated Patent Term Expiry	
US9457168 BB	20161004	LSGT	+	granted / extensions (spc, cpc, pte)	
US9457168 BB	20150729	LSES	NFA1	Non Final Action Mailed	
US9457168 BB	20160914	LSGT	PAT1	Patented Case	
US9457168 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US9457168 BB	20340619	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9629682 BB	20170425	LSGT	+	granted / extensions (spc, cpc, pte)	
US9629682 BB	20141222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HANSEN MEDICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WALLACE, DANIEL T.; MOLL, FREDERIC H.; YOUNGE, ROBERT G.; AND OTHERS; SIGNING DATES FROM 20050614 TO 20050616; REEL/FRAME:034570/0499
US9629682 BB	20170405	LSGT	PAT1	Patented Case	
US9629682 BB	20180911	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047050/0340 EFFECTIVE DATE : 20180823
US9629682 BB	20180914	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURIS HEALTH, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HANSEN MEDICAL, INC.; REEL/FRAME:047090/0629 EFFECTIVE DATE : 20180824
US9629682 BB	20341222	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO05087128 A1	20050922	LSPB	+	published / reissued	
WO05087128 A1	20060901	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007502015 COUNTRY OF REF DOCUMENT : JP
WO05087128 A1	20060906	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO05087128 A1	20060906	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	TEXT : DE

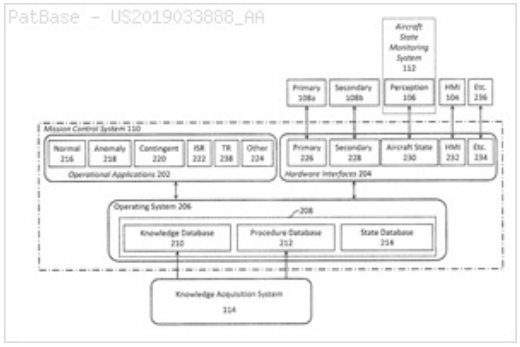
WO05087128 A1	20060908	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005724618 COUNTRY OF REF DOCUMENT : EP
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WO06020943 A1	20060223	LSPB	+	published / reissued	
WO06020943 A1	20070130	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005786497 COUNTRY OF REF DOCUMENT : EP
WO06020943 A1	20070208	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007525857 COUNTRY OF REF DOCUMENT : JP
WO06020943 A1	20070213	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO06020943 A1	20070425	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005786497 COUNTRY OF REF DOCUMENT : EP
WO06119495 A2	20061109	LSPB	+	published / reissued	
WO06119495 A3	20071030	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2008510252 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO06119495 A3	20071106	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO06119495 A3	20071127	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006752311 COUNTRY OF REF DOCUMENT : EP
WO06119495 A3	20071203	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : RU
WO07005757 A2	20070111	LSPB	+	published / reissued	
WO07005757 A3	20080103	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO07005757 A3	20080806	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 06786142 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :
WO07005976 A1	20070111	LSPB	+	published / reissued	
WO07005976 A1	20071226	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2008519731 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO07005976 A1	20080103	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO07005976 A1	20080103	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006786388 COUNTRY OF REF DOCUMENT : EP

15) Family number: 73048075 (US2019033888A)

Title: AIRCREW AUTOMATION SYSTEM AND METHOD WITH INTEGRATED IMAGING AND FORCE SENSING MODALITIES

Abstract: An aircrew automation system relates to the field of flight control systems, methods, and apparatuses; even more particularly, to a system, method, and apparatus for providing aircraft state monitoring and/or an automated aircrew employing a robotic arm with integrated imaging and force sensing modalities.

Classifications:
International (IPC 8-9): B25J13/08 B25J19/02 B25J9/04 B64C13/08 B64C13/18 B64D43/00 B64D47/00 G01C21/00 G01C23/00 G01L5/00 G01L5/22 G05D1/00 G05D1/08 G05D1/10 G06K9/00 G06K9/20 G06K9/62 G06K9/78 H04Q9/00 H04W (Advanced/Invention);
G06F3/02 G06F3/0481 G06F3/0483 G06F3/0488 (Advanced/Non-invention);
H04W (Subclass/Invention)
CPC: B64C13/18 B25J19/02 B25J9/04 B25J13/08 B25J13/085 G05D1/101 B25J11/00 B64C13/08 G01C21/00 B64D43/00 G01L5/00 G01L5/0028 G01L5/0061 G05D1/0088 G05D1/0808 G06F3/02 G06F3/04817 G06F3/0483 G06F3/0488 G06K9/00832 G06K9/209 G06K9/6202 G06K9/78 B64C13/16 B64C13/22
US: 1/1 701/3
JP F-Term: 3D140
JP F-Index: B64C13/18/Z



Family:

Publication number	Publication date	Application number	Application date
AU2018204057 AA	20190214	AU20180204057	20180607
CN109308076 A	20190205	CN201810794463	20180719
EP3457083 A2	20190320	EP20180184925	20180723
EP3457083 A3	20190529	EP20180184925	20180723
IL260261 A0	20190131	IL20180260261	20180625
JP2019048618 A2	20190328	JP20180134728	20180718
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RU2018119135 A	20191125	RU20180119135	20180524
US2019033888 AA	20190131	US20170661149	20170727
US10509415 BB	20191217	US20170661149	20170727

Priority:

US20170661149 20170727 KR20180075198 20180629 JP20180134728 20180718

Probable Assignee: AURORA FLIGHT SCIENCES CORP

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Agent(s): SPRUSON AND FERGUSON; MORRALL JONATHAN IAN MCLACHLAN; SONODA AND KOBAYASHI INTELLECTUAL PROPERTY LAW; TOMSA MICHAEL STANLEY; MCANDREWS HELD AND MALLOY LTD; NAHM EUGENE H

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2018204057 AA	20190214	LSPB	+	published / reissued	
CN109308076 A	20190205	LSPB	+	published / reissued	
CN109308076 A	20190205	LSPB	PB01	PUBLICATION	
EP3457083 A2	20190320	LSPB	+	published / reissued	
EP3457083 A2	20190320	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20180723
JP2019048618 A2	20190328	LSPB	+	published / reissued	
KR20190013475 A	20190211	LSPB	+	published / reissued	
RU2018119135 A	20191125	LSPB	+	published / reissued	
US10509415 BB	20191217	LSGT	+	granted / extensions	

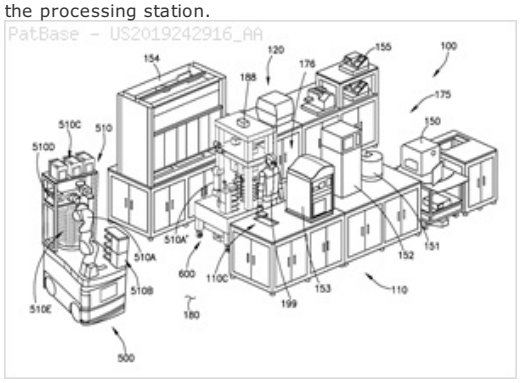
				(spc, cpc, pte)	
US10509415 BB	20171009	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURORA FLIGHT SCIENCES CORPORATION, VIRGINIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BOSWORTH, WILLIAM; JENSEN, DEVIN RICHARD; REAGAN, MARGARET; SIGNING DATES FROM 20170830 TO 20171009; REEL/FRAME:043816/0560
US10509415 BB	20371019	PEXP		Calculated Patent Term Expiry (PTA 84 days)	
US2019033888 AA	20190131	LSPB	+	published / reissued	
US2019033888 AA	20190109	LSES	NFA1	Non Final Action Mailed	
US2019033888 AA	20190726	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2019033888 AA	20191030	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2019033888 AA	20191113	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2019033888 AA	20191126	LSGT	PAT1	Patented Case	
US2019033888 AA	20191126	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

16) Family number: 75434078 (US2019242916A)

Title: AUTO-NAVIGATING ROBOTIC PROCESSING **VEHICLE**

Abstract: An auto-navigating robotic processing **vehicle** including a carriage having a frame, an autonomous drive section configured to traverse the carriage effecting **vehicle** travel on a facility floor, and having an autonomous navigation section to effect autonomous navigation **vehicle** travel, a processing section with different processing modules connected to and carried by the frame, each of the different processing modules having a different predetermined laboratory processing function with a different predetermined function characteristic corresponding to the processing module and being automatically selectable to effect a preprocess or preprocess condition of laboratory samples and/or sample holders with respect to a process at a processing station, and a controller automatically selects at least one processing module and the corresponding predetermined function of the selected processing module effecting automatically the preprocess or preprocess condition based on an identification of a travel location for the **vehicle** and the process of the at the processing station.

Classifications:
International (IPC 8-9): B25J15/04 B25J5/00 B25J9/16 G01N35/00 G05D1/00 G05D1/02 (Advanced/Invention);
G01N35/04 (Advanced/Non-invention)
CPC: B25J5/007 B25J9/1676 B25J19/06 G01N35/0099 G01N2035/0489 G01N2035/0491 G05D1/0212 G05D2201/0216 B25J9/1679 B25J15/04



Family:

Publication number	Publication date	Application number	Application date
US2019242916 AA	20190808	US20190265258	20190201
WO19152956 A1	20190808	WO2019US16558	20190204

Priority:
US20180625796P 20180202 US20190265258 20190201

Probable Assignee: HIGHRES BIOSOLUTIONS INC

Assignee(s): (std): HIGHRES BIOSOLUTIONS INC

Inventor(s): (std): GUARRACINA LOUIS ; GILCHRIST ULYSSES

Agent(s): LIGHT KYLE 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 LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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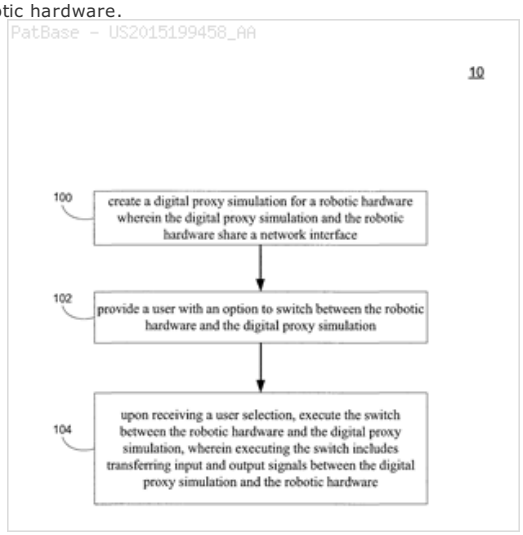
Patent	Date recorded	Event group	Code	Event	Details
US2019242916 AA	20190808	LSPB	+	published / reissued	
WO19152956 A1	20190808	LSPB	+	published / reissued	

17) Family number: 59779079 (US2015199458A)

Title: DIGITAL PROXY SIMULATION OF ROBOTIC HARDWARE

Abstract: A computer-implemented method, computer program product, and computing system is provided for a digital proxy simulation of robotic hardware. In an implementation, a method may include creating a digital proxy simulation for a robotic hardware wherein the digital simulation and the robotic hardware may share a network interface. a user may be provided with an option to switch between the robotic hardware and the digital proxy simulation. The switch may be executed, upon receiving a user selection, between the robotic hardware and the digital proxy simulation, wherein executing the switch includes transferring input and output signals between the digital proxy simulation and the robotic hardware.

Classifications:
International (IPC 8-9): G05B19/04 G06F17/50 (Advanced/Invention); B25J9/16 (Advanced/Non-invention)
CPC: G06F30/20 Y10S901/41 B25J9/1605 B25J9/163 B25J9/1664 B25J9/1671 G05B19/0405 G05B2219/37092 G05B2219/40131
US: 703/8



Family:

Publication number	Publication date	Application number	Application date
US2015199458 AA	20150716	US20140154873	20140114
US10078712 BB	20180918	US20140154873	20140114

Priority:

US20140154873 20140114

Probable Assignee: ENERGID TECHNOLOGIES CORP

Assignee(s): (std): EN TECHNOLOGIES CORP ; ENERGID TECH CORP

Assignee(s): ENERGID TECHNOLOGIES CORP ; USA REPRESENTED BY ADMINISTRATOR OF NASA AS ; GENRAD LLC ; LITEPOINT CORP ; NEXTEST SYSTEMS CORP ; TERADYNE INC ; BARCLAYS BANK PLC COLLATERAL AGENT AS ; EAGLE TEST SYSTEMS INC

Inventor(s): (std): CHEN XI ; BACON JAMES A ; ENGLISH JAMES D ; BARKER DOUGLAS E

Agent(s): WHITTENBERGER ESQ MARK H; HOLLAND AND KNIGHT LLP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US10078712 BB	20180918	LSGT	+	granted / extensions (spc, cpc, pte)	
US10078712 BB	20140114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ENERGID TECHNOLOGIES CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BACON, JAMES A.; BARKER, DOUGLAS E.; CHEN, XI; AND OTHERS; REEL/FRAME:032018/0940 EFFECTIVE DATE : 20140114
US10078712 BB	20140317	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : USA AS REPRESENTED BY THE ADMINISTRATOR OF THE NAS OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:ENERGID TECHNOLOGIES; REEL/FRAME:032459/0659 EFFECTIVE DATE : 20140211
US10078712 BB	20180829	LSGT	PAT1	Patented Case	
US10078712 BB	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EAGLE TEST SYSTEMS, INC., ILLINOIS OLDPARTY : RELEASE OF SECURITY

					INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US10078712 BB	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NEXTEST SYSTEMS CORPORATION, CALIFORNIA OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US10078712 BB	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENRAD, LLC, MASSACHUSETTS OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US10078712 BB	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ENERGID TECHNOLOGIES CORPORATION, MASSACHUSETTS OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US10078712 BB	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LITEPOINT CORPORATION, CALIFORNIA OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US10078712 BB	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TERADYNE, INC., MASSACHUSETTS OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US10078712 BB	20340114	PEXP		Calculated Patent Term Expiry	
US2015199458 AA	20150716	LSPB	+	published / reissued	
US2015199458 AA	20151222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : USA AS REPRESENTED BY THE ADMINISTRATOR OF THE NAS OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:ENERGID TECHNOLOGIES CORPORATION; REEL/FRAME:037371/0360 EFFECTIVE DATE : 20141014
US2015199458 AA	20170310	LSES	NFA1	Non Final Action Mailed	
US2015199458 AA	20180504	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015199458 AA	20180611	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS COLLATERAL AGENT, NEW YORK OLDPARTY : PATENT SECURITY AGREEMENT; ASSIGNOR:ENERGID TECHNOLOGIES CORPORATION; REEL/FRAME:046330/0911 EFFECTIVE DATE : 20180511
US2015199458 AA	20180808	LSFE	+PPR1	Publications -- Issue Fee Payment Received	

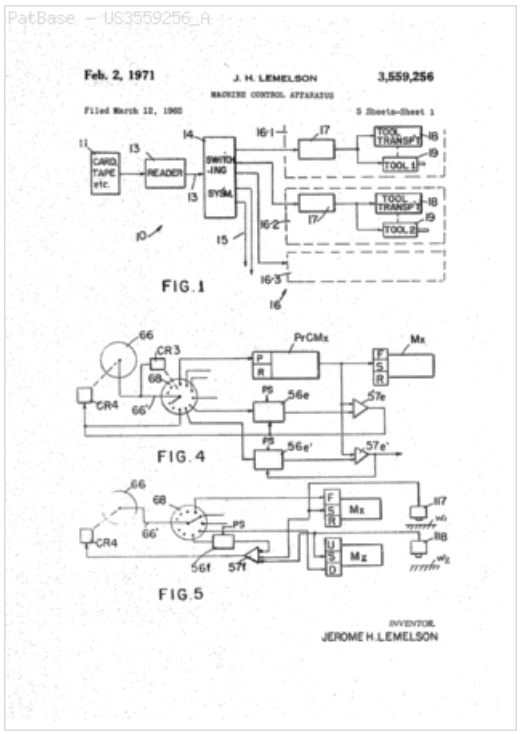
US2015199458 AA	20180829	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

18) Family number: 33533089 (US3559256A)

Title: MACHINE CONTROL APPARATUS

Abstract: ABSTRACT OF THE DISCLOSURE
A machine tool apparatus is provided employing a plurality of machines which are simultaneously automatically controlled to perform preprogrammed operations on either the same or different work pieces. In one form, two machine tools or tool heads are supported on the same guide way or track and may separately move therealong under remote, automatic control to perform preprogrammed operations either in cooperation with each other on the same work piece or on separate work pieces. This system also includes conveying means for work in process, which conveying means preferably extends parallel to the track or guide way for a plurality of machine tools. In one form, the machine tools are automatically remotely controlled to perform predetermined operations on work moving along the conveyor. In another form, the conveyor is automatically stopped and each machine tool locates work disposed generally adjacent thereto prior to performing preprogrammed operations thereon. In a third form, means are provided for transferring units of work from the conveying means to temporary storage means in the general vicinity of which respective machine tool are operatively movable and means are provided for either the tool locating the work disposed on the temporary storage means and referencing the tool relative to said storage means so that referenced, preprogrammed operations may be performed on the work by the tool. RELATED APPLICATIONS This is a continuation-in-part of copending application Serial No. 387,954 filed Aug. 6, 1964, for Automatic Production Apparatus and method, now U.S. Pat. No. 3,372,568, and having as a parent application Ser No. 557,415 filed Apr. 10, 1956, now U.S. Pat. 3,049,247. SUMMARY OF THE INVENTION

Classifications:
International (IPC 8-9): B25J15/04 B25J19/02 B25J5/00 B25J9/00 B25J9/04 B25J9/10 B25J9/16 G05B19/418 G05B19/425 G07D7/12 G07D7/20 (Advanced/Invention);
B25J15/04 B25J19/02 B25J5/00 B25J9/00 B25J9/02 B25J9/10 B25J9/16 G05B19/418 G05B19/425 G07D7/00 (Core/Invention)
International (IPC 1-7): B25J15/04 B25J17/02
CPC: G05B19/41815 B25J9/0093 G05B2219/33192 G05B2219/36395 G05B2219/36511 G05B2219/36513 G05B2219/37572 G05B2219/40283 G05B2219/40284 G05B2219/41249 G05B2219/45083 Y10T29/5196 B25J9/0084 Y10T408/08 B25J9/1015 B25J9/161 G05B2219/45213 G05B2219/49395 B25J5/005 B25J9/041 B25J15/0491 B25J19/023 G05B19/425 G05B2219/33207 G05B2219/37553 G05B2219/40298 G05B2219/45045 G05B2219/45051 G07D7/12 G07D7/20 Y10T29/5107 Y10T483/10 Y10T483/1793 Y10T83/166 Y10T83/169
European: B25J15/04R B25J19/02B4 B25J5/00T B25J9/00P B25J9/00T B25J9/04B B25J9/10A3 B25J9/16C3 G05B19/418C G05B19/425 G07D7/12 G07D7/20 S05B219/33192 S05B219/33207 S05B219/36395 S05B219/36511 S05B219/36513 S05B219/37553 S05B219/37572 S05B219/40283 S05B219/40284 S05B219/40298 S05B219/41249 S05B219/45045 S05B219/45051 S05B219/45083 S05B219/45213 S05B219/49395
US: 29/26A 29/33 29/33.00P 29/330 29/33P 29/568 408/3 414/744.3 414/744.6 414/744.8 483/1 483/55 83/76.3 83/76.4 901/14 901/16 901/29 901/41 901/7 901/9



Family:

Publication number	Publication date	Application number	Application date
US3559256 A	19710202		19680312
US3559257 A	19710202		19680312
US5017084 A	19910521	US19880249404	19880923

Priority:

US19540449874 19540728
US19610152702 19611017
US19650465812 19650408
US19680717065 19680312
US19740436073 19740124
US19780910998 19780530
US19810251656 19810406
US19880249404 19880923
US19540477467 19541224
US19620219357 19620813
US19670629758 19670410
US19690858560 19690829
US19750544832 19750128
US19790091908 19791106
US19840639301 19840809
US19560557415 19560410
US19640387954 19640806
US19680712443 19680312
US19710107357 19710118
US19760753321 19761220
US19800200347 19801024
US19860941554 19861211

Probable Assignee:	LEMELSON JEROME H
Assignee(s): (std):	LEMELSON JEROME H
Assignee(s):	JEROME H LEMELSON
Inventor(s): (std):	LEMELSON JEROME H
Inventor(s):	JEROME H LEMELSON

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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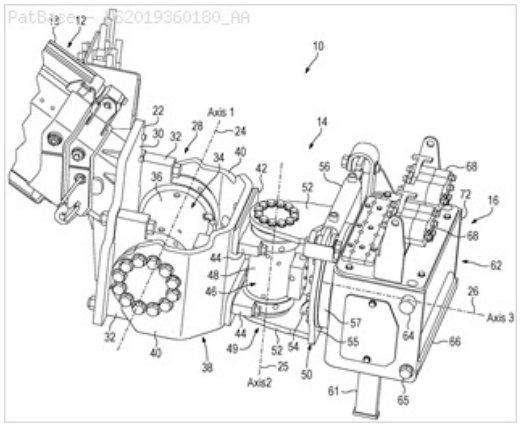
US3559257 A	19710202	LSGT	+	granted / extensions (spc, cpc, pte)	
US5017084 A	19910521	LSGT	+	granted / extensions (spc, cpc, pte)	
US5017084 A	19930202	LSRE	CC	CERTIFICATE OF CORRECTION	
US5017084 A	19930415	LSGT	PAT1	Patented Case	
US5017084 A	19930415	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5017084 A	19930518	LSRE	CC	CERTIFICATE OF CORRECTION	
US5017084 A	19941121	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5017084 A	19981013	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5017084 A	20030428	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5017084 A	20080923	PEXP		Calculated Patent Term Expiry	

19) Family number: 76078091 (US2019360180A)

Title: MANIPULATOR, SYSTEM AND PROCESS OF OPERATING THE SAME

Abstract: A joint secured to a manipulator for movably supporting a **tool**(s) for conducting operations, particularly those in the field is hydraulic to be robust in varied environmental conditions and/or provide sufficient power. The joint includes a base to secure the joint to the manipulator, an adapter to secure a **tool** to the joint, components movably joined together in close proximity with each other between the base and the adapter to define three non-parallel axes of movement for the adapter wherein two of the axes always intersect a third of the axes, and hydraulically-driven actuators to selectively move and hold the components about the axes.

Classifications:
International (IPC 8-9): B25J17/00 B25J3/04
E02F9/28 (Advanced/Invention)
CPC: B25J17/0283 E02F3/3677 E02F9/2891



Family:

Publication number	Publication date	Application number	Application date
US2019360180 AA	20191128	US20190370868	20190329
WO19191729 A1	20191003	WO2019US25058	20190329

Priority:

US20180650928P 20180330 US20190370868 20190329

Probable Assignee: ESCO GROUP LLC WAS ESCO CORP..

Assignee(s): (std): ESCO GROUP LLC ; ESCO GROUP LLC WAS ESCO CORP..

Assignee(s): ESCO GROUP LLC WAS ESCO CORPORATION..

Inventor(s): (std): PAUL DAVID ; CLARKE RODNEY ; CARPENTER CHRISTOPHER ; PAUL DAVID M ; CLARKE RODNEY K ; CARPENTER CHRISTOPHER M

Agent(s): SCHAD STEVEN P

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)

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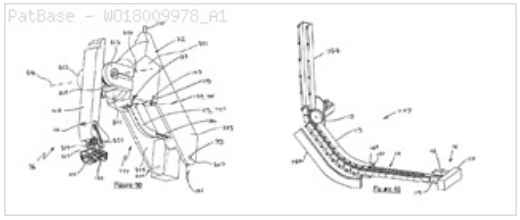
Patent	Date recorded	Event group	Code	Event	Details
US2019360180 AA	20191128	LSPB	+	published / reissued	
US2019360180 AA	20190718	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ESCO GROUP LLC, OREGON OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CARPENTER, CHRISTOPHER M; CLARKE, RODNEY K.; PAUL, DAVID M; SIGNING DATES FROM 20190716 TO 20190718; REEL/FRAME:049794/0325
US2019360180 AA	20190718	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ESCO GROUP LLC, OREGON OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PAUL, DAVID M; CLARKE, RODNEY K; CARPENTER, CHRISTOPHER M; SIGNING DATES FROM 20190716 TO 20190718; REEL/FRAME:049794/0811
WO19191729 A1	20191003	LSPB	+	published / reissued	

20) Family number: 68258094 (WO18009978A1)

Title: ADHESIVE APPLICATOR AND OBJECT PLACING HEAD INCORPORATING THE SAME

Abstract: A brick laying and adhesive applying head (36) incorporates an adhesive applicator **tool** (777) for **machine** application of adhesive, comprising an adhesive applicator head (117) having at least one nozzle (121, 122, 123, 124, 125) fed with adhesive under pressure for selective application to a surface. The adhesive applicator head (117) is supported on a distal end of a tongue member (114), said tongue member being housed in a sheath (113) for linear movement to extend said adhesive applicator head across the surface for application of adhesive, and retract the tongue member (114) within the sheath (113) to withdraw the adhesive applicator away from the surface. The tongue member (114) is rigid when extended obliquely or horizontally and freely deflectable in only one dimension upwardly, about horizontal axes. The sheath (113) is curved, so that the adhesive applicator **tool** (777) can be retracted, bending about the horizontal axes, in order to stow clear of **handling** equipment on a robotic head.

Classifications:
International (IPC 8-9): B05B13/04 B25J18/02 B25J18/06 E04G21/04 E04G21/14 E04G21/20 E04G21/22 (Advanced/Invention)
CPC: E04G21/22 B66C23/00



Family:

Publication number	Publication date	Application number	Application date
WO18009978 A1	20180118	WO2017AU50728	20170713

Priority:

AU20160902790 20160715

Probable Assignee: FASTBRICK IP PTY LTD

Assignee(s): (std): FASTBRICK IP PTY LTD

Inventor(s): (std): PIVAC MARK

Agent(s): GOLJA HAINES AND FRIEND

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)

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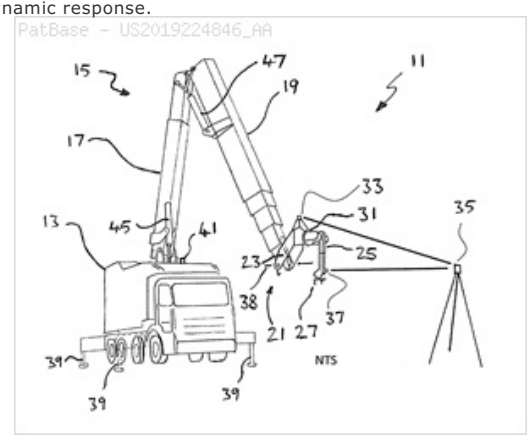
Patent	Date recorded	Event group	Code	Event	Details
WO18009978 A1	20180118	LSPB	+	published / reissued	
WO18009978 A1	20190116	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18009978 A1	20190814	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 17826689 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

21) Family number: 68258096 (US2019224846A)

Title: DYNAMIC COMPENSATION OF A ROBOT ARM MOUNTED ON A FLEXBLE ARM

Abstract: A control system is described for a base supporting a telescoping articulated boom assembly indicated generally at **15,** comprising long telescopic boom **17** and telescopic stick **19.** Mounted to the remote end **21** of the stick **19** is an end effector in the form of a head **23** that supports a 6 axis robot arm **25** that moves a further end effector **27** to manipulate the items. The robot arm **25** has a robot base **31,** and mounted above the robot base **31** is a first target in the form of a 6 degree of freedom (6 DOF) high data rate position sensor **33,** that provides 6 DOF position coordinates, relative to a fixed ground reference **35,** to a control system. Mounted on the end of the robot arm **25** immediately above the end effector **27** is a second target in the form of a 6 degree of freedom (6 DOF) high data rate position sensor **37,** that provides 6 DOF position coordinates, relative to the fixed ground reference **35,** to the control system. The fixed ground reference **35** tracks the sensor **33** and feeds data to the control system to move the head with slow dynamic response within range of **work** for the robot arm, and tracks the sensor **37** to control movement of the robotic arm **25** and end effector **27** with fast dynamic response.

Classifications:
International (IPC 8-9): B25J11/00 B25J13/00 B25J13/08 B25J5/00 B25J9/16 B28D1/00 B28D1/10 B28D1/18 B28D7/00 B28D7/04 B65G21/14 E04B2/02 E04G21/22 G01S17/42 G05B19/19 G05B19/401 G05B19/4097 G05B19/416 G06F16/00 G06F16/17 G06F17/30 G06F17/50 (Advanced/Invention)
International (IPC 1-7): B25J11/00 B25J5/00 B65G21/14 E04G21/22 G05B19/4097 G06F17/30 G06F17/50
CPC: B28D1/003 B60P3/28 B28D1/186 B28D1/10 B28D7/005 B28D7/04 G01C15/002 G05B2219/35207 B25J9/1635 B25J9/1638 E04G21/22 G01S17/66 G05B2219/40257 G05B2219/45086 G06F16/00 B25J9/1679 B25J9/1697 B66C13/22 E04B2/04 G05B19/416 G06F16/1734 G05B19/4097 G06F30/13 G06F2111/20



Family:

Publication number	Publication date	Application number	Application date
AU2017294796 AA	20190228	AU20170294796	20170714
AU2017294796 BB	20190530	AU20170294796	20170714
AU2017295316 AA	20190307	AU20170295316	20170717
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EP3485112 A1	20190522	EP20170826692	20170714
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JP2019527310 T2	20190926	JP20190523146T	20170714
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WO18009985 A1	20180118	WO2017AU50738	20170717
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WO19014706 A1	20190124	WO2018AU50739	20180716
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Priority:

AU20160902787 20160715 AU20170294796 20170714 WO2017AU50731 20170714
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Probable Assignee: FASTBRICK IP PTY LTD

Assignee(s): (std): FASTBRICK INTELLECTUAL PROPERTY PTY LTD ; FASTBRICK IP PTY LTD

Assignee(s): PIVAC MARK

Inventor(s): (std): PIVAC MARK ; MARK PIVAC ; ROBERTSON JAMES GARY ; PIVAC MARK JOSEPH

Agent(s): DAVIES COLLISON CAVE PTY LTD; FETHERSTONHAUGH AND CO; GILL JENNINGS AND EVERY LLP; IRENNE AMELIA ANWAR SH; ONO SHINJIRO; YAMAMOTO OSAMU; MIYAMAE TORU; NAKANISHI MOTOHARU; GOLJA HAINES AND FRIEND

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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AU2018303838 AA	20200123	LSPB	+	published / reissued	
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AU2019222886 AA	20190919	LSPB	+	published / reissued	
CA3030764 AA	20190114	LSPB	+	published / reissued	
CN109715349 A	20190503	LSPB	+	published / reissued	
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CN109716339 A	20190503	LSPB	PB01	PUBLICATION	
CN109790723 A	20190521	LSPB	+	published / reissued	
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					OWNER : FASTBRICK IP PTY LTD, AUSTRALIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PIVAC, MARK; REEL/FRAME:049994/0160 EFFECTIVE DATE : 20190301
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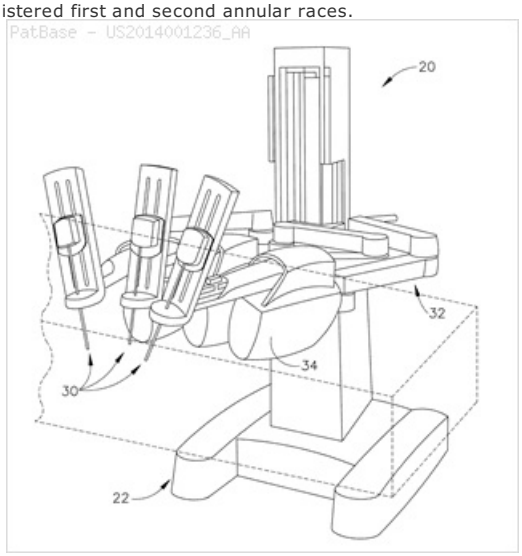
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22) Family number: 55475098 (US2014001236A)

Title: ROTARY SUPPORT JOINT ASSEMBLIES FOR COUPLING A FIRST PORTION OF A SURGICAL INSTRUMENT TO A SECOND PORTION OF A SURGICAL INSTRUMENT

Abstract: A rotary support joint assembly for coupling a first portion of a surgical instrument to a second portion of a surgical instrument. In various forms the joint assembly includes a first annular race in the first portion and a second annular race in the second portion. The second race is configured for substantial registration with the first annular race when the second portion is joined with the first portion. A ring-like bearing is supported within the registered first and second annular races.

Classifications:
International (IPC 8-9): A61B17/068 A61B17/072 A61B17/29 A61B19/00 A61B34/30 A61M39/00 A61M39/10 B23P11/00 B25J17/00 (Advanced/Invention);
A61B17/00 A61B17/29 (Advanced/Non-invention)
CPC: A61B34/30 A61M39/00 A61M39/1055 A61M2039/1061 A61B17/07207 A61B2017/00309 A61B2017/00314 A61B2017/00398 A61B2017/0046 A61B2017/00477 A61B2017/00876 A61B2017/2908 A61B2017/2927 A61B2017/2929 Y10T29/49826 Y10T74/20329
US: 1/1 227/176.1 29/428 74/490.05
JP F-Term: 4C030 4C160 4C160/CC23 4C160/DD23 4C160/NN03 4C160/NN07 4C160/NN10
JP F-Index: A61B17/072 A61B17/10/310 A61B19/00/502 A61B34/30



Family:

Publication number	Publication date	Application number	Application date
BR112014032927 A2	20170627	BR20141132927	20130621
CN104602618 A	20150506	CN201380044570	20130621
CN104602618 B	20171117	CN201380044570	20130621
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IN11000DN2014 A	20160831	IN2014DN11000	20141223
JP2015526140 T2	20150910	JP20150520340T	20130621
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RU2015102595 A	20160820	RU20150102595	20130621
RU2640003 C2	20171225	RU20150102595	20130621
US2014001236 AA	20140102	US20120536335	20120628
US9364230 BB	20160614	US20120536335	20120628
WO14004304 A2	20140103	WO2013US47075	20130621
WO14004304 A3	20141009	WO2013US47075	20130621

Priority:

US20120536335 20120628 WO2013US47075 20130621

Probable Assignee: ETHICON LLC

Assignee(s): (std): BAXTER III CHESTER O ; ETHICON ENDO SURGERY INC ; ETHICON ENDO SURGERY LLC ; SWAYZE JEFFREY S ; SHELTON IV FREDERICK E ; ETIKON ENDO SERDZHERI INK

Assignee(s): ETHICON LLC

Inventor(s): (std): SWAYZE JEFFREY S ; SHELTON IV FREDERICK E ; BAXTER III CHESTER O ; SHELTON FREDERICK E IV ; BAXTER CHESTER O III ; SHELTON FREDERIK E IV ; SVEJZI DZHEFFRI S ; BAKSTER CHESTER O III ; FREDERICK E SHELTON IV ; JEFFREY S SWAYZE ; CHESTER O III BAXTER

Inventor(s): SHELTON FREDERICK E ; BAXTER CHESTER O

Agent(s): CARPMAELS AND RANSFORD LLP; KATO MASANOBU; OOO YURIDICHESKAYA GORODISSKIJ I PARTNERY FA; JOHNSON PHILIP S ET AL

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

Legal status (INPADOC)

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CN104602618 A	20150506	LSPB	+	published / reissued	
CN104602618 A	20150506	LSPB	+C06	PUBLICATION	

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JP6208230 B2	20170912	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6208230 B2	20170915	LSGT	+R150	特許証 (Patent certificate)	
JP6208230 B2	20330621	PEXP		Calculated Patent Term Expiry	
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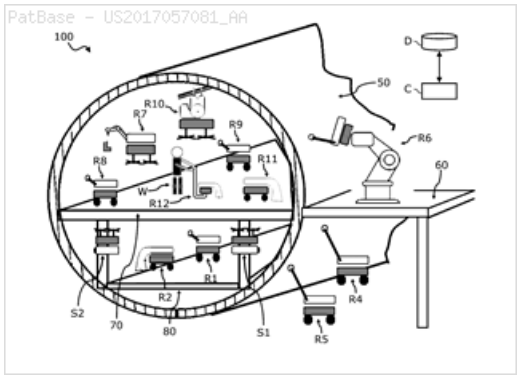
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US9364230 BB	20160525	LSGT	PAT1	Patented Case	
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WO14004304 A3	20150128	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2015102595 COUNTRY OF REF DOCUMENT : RU KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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23) Family number: 65074099 (US2017057081A)

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: 1/1 700/248



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): SERAFIM CAMILA FRAGA ; BORCHERT TOM ; FRAGA SERAFIM CAMILA ; KROHNE INGO ; GOEHLICH ROBERT ALEXANDER
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)

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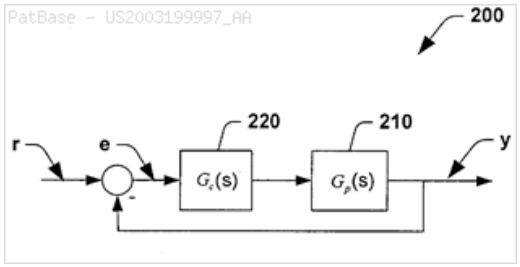
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EP3135441 A1	20171004	LSES	+17P	REQUEST FOR EXAMINATION	EFFECTIVE DATE : 20170828

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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	

24) Family number: 29327100 (US2003199997A)

Title: SCALING AND PARAMETERIZING A CONTROLLER

Abstract: Controller scaling and parameterization are described. Techniques that can be improved by employing the scaling and parameterization include, but are not limited to, controller design, tuning and optimization. The scaling and parameterization methods described here apply to transfer function based controllers, including PID controllers. The parameterization methods also applies to state feedback and state observer based controllers, as well as linear active disturbance rejection controllers. It is emphasized that this abstract is provided to comply with the rules requiring an abstract that will allow a searcher or other reader to quickly ascertain the subject matter of the application. It is submitted with the understanding that it will not be used to interpret or limit the scope or meaning of the claims. 37 CFR 1.72(b).



Classifications:
International (IPC 8-9): B65H23/18 B65H59/38 G05B G05B1/06 G05B11/01 G05B11/42 G05B13/00 G05B13/02 G05B13/04 G05B15/00 G05B15/02 G05B19/416 G05B23/02 G05B5/01 G05D13/62 G06F G06F11/00 G06F11/30 G06F17/10 G06F17/11 G06N5/02 H04L7/02 (Advanced/Invention); H04L12/16 (Advanced/Non-invention); G05B11/01 G05B13/02 G05B13/04 G06F11/00 G06F17/10 G06F17/11 G06N5/00 H04L7/02 (Core/Invention)
International (IPC 1-7): B25J9/16 G05B11/01 G05B13/02 G05B13/04 G05B15/00 H04L7/02
CPC: F05B2260/80 G05B13/04 G05B2219/25298 G05B15/02 G05B2219/33347 G05B13/042 G05B13/024 G05B19/416 G05B5/01 G05B11/42 G05B13/048 G05B13/02 G06F17/10
European: G05B11/42 G05B13/04 G05B13/04B G05B13/04D G05B5/01 R05B260/80 S05B219/25298
US: 1/1 318/561 318/638 700/1 700/18 700/18P 700/1S 700/275 700/28 700/29 700/29P 700/32 700/33 700/37 700/37S 700/41 700/42 700/44 700/44S 700/45 700/45S 700/83 702/182 703/2 703/2S 706/52 706/52S

Family:

Publication number	Publication date	Application number	Application date
AU2003225214 AA	20040830	AU20030225214	20030428
CA2663742 AA	20090318	CA20062663742	20060918
CA2663742 C	20131001	CA20062663742	20060918
CN101578584 A	20091111	CN200680043153	20060918
CN102354104 A	20120215	CN201110136608	20060918
CN102354104 B	20150527	CN201110136608	20060918
EP1938499 A2	20080702	EP20060814801	20060918
EP1938499 A4	20110629	EP20060814801	20060918
EP2447792 A1	20120502	EP20110009615	20060918
HK1138402 A1	20100820	HK20100104536	20100510
HK1163270 A1	20120907	HK20120103811	20120418
IN00759MN2008 A	20080718	IN2008MN00759	20080417
US2003199997 AA	20031023	US20030351664	20030127
US2009005886 AA	20090101	US20080195353	20080820
US2009143871 AA	20090604	US20060067141	20060918
US2012035747 AA	20120209	US20110212274	20110818
US2012283850 AA	20121108	US20120464558	20120504
US2013018487 AA	20130117	US20120554054	20120720
US2014107813 AA	20140417	US20130042983	20131001
US2014195013 AA	20140710	US20130097624	20131205
US2015261210 AA	20150917	US20150723709	20150528
US2016154388 AA	20160602	US20160007281	20160127
US2017176981 A9	20170622	US20150723709	20150528
US8041436 BB	20111018	US20030351664	20030127
US8060340 BB	20111115	US20060067141	20060918
US8180464 BB	20120515	US20080195353	20080820
US8406905 BB	20130326	US20110212274	20110818
US8571691 BB	20131029	US20120554054	20120720
US8644963 BB	20140204	US20120464558	20120504
US9052705 BB	20150609	US20130042983	20131001
US9268315 BB	20160223	US20130097624	20131205
US9720387 BB	20170801	US20150723709	20150528
WO04069490 A1	20040819	WO2003US13275	20030428
WO07035559 A2	20070329	WO2006US36156	20060918
WO07035559 A3	20090522	WO2006US36156	20060918
WO09051891 A1	20090423	WO2008US73773	20080820

Priority:

US20020373404P 20020408
WO2003US13275 20030428
US20050718581P 20050919
US20050728929P 20051020
US20060067141 20060918
US20080067141 20080317
US20110212274 20110818
US20130042983 20131001
US20160007281 20160127
US20020373404P 20020418
US20050718393 20050919
US20050718999P 20050920
CN200680043153 20060918
WO2006US36156 20060918
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US20050718393P 20050919
US20050728928P 20051020
EP20060814801 20060918
US20070965359P 20070820
US20080067141 20080910
US20120554054 20120720
US20150723709 20150528

Probable Assignee: CLEVELAND STATE UNIV

Assignee(s): (std): GAO ZHIQIANG ; UNIV STATE CLEVELAND ; RADKE AARON ; ZHOU WANKUN ; ZHENG QING ; MIKLOSOVIC ROBERT ; TIAN GANG ; CLEVELAND STATE UNIV

Assignee(s): CLEVELAND STATE UNIVERSITY

Inventor(s): (std): GAO ZHIQIANG ; ZHIQIANG GAO ; ROBERT MIKLOSOVIC ; QING ZHENG ; WANKUN ZHOU ; AARON RADKE ; RADKE AARON ; ZHOU WANKUN ; ZHENG QING ; MIKLOSOVIC ROBERT ; TIAN GANG

Agent(s): RICHES MCKENZIE AND HERBERT LLP; KADOR AND PARTNER; CLT PATENT AND TRADEMARK HK LTD; THOMPSON HINE LLP INTELLECTUAL PROPERTY GROUP; RANKIN HILL AND CLARK LLP; TUROCY AND WATSON LLP; THOMPSON HINE LLP; AMIN TUROCY AND WATSON LLP; PRINCE TROY S 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 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 YU ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2003225214 AA	20040830	LSPB	+	published / reissued	
AU2003225214 AA	20051013	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
CA2663742 AA	20090318	LSPB	+	published / reissued	
CA2663742 AA	20110908	LSES	+EEER	EXAMINATION REQUEST	
CA2663742 C	20131001	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2663742 C	20260918	PEXP		Calculated Patent Term Expiry	
CN101578584 A	20091111	LSPB	+	published / reissued	
CN101578584 A	20091111	LSPB	+C06	PUBLICATION	
CN101578584 A	20120229	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
CN101578584 A	20160415	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1138402 COUNTRY OF REF DOCUMENT : HK
CN102354104 A	20120215	LSPB	+	published / reissued	
CN102354104 A	20120215	LSPB	+C06	PUBLICATION	
CN102354104 B	20150527	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102354104 B	20150527	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102354104 B	20160401	LSWD	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : HK REF LEGAL EVENT CODE : WD REF DOCUMENT NUMBER : 1163270 COUNTRY OF REF DOCUMENT : HK
CN102354104 B	20260918	PEXP		Calculated Patent Term Expiry	
EP1938499 A2	20080702	LSPB	+	published / reissued	
EP1938499 A2	20080702	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20080418
EP1938499 A2	20090701	LSES	R17D	DEFERRED SEARCH REPORT PUBLISHED	EFFECTIVE DATE : 20090522

				(CORRECTED)	
EP1938499 A4	20110629	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20110531
EP1938499 A4	20120711	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20111228
EP2447792 A1	20120502	LSPB	+	published / reissued	
EP2447792 A1	20121205	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20121024
EP2447792 A1	20130227	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20130131
EP2447792 A1	20140507	LSRV	-18R	APPLICATION REFUSED	EFFECTIVE DATE : 20131015
HK1138402 A1	20100820	LSPB	+	published / reissued	
HK1163270 A1	20120907	LSPB	+	published / reissued	
IN00759MN2008 A	20080718	LSPB	+	published / reissued	
US2003199997 AA	20031023	LSPB	+	published / reissued	
US2009005886 AA	20090101	LSPB	+	published / reissued	
US2009005886 AA	20120425	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009143871 AA	20090604	LSPB	+	published / reissued	
US2009143871 AA	20111026	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012035747 AA	20120209	LSPB	+	published / reissued	
US2012035747 AA	20130306	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012283850 AA	20121108	LSPB	+	published / reissued	
US2012283850 AA	20140115	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013018487 AA	20130117	LSPB	+	published / reissued	
US2013018487 AA	20131009	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014107813 AA	20140417	LSPB	+	published / reissued	
US2014107813 AA	20150520	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014195013 AA	20140710	LSPB	+	published / reissued	
US2014195013 AA	20160203	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015261210 AA	20150917	LSPB	+	published / reissued	
US2015261210 AA	20170323	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015261210 AA	20170627	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2015261210 AA	20170628	LSFE	+PPV1	Publications --	

				Issue Fee Payment Verified	
US2016154388 AA	20160602	LSPB	+	published / reissued	
US2016154388 AA	20160127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GAO, ZHIQIANG; TIAN, GANG; REEL/FRAME:037593/0048 EFFECTIVE DATE : 20080820
US2016154388 AA	20180215	LSES	NFA1	Non Final Action Mailed	
US2016154388 AA	20190515	LSES	ADV1	Advisory Action Mailed	
US2016154388 AA	20190605	LSAL	NAF1	Notice of Appeal Filed	
US2016154388 AA	20190605	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	TEXT : NOTICE OF APPEAL FILED
US2016154388 AA	20190912	LSAL	NAF1	Notice of Appeal Filed	
US2016154388 AA	20190912	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	TEXT : NOTICE OF APPEAL FILED
US2017176981 A9	20170712	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8041436 BB	20111018	LSGT	+	granted / extensions (spc, cpc, pte)	
US8041436 BB	20030127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GAO, ZHIQIANG; REEL/FRAME:013713/0964 EFFECTIVE DATE : 20030122
US8041436 BB	20151018	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8041436 BB	20151018	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US8041436 BB	20151116	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8041436 BB	20151207	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	EFFECTIVE DATE : 20151210
US8041436 BB	20151208	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20151018
US8041436 BB	20151210	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8041436 BB	20151210	LSGT	PAT1	Patented Case	
US8041436 BB	20151210	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8041436 BB	20190110	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8041436 BB	20190322	LSFE	+MAFP	MAINTENANCE FEE	YEAR OF FEE PAYMENT : 8

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US8041436 BB	20250418	PEXP		Calculated Patent Term Expiry (PTA 812 days)	
US8060340 BB	20111115	LSGT	+	granted / extensions (spc, cpc, pte)	
US8060340 BB	20080910	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GAO, ZHIQIANG; MIKLOSOVIC, ROBERT; RADKE, AARON; AND OTHERS; REEL/FRAME:021507/0088; SIGNING DATES FROM 20080821 TO 20080910
US8060340 BB	20080910	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GAO, ZHIQIANG; MIKLOSOVIC, ROBERT; RADKE, AARON; AND OTHERS; SIGNING DATES FROM 20080821 TO 20080910; REEL/FRAME:021507/0088
US8060340 BB	20111026	LSGT	PAT1	Patented Case	
US8060340 BB	20151111	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8060340 BB	20190110	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8060340 BB	20190424	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8060340 BB	20280210	PEXP		Calculated Patent Term Expiry (PTA 510 days)	
US8180464 BB	20120515	LSGT	+	granted / extensions (spc, cpc, pte)	
US8180464 BB	20120425	LSGT	PAT1	Patented Case	
US8180464 BB	20120618	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GAO, ZHIQIANG; TIAN, GANG; REEL/FRAME:028396/0478 EFFECTIVE DATE : 20080820
US8180464 BB	20160503	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8180464 BB	20190110	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8180464 BB	20191022	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8180464 BB	20310315	PEXP		Calculated Patent Term Expiry (PTA 937 days)	
US8406905 BB	20130326	LSGT	+	granted / extensions (spc, cpc, pte)	
US8406905 BB	20110825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GAO, ZHIQIANG; REEL/FRAME:026806/0632 EFFECTIVE DATE : 20030122
US8406905 BB	20130306	LSGT	PAT1	Patented Case	
US8406905 BB	20160913	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

US8406905 BB	20310818	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8571691 BB	20131029	LSGT	+	granted / extensions (spc, cpc, pte)	
US8571691 BB	20120720	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GAO, ZHIQIANG; REEL/FRAME:028596/0882 EFFECTIVE DATE : 20030122
US8571691 BB	20131009	LSGT	PAT1	Patented Case	
US8571691 BB	20170411	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8571691 BB	20320720	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8644963 BB	20140204	LSGT	+	granted / extensions (spc, cpc, pte)	
US8644963 BB	20120618	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GAO, ZHIQIANG; TIAN, GANG; REEL/FRAME:028396/0478 EFFECTIVE DATE : 20080820
US8644963 BB	20140115	LSGT	PAT1	Patented Case	
US8644963 BB	20170731	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8644963 BB	20190110	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8644963 BB	20320504	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9052705 BB	20150609	LSGT	+	granted / extensions (spc, cpc, pte)	
US9052705 BB	20131001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GAO, ZHIQUIANG; REEL/FRAME:031318/0399 EFFECTIVE DATE : 20030122
US9052705 BB	20150520	LSGT	PAT1	Patented Case	
US9052705 BB	20181122	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9052705 BB	20331001	PEXP		Calculated Patent Term Expiry	
US9268315 BB	20160223	LSGT	+	granted / extensions (spc, cpc, pte)	
US9268315 BB	20131205	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GAO, ZHIQIANG; TIAN, GANG; REEL/FRAME:031722/0780 EFFECTIVE DATE : 20080820
US9268315 BB	20151014	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	

US9268315 BB	20160203	LSGT	PAT1	Patented Case	
US9268315 BB	20190110	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9268315 BB	20190723	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9268315 BB	20340519	PEXP		Calculated Patent Term Expiry (PTA 165 days)	
US9720387 BB	20170801	LSGT	+	granted / extensions (spc, cpc, pte)	
US9720387 BB	20150528	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CLEVELAND STATE UNIVERSITY, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GAO, ZHIQIANG; REEL/FRAME:035731/0232 EFFECTIVE DATE : 20030122
US9720387 BB	20170712	LSGT	PAT1	Patented Case	
US9720387 BB	20190110	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9720387 BB	20360125	PEXP		Calculated Patent Term Expiry (PTA 242 days and a terminal disclaimer has been filed)	
WO04069490 A1	20040819	LSPB	+	published / reissued	
WO04069490 A1	20060315	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO04069490 A1	20061225	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO04069490 A1	20061225	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	TEXT : JP
WO07035559 A2	20070329	LSPB	+	published / reissued	
WO07035559 A2	20060918	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200680043153.8 COUNTRY OF REF DOCUMENT : CN
WO07035559 A2	20080320	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO07035559 A2	20080417	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 759/MUMNP/2008 COUNTRY OF REF DOCUMENT : IN
WO07035559 A2	20080418	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006814801 COUNTRY OF REF DOCUMENT : EP
WO07035559 A2	20080910	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 12067141 COUNTRY OF REF DOCUMENT : US
WO07035559 A2	20090318	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2663742 COUNTRY OF REF DOCUMENT : CA
WO09051891 A1	20090423	LSPB	+	published / reissued	
WO09051891 A1	20100223	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09051891 A1	20100922	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN	REF DOCUMENT NUMBER : 08798307 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1

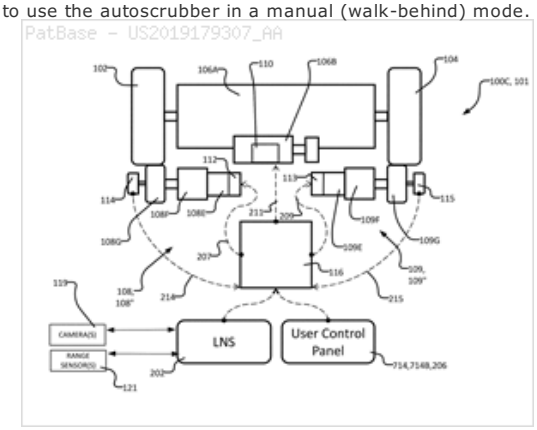
EUROPEAN PHASE DESIGNATED STATE(S) :

25) Family number: 67177105 (US2019179307A)

Title: AUTOSCRUBBER CONVERTIBLE BETWEEN MANUAL AND AUTONOMOUS OPERATION

Abstract: Autoscrubbers are capable of being operated in a manual (e.g. walk-behind) mode and an autonomous (operator free) mode and capable of switching between such operational modes. Apparatus and methods for steering such autoscrubbers use steering torque mechanisms to apply steering torques independently to left and right drive **wheels**. Steering systems for autonomous operation may be retrofit onto existing walk-behind autoscrubbers to implement this functionality. The autonomous control capability may not detract appreciably from an operator's ability to use the autoscrubber in a manual (walk-behind) mode.

Classifications:
International (IPC 8-9)**:** A47L11/10 A47L11/24 A47L11/28 A47L11/40 A47L9/28 B25J19/04 B25J5/00 B25J9/18 B60L11/18 B60L15/00 B60L15/20 B62D11/04 G05D1/00 G05D1/02 (Advanced/Invention)
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US: 1/1



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Publication number	Publication date	Application number	Application date
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Priority:
US20160320294P 20160408 WO2017CA50430 20170407 US20180152984 20181005

Probable Assignee: A AND K ROBOTICS INC

Assignee(s): (std)**:** A AND K ROBOTICS INC

Assignee(s): ANDERSON MATTHEW HENRY ; KUNG ANSON YAN SHUN ; PERRON JACOB MICHAEL ; YUEN ALEXANDER JOSEPH

Inventor(s): (std)**:** KUNG ANSON YAN SHUN ; PERRON JACOB MICHAEL ; YUEN ALEXANDER JOSEPH ; ANDERSON MATTHEW HENRY

Agent(s): OYEN WIGGS GREEN AND MUTALA LLP; PATRONUS IP PATENT U RECHTSANWAELTE; RYUKA IP LAW FIRM; RATTRAY TODD A ET AL

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Legal status (INPADOC)

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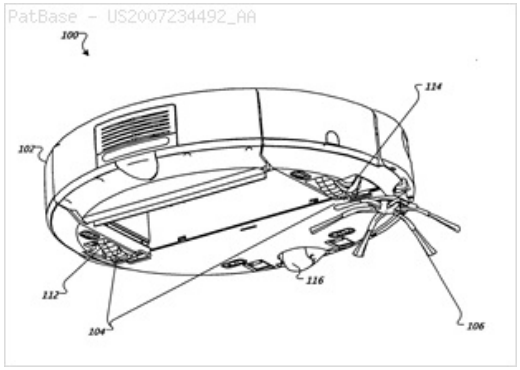
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EP3439522 A1	20190213	LSPB	+	published / reissued	
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US2019179307 AA	20181009	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : A& K ROBOTICS INC., CANADA

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26) Family number: 34533113 (US2007234492A)

Title: COVERAGE ROBOT MOBILITY

Abstract: An autonomous coverage robot includes a chassis, a drive system to maneuver the robot, an edge cleaning head carried, and a controller. The controller is configured to monitor motor current associated with the edge cleaning head and to reverse bias the edge cleaning head motor in response to an elevated motor current, while continuing to maneuver the robot across the floor. In another aspect, an autonomous coverage robot includes a drive system, a bump sensor, and a proximity sensor. The drive system is configured to reduce a speed setting in response to a signal from the proximity sensor indicating detection of a potential obstacle in a forward direction, while continuing to advance the robot according to a heading setting. Furthermore, the drive system is configured to alter the heading setting in response to a signal received from the bump sensor indicating contact with an obstacle.



Classifications:

International (IPC 8-9): A46B17/06 A47L11/00 A47L11/18 A47L11/202 A47L11/204 A47L11/24 A47L11/282 A47L11/40 A47L5/00 A47L5/22 A47L5/30 A47L7/00 A47L9/00 A47L9/04 A47L9/12 A47L9/14 A47L9/28 A47L9/30 A61L2/10 A63H11/00 A63H30/04 B25J11/00 B25J13/00 B25J13/08 B25J19/00 B25J19/02 B25J5/00 B25J9/00 B25J9/16 B60K7/00 B60L1/00 B60L11/18 B60L15/20 B60L50/52 B60L53/14 B60R19/38 G01C25/00 G05B15/00 G05B19/00 G05B19/04 G05B19/18 G05B19/4061 G05D1/00 G05D1/02 G05D3/00 G06F19/00 H01R13/46 H02J7/00 H04B1/02 H04B1/06 H04L1/16 H04M11/00 H04Q9/00 (Advanced/Invention); A47L9/00 A47L9/28 B60L11/18 G05D1/02 H04B1/02 H04B1/06 H04L1/16 (Advanced/Non-invention); A47L11/00 A47L5/00 A47L9/00 A47L9/28 A63H11/00 A63H30/00 G01C25/00 G05B19/00 G05B19/406 G05D1/02 G06F19/00 H02J7/00 (Core/Invention)

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US: 1/1 134/6 15/21.1 15/21.100 15/21.100P 15/3 15/319 15/319P 15/325 15/339 15/339S 15/340.1 15/340.3 15/340.4 15/347 15/347S 15/353 15/364 15/384 15/3S 15/401 15/412 15/412S 15/49.1 15/491 15/97.1 15/97.100 15/97.100S 180/55 180/55S 180/65.1 180/65.100S 318/568.1 318/568.11 318/568.12 318/568.120S 318/568.16 318/568.160S 318/580 320/137 320/137S 340/539.13 340/572.4 340/825.49 342/385 342/385S 342/417 342/417S 342/450 370/401 700/245 700/245P 700/245S 700/250 700/250P 700/253 700/255 700/258 700/258P 700/259 700/261 700/261S 700/264 701/2 701/200 701/200S 701/22 701/22P 701/23 701/23P 701/26 701/26S 701/2P 701/408 701/532 701/532S 705/7.13 709/217 709/218 709/219 709/227 709/230 901/1 901/1S 901/46 901/46S 901/47 901/47S 901/50

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Priority:

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Inventor(s): DUBROVSKY ZIVHTHAN AC ; DUBROVSKY ZIVTHAN AC ; ROY ROBERT PAUL DRACUT ; CAMPBELL TONY L STONCHAM ; MORSE CHRISTOPHER JOHN MALDEN ; NEUMANN ROGELIO MANFRED SOMERVILLE ; HUSSEY PATRICK ALAN CONCORD ; BILLINGTON JOHN NJR ; OKERHOLM ANDREA ; MAMMEN JEFFREY ; WON CHIK ; CASEY CHRISTOPHER ; KAPOOR DEEPAK ; SVENDSEN SELMA ANDOVER ; KAPOOR DEEPAK RAMESH CUPERTINO ; BURNETT SCOTT THOMAS WINDHAM ; OZICK DANIEL N NEWTON ; CAMPBELL TONY L PEPPERELL ; MORSE CHRISTOPHER MALDEN ; CASEY CHRISTOPHER M LEXINGTON ; WON CHIKYUNG TEWKSBURY ; RIZZARI ROBERT BILLERICA ; SANDIN PAUL E BROOKLINE ; HICKEY STEPHEN SOMERVILLE ; DUBROVSKY ZIVTHAN AC WALTHAM ; MAMMEN JEFFRY W WESTFORD ; HALLORAN MICHAEL J WALTHAM ; OKERHOLM ANDREA M ARLINGTON ; OZICK DANIEL M NEWTON ; HALLORAN MICHAEL J BEDFORD ; CAMPBELL TONY L STONEHAM ; BILLINGTON JR ; WALKER JASON S MEDFORD ; BILLINGTON JOHN N JR GEORGETOWN

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT442617 E	20090915	LSGT	+	granted / extensions (spc, cpc, pte)	
AT442617 E	20100315	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT442617 E	20261204	PEXP		Calculated Patent Term Expiry	
AT442618 E	20090915	LSGT	+	granted / extensions (spc, cpc, pte)	
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AT545898 E	20120315	LSGT	+	granted / extensions (spc, cpc, pte)	
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					ROGELIO MANFRED; SVENDSEN, SELMA; OZICK, DANIEL N.; CASEY, CHRISTOPHER M.; KAPOOR, DEEPAK RAMESH; CAMPBELL, TONY L.; WON, CHIKYUNG; MORSE, CHRISTOPHER JOHN; BURNETT, SCOTT THOMAS AND MORIN, RUSSELL WALTER
AU2010282356 AA	20121018	LSRE	DA3	AMENDMENTS MADE SECTION 104	TEXT : THE NATURE OF THE AMENDMENT IS: AMEND THE NAME OF THE INVENTOR TO READ HUSSEY, PATRICK ALAN; ROY, ROBERT PAUL; NEUMANN, ROGELIO MANFRED; SVENDSEN, SELMA; OZICK, DANIEL N.; CASEY, CHRISTOPHER M.; KAPOOR, DEEPAK RAMESH; CAMPBELL, TONY L.; WON, CHIKYUNG; MORSE, CHRISTOPHER JOHN; BURNETT, SCOTT THOMAS AND MORIN, RUSSELL WALTER
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AU2010282356 BB	20300813	PEXP		Calculated Patent Term Expiry	
AU2014202140 AA	20140508	LSPB	+	published / reissued	
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EP1963940 A2	20081126	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20081028
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EP1963940 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 : 20091204
EP1963940 B1	20110630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : HU

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20100310
EP1963940 B1	20110729	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1963940 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 : 20090909
EP1963940 B1	20111031	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 : 20101231
EP1963940 B1	20111031	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 : 20101231
EP1963940 B1	20151217	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
EP1963940 B1	20161111	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 : 11
EP1963940 B1	20161230	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 : 20151204
EP1963940 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP1963940 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11
EP1963940 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 11
EP1963940 B1	20170831	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 : 20151204
EP1963940 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161221 YEAR OF FEE PAYMENT : 11
EP1963940 B1	20170831	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20170710
EP1963940 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP

					YEAR OF FEE PAYMENT : 12
EP1963940 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP1963940 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP1963940 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP1963940 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 12
EP1963940 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP1963940 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP1963940 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP1963940 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP1963940 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP1963940 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP1963941 A2	20080903	LSPB	+	published / reissued	
EP1963941 A2	20080903	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20080702
EP1963941 A2	20100908	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20100809
EP1963941 A2	20120201	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION
EP1963941 A2	20150331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20141220 YEAR OF FEE PAYMENT : 9
EP1963941 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP1963941 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP1963941 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP1963941 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20151226 YEAR OF FEE PAYMENT : 10

EP1963941 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20151230 YEAR OF FEE PAYMENT : 10
EP1963941 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 10
EP1963941 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP1963941 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20151119 YEAR OF FEE PAYMENT : 10
EP1963941 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP1963941 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP1963941 B1	20120215	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1963941 B1	20120215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1963941 B1	20120215	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1963941 B1	20120314	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1963941 B1	20120315	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 545898 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20120315
EP1963941 B1	20120419	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006027688 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20120419
EP1963941 B1	20120530	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3
EP1963941 B1	20120607	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2382320 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20120607
EP1963941 B1	20120725	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20120215
EP1963941 B1	20120731	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 : 20120215

EP1963941 B1	20120731	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 : 20120615
EP1963941 B1	20120831	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 : 20120215
EP1963941 B1	20120831	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 : 20120516
EP1963941 B1	20120831	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 : 20120615
EP1963941 B1	20120831	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 : 20120215
EP1963941 B1	20120831	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 : 20120215
EP1963941 B1	20120928	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 : 20120215
EP1963941 B1	20121031	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 : 20120215
EP1963941 B1	20121031	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 : 20120215

EP1963941 B1	20121031	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 : 20120215
EP1963941 B1	20121031	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 : 20120215
EP1963941 B1	20121130	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 : 20120215
EP1963941 B1	20130123	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20121116
EP1963941 B1	20130314	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006027688 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20121116
EP1963941 B1	20130731	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 : 20120515
EP1963941 B1	20130731	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 : 20121231
EP1963941 B1	20130925	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1963941 B1	20131031	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 : 20121204
EP1963941 B1	20140430	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 : 20120215
EP1963941 B1	20140530	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 : 20121204
EP1963941 B1	20140731	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 : 20061204
EP1963941 B1	20151217	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
EP1963941 B1	20161111	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 : 11
EP1963941 B1	20161230	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 : 20151204
EP1963941 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20161212 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20161213 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20161212 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20161213 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20161125 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20161024 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170831	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 : 20151204
EP1963941 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161221 YEAR OF FEE PAYMENT : 11
EP1963941 B1	20170831	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE	COUNTRY OF REF DOCUMENT : IT

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	REINSTATED DATE : 20170710
EP1963941 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20171115 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK PAYMENT DATE : 20171212 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20171213 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT PAYMENT DATE : 20171128 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20171212 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180102 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 12
EP1963941 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE PAYMENT DATE : 20181220 YEAR OF FEE PAYMENT : 13
EP1963941 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP1963941 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP1963941 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP1963941 B1	20190729	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP EFFECTIVE DATE : 20181231

EP1963941 B1	20190731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1963941 B1	20190815	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MM01 REF DOCUMENT NUMBER : 545898 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181204
EP1963941 B1	20190930	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 : 20190101
EP1963941 B1	20191031	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 : 20181204
EP1963941 B1	20191129	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 : 20181231
EP1963941 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20181204
EP1963941 B1	20191231	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 : 20181231
EP1963941 B1	20191231	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 : 20181231
EP1963941 B1	20200131	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 : 20181231
EP1963941 B1	20200131	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20200131
EP1963941 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP1969437 A2	20080917	LSPB	+	published / reissued	
EP1969437 A2	20080917	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20080702
EP1969437 A2	20150331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20141220 YEAR OF FEE PAYMENT : 9
EP1969437 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP1969437 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 10
EP1969437 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP1969437 B1	20090909	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1969437 B1	20090909	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1969437 B1	20090915	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1969437 B1	20091014	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1969437 B1	20100129	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 : 20090909
EP1969437 B1	20100129	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 : 20090909
EP1969437 B1	20100129	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 : 20090909
EP1969437 B1	20100201	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
EP1969437 B1	20100225	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20090909
EP1969437 B1	20100226	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 : 20090909
EP1969437 B1	20100226	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 : 20090909
EP1969437 B1	20100226	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 : 20090909

EP1969437 B1	20100226	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 : 20090909
EP1969437 B1	20100331	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 : 20090909
EP1969437 B1	20100430	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 : 20090909
EP1969437 B1	20100430	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 : 20090909
EP1969437 B1	20100430	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 : 20091220
EP1969437 B1	20100430	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 : 20100109
EP1969437 B1	20100430	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 : 20100111
EP1969437 B1	20100430	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 : 20090909
EP1969437 B1	20100531	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 : 20090909
EP1969437 B1	20100630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : AT

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090909
EP1969437 B1	20100630	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 : 20090909
EP1969437 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090909
EP1969437 B1	20100730	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 : 20100701
EP1969437 B1	20100818	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20100610
EP1969437 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 : 20091210
EP1969437 B1	20101029	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 : 20091204
EP1969437 B1	20110331	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 : 20091231
EP1969437 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 : 20091204
EP1969437 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 : 20100310
EP1969437 B1	20110729	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1969437 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 : 20090909
EP1969437 B1	20111031	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 : 20101231
EP1969437 B1	20111031	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 : 20101231
EP1969437 B1	20151217	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
EP1969437 B1	20161111	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 : 11
EP1969437 B1	20161230	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 : 20151204
EP1969437 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11
EP1969437 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP1969437 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 11
EP1969437 B1	20170831	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 : 20151204
EP1969437 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161221 YEAR OF FEE PAYMENT : 11
EP1969437 B1	20170831	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20170710
EP1969437 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP1969437 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP1969437 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP1969437 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12

EP1969437 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 12
EP1969437 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP1969437 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP1969437 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP1969437 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP1969437 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP1969437 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP1969438 A1	20080917	LSPB	+	published / reissued	
EP1969438 A1	20080917	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20080702
EP1969438 A1	20150331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20141220 YEAR OF FEE PAYMENT : 9
EP1969438 A1	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP1969438 A1	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP1969438 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP1969438 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20151226 YEAR OF FEE PAYMENT : 10
EP1969438 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 10
EP1969438 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP1969438 B1	20090909	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1969438 B1	20090909	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1969438 B1	20090915	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1969438 B1	20091014	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D

EP1969438 B1	20100129	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 : 20090909
EP1969438 B1	20100129	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 : 20090909
EP1969438 B1	20100129	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 : 20090909
EP1969438 B1	20100225	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20090909
EP1969438 B1	20100226	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 : 20090909
EP1969438 B1	20100226	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 : 20090909
EP1969438 B1	20100226	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 : 20090909
EP1969438 B1	20100304	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2334064 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP1969438 B1	20100331	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 : 20090909
EP1969438 B1	20100430	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 : 20090909

EP1969438 B1	20100430	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 : 20090909
EP1969438 B1	20100430	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 : 20100109
EP1969438 B1	20100430	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 : 20100111
EP1969438 B1	20100430	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 : 20090909
EP1969438 B1	20100531	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 : 20090909
EP1969438 B1	20100630	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 : 20090909
EP1969438 B1	20100630	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 : 20090909
EP1969438 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20090909
EP1969438 B1	20100730	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 : 20100701
EP1969438 B1	20100818	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20100610
EP1969438 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : GR

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20091210
EP1969438 B1	20101029	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 : 20091204
EP1969438 B1	20110331	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 : 20091231
EP1969438 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 : 20091204
EP1969438 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 : 20100310
EP1969438 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 : 20090909
EP1969438 B1	20140109	LSOP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R008 REF DOCUMENT NUMBER : 602006009149 COUNTRY OF REF DOCUMENT : DE
EP1969438 B1	20140320	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R039 REF DOCUMENT NUMBER : 602006009149 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20140109
EP1969438 B1	20150220	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R040 REF DOCUMENT NUMBER : 602006009149 COUNTRY OF REF DOCUMENT : DE
EP1969438 B1	20150220	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006009149 COUNTRY OF REF DOCUMENT : DE
EP1969438 B1	20150423	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R040 REF DOCUMENT NUMBER : 602006009149 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20150220
EP1969438 B1	20151217	LSFE	REG	REFERENCE TO A	COUNTRY OF REF DOCUMENT :

				NATIONAL CODE	FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 10
EP1969438 B1	20161111	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 : 11
EP1969438 B1	20161230	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 : 20151204
EP1969438 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 11
EP1969438 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP1969438 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20161212 YEAR OF FEE PAYMENT : 11
EP1969438 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11
EP1969438 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20161213 YEAR OF FEE PAYMENT : 11
EP1969438 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP1969438 B1	20170831	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 : 20151204
EP1969438 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161221 YEAR OF FEE PAYMENT : 11
EP1969438 B1	20170831	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20170710
EP1969438 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP1969438 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20171115 YEAR OF FEE PAYMENT : 12
EP1969438 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP1969438 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP1969438 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : CH

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20171212 YEAR OF FEE PAYMENT : 12
EP1969438 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP1969438 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180102 YEAR OF FEE PAYMENT : 12
EP1969438 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 12
EP1969438 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20181220 YEAR OF FEE PAYMENT : 13
EP1969438 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP1969438 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP1969438 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP1969438 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP1969438 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP1969438 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20190130 YEAR OF FEE PAYMENT : 13
EP1969438 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP1969438 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2065774 A1	20090603	LSPB	+	published / reissued	
EP2065774 A1	20091216	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20091104
EP2065774 A1	20091230	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20091201
EP2065774 A1	20100210	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
EP2065774 A1	20130619	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20130523
EP2065774 A1	20140530	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 : 20131023
EP2065774 A1	20140530	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 : 20140223
EP2065774 A1	20140829	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 : 20131023
EP2065774 B1	20131023	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2065774 B1	20131023	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2065774 B1	20131031	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2065774 B1	20131115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 637083 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20131115

EP2065774 B1	20131120	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2065774 B1	20131219	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006039000 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20131219
EP2065774 B1	20140305	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20131023
EP2065774 B1	20140315	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 637083 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20131023
EP2065774 B1	20140325	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2065774 B1	20140430	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 : 20140223
EP2065774 B1	20140430	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 : 20131023
EP2065774 B1	20140430	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 : 20131023
EP2065774 B1	20140430	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 : 20131023
EP2065774 B1	20140430	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 : 20131023
EP2065774 B1	20140430	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 : 20131023

EP2065774 B1	20140530	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 : 20131023
EP2065774 B1	20140530	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 : 20131023
EP2065774 B1	20140530	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 : 20131023
EP2065774 B1	20140530	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 : 20131023
EP2065774 B1	20140630	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 : 20140224
EP2065774 B1	20140724	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006039000 COUNTRY OF REF DOCUMENT : DE
EP2065774 B1	20140731	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 : 20131023
EP2065774 B1	20140731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2065774 B1	20140829	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 : 20131023
EP2065774 B1	20140829	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 : 20131023
EP2065774 B1	20140829	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	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 : 20131023
EP2065774 B1	20140829	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 : 20131023
EP2065774 B1	20140829	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20131204
EP2065774 B1	20140829	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 : 20131023
EP2065774 B1	20140829	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 : 20131023
EP2065774 B1	20140924	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2065774 B1	20140930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20131023
EP2065774 B1	20141001	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20140724
EP2065774 B1	20141031	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 : 20131231
EP2065774 B1	20141031	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 : 20131204
EP2065774 B1	20141031	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 : 20131231
EP2065774 B1	20141106	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006039000 COUNTRY OF REF DOCUMENT :

					DE EFFECTIVE DATE : 20140724
EP2065774 B1	20150227	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 : 20131023
EP2065774 B1	20150630	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 : 20131023
EP2065774 B1	20150731	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 : 20131023
EP2065774 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 : 20061204
EP2065774 B1	20150831	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20131023
EP2065774 B1	20151217	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
EP2065774 B1	20160630	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 : 20140124
EP2065774 B1	20161111	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 : 11
EP2065774 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11
EP2065774 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 11
EP2065774 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP2065774 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12

EP2065774 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP2065774 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2065774 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2065774 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2065774 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP2065774 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP2065774 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2116914 A1	20091111	LSPB	+	published / reissued	
EP2116914 A1	20091111	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20090825
EP2116914 A1	20091125	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION
EP2116914 A1	20100210	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20100113
EP2116914 A1	20131129	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 : 20130313
EP2116914 A1	20131129	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 : 20130313
EP2116914 A1	20131129	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 : 20130313
EP2116914 A1	20131129	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 : 20130313
EP2116914 A1	20150331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20141220 YEAR OF FEE PAYMENT : 9

EP2116914 A1	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP2116914 A1	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP2116914 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 10
EP2116914 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20151226 YEAR OF FEE PAYMENT : 10
EP2116914 A1	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP2116914 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP2116914 B1	20130313	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2116914 B1	20130313	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2116914 B1	20130315	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2116914 B1	20130315	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 601154 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20130315
EP2116914 B1	20130410	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2116914 B1	20130508	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006035135 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130508
EP2116914 B1	20130717	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2413862 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20130717
EP2116914 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 : 20130313
EP2116914 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130613
EP2116914 B1	20130731	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 : 20130313
EP2116914 B1	20130731	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3
EP2116914 B1	20130815	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 601154 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20130313
EP2116914 B1	20130826	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2116914 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 : 20130313
EP2116914 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 : 20130313
EP2116914 B1	20130830	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 : 20130313
EP2116914 B1	20130830	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 : 20130614
EP2116914 B1	20130930	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 : 20130313
EP2116914 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 : 20130313

EP2116914 B1	20131031	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 : 20130715
EP2116914 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 : 20130313
EP2116914 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 : 20130313
EP2116914 B1	20131031	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 : 20130713
EP2116914 B1	20131031	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 : 20130313
EP2116914 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 : 20130313
EP2116914 B1	20131129	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 : 20130313
EP2116914 B1	20131129	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 : 20130313
EP2116914 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130313
EP2116914 B1	20140219	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20131216

EP2116914 B1	20140327	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006035135 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20131216
EP2116914 B1	20140829	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 : 20130313
EP2116914 B1	20140829	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20131204
EP2116914 B1	20140924	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2116914 B1	20141031	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 : 20131204
EP2116914 B1	20150630	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 : 20130313
EP2116914 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 : 20061204
EP2116914 B1	20151217	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
EP2116914 B1	20161111	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 : 11
EP2116914 B1	20161230	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 : 20151204
EP2116914 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 11
EP2116914 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP2116914 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11
EP2116914 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20161212 YEAR OF FEE PAYMENT : 11
EP2116914 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20161213 YEAR OF FEE PAYMENT : 11
EP2116914 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP2116914 B1	20170831	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 : 20151204
EP2116914 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161221 YEAR OF FEE PAYMENT : 11
EP2116914 B1	20170831	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20170710
EP2116914 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP2116914 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20171115 YEAR OF FEE PAYMENT : 12
EP2116914 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP2116914 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2116914 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20171212 YEAR OF FEE PAYMENT : 12
EP2116914 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2116914 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180102 YEAR OF FEE PAYMENT : 12
EP2116914 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 12
EP2116914 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2116914 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20181220 YEAR OF FEE PAYMENT : 13

EP2116914 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP2116914 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP2116914 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP2116914 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2116914 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20190130 YEAR OF FEE PAYMENT : 13
EP2116914 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP2116914 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2120122 A1	20091118	LSPB	+	published / reissued	
EP2120122 A1	20091118	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20090910
EP2120122 A1	20091216	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION
EP2120122 A1	20091223	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20091119
EP2120122 A1	20130619	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20130522
EP2120122 A1	20140530	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 : 20140228
EP2120122 A1	20140530	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 : 20131030
EP2120122 A1	20140829	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 : 20131030
EP2120122 A1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11
EP2120122 B1	20131030	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2120122 B1	20131030	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2120122 B1	20131031	LSNP	REG	REFERENCE TO A	REF COUNTRY CODE : CH

				NATIONAL CODE	REF LEGAL EVENT CODE : EP
EP2120122 B1	20131115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 638197 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20131115
EP2120122 B1	20131120	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2120122 B1	20131224	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006039071 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20131224
EP2120122 B1	20140305	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20131030
EP2120122 B1	20140315	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 638197 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20131030
EP2120122 B1	20140325	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2120122 B1	20140430	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 : 20131030
EP2120122 B1	20140430	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 : 20131030
EP2120122 B1	20140430	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 : 20131030
EP2120122 B1	20140430	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 : 20131030
EP2120122 B1	20140430	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 : 20131030
EP2120122 B1	20140430	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 : 20140228
EP2120122 B1	20140530	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 : 20131030
EP2120122 B1	20140530	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 : 20131030
EP2120122 B1	20140530	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 : 20131030
EP2120122 B1	20140530	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 : 20131030
EP2120122 B1	20140630	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 : 20140228
EP2120122 B1	20140731	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 : 20131030
EP2120122 B1	20140731	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 : 20131030
EP2120122 B1	20140731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2120122 B1	20140731	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006039071 COUNTRY OF REF DOCUMENT : DE

EP2120122 B1	20140829	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 : 20131030
EP2120122 B1	20140829	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20131204
EP2120122 B1	20140829	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 : 20131030
EP2120122 B1	20140829	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 : 20131030
EP2120122 B1	20140829	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 : 20131030
EP2120122 B1	20140829	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 : 20131030
EP2120122 B1	20140924	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20140130
EP2120122 B1	20140924	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2120122 B1	20140926	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20140829
EP2120122 B1	20140930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20131030
EP2120122 B1	20141008	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20140731
EP2120122 B1	20141031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20131204

				EPO]	
EP2120122 B1	20141031	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 : 20131231
EP2120122 B1	20141031	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 : 20131231
EP2120122 B1	20141113	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006039071 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20140731
EP2120122 B1	20141128	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 : 20140130
EP2120122 B1	20141128	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 : 20131231
EP2120122 B1	20150227	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 : 20131030
EP2120122 B1	20150630	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 : 20131030
EP2120122 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 : 20061204
EP2120122 B1	20150731	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 : 20131030
EP2120122 B1	20150831	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20131030
EP2120122 B1	20160630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : GR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE

				EPO]	FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20140131
EP2120122 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2120122 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2120122 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP2120122 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2251757 A2	20101117	LSPB	+	published / reissued	
EP2251757 A2	20101117	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100826
EP2251757 A2	20150331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20141220 YEAR OF FEE PAYMENT : 9
EP2251757 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP2251757 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20151226 YEAR OF FEE PAYMENT : 10
EP2251757 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 10
EP2251757 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP2251757 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP2251757 A3	20110309	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20110208
EP2251757 B1	20111123	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2251757 B1	20111123	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2251757 B1	20111130	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2251757 B1	20111221	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2251757 B1	20120126	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006026091 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20120126
EP2251757 B1	20120229	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3
EP2251757 B1	20120409	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2378138

					COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20120409
EP2251757 B1	20120425	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20111123
EP2251757 B1	20120430	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 : 20120323
EP2251757 B1	20120430	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 : 20111123
EP2251757 B1	20120531	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 : 20111123
EP2251757 B1	20120531	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 : 20120323
EP2251757 B1	20120531	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 : 20111123
EP2251757 B1	20120531	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 : 20111123
EP2251757 B1	20120531	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 : 20111123
EP2251757 B1	20120531	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 : 20120224
EP2251757 B1	20120629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : CY

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20111123
EP2251757 B1	20120731	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 : 20111231
EP2251757 B1	20120731	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 : 20111123
EP2251757 B1	20120731	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 : 20111123
EP2251757 B1	20120731	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 : 20120223
EP2251757 B1	20120731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20111123
EP2251757 B1	20120731	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 : 20111123
EP2251757 B1	20120731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2251757 B1	20120831	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 : 20111123
EP2251757 B1	20120831	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 : 20111123
EP2251757 B1	20120915	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 534941

					COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20111123
EP2251757 B1	20120926	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2251757 B1	20121031	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20120824
EP2251757 B1	20121031	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 : 20111231
EP2251757 B1	20121031	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 : 20111204
EP2251757 B1	20121031	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 : 20111231
EP2251757 B1	20121227	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006026091 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20120824
EP2251757 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20111123
EP2251757 B1	20130531	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 : 20111204
EP2251757 B1	20130628	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 : 20111123
EP2251757 B1	20130930	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 : 20111123
EP2251757 B1	20131031	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 : 20111123
EP2251757 B1	20140114	LSOP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R008

					REF DOCUMENT NUMBER : 602006026091 COUNTRY OF REF DOCUMENT : DE
EP2251757 B1	20140327	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R039 REF DOCUMENT NUMBER : 602006026091 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20140114
EP2251757 B1	20150220	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R040 REF DOCUMENT NUMBER : 602006026091 COUNTRY OF REF DOCUMENT : DE
EP2251757 B1	20150220	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006026091 COUNTRY OF REF DOCUMENT : DE
EP2251757 B1	20150423	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R040 REF DOCUMENT NUMBER : 602006026091 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20150220
EP2251757 B1	20151217	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
EP2251757 B1	20161111	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 : 11
EP2251757 B1	20161230	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 : 20151204
EP2251757 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 11
EP2251757 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP2251757 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11
EP2251757 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20161212 YEAR OF FEE PAYMENT : 11
EP2251757 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP2251757 B1	20170831	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 : 20151204
EP2251757 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20161221 YEAR OF FEE PAYMENT : 11
EP2251757 B1	20170831	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20170710
EP2251757 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP2251757 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2251757 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20171115 YEAR OF FEE PAYMENT : 12
EP2251757 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP2251757 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2251757 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180102 YEAR OF FEE PAYMENT : 12
EP2251757 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 12
EP2251757 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20181220 YEAR OF FEE PAYMENT : 13
EP2251757 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2251757 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2251757 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP2251757 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP2251757 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20190130 YEAR OF FEE PAYMENT : 13
EP2251757 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP2251757 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20191115 YEAR OF FEE PAYMENT : 14
EP2251757 B1	20261204	PEXP		Calculated Patent Term Expiry	

EP2267568 A2	20101229	LSPB	+	published / reissued	
EP2267568 A2	20101229	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100930
EP2267568 A3	20140514	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20140417
EP2267568 B1	20140924	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2267568 B1	20140924	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2267568 B1	20140930	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2267568 B1	20141015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 688884 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20141015
EP2267568 B1	20141022	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2267568 B1	20141106	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006043171 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20141106
EP2267568 B1	20150130	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 : 20141225
EP2267568 B1	20150130	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 : 20140924
EP2267568 B1	20150130	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 : 20140924
EP2267568 B1	20150130	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 : 20140924
EP2267568 B1	20150225	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2267568 B1	20150225	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20140924
EP2267568 B1	20150227	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : CY NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO

				INFORMATION FROM NATIONAL OFFICE TO EPO]	SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20140924
EP2267568 B1	20150227	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 : 20140924
EP2267568 B1	20150315	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 688884 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20140924
EP2267568 B1	20150331	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 : 20140924
EP2267568 B1	20150430	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 : 20140924
EP2267568 B1	20150430	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 : 20150124
EP2267568 B1	20150430	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 : 20140924
EP2267568 B1	20150430	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 : 20140924
EP2267568 B1	20150430	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 : 20140924
EP2267568 B1	20150430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20140924
EP2267568 B1	20150430	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 : 20150126
EP2267568 B1	20150529	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 : 20140924
EP2267568 B1	20150529	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 : 20140924
EP2267568 B1	20150625	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006043171 COUNTRY OF REF DOCUMENT : DE
EP2267568 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 : 20141231
EP2267568 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20140924
EP2267568 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20141204
EP2267568 B1	20150731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2267568 B1	20150831	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 : 20140924
EP2267568 B1	20150902	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20150625
EP2267568 B1	20150923	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2267568 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20141231
EP2267568 B1	20151030	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 : 20141231
EP2267568 B1	20151030	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 : 20141204
EP2267568 B1	20151217	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
EP2267568 B1	20160229	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 : 20140924
EP2267568 B1	20160531	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 : 20140924
EP2267568 B1	20160531	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 : 20140924
EP2267568 B1	20160729	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 : 20061204
EP2267568 B1	20160729	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 : 20140924
EP2267568 B1	20161111	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 : 11
EP2267568 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP2267568 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11

EP2267568 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 11
EP2267568 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP2267568 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2267568 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP2267568 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2267568 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2267568 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP2267568 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP2267568 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2270619 A2	20110105	LSPB	+	published / reissued	
EP2270619 A2	20110105	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100930
EP2270619 A2	20131129	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 : 20130508
EP2270619 A2	20131129	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 : 20130508
EP2270619 A2	20131129	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 : 20130508
EP2270619 A2	20131129	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 : 20130809
EP2270619 A2	20140228	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	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 : 20130508
EP2270619 A2	20140228	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 : 20130508
EP2270619 A2	20150331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20141220 YEAR OF FEE PAYMENT : 9
EP2270619 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP2270619 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP2270619 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20151226 YEAR OF FEE PAYMENT : 10
EP2270619 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 10
EP2270619 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP2270619 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP2270619 A3	20120912	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20120814
EP2270619 B1	20130508	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2270619 B1	20130508	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2270619 B1	20130515	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2270619 B1	20130515	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 611362 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20130515
EP2270619 B1	20130619	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2270619 B1	20130704	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006036237 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130704

EP2270619 B1	20130828	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3
EP2270619 B1	20130919	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2423296 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20130919
EP2270619 B1	20131015	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 611362 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20130508
EP2270619 B1	20131025	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2270619 B1	20131031	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 : 20130508
EP2270619 B1	20131031	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 : 20130508
EP2270619 B1	20131031	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 : 20130908
EP2270619 B1	20131031	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 : 20130508
EP2270619 B1	20131031	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 : 20130809
EP2270619 B1	20131031	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 : 20130508
EP2270619 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : SE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO

				INFORMATION FROM NATIONAL OFFICE TO EPO]	SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130508
EP2270619 B1	20131031	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 : 20130909
EP2270619 B1	20131129	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 : 20130508
EP2270619 B1	20131129	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 : 20130508
EP2270619 B1	20131129	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 : 20130808
EP2270619 B1	20131231	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 : 20130508
EP2270619 B1	20140131	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 : 20130508
EP2270619 B1	20140131	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 : 20130508
EP2270619 B1	20140131	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 : 20130508
EP2270619 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED

					TIME-LIMIT LAPSED DATE : 20130508
EP2270619 B1	20140131	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 : 20130508
EP2270619 B1	20140228	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 : 20130508
EP2270619 B1	20140416	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20140211
EP2270619 B1	20140522	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006036237 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20140211
EP2270619 B1	20140829	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 : 20130508
EP2270619 B1	20140829	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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20131204
EP2270619 B1	20140924	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2270619 B1	20141031	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 : 20131204
EP2270619 B1	20150630	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 : 20130508
EP2270619 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 : 20061204
EP2270619 B1	20151217	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

EP2270619 B1	20161111	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 : 11
EP2270619 B1	20161230	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 : 20151204
EP2270619 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP2270619 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20161213 YEAR OF FEE PAYMENT : 11
EP2270619 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 11
EP2270619 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20161212 YEAR OF FEE PAYMENT : 11
EP2270619 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11
EP2270619 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP2270619 B1	20170831	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 : 20151204
EP2270619 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161221 YEAR OF FEE PAYMENT : 11
EP2270619 B1	20170831	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20170710
EP2270619 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP2270619 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20171115 YEAR OF FEE PAYMENT : 12
EP2270619 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2270619 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP2270619 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2270619 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : CH

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20171212 YEAR OF FEE PAYMENT : 12
EP2270619 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180102 YEAR OF FEE PAYMENT : 12
EP2270619 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 12
EP2270619 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2270619 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20181220 YEAR OF FEE PAYMENT : 13
EP2270619 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2270619 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP2270619 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP2270619 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP2270619 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20190130 YEAR OF FEE PAYMENT : 13
EP2270619 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP2270619 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2270620 A2	20110105	LSPB	+	published / reissued	
EP2270620 A2	20110105	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100930
EP2270620 A2	20150331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20141220 YEAR OF FEE PAYMENT : 9
EP2270620 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP2270620 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20151217 YEAR OF FEE PAYMENT : 10
EP2270620 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20151228 YEAR OF FEE PAYMENT : 10
EP2270620 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20151226 YEAR OF FEE PAYMENT : 10

EP2270620 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20151229 YEAR OF FEE PAYMENT : 10
EP2270620 A3	20130612	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20130508
EP2270620 A3	20140604	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20140509
EP2270620 B1	20141001	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2270620 B1	20141001	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2270620 B1	20141015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2270620 B1	20141015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 689825 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20141015
EP2270620 B1	20141022	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2270620 B1	20141113	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006043236 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20141113
EP2270620 B1	20141119	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2522926 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20141119
EP2270620 B1	20150121	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3
EP2270620 B1	20150315	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 689825 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20141001
EP2270620 B1	20150325	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2270620 B1	20150430	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 : 20150201
EP2270620 B1	20150430	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 : 20150202

EP2270620 B1	20150430	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 : 20141001
EP2270620 B1	20150430	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 : 20141001
EP2270620 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20141001
EP2270620 B1	20150529	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 : 20150102
EP2270620 B1	20150529	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 : 20141001
EP2270620 B1	20150529	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 : 20141001
EP2270620 B1	20150529	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 : 20141001
EP2270620 B1	20150529	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 : 20141001
EP2270620 B1	20150529	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 : 20141001
EP2270620 B1	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : BE

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20141231
EP2270620 B1	20150702	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006043236 COUNTRY OF REF DOCUMENT : DE
EP2270620 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20141204
EP2270620 B1	20150731	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 : 20141001
EP2270620 B1	20150731	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 : 20141001
EP2270620 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20141001
EP2270620 B1	20150731	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 : 20141001
EP2270620 B1	20150731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2270620 B1	20150909	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20150702
EP2270620 B1	20150923	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2270620 B1	20151030	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 : 20141231
EP2270620 B1	20151030	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 : 20141231
EP2270620 B1	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : IE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20141204

				EPO]	
EP2270620 B1	20151217	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
EP2270620 B1	20160229	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 : 20141001
EP2270620 B1	20160531	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 : 20141001
EP2270620 B1	20160531	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 : 20141001
EP2270620 B1	20160729	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 : 20141001
EP2270620 B1	20160729	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 : 20061204
EP2270620 B1	20161111	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 : 11
EP2270620 B1	20161230	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 : 20151204
EP2270620 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20161212 YEAR OF FEE PAYMENT : 11
EP2270620 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP2270620 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161129 YEAR OF FEE PAYMENT : 11
EP2270620 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161130 YEAR OF FEE PAYMENT : 11

EP2270620 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20161111 YEAR OF FEE PAYMENT : 11
EP2270620 B1	20170831	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 : 20151204
EP2270620 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161221 YEAR OF FEE PAYMENT : 11
EP2270620 B1	20170831	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT REINSTATED DATE : 20170710
EP2270620 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP2270620 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2270620 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20171115 YEAR OF FEE PAYMENT : 12
EP2270620 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP2270620 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2270620 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180102 YEAR OF FEE PAYMENT : 12
EP2270620 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 12
EP2270620 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20181220 YEAR OF FEE PAYMENT : 13
EP2270620 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2270620 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP2270620 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2270620 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP2270620 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20190130

				NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 13
EP2270620 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20191115 YEAR OF FEE PAYMENT : 14
EP2270620 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP2270620 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2464269 A1	20120620	LSPB	+	published / reissued	
EP2464269 A1	20120620	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120301
EP2464269 A1	20131218	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20131113
EP2464269 A1	20160106	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20151209
EP2464269 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160826 YEAR OF FEE PAYMENT : 7
EP2464269 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160830 YEAR OF FEE PAYMENT : 7
EP2464269 A1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160825 YEAR OF FEE PAYMENT : 7
EP2464269 B1	20160601	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2464269 B1	20160601	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160425
EP2464269 B1	20160601	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2464269 B1	20160615	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2464269 B1	20160615	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 803325 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160615
EP2464269 B1	20160629	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2464269 B1	20160714	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602010033786 COUNTRY OF REF DOCUMENT : DE
EP2464269 B1	20160825	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 : 7
EP2464269 B1	20160926	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2464269 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE

				EPO]	FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160601
EP2464269 B1	20161031	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 : 20160901
EP2464269 B1	20161031	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 : 20160601
EP2464269 B1	20161115	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 803325 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160601
EP2464269 B1	20161130	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 : 20160601
EP2464269 B1	20161130	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 : 20160601
EP2464269 B1	20161130	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 : 20160601
EP2464269 B1	20161130	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 : 20160601
EP2464269 B1	20161130	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 : 20160902
EP2464269 B1	20161130	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 : 20160601
EP2464269 B1	20161230	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 : 20160831
EP2464269 B1	20170131	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 : 20160601
EP2464269 B1	20170131	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 : 20161001
EP2464269 B1	20170131	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 : 20160601
EP2464269 B1	20170131	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 : 20160601
EP2464269 B1	20170131	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 : 20160601
EP2464269 B1	20170131	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 : 20160601
EP2464269 B1	20170228	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 : 20160601
EP2464269 B1	20170228	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 : 20160601
EP2464269 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : SM

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160601
EP2464269 B1	20170228	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 : 20161003
EP2464269 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160601
EP2464269 B1	20170302	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602010033786 COUNTRY OF REF DOCUMENT : DE
EP2464269 B1	20170331	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 : 20160601
EP2464269 B1	20170331	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2464269 B1	20170428	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 : 20160831
EP2464269 B1	20170428	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 : 20160831
EP2464269 B1	20170510	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20170302
EP2464269 B1	20170531	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 : 20160601
EP2464269 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160601
EP2464269 B1	20170531	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2464269 B1	20170714	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 8

EP2464269 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 : 20160813
EP2464269 B1	20170831	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 : 20160813
EP2464269 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170809 YEAR OF FEE PAYMENT : 8
EP2464269 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170808 YEAR OF FEE PAYMENT : 8
EP2464269 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170714 YEAR OF FEE PAYMENT : 8
EP2464269 B1	20180531	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 : 20160601
EP2464269 B1	20180531	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 : 20100813
EP2464269 B1	20180629	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 : 20160601
EP2464269 B1	20180629	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20160831
EP2464269 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160601
EP2464269 B1	20180712	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 9
EP2464269 B1	20180731	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 : 20160601

EP2464269 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160601
EP2464269 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180712 YEAR OF FEE PAYMENT : 9
EP2464269 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180731 YEAR OF FEE PAYMENT : 9
EP2464269 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180808 YEAR OF FEE PAYMENT : 9
EP2464269 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190711 YEAR OF FEE PAYMENT : 10
EP2464269 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190715 YEAR OF FEE PAYMENT : 10
EP2464269 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190715 YEAR OF FEE PAYMENT : 10
EP2464269 B1	20300813	PEXP		Calculated Patent Term Expiry	
EP2466411 A2	20120620	LSPB	+	published / reissued	
EP2466411 A2	20120620	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120214
EP2466411 A3	20160127	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20151223
EP2466411 A3	20180620	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180525
EP2466411 B1	20181017	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2466411 B1	20181017	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2466411 B1	20181031	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2466411 B1	20181114	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2466411 B1	20181115	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006056627 COUNTRY OF REF DOCUMENT : DE
EP2466411 B1	20181115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1054750 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181115
EP2466411 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181120 YEAR OF FEE PAYMENT : 13

				EPO]	
EP2466411 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181128 YEAR OF FEE PAYMENT : 13
EP2466411 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181127 YEAR OF FEE PAYMENT : 13
EP2466411 B1	20190312	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2466411 B1	20190315	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1054750 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181017
EP2466411 B1	20190329	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 : 20181017
EP2466411 B1	20190401	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2706727 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20190401
EP2466411 B1	20190430	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 : 20190217
EP2466411 B1	20190430	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 : 20181017
EP2466411 B1	20190430	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 : 20190117
EP2466411 B1	20190430	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 : 20181017
EP2466411 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : LV NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181017
EP2466411 B1	20190430	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 : 20181017
EP2466411 B1	20190430	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 : 20181017
EP2466411 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20190130 YEAR OF FEE PAYMENT : 13
EP2466411 B1	20190531	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 : 20190217
EP2466411 B1	20190531	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 : 20181017
EP2466411 B1	20190531	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 : 20190118
EP2466411 B1	20190718	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006056627 COUNTRY OF REF DOCUMENT : DE
EP2466411 B1	20190731	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 : 20181017
EP2466411 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181017
EP2466411 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181017
EP2466411 B1	20190731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2466411 B1	20190830	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 : 20181204
EP2466411 B1	20190830	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 : 20181017
EP2466411 B1	20190830	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 : 20181017
EP2466411 B1	20190830	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 : 20181017
EP2466411 B1	20190830	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 : 20181017
EP2466411 B1	20190918	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2466411 B1	20190925	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20190718
EP2466411 B1	20191031	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 : 20181204
EP2466411 B1	20191031	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 : 20181017
EP2466411 B1	20191129	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 : 20181231
EP2466411 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : CH NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20181231

				EPO]	
EP2466411 B1	20191231	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 : 20181231
EP2466411 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP2466411 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2533120 A2	20121212	LSPB	+	published / reissued	
EP2533120 A2	20121212	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120809
EP2533120 A3	20130522	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20130417
EP2533120 A3	20180711	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180613
EP2533120 A3	20181205	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20181030
EP2533120 B1	20190116	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2533120 B1	20190116	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2533120 B1	20190131	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2533120 B1	20190206	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2533120 B1	20190215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1090180 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190215
EP2533120 B1	20190221	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006057325 COUNTRY OF REF DOCUMENT : DE
EP2533120 B1	20190610	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2533120 B1	20190628	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 : 20190116
EP2533120 B1	20190704	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2718831 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20190704
EP2533120 B1	20190715	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1090180 COUNTRY OF REF DOCUMENT : AT

					KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190116
EP2533120 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 : 20190116
EP2533120 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 : 20190116
EP2533120 B1	20190731	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 : 20190116
EP2533120 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 : 20190116
EP2533120 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 : 20190516
EP2533120 B1	20190830	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 : 20190417
EP2533120 B1	20190830	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 : 20190416
EP2533120 B1	20190830	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 : 20190516
EP2533120 B1	20190830	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 : 20190116
EP2533120 B1	20191017	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006057325 COUNTRY OF REF DOCUMENT : DE
EP2533120 B1	20191031	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 : 20190116
EP2533120 B1	20191031	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 : 20190116
EP2533120 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190116
EP2533120 B1	20191031	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 : 20190116
EP2533120 B1	20191031	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 : 20190116
EP2533120 B1	20191031	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 : 20190116
EP2533120 B1	20191031	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 : 20190116
EP2533120 B1	20191225	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20191017
EP2533120 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP2533120 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2544065 A2	20130109	LSPB	+	published / reissued	

EP2544065 A2	20130109	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20120809
EP2544065 A3	20130522	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20130417
EP2544065 A3	20160928	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160831
EP2544065 B1	20170208	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2544065 B1	20170208	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2544065 B1	20170215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2544065 B1	20170215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 867145 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20170215
EP2544065 B1	20170308	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2544065 B1	20170323	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006051720 COUNTRY OF REF DOCUMENT : DE
EP2544065 B1	20170612	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2544065 B1	20170712	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2623920 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20170712
EP2544065 B1	20170715	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 867145 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20170208
EP2544065 B1	20170731	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 : 20170509
EP2544065 B1	20170731	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 : 20170208
EP2544065 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE

				EPO]	FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170208
EP2544065 B1	20170831	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 : 20170208
EP2544065 B1	20170831	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 : 20170208
EP2544065 B1	20170831	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 : 20170508
EP2544065 B1	20170831	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 : 20170208
EP2544065 B1	20170831	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 : 20170608
EP2544065 B1	20171031	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 : 20170208
EP2544065 B1	20171031	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 : 20170208
EP2544065 B1	20171031	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 : 20170208
EP2544065 B1	20171031	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 : 20170208
EP2544065 B1	20171109	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006051720 COUNTRY OF REF DOCUMENT : DE
EP2544065 B1	20171113	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP2544065 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170208
EP2544065 B1	20171130	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 : 20170208
EP2544065 B1	20180117	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20171109
EP2544065 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20171113 YEAR OF FEE PAYMENT : 12
EP2544065 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2544065 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20171115 YEAR OF FEE PAYMENT : 12
EP2544065 B1	20180228	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 : 20170208
EP2544065 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 12
EP2544065 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20180102 YEAR OF FEE PAYMENT : 12
EP2544065 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171221 YEAR OF FEE PAYMENT : 12
EP2544065 B1	20180731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2544065 B1	20180919	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2544065 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20171204

				EPO]	
EP2544065 B1	20181031	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 : 20171204
EP2544065 B1	20181130	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 : 20171231
EP2544065 B1	20181130	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 : 20171231
EP2544065 B1	20181130	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 : 20171231
EP2544065 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20181220 YEAR OF FEE PAYMENT : 13
EP2544065 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2544065 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP2544065 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP2544065 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2544065 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20190130 YEAR OF FEE PAYMENT : 13
EP2544065 B1	20190628	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 : 20170208
EP2544065 B1	20190628	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 : 20061204
EP2544065 B1	20191031	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20170208
EP2544065 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : NL

EP2544065 B1	20200131	LSFE	+PGFP	[ANNOUNCED FROM NATIONAL OFFICE TO EPO] ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20191115 YEAR OF FEE PAYMENT : 14 COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP2544065 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2544066 A2	20130109	LSPB	+	published / reissued	
EP2544066 A2	20130109	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20121120
EP2544066 A3	20160210	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20160111
EP2544066 A3	20180620	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180522
EP2544066 B1	20181017	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2544066 B1	20181017	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2544066 B1	20181031	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2544066 B1	20181114	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2544066 B1	20181115	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006056630 COUNTRY OF REF DOCUMENT : DE
EP2544066 B1	20181115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1054751 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181115
EP2544066 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181218 YEAR OF FEE PAYMENT : 13
EP2544066 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181211 YEAR OF FEE PAYMENT : 13
EP2544066 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181221 YEAR OF FEE PAYMENT : 13
EP2544066 B1	20190312	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2544066 B1	20190315	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1054751 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181017
EP2544066 B1	20190329	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 : 20181017

EP2544066 B1	20190401	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2706729 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20190401
EP2544066 B1	20190430	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 : 20190217
EP2544066 B1	20190430	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 : 20181017
EP2544066 B1	20190430	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 : 20181017
EP2544066 B1	20190430	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 : 20181017
EP2544066 B1	20190430	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 : 20181017
EP2544066 B1	20190430	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 : 20190117
EP2544066 B1	20190430	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 : 20181017
EP2544066 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20190130 YEAR OF FEE PAYMENT : 13
EP2544066 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190217
EP2544066 B1	20190531	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 : 20181017
EP2544066 B1	20190531	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 : 20190118
EP2544066 B1	20190718	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006056630 COUNTRY OF REF DOCUMENT : DE
EP2544066 B1	20190731	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 : 20181017
EP2544066 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181017
EP2544066 B1	20190731	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 : 20181017
EP2544066 B1	20190731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2544066 B1	20190830	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 : 20181017
EP2544066 B1	20190830	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 : 20181204
EP2544066 B1	20190830	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 : 20181017

EP2544066 B1	20190830	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 : 20181017
EP2544066 B1	20190830	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 : 20181017
EP2544066 B1	20190918	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2544066 B1	20190925	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20190718
EP2544066 B1	20191031	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 : 20181204
EP2544066 B1	20191031	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 : 20181017
EP2544066 B1	20191129	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 : 20181231
EP2544066 B1	20191231	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 : 20181231
EP2544066 B1	20191231	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 : 20181231
EP2544066 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191112 YEAR OF FEE PAYMENT : 14
EP2544066 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2816434 A2	20141224	LSPB	+	published / reissued	
EP2816434 A2	20141224	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140919
EP2816434 A3	20150729	LSES	+R17P	REQUEST FOR EXAMINATION FILED (CORRECTED)	EFFECTIVE DATE : 20150616
EP2816434 A3	20180523	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20180420
EP2816434 A3	20200101	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20190806
EP2829939 A1	20150128	LSPB	+	published / reissued	
EP2829939 A1	20150128	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140904

EP2829939 A1	20150729	LSES	+R17P	REQUEST FOR EXAMINATION FILED (CORRECTED)	EFFECTIVE DATE : 20150616
EP2829939 A1	20180523	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20180420
EP2829939 A1	20190313	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190212
EP2829939 B1	20191113	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2829939 B1	20191113	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20191004
EP2829939 B1	20191115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2829939 B1	20191115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1201313 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20191115
EP2829939 B1	20191128	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006058831 COUNTRY OF REF DOCUMENT : DE
EP2829939 B1	20191211	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2829939 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191119 YEAR OF FEE PAYMENT : 14
EP2829939 B1	20261204	PEXP		Calculated Patent Term Expiry	
EP2944246 A1	20151118	LSPB	+	published / reissued	
EP2944246 A1	20151118	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150609
ES2334064 T3	20100304	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2334064 T3	20261204	PEXP		Calculated Patent Term Expiry	
ES2378138 T3	20120409	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2378138 T3	20261204	PEXP		Calculated Patent Term Expiry	
ES2382320 T3	20120607	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2382320 T3	20261204	PEXP		Calculated Patent Term Expiry	
ES2413862 T3	20130717	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2413862 T3	20261204	PEXP		Calculated Patent Term Expiry	
ES2423296 T3	20130919	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2423296 T3	20261204	PEXP		Calculated Patent Term Expiry	
ES2522926 T3	20141119	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2522926 T3	20261204	PEXP		Calculated Patent Term Expiry	
ES2623920 T3	20170712	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2623920 T3	20261204	PEXP		Calculated Patent Term Expiry	
ES2706727 T3	20190401	LSGT	+	granted / extensions	

				(spc, cpc, pte)	
ES2706727 T3	20261204	PEXP		Calculated Patent Term Expiry	
ES2706729 T3	20190401	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2706729 T3	20261204	PEXP		Calculated Patent Term Expiry	
ES2718831 T3	20190704	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2718831 T3	20261204	PEXP		Calculated Patent Term Expiry	
JP2009518073 T2	20090507	LSPB	+	published / reissued	
JP2009518073 T2	20090910	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20090909
JP2009518073 T2	20100427	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100426
JP2009518073 T2	20110721	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110720
JP2009518073 T2	20111019	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111018
JP2009518073 T2	20111104	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2009518073 T2	20111109	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20111108
JP2009518073 T2	20111110	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2009518073 T2	20111201	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20111124
JP2009518073 T2	20111202	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2009518073 T2	20111202	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2009518074 T2	20090507	LSPB	+	published / reissued	
JP2009518074 T2	20090910	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20090909
JP2009518074 T2	20100427	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100426
JP2009518074 T2	20110905	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110902
JP2009518074 T2	20111222	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111221
JP2009518074 T2	20120322	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2009518074 T2	20120327	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20120326

JP2009518074 T2	20120329	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2009518074 T2	20120412	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20120406
JP2009518074 T2	20120413	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2009518074 T2	20120413	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2009518715 T2	20090507	LSPB	+	published / reissued	
JP2009518715 T2	20090910	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20090909
JP2009518715 T2	20100427	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100426
JP2009518715 T2	20111104	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20111102
JP2009518715 T2	20120403	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120402
JP2009518715 T2	20120802	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120801
JP2009518715 T2	20130201	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130131
JP2009518715 T2	20130327	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2009518715 T2	20130402	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130401
JP2009518715 T2	20130425	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130419
JP2009518715 T2	20130426	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2009518715 T2	20130426	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5255448 COUNTRY OF REF DOCUMENT : JP
JP2009518715 T2	20130502	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2009518716 T2	20090507	LSPB	+	published / reissued	
JP2009518716 T2	20090910	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20090909
JP2009518716 T2	20100427	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100426
JP2009518716 T2	20111014	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20111013

JP2009518716 T2	20120303	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120302
JP2009518716 T2	20120303	LSRE	A524	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 19 (PCT)	TEXT : JAPANESE INTERMEDIATE CODE: A524 EFFECTIVE DATE : 20120302
JP2009518716 T2	20120719	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120718
JP2009518716 T2	20121120	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20121119
JP2009518716 T2	20130128	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2009518716 T2	20130131	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130130
JP2009518716 T2	20130228	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130219
JP2009518716 T2	20130301	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2009518716 T2	20130301	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2011092750 A2	20110512	LSPB	+	published / reissued	
JP2011092750 A2	20110311	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110310
JP2011092750 A2	20110909	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110908
JP2011092750 A2	20111209	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20111208
JP2011092750 A2	20120407	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120406
JP2011092750 A2	20120416	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20120413
JP2011092750 A2	20120702	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20120629
JP2011161242 A2	20110825	LSPB	+	published / reissued	
JP2011161242 A2	20110913	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110912
JP2011161242 A2	20111130	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2011161242 A2	20111205	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20111202
JP2011161242 A2	20111208	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01

JP2011161242 A2	20111222	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20111213
JP2011161242 A2	20111222	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2011161242 A2	20111222	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 4889815 COUNTRY OF REF DOCUMENT : JP
JP2011161242 A2	20111226	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2012022712 A2	20120202	LSPB	+	published / reissued	
JP2012022712 A2	20121219	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20121218
JP2012022712 A2	20130418	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130417
JP2012022712 A2	20130829	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130828
JP2012022712 A2	20140124	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140123
JP2012022712 A2	20140416	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012022712 A2	20140421	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140418
JP2012022712 A2	20140515	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20140509
JP2012022712 A2	20140516	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5543951 COUNTRY OF REF DOCUMENT : JP
JP2012075932 A2	20120419	LSPB	+	published / reissued	
JP2012075932 A2	20121227	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012075932 A2	20130108	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130107
JP2012075932 A2	20130131	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130124
JP2012075932 A2	20130201	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2012075932 A2	20130201	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2012075932 A2	20130201	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5189676 COUNTRY OF REF DOCUMENT : JP

JP2012130781 A2	20120712	LSPB	+	published / reissued	
JP2012130781 A2	20130617	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012130781 A2	20130621	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130620
JP2012130781 A2	20130718	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130710
JP2012130781 A2	20130719	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2012155729 A2	20120816	LSPB	+	published / reissued	
JP2012155729 A2	20130319	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130318
JP2012155729 A2	20130919	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130918
JP2012155729 A2	20131205	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012155729 A2	20131210	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20131209
JP2012155729 A2	20140109	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20131226
JP2012155729 A2	20140110	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2012155729 A2	20140110	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5451795 COUNTRY OF REF DOCUMENT : JP
JP2012178162 A2	20120913	LSPB	+	published / reissued	
JP2012178162 A2	20130403	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130402
JP2012178162 A2	20130423	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130422
JP2012178162 A2	20131023	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20131022
JP2012178162 A2	20140110	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140109
JP2012178162 A2	20140327	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140326
JP2012178162 A2	20140501	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012178162 A2	20140508	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140507
JP2012178162 A2	20140605	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING	TEXT : JAPANESE INTERMEDIATE CODE: A61

				GRANT PROCEDURE)	EFFECTIVE DATE : 20140602
JP2012178162 A2	20140606	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5555737 COUNTRY OF REF DOCUMENT : JP
JP2012183367 A2	20120927	LSPB	+	published / reissued	
JP2012183367 A2	20130702	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130701
JP2012183367 A2	20131001	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130930
JP2012183367 A2	20131204	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20131203
JP2012183367 A2	20140403	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140402
JP2012183367 A2	20140415	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20140414
JP2012183367 A2	20140707	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20140704
JP2012183367 A2	20150814	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150814
JP2012183367 A2	20151015	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20151009
JP2012183367 A2	20151016	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5824418 COUNTRY OF REF DOCUMENT : JP
JP2012185840 A2	20120927	LSPB	+	published / reissued	
JP2012185840 A2	20130617	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130614
JP2012185840 A2	20131214	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20131213
JP2012185840 A2	20140228	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012185840 A2	20140305	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140304
JP2012185840 A2	20140403	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20140325
JP2012185840 A2	20140404	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5511886 COUNTRY OF REF DOCUMENT : JP
JP2013144112 A2	20130725	LSPB	+	published / reissued	
JP2013144112 A2	20140425	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140424

JP2013144112 A2	20140919	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140918
JP2013144112 A2	20141009	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2013144112 A2	20141016	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20141015
JP2013144112 A2	20141106	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20141029
JP2013144112 A2	20141107	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5642814 COUNTRY OF REF DOCUMENT : JP
JP2013146587 A2	20130801	LSPB	+	published / reissued	
JP2013146587 A2	20140210	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140207
JP2013146587 A2	20140704	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140703
JP2013146587 A2	20141120	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20141119
JP2013146587 A2	20150306	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150306
JP2013146587 A2	20150316	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20150313
JP2013146587 A2	20150402	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2013146587 A2	20150407	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20150406
JP2013146587 A2	20150423	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20150417
JP2013146587 A2	20150424	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5736000 COUNTRY OF REF DOCUMENT : JP
JP2013501596 T2	20130117	LSPB	+	published / reissued	
JP2013501596 T2	20130426	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130425
JP2013501596 T2	20131025	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20131024
JP2013501596 T2	20131209	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20131206
JP2013501596 T2	20140417	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140416
JP2013501596 T2	20140507	LSGT	+TRDD	DECISION OF GRANT	

				OR REJECTION WRITTEN	
JP2013501596 T2	20140513	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140512
JP2013501596 T2	20140612	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20140609
JP2013501596 T2	20140613	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5560333 COUNTRY OF REF DOCUMENT : JP
JP2014014711 A2	20140130	LSPB	+	published / reissued	
JP2014014711 A2	20141002	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20141001
JP2014014711 A2	20150128	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150128
JP2014014711 A2	20150731	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20150730
JP2014057863 A2	20140403	LSPB	+	published / reissued	
JP2014057863 A2	20131225	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20131224
JP2014057863 A2	20140130	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140129
JP2014057863 A2	20140527	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140526
JP2014057863 A2	20140819	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20140818
JP2014057863 A2	20141213	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20141212
JP2014057863 A2	20141224	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20141222
JP2014057863 A2	20150202	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20150130
JP2014057863 A2	20160513	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160513
JP2014075133 A2	20140424	LSPB	+	published / reissued	
JP2014075133 A2	20140625	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140624
JP2014075133 A2	20140625	LSRE	A524	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 19 (PCT)	TEXT : JAPANESE INTERMEDIATE CODE: A524 EFFECTIVE DATE : 20140624
JP2014075133 A2	20140918	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014075133 A2	20140925	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140924

JP2014075133 A2	20141016	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20141009
JP2014075133 A2	20141017	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5632524 COUNTRY OF REF DOCUMENT : JP
JP2014076399 A2	20140501	LSPB	+	published / reissued	
JP2014076399 A2	20150227	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150226
JP2014076399 A2	20150512	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150512
JP2014076399 A2	20151117	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014076399 A2	20151125	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20151124
JP2014076399 A2	20151217	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20151211
JP2014076399 A2	20151218	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5856631 COUNTRY OF REF DOCUMENT : JP
JP2014131292 A2	20140710	LSPB	+	published / reissued	
JP2014138899 A2	20140731	LSPB	+	published / reissued	
JP2014138899 A2	20150331	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150331
JP2014138899 A2	20150507	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150501
JP2014138899 A2	20150826	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150826
JP2014138899 A2	20160204	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20160203
JP2014138899 A2	20160601	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160601
JP2014138899 A2	20160610	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20160609
JP2014138899 A2	20160826	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014138899 A2	20160831	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20160831
JP2014138899 A2	20160929	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20160920
JP2014138899 A2	20160930	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6012659

					COUNTRY OF REF DOCUMENT : JP
JP2014176762 A2	20140925	LSPB	+	published / reissued	
JP2014176762 A2	20140725	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20140724
JP2014176762 A2	20140903	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140902
JP2014176762 A2	20150716	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150715
JP2014176762 A2	20151111	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151111
JP2014176762 A2	20160329	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20160329
JP2014176762 A2	20160726	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160726
JP2014176762 A2	20160805	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20160804
JP2014176762 A2	20161011	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20161007
JP2014176762 A2	20171109	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20171109
JP2014176762 A2	20180611	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180611
JP2014176762 A2	20180920	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20180914
JP2014176762 A2	20180921	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6405136 COUNTRY OF REF DOCUMENT : JP
JP2014193383 A2	20141009	LSPB	+	published / reissued	
JP2014193383 A2	20140724	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140723
JP2014193383 A2	20140724	LSRE	A524	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 19 (PCT)	TEXT : JAPANESE INTERMEDIATE CODE: A524 EFFECTIVE DATE : 20140723
JP2014193383 A2	20150422	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150421
JP2014193383 A2	20150819	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150819
JP2014193383 A2	20160204	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20160203
JP2014193383 A2	20160601	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160601
JP2014193383 A2	20160610	LSAL	A911	TRANSFER OF	TEXT : JAPANESE INTERMEDIATE

				RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	CODE: A911 EFFECTIVE DATE : 20160609
JP2014193383 A2	20160905	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20160902
JP2015027539 A2	20150212	LSPB	+	published / reissued	
JP2015027539 A2	20141129	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20141128
JP2015027539 A2	20151014	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20151013
JP2015027539 A2	20160704	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20160704
JP2015128652 A2	20150716	LSPB	+	published / reissued	
JP2015128652 A2	20160329	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160329
JP2015128652 A2	20160622	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160622
JP2015128652 A2	20161202	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20161202
JP2015128652 A2	20170403	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170403
JP2015128652 A2	20170412	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20170411
JP2015128652 A2	20170612	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20170609
JP2015128652 A2	20181001	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20181001
JP2015128652 A2	20190131	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190131
JP2015128652 A2	20190425	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20190422
JP2015128652 A2	20190426	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6518463 COUNTRY OF REF DOCUMENT : JP
JP2016105823 A2	20160616	LSPB	+	published / reissued	
JP2016105823 A2	20161128	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20161128
JP2016105823 A2	20170223	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170223
JP2016105823 A2	20170502	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20170502
JP2016105823 A2	20170901	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170901

JP2016105823 A2	20170912	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20170911
JP2016105823 A2	20171129	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2016105823 A2	20171204	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20171204
JP2016105823 A2	20180105	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6267731 COUNTRY OF REF DOCUMENT : JP
JP2016157464 A2	20160901	LSPB	+	published / reissued	
JP2016157464 A2	20170302	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20170302
JP2016157464 A2	20170901	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170901
JP2016157464 A2	20180209	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20180209
JP2016157464 A2	20180508	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180508
JP2016157464 A2	20180727	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2016157464 A2	20180731	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20180731
JP2016157464 A2	20180830	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20180822
JP2016157464 A2	20180831	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6392269 COUNTRY OF REF DOCUMENT : JP
JP2016195843 A2	20161124	LSPB	+	published / reissued	
JP2016195843 A2	20160817	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20160817
JP2016195843 A2	20161222	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20161222
JP2016195843 A2	20171115	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20171115
JP2016195843 A2	20180214	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180214
JP2016195843 A2	20180329	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20180329
JP2016195843 A2	20180919	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180919
JP2016195843 A2	20181029	LSGT	+TRDD	DECISION OF GRANT	

				OR REJECTION WRITTEN	
JP2016195843 A2	20181102	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20181102
JP2016195843 A2	20181122	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20181113
JP2016195843 A2	20181122	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6436939 COUNTRY OF REF DOCUMENT : JP
JP2017094213 A2	20170601	LSPB	+	published / reissued	
JP2017094213 A2	20170223	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20170223
JP2017094213 A2	20171102	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20171102
JP2017094213 A2	20180323	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20180323
JP2017094213 A2	20180920	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180920
JP2017094213 A2	20190207	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20190207
JP2017185257 A2	20171012	LSPB	+	published / reissued	
JP2017185257 A2	20170601	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20170601
JP2017185257 A2	20180727	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20180727
JP2017185257 A2	20181220	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20181220
JP2017185257 A2	20190513	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20190513
JP2017185257 A2	20190913	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190913
JP2017185257 A2	20191004	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20191003
JP2017185257 A2	20200114	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20200110
JP2018010668 A2	20180118	LSPB	+	published / reissued	
JP2018010668 A2	20180417	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180417
JP2018010668 A2	20180830	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20180830
JP2018010668 A2	20190214	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190214

JP2018010668 A2	20190426	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2018010668 A2	20190513	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20190513
JP2018010668 A2	20190613	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20190610
JP2018010668 A2	20190614	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6539699 COUNTRY OF REF DOCUMENT : JP
JP2018020139 A2	20180208	LSPB	+	published / reissued	
JP2018020139 A2	20180110	LSWD	-A761	WRITTEN WITHDRAWAL OF APPLICATION	TEXT : JAPANESE INTERMEDIATE CODE: A761 EFFECTIVE DATE : 20180110
JP2018043081 A2	20180322	LSPB	+	published / reissued	
JP2018043081 A2	20171222	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20171222
JP2018043081 A2	20180329	LSWD	-A761	WRITTEN WITHDRAWAL OF APPLICATION	TEXT : JAPANESE INTERMEDIATE CODE: A761 EFFECTIVE DATE : 20180329
JP4875102 B2	20120215	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4875102 B2	20111129	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4875102 B2	20141127	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4875102 B2	20141202	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4875102 B2	20151203	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4875102 B2	20151208	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4875102 B2	20161201	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4875102 B2	20161206	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4875102 B2	20171130	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4875102 B2	20171205	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4875102 B2	20181206	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4875102 B2	20181211	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
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JP4889815 B2	20120307	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4889815 B2	20110414	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110412
JP4889815 B2	20110622	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110621
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				payment form)	
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JP4889815 B2	20191107	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20191031
JP4889815 B2	20191112	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4889815 B2	20310412	PEXP		Calculated Patent Term Expiry	
JP4972100 B2	20120711	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4972100 B2	20120410	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4972100 B2	20150326	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4972100 B2	20150331	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4972100 B2	20160331	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP4972100 B2	20170330	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4972100 B2	20170404	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4972100 B2	20180329	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4972100 B2	20180403	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4972100 B2	20190314	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4972100 B2	20190326	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
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JP5189676 B2	20130424	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5189676 B2	20130110	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5189676 B2	20130129	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5189676 B2	20160128	LSFE	R20	特許料納付書 (Patent fee payment form)	

JP5189676 B2	20160202	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5189676 B2	20170202	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5189676 B2	20170207	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5189676 B2	20180201	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5189676 B2	20180206	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5189676 B2	20181227	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5189676 B2	20190108	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5189676 B2	20200210	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20200207
JP5189676 B2	20311221	PEXP		Calculated Patent Term Expiry	
JP5207975 B2	20130612	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5207975 B2	20130207	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5207975 B2	20130226	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5207975 B2	20160225	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5207975 B2	20160301	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5207975 B2	20170302	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5207975 B2	20170307	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5207975 B2	20180301	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5207975 B2	20180306	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5207975 B2	20190131	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5207975 B2	20190205	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5207975 B2	20261204	PEXP		Calculated Patent Term Expiry	
JP5255448 B2	20130807	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5255448 B2	20130404	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5255448 B2	20130423	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5255448 B2	20160407	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5255448 B2	20160412	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5255448 B2	20170330	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5255448 B2	20170411	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5255448 B2	20180329	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5255448 B2	20180403	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250

JP5255448 B2	20190426	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP5255448 B2	20261204	PEXP		Calculated Patent Term Expiry	
JP5318988 B2	20131016	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5318988 B2	20120410	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20120406
JP5318988 B2	20130627	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5318988 B2	20130716	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5318988 B2	20160707	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5318988 B2	20160712	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5318988 B2	20170629	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5318988 B2	20170704	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5318988 B2	20180628	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5318988 B2	20180703	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5318988 B2	20190606	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5318988 B2	20190611	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5318988 B2	20320406	PEXP		Calculated Patent Term Expiry	
JP5451795 B2	20140326	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5451795 B2	20131212	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5451795 B2	20140107	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5451795 B2	20140110	LSGT	+R150	特許証 (Patent certificate)	
JP5451795 B2	20170105	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5451795 B2	20170110	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5451795 B2	20180104	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5451795 B2	20180109	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5451795 B2	20181227	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5451795 B2	20190108	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5451795 B2	20191114	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20191111
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JP5451795 B2	20320302	PEXP		Calculated Patent Term Expiry	
JP5511886 B2	20140604	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5511886 B2	20140306	LSGT	+A01	特許査定書 (Decision of patent grant)	

JP5511886 B2	20140401	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5511886 B2	20140404	LSGT	+R150	特許証 (Patent certificate)	
JP5511886 B2	20170330	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP5511886 B2	20190305	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5511886 B2	20320507	PEXP		Calculated Patent Term Expiry	
JP5543951 B2	20140709	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5543951 B2	20111027	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20111026
JP5543951 B2	20140424	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5543951 B2	20140513	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5543951 B2	20140516	LSGT	+R150	特許証 (Patent certificate)	
JP5543951 B2	20170427	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP5543951 B2	20180426	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP5543951 B2	20190314	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP5543951 B2	20311018	PEXP		Calculated Patent Term Expiry	
JP5555737 B2	20140723	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5555737 B2	20140515	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5555737 B2	20140603	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5555737 B2	20140606	LSGT	+R150	特許証 (Patent certificate)	
JP5555737 B2	20170601	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5555737 B2	20170606	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
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				(spc, cpc, pte)	
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JP5560333 B2	20140610	LSFE	R100	特許料納付書 (Patent fee payment form)	
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JP5560333 B2	20170601	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP5560333 B2	20300813	PEXP		Calculated Patent Term Expiry	
JP5632524 B2	20141126	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5632524 B2	20140304	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140303
JP5632524 B2	20141002	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5632524 B2	20141014	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5632524 B2	20141017	LSGT	+R150	特許証 (Patent certificate)	
JP5632524 B2	20170928	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5632524 B2	20171003	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5632524 B2	20180927	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5632524 B2	20181002	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5632524 B2	20191003	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20190927
JP5632524 B2	20191008	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5632524 B2	20331022	PEXP		Calculated Patent Term Expiry	
JP5642814 B2	20141217	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5642814 B2	20141023	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5642814 B2	20141104	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5642814 B2	20141107	LSGT	+R150	特許証 (Patent certificate)	
JP5642814 B2	20171102	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5642814 B2	20171107	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5642814 B2	20181101	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5642814 B2	20181106	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250

JP5642814 B2	20191003	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20190930
JP5642814 B2	20191008	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5642814 B2	20330131	PEXP		Calculated Patent Term Expiry	
JP5736000 B2	20150617	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5736000 B2	20130419	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20130417
JP5736000 B2	20150409	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5736000 B2	20150421	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5736000 B2	20150424	LSGT	+R150	特許証 (Patent certificate)	
JP5736000 B2	20180329	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5736000 B2	20180403	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5736000 B2	20190314	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5736000 B2	20190326	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5736000 B2	20330417	PEXP		Calculated Patent Term Expiry	
JP5824418 B2	20151125	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5824418 B2	20150924	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5824418 B2	20151013	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5824418 B2	20151016	LSGT	+R150	特許証 (Patent certificate)	
JP5824418 B2	20180927	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5824418 B2	20181002	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5824418 B2	20191003	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20190927
JP5824418 B2	20191008	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5824418 B2	20320601	PEXP		Calculated Patent Term Expiry	
JP5856631 B2	20160210	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5856631 B2	20140222	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20140221
JP5856631 B2	20140306	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140305
JP5856631 B2	20151126	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5856631 B2	20151215	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5856631 B2	20151218	LSGT	+R150	特許証 (Patent certificate)	
JP5856631 B2	20181206	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5856631 B2	20181211	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250

JP5856631 B2	20191107	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20191031
JP5856631 B2	20191112	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5856631 B2	20340123	PEXP		Calculated Patent Term Expiry	
JP5952320 B2	20160713	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5952320 B2	20141113	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20141112
JP5952320 B2	20150303	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150303
JP5952320 B2	20151014	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20151013
JP5952320 B2	20160107	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160107
JP5952320 B2	20160517	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP5952320 B2	20160519	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20160519
JP5952320 B2	20160526	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5952320 B2	20160614	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5952320 B2	20160616	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20160609
JP5952320 B2	20160617	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5952320 COUNTRY OF REF DOCUMENT : JP
JP5952320 B2	20340123	PEXP		Calculated Patent Term Expiry	
JP6012659 B2	20161025	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6012659 B2	20140502	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20140501
JP6012659 B2	20160908	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6012659 B2	20160927	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6012659 B2	20160930	LSGT	+R150	特許証 (Patent certificate)	
JP6012659 B2	20190725	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP6012659 B2	20190730	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP6012659 B2	20340402	PEXP		Calculated Patent Term Expiry	
JP6267731 B2	20180124	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6267731 B2	20171207	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6267731 B2	20171226	LSFE	R100	特許料納付書 (Patent fee payment form)	

JP6267731 B2	20180105	LSGT	+R150	特許証 (Patent certificate)	
JP6267731 B2	20360208	PEXP		Calculated Patent Term Expiry	
JP6392269 B2	20180919	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6392269 B2	20180802	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6392269 B2	20180828	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6392269 B2	20180831	LSGT	+R150	特許証 (Patent certificate)	
JP6392269 B2	20360407	PEXP		Calculated Patent Term Expiry	
JP6405136 B2	20181017	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6405136 B2	20180830	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6405136 B2	20180918	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6405136 B2	20180921	LSGT	+R150	特許証 (Patent certificate)	
JP6405136 B2	20340703	PEXP		Calculated Patent Term Expiry	
JP6436939 B2	20181212	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6436939 B2	20181108	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6436939 B2	20181120	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6436939 B2	20181122	LSGT	+R150	特許証 (Patent certificate)	
JP6436939 B2	20360726	PEXP		Calculated Patent Term Expiry	
JP6518463 B2	20190522	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6518463 B2	20190404	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6518463 B2	20190423	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6518463 B2	20190426	LSGT	+R150	特許証 (Patent certificate)	
JP6518463 B2	20350310	PEXP		Calculated Patent Term Expiry	
JP6539699 B2	20190703	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6539699 B2	20190516	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6539699 B2	20190611	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6539699 B2	20190614	LSGT	+R150	特許証 (Patent certificate)	
JP6539699 B2	20370901	PEXP		Calculated Patent Term Expiry	
KR101074937 B1	20111019	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101074937 B1	20140924	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20140925 YEAR OF FEE PAYMENT : 4
KR101074937 B1	20150923	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20150924 YEAR OF FEE PAYMENT : 5
KR101074937 B1	20161006	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20161006 YEAR OF FEE PAYMENT : 6
KR101074937 B1	20170919	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170919 YEAR OF FEE PAYMENT : 7
KR101074937 B1	20180917	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180918 YEAR OF FEE PAYMENT : 8

KR101074937 B1	20261204	PEXP		Calculated Patent Term Expiry	
KR101099808 B1	20111227	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101099808 B1	20141204	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20141205 YEAR OF FEE PAYMENT : 4
KR101099808 B1	20151204	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20151207 YEAR OF FEE PAYMENT : 5
KR101099808 B1	20161123	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20161123 YEAR OF FEE PAYMENT : 6
KR101099808 B1	20171117	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20171117 YEAR OF FEE PAYMENT : 7
KR101099808 B1	20181203	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20181204 YEAR OF FEE PAYMENT : 8
KR101099808 B1	20261204	PEXP		Calculated Patent Term Expiry	
KR101214715 B1	20121221	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101214715 B1	20261204	PEXP		Calculated Patent Term Expiry	
KR101214757 B1	20121221	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101214757 B1	20261204	PEXP		Calculated Patent Term Expiry	
KR101290367 B1	20130726	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101290367 B1	20111201	LSES	A201	REQUEST FOR EXAMINATION	
KR101290367 B1	20120209	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101290367 B1	20120925	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101290367 B1	20130514	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101290367 B1	20130722	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101290367 B1	20160711	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160712 YEAR OF FEE PAYMENT : 4
KR101290367 B1	20170616	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170616 YEAR OF FEE PAYMENT : 5
KR101290367 B1	20261204	PEXP		Calculated Patent Term Expiry	
KR101290371 B1	20130726	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101290371 B1	20120608	LSES	A201	REQUEST FOR EXAMINATION	
KR101290371 B1	20120724	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101290371 B1	20130423	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101290371 B1	20130722	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101290371 B1	20160711	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160712 YEAR OF FEE PAYMENT : 4
KR101290371 B1	20170616	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170616 YEAR OF FEE PAYMENT : 5
KR101290371 B1	20261204	PEXP		Calculated Patent Term Expiry	
KR101290378 B1	20130726	LSGT	+	granted / extensions (spc, cpc, pte)	

KR101290378 B1	20111201	LSES	A201	REQUEST FOR EXAMINATION	
KR101290378 B1	20130514	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101290378 B1	20130722	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101290378 B1	20160711	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160712 YEAR OF FEE PAYMENT : 4
KR101290378 B1	20170616	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170616 YEAR OF FEE PAYMENT : 5
KR101290378 B1	20261204	PEXP		Calculated Patent Term Expiry	
KR101290379 B1	20130726	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101290379 B1	20120608	LSES	A201	REQUEST FOR EXAMINATION	
KR101290379 B1	20120724	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR101290379 B1	20130423	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR101290379 B1	20130722	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR101290379 B1	20160711	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160712 YEAR OF FEE PAYMENT : 4
KR101290379 B1	20170616	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170616 YEAR OF FEE PAYMENT : 5
KR101290379 B1	20261204	PEXP		Calculated Patent Term Expiry	
KR101300492 B1	20130902	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101300492 B1	20160808	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160809 YEAR OF FEE PAYMENT : 4
KR101300492 B1	20170719	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170719 YEAR OF FEE PAYMENT : 5
KR101300492 B1	20180718	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180718 YEAR OF FEE PAYMENT : 6
KR101300492 B1	20261204	PEXP		Calculated Patent Term Expiry	
KR101300493 B1	20130902	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101300493 B1	20160808	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20160809 YEAR OF FEE PAYMENT : 4
KR101300493 B1	20170719	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20170719 YEAR OF FEE PAYMENT : 5
KR101300493 B1	20180718	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20180718 YEAR OF FEE PAYMENT : 6
KR101300493 B1	20261204	PEXP		Calculated Patent Term Expiry	
KR20080072961 A	20080807	LSPB	+	published / reissued	
KR20080072961 A	20100319	LSES	A201	REQUEST FOR EXAMINATION	
KR20080072961 A	20110502	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20080072961 A	20121029	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20080072961 A	20121214	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20080072961 A	20151124	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20151125 YEAR OF FEE PAYMENT : 4

KR20080072961 A	20161123	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20161123 YEAR OF FEE PAYMENT : 5
KR20080072961 A	20171117	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20171117 YEAR OF FEE PAYMENT : 6
KR20080072961 A	20181203	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20181204 YEAR OF FEE PAYMENT : 7
KR20080072962 A	20080807	LSPB	+	published / reissued	
KR20080072962 A	20100319	LSES	A201	REQUEST FOR EXAMINATION	
KR20080072962 A	20110502	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20080072962 A	20121029	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20080072962 A	20121214	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20080072962 A	20151124	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20151125 YEAR OF FEE PAYMENT : 4
KR20080072962 A	20161123	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20161123 YEAR OF FEE PAYMENT : 5
KR20080072962 A	20171117	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20171117 YEAR OF FEE PAYMENT : 6
KR20080072962 A	20181203	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20181204 YEAR OF FEE PAYMENT : 7
KR20080077244 A	20080821	LSPB	+	published / reissued	
KR20080077244 A	20100309	LSES	A201	REQUEST FOR EXAMINATION	
KR20080077244 A	20110422	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20080077244 A	20111124	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20080077244 A	20111221	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20080084995 A	20080922	LSPB	+	published / reissued	
KR20080084995 A	20100309	LSES	A201	REQUEST FOR EXAMINATION	
KR20080084995 A	20110804	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20080084995 A	20111012	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20100037172 A	20100408	LSPB	+	published / reissued	
KR20100037172 A	20111201	LSES	A201	REQUEST FOR EXAMINATION	
KR20100037172 A	20130516	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20100037172 A	20130821	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20100105907 A	20100930	LSPB	+	published / reissued	
KR20110005318 A	20110117	LSPB	+	published / reissued	
KR20120054668 A	20120530	LSPB	+	published / reissued	
KR20120054669 A	20120530	LSPB	+	published / reissued	
KR20120056306 A	20120601	LSPB	+	published / reissued	
KR20120056306 A	20120608	LSES	A201	REQUEST FOR EXAMINATION	
KR20120056306 A	20120724	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20120056306 A	20130516	LSGT	+E701	DECISION TO GRANT	

				OR REGISTRATION OF PATENT RIGHT	
KR20120056306 A	20130821	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US10070763 BB	20180911	LSGT	+	granted / extensions (spc, cpc, pte)	
US10070763 BB	20170419	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WON, CHIKYUNG; BURNETT, SCOTT THOMAS; HICKEY, STEPHEN A.; AND OTHERS; SIGNING DATES FROM 20070612 TO 20070718; REEL/FRAME:042056/0619
US10070763 BB	20180823	LSGT	PAT1	Patented Case	
US10070763 BB	20370414	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10182695 BB	20190122	LSGT	+	granted / extensions (spc, cpc, pte)	
US10182695 BB	20180126	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US10182695 BB	20180412	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HALLORAN, MICHAEL J.; MAMMEN, JEFFREY W.; CAMPBELL, TONY L.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:045521/0317
US10182695 BB	20190101	LSGT	PAT1	Patented Case	
US10182695 BB	20190319	LSRE	CC	CERTIFICATE OF CORRECTION	
US10182695 BB	20380126	PEXP		Calculated Patent Term Expiry	
US10524629 BB	20200107	LSGT	+	granted / extensions (spc, cpc, pte)	
US10524629 BB	20141124	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WON, CHIKYUNG; BURNETT, SCOTT THOMAS; HICKEY, STEPHEN A.; AND OTHERS; SIGNING DATES FROM 20070612 TO 20070718; REEL/FRAME:034248/0301
US10524629 BB	20191218	LSGT	PAT1	Patented Case	
US10524629 BB	20380527	PEXP		Calculated Patent Term Expiry (PTA 1378 days)	
US2007234492 AA	20071011	LSPB	+	published / reissued	
US2007234492 AA	20081008	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2007244610 AA	20071018	LSPB	+	published / reissued	
US2007244610 AA	20150909	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2007250212 AA	20071025	LSPB	+	published / reissued	
US2007250212 AA	20130123	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US2008058987 AA	20080306	LSPB	+	published / reissued	
US2008058987 AA	20080630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; OKERHOLM, ANDREA M.; MAMMEN, JEFFREY W.; AND OTHERS; REEL/FRAME:021170/0917; SIGNING DATES FROM 20070614 TO 20070718
US2008058987 AA	20080630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; OKERHOLM, ANDREA M.; MAMMEN, JEFFREY W.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:021170/0917
US2008058987 AA	20150916	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2008091304 AA	20080417	LSPB	+	published / reissued	
US2008091304 AA	20080630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; OKERHOLM, ANDREA M.; MAMMEN, JEFFREY W.; AND OTHERS; REEL/FRAME:021170/0567; SIGNING DATES FROM 20070614 TO 20070718
US2008091304 AA	20080630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; OKERHOLM, ANDREA M.; MAMMEN, JEFFREY W.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:021170/0567
US2008091304 AA	20150121	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2008091305 AA	20080417	LSPB	+	published / reissued	
US2008091305 AA	20080502	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; CAMPBELL, TONY L.; KAPOOR, DEEPAK RAMESH; AND OTHERS; REEL/FRAME:020893/0176; SIGNING DATES FROM 20070613 TO 20070718
US2008091305 AA	20080502	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; CAMPBELL, TONY L.; KAPOOR, DEEPAK RAMESH; AND OTHERS; SIGNING DATES FROM 20070613 TO 20070718; REEL/FRAME:020893/0176

US2008091305 AA	20131113	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2008282494 AA	20081120	LSPB	+	published / reissued	
US2008282494 AA	20131030	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009007366 AA	20090108	LSPB	+	published / reissued	
US2009007366 AA	20140212	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009228165 AA	20090910	LSPB	+	published / reissued	
US2009228165 AA	20120724	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; OKERHOLM, ANDREA M.; MAMMEN, JEFFREY W.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:028626/0221
US2009228165 AA	20130130	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2010037418 AA	20100218	LSPB	+	published / reissued	
US2010037418 AA	20120828	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MORIN, RUSSELL WALTER; REEL/FRAME:028857/0289 EFFECTIVE DATE : 20110210
US2010037418 AA	20160406	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011004339 AA	20110106	LSPB	+	published / reissued	
US2011004339 AA	20130829	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; OKERHOLM, ANDREA M.; MAMMEN, JEFFREY W.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:031113/0982
US2011004339 AA	20131120	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011077802 AA	20110331	LSPB	+	published / reissued	
US2011077802 AA	20110214	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HALLORAN, MICHAEL J.; MAMMEN, JEFFREY W.; CAMPBELL, TONY L.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:025800/0677
US2011077802 AA	20130610	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012173064 AA	20120705	LSPB	+	published / reissued	
US2012173064 AA	20131030	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013206170 AA	20130815	LSPB	+	published / reissued	

US2013206170 AA	20150225	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013253701 AA	20130926	LSPB	+	published / reissued	
US2013253701 AA	20140114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HALLORAN, MICHAEL J.; MAMMEN, JEFFREY W.; CAMPBELL, TONY L.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:031958/0026
US2013253701 AA	20140604	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014026354 AA	20140130	LSPB	+	published / reissued	
US2014026354 AA	20150121	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014249671 AA	20140904	LSPB	+	published / reissued	
US2014249671 AA	20160629	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014352103 AA	20141204	LSPB	+	published / reissued	
US2014352103 AA	20170531	LSES	NFA1	Non Final Action Mailed	
US2014352103 AA	20171109	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2014352103 AA	20171116	LSES	NFA1	Non Final Action Mailed	
US2014352103 AA	20180619	LSES	NFA1	Non Final Action Mailed	
US2014352103 AA	20190415	LSAL	NAF1	Notice of Appeal Filed	
US2014352103 AA	20190415	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	TEXT : NOTICE OF APPEAL FILED
US2014352103 AA	20190805	LSAL	ABE1	Appeal Brief (or Supplemental Brief) Entered and Forwarded to Examiner	
US2014352103 AA	20190805	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	TEXT : APPEAL BRIEF (OR SUPPLEMENTAL BRIEF) ENTERED AND FORWARDED TO EXAMINER
US2014352103 AA	20190830	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014352103 AA	20191121	LSFE	+AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2014352103 AA	20191202	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2014352103 AA	20191218	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016075024 AA	20160317	LSPB	+	published / reissued	
US2016075024 AA	20150922	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; OKERHOLM, ANDREA M.; MAMMEN, JEFFREY W.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:036623/0397
US2016075024 AA	20170927	LSES	-NFA2	Non Final Action	

				Counted, Not Yet Mailed	
US2016075024 AA	20170928	LSES	NFA1	Non Final Action Mailed	
US2016075024 AA	20181026	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2016291595 AA	20161006	LSPB	+	published / reissued	
US2016291595 AA	20170301	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017135543 AA	20170518	LSPB	+	published / reissued	
US2017135543 AA	20171024	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2017135543 AA	20171025	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017135543 AA	20180111	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2017135543 AA	20180117	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017135543 AA	20180207	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017215666 AA	20170803	LSPB	+	published / reissued	
US2017215666 AA	20170808	LSES	NFA1	Non Final Action Mailed	
US2017215666 AA	20180404	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017215666 AA	20180413	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017215666 AA	20180423	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017215666 AA	20180810	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2017215666 AA	20180823	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2018146833 AA	20180531	LSPB	+	published / reissued	
US2018146833 AA	20190101	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7441298 BB	20081028	LSGT	+	granted / extensions (spc, cpc, pte)	
US7441298 BB	20070817	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SVENDSEN, SELMA; OZICK, DANIEL N.; CASEY, CHRISTOPHER M.; AND OTHERS; REEL/FRAME:019709/0030; SIGNING DATES FROM 20070613 TO 20070718
US7441298 BB	20081008	LSGT	PAT1	Patented Case	
US7441298 BB	20090120	LSRE	CC	CERTIFICATE OF CORRECTION	
US7441298 BB	20120430	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7441298 BB	20160429	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7441298 BB	20261204	PEXP		Calculated Patent Term Expiry	
US8271129 BB	20120918	LSGT	+	granted / extensions (spc, cpc, pte)	

US8271129 BB	20261204	PEXP		Calculated Patent Term Expiry	
US8359703 BB	20130129	LSGT	+	granted / extensions (spc, cpc, pte)	
US8359703 BB	20140212	LSGT	PAT1	Patented Case	
US8359703 BB	20280917	PEXP		Calculated Patent Term Expiry	
US8374721 BB	20130212	LSGT	+	granted / extensions (spc, cpc, pte)	
US8374721 BB	20070817	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HALLORAN, MICHAEL J.; MAMMEN, JEFFREY W.; CAMPBELL, TONY L.; AND OTHERS; REEL/FRAME:019708/0664; SIGNING DATES FROM 20070614 TO 20070718
US8374721 BB	20070817	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HALLORAN, MICHAEL J.; MAMMEN, JEFFREY W.; CAMPBELL, TONY L.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:019708/0664
US8374721 BB	20130123	LSGT	PAT1	Patented Case	
US8374721 BB	20160812	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8374721 BB	20290608	PEXP		Calculated Patent Term Expiry (PTA 917 days)	
US8380350 BB	20130219	LSGT	+	granted / extensions (spc, cpc, pte)	
US8380350 BB	20130130	LSGT	PAT1	Patented Case	
US8380350 BB	20160819	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8380350 BB	20300306	PEXP		Calculated Patent Term Expiry (PTA 438 days)	
US8584305 BB	20131119	LSGT	+	granted / extensions (spc, cpc, pte)	
US8584305 BB	20070817	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WON, CHIKYUNG; SANDIN, PAUL E.; BURNETT, SCOTT THOMAS; AND OTHERS; REEL/FRAME:019709/0387; SIGNING DATES FROM 20070612 TO 20070718
US8584305 BB	20070817	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WON, CHIKYUNG; SANDIN, PAUL E.; BURNETT, SCOTT THOMAS; AND OTHERS; SIGNING DATES FROM 20070612 TO 20070718; REEL/FRAME:019709/0387
US8584305 BB	20131030	LSGT	PAT1	Patented Case	
US8584305 BB	20170504	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8584305 BB	20290924	PEXP		Calculated Patent Term Expiry (PTA 1025 days)	

US8584307 BB	20131119	LSGT	+	granted / extensions (spc, cpc, pte)	
US8584307 BB	20120112	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WON, CHIKYUNG; SANDIN, PAUL E.; BURNETT, SCOTT THOMAS; AND OTHERS; SIGNING DATES FROM 20070612 TO 20070718; REEL/FRAME:027523/0853
US8584307 BB	20131030	LSGT	PAT1	Patented Case	
US8584307 BB	20170504	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8584307 BB	20311208	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8600553 BB	20131203	LSGT	+	granted / extensions (spc, cpc, pte)	
US8600553 BB	20131113	LSGT	PAT1	Patented Case	
US8600553 BB	20170518	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8600553 BB	20171031	LSOP	IPR	AIA TRIAL PROCEEDING FILED BEFORE THE PATENT AND APPEAL BOARD: INTER PARTES REVIEW	PARTYTYPE : OPPONENT OPPONENT : SHENZHEN ZHIYI TECHNOLOGY CO., LTD. OLDPARTY : TRIAL NO: IPR2017-02133 EFFECTIVE DATE : 20170921
US8600553 BB	20180619	LSOP	IPR	AIA TRIAL PROCEEDING FILED BEFORE THE PATENT AND APPEAL BOARD: INTER PARTES REVIEW	PARTYTYPE : OPPONENT OPPONENT : SHENZHEN SILVER STAR INTELLIGENT TECHNOLOGY CO., L OLDPARTY : TRIAL NO: IPR2018-00898 EFFECTIVE DATE : 20180416
US8600553 BB	20291105	PEXP		Calculated Patent Term Expiry (PTA 884 days)	
US8606401 BB	20131210	LSGT	+	granted / extensions (spc, cpc, pte)	
US8606401 BB	20131120	LSGT	PAT1	Patented Case	
US8606401 BB	20170525	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8606401 BB	20300701	PEXP		Calculated Patent Term Expiry	
US8661605 BB	20140304	LSGT	+	granted / extensions (spc, cpc, pte)	
US8661605 BB	20080917	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SVENDSEN, SELMA; OZICK, DANIEL N.; CASEY, CHRISTOPHER M.; AND OTHERS; REEL/FRAME:021543/0920; SIGNING DATES FROM 20070613 TO 20070718
US8661605 BB	20080917	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SVENDSEN, SELMA; OZICK, DANIEL N.; CASEY, CHRISTOPHER M.; AND OTHERS; SIGNING DATES FROM 20070613 TO 20070718; REEL/FRAME:021543/0920
US8661605 BB	20170824	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8661605 BB	20290303	PEXP		Calculated Patent Term	

				Expiry (PTA 167 days)	
US8761931 BB	20140624	LSGT	+	granted / extensions (spc, cpc, pte)	
US8761931 BB	20140604	LSGT	PAT1	Patented Case	
US8761931 BB	20140909	LSRE	CC	CERTIFICATE OF CORRECTION	
US8761931 BB	20171207	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8761931 BB	20330514	PEXP		Calculated Patent Term Expiry	
US8950038 BB	20150210	LSGT	+	granted / extensions (spc, cpc, pte)	
US8950038 BB	20131108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WON, CHIKYUNG; SVENDSEN, SELMA; SANDIN, PAUL E.; AND OTHERS; SIGNING DATES FROM 20070612 TO 20070718; REEL/FRAME:031567/0139
US8950038 BB	20150121	LSGT	PAT1	Patented Case	
US8950038 BB	20180726	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8950038 BB	20330925	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8954192 BB	20150210	LSGT	+	granted / extensions (spc, cpc, pte)	
US8954192 BB	20150121	LSGT	PAT1	Patented Case	
US8954192 BB	20180420	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US8954192 BB	20180726	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8954192 BB	20300408	PEXP		Calculated Patent Term Expiry (PTA 1038 days)	
US8978196 BB	20150317	LSGT	+	granted / extensions (spc, cpc, pte)	
US8978196 BB	20130319	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SVENDSEN, SELMA; OZICK, DANIEL N.; CASEY, CHRISTOPHER M.; AND OTHERS; SIGNING DATES FROM 20070613 TO 20070718; REEL/FRAME:030045/0693
US8978196 BB	20150225	LSGT	PAT1	Patented Case	
US8978196 BB	20180906	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8978196 BB	20321220	PEXP		Calculated Patent Term Expiry	
US9144360 BB	20150929	LSGT	+	granted / extensions (spc, cpc, pte)	
US9144360 BB	20070817	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; OKERHOLM, ANDREA M.; MAMMEN, JEFFREY W.; AND OTHERS; REEL/FRAME:019708/0826; SIGNING DATES FROM 20070614 TO 20070718

US9144360 BB	20070817	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OZICK, DANIEL N.; OKERHOLM, ANDREA M.; MAMMEN, JEFFREY W.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:019708/0826
US9144360 BB	20150909	LSGT	PAT1	Patented Case	
US9144360 BB	20181207	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9144360 BB	20190222	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9144360 BB	20290830	PEXP		Calculated Patent Term Expiry (PTA 1000 days)	
US9149170 BB	20151006	LSGT	+	granted / extensions (spc, cpc, pte)	
US9149170 BB	20150916	LSGT	PAT1	Patented Case	
US9149170 BB	20181214	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9149170 BB	20190308	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9149170 BB	20270705	PEXP		Calculated Patent Term Expiry	
US9320398 BB	20160426	LSGT	+	granted / extensions (spc, cpc, pte)	
US9320398 BB	20091105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION,MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HUSSEY, PATRICK ALAN; ROY, ROBERT PAUL; SVENDSEN, SELMA; AND OTHERS; SIGNING DATES FROM 20090924 TO 20091029; REEL/FRAME:023475/0905
US9320398 BB	20091105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HUSSEY, PATRICK ALAN; ROY, ROBERT PAUL; SVENDSEN, SELMA; AND OTHERS; SIGNING DATES FROM 20090924 TO 20091029; REEL/FRAME:023475/0905
US9320398 BB	20160406	LSGT	PAT1	Patented Case	
US9320398 BB	20160920	LSRE	CC	CERTIFICATE OF CORRECTION	
US9320398 BB	20190918	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9320398 BB	20340202	PEXP		Calculated Patent Term Expiry (PTA 1634 days)	
US9392920 BB	20160719	LSGT	+	granted / extensions (spc, cpc, pte)	
US9392920 BB	20140516	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HALLORAN,

					MICHAEL J.; MAMMEN, JEFFREY W.; CAMPBELL, TONY L.; AND OTHERS; SIGNING DATES FROM 20070218 TO 20070709; REEL/FRAME:032910/0526
US9392920 BB	20151217	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9392920 BB	20160629	LSGT	PAT1	Patented Case	
US9392920 BB	20160906	LSRE	CC	CERTIFICATE OF CORRECTION	
US9392920 BB	20191213	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9392920 BB	20340512	PEXP		Calculated Patent Term Expiry	
US9599990 BB	20170321	LSGT	+	granted / extensions (spc, cpc, pte)	
US9599990 BB	20160616	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HALLORAN, MICHAEL J.; MAMMEN, JEFFREY W.; CAMPBELL, TONY L.; AND OTHERS; SIGNING DATES FROM 20070218 TO 20070709; REEL/FRAME:038932/0666
US9599990 BB	20170301	LSGT	PAT1	Patented Case	
US9599990 BB	20170509	LSRE	CC	CERTIFICATE OF CORRECTION	
US9599990 BB	20360615	PEXP		Calculated Patent Term Expiry	
US9901236 BB	20180227	LSGT	+	granted / extensions (spc, cpc, pte)	
US9901236 BB	20170131	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HALLORAN, MICHAEL J.; MAMMEN, JEFFREY W.; CAMPBELL, TONY L.; AND OTHERS; SIGNING DATES FROM 20070614 TO 20070718; REEL/FRAME:041128/0805
US9901236 BB	20180207	LSGT	PAT1	Patented Case	
US9901236 BB	20370127	PEXP		Calculated Patent Term Expiry	
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WO07065030 A3	20101224	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020107029108 COUNTRY OF REF DOCUMENT :

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WO07065031 A3	20080530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008543547 COUNTRY OF REF DOCUMENT : JP
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WO07065034 A1	20080530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008543549 COUNTRY OF REF DOCUMENT : JP
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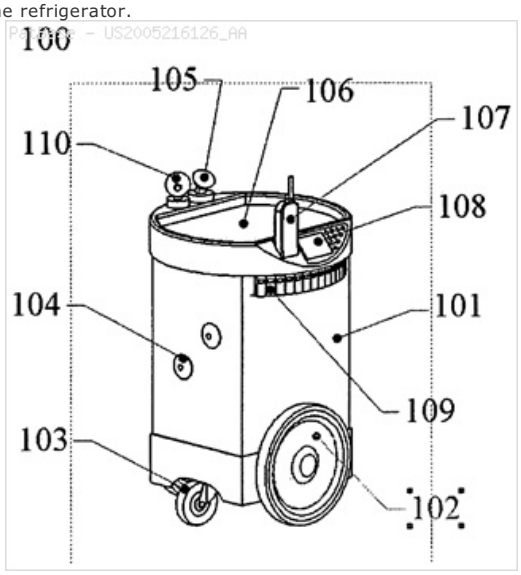
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WO11020040 A1	20120213	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO11020040 A1	20120301	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010750199 COUNTRY OF REF DOCUMENT : EP

27) Family number: 32277126 (US2005216126A)

Title: AUTONOMOUS PERSONAL SERVICE ROBOT

Abstract: Autonomous personal service robot to monitor its owner for symptoms of distress and provide assistance. The system may include sensors to detect situations before they affect people such as smoke, heat, temperature and carbon monoxide sensors. The system can provide security for the home. The PRA may comprise features such as a medicine dispenser and blood pressure cuff. Features such as broadband internet, MP3 player, reading lights and eye glass tracker provide butler type capabilities that enable the system to appeal to markets beyond the elderly and infirmed. The system may also include an X10 transmitter/receiver to automatically control various household lights and appliances. Equipping the system with a robot arm enables the robot to fetch items, turn on and off wall switches and open the refrigerator.

Classifications:
International (IPC 8-9): B25J19/02 B25J9/00 G05D1/02 G06F19/00 (Advanced/Invention); G05B19/08 (Advanced/Non-invention)
International (IPC 1-7): G06F19/00
CPC: G05D2201/0206 G05D1/0251 B25J5/007 B25J9/0003 B25J19/023 G05D1/0227 G05D1/024 G05D1/0242 G05D1/0255 G05D1/0257 G05D1/0272 G05D1/0274 G05D1/028
European: B25J19/02B4 B25J5/00W B25J9/00D G05D1/02E6V4 S05D1/02E10 S05D1/02E14D S05D1/02E14M S05D1/02E16D S05D1/02E3V S05D1/02E5 S05D1/02E6D2 S05D1/02E6N S05D1/02E8 S05D201/0207
US: 318/568.12 700/245 700/245P 700/245S 700/246 700/250 700/254 700/259 700/259P 700/260 700/261 702/188 901/1 901/2



Family:

Publication number	Publication date	Application number	Application date
AT524783 E	20110915	AT20050730376T	20050326
DE602005030023 D1	20111208	DE200560030023T	20050326
EP1741044 A2	20070110	EP20050730376	20050326
EP1741044 A4	20081126	EP20050730376	20050326
EP1741044 B1	20110914	EP20050730376	20050326
US2005216126 AA	20050929	US20050090356	20050326
US2007198129 AA	20070823	US20070675267	20070215
US7228203 BB	20070605	US20050090356	20050326
US8359122 BB	20130122	US20070675267	20070215
WO05098729 A2	20051020	WO2005US10058	20050326
WO05098729 A3	20061221	WO2005US10058	20050326

Priority:

US20040521292P 20040327 EP20050730376 20050326 US20050090356 20050326
WO2005US10058 20050326 US20070675267 20070215

Probable Assignee: VISION ROBOTICS CORP

Assignee(s): (std)**:** GOLLAHER DAVID ; KOSELKA HARVEY ; VISION ROBOTICS CORP ; WALLACH BRET

Assignee(s): WALLACH BRET SAN DIEGO ; KOSELKA HARVEY TRABUCO CANYON ; GOLLAHER DAVID SAN DIEGO

Inventor(s): (std)**:** KOSELKA HARVEY ; WALLACH BRET ; GOLLAHER DAVID

Inventor(s): WALLACH BRET SAN DIEGO ; GOLLAHER DAVID SAN DIEGO

Agent(s): KSNH PATENTANWAELTE KLUNKER SCHMITT NILSON HIRSCH; KLUNKER SCHMITT NILSON HIRSCH; DALINA LAW GROUP PC; ARC IP LAW PC; JOSEPH J

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT524783 E	20110915	LSGT	+	granted / extensions (spc, cpc, pte)	
AT524783 E	20120315	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	

AT524783 E	20250326	PEXP		Calculated Patent Term Expiry	
DE602005030023 D1	20111013	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PARTYTYPE : OWNER OWNER : GOLLAHER, DAVID, SAN DIEGO, CALIF., US OWNER : KOSELKA, HARVEY, TRABUCO CANYON, CALIF., US OWNER : WALLACH, BRET, SAN DIEGO, CALIF., US OLDPARTY : GOLLAHER, DAVID, SAN DIEGO, CALIF., US OLDPARTY : KOSELKA, HARVEY, TRABUCO CANYON, CALIF., US OLDPARTY : WALLACH, BRET, SAN DIEGO, CALIF., US
EP1741044 A2	20070110	LSPB	+	published / reissued	
EP1741044 A2	20070110	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20061026
EP1741044 A2	20081126	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20081027
EP1741044 A2	20090325	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20090219
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EP1741044 A2	20120227	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20110914
EP1741044 A2	20120229	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

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EP1741044 A2	20130117	LSDW	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R119 REF DOCUMENT NUMBER : 602005030023 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20121002
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EP1741044 B1	20250326	PEXP		Calculated Patent Term Expiry	
US2005216126 AA	20050929	LSPB	+	published / reissued	
US2007198129 AA	20070823	LSPB	+	published / reissued	
US2007198129 AA	20071012	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VISION ROBOTICS CORPORATION, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KOSELKA, HARVEY; WALLACH, BRET; GOLLAHER, DAVID; REEL/FRAME:019961/0953 EFFECTIVE DATE : 20070325
US2007198129 AA	20121229	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7228203 BB	20070605	LSGT	+	granted / extensions (spc, cpc, pte)	
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US7228203 BB	20110606	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7228203 BB	20150605	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7228203 BB	20150706	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7228203 BB	20150706	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7228203 BB	20150728	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20150605
US7228203 BB	20250525	PEXP		Calculated Patent Term Expiry (PTA 60 days)	
US8359122 BB	20130122	LSGT	+	granted / extensions (spc, cpc, pte)	
US8359122 BB	20121229	LSGT	PAT1	Patented Case	
US8359122 BB	20160720	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8359122 BB	20280602	PEXP		Calculated Patent Term Expiry (PTA 473 days and a terminal disclaimer has been filed)	
WO05098729 A2	20051020	LSPB	+	published / reissued	
WO05098729 A2	20060928	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO05098729 A2	20060928	LSWD	-WWW	WIPO INFORMATION:	TEXT : DE

				WITHDRAWN IN NATIONAL OFFICE	
WO05098729 A2	20061026	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005730376 COUNTRY OF REF DOCUMENT : EP
WO05098729 A3	20070110	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005730376 COUNTRY OF REF DOCUMENT : EP

28) Family number: 72485132 (WO18229334A1)

Title: APPARATUS AND METHOD FOR CLEANING SMELT SPOUTS OF RECOVERY BOILER

Abstract: An apparatus and method for cleaning smelt spouts of a recovery boiler. The invention further relates to an arrangement in the recovery boiler. The recovery boiler (1) comprises several smelt spouts (6) which are cleaned by means of motorized cleaning units (13). The cleaning units are mounted on carriers (11) for moving them between the smelt spouts. The carriers are provided with steerable moving members (12, 33) and are thereby freely steerable on a driving surface. A control system of the apparatus comprises a positioning system for guiding the carrier along an imaginary driving path to target points (TP).

Classifications:
International (IPC 8-9): B08B1/00 B25J5/00 B25J9/00 D21C11/10 D21C11/12 F23J1/06 F23J1/08 F27D3/15 (Advanced/Invention)
CPC: D21C11/10 F23J1/06 F23J1/08 B08B1/00 B25J5/00 B25J9/00 D21C11/12 F27D3/15

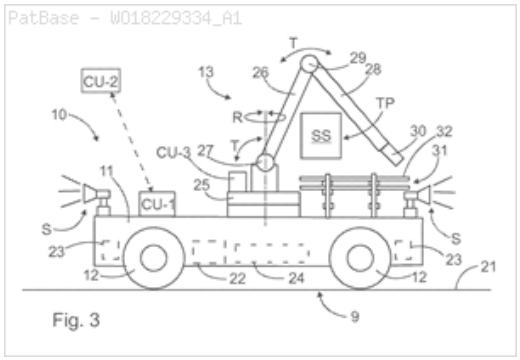


Fig. 3

Family:

Publication number	Publication date	Application number	Application date
CN110785523 A	20200211	CN201880040188	20180613
FI20175563 A	20181217	FI20170005563	20170616
WO18229334 A1	20181220	WO2018FI50449	20180613

Priority:

FI20170005563 20170616 WO2018FI50449 20180613

Probable Assignee: ANDRITZ OY

Assignee(s): (std): ANDRITZ OY

Inventor(s): (std): LAPPALAINEN HEIKKI ; MAENTTAERI ILKKA ; SILENIUS SEPPO

Agent(s): PAPULA OY

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)

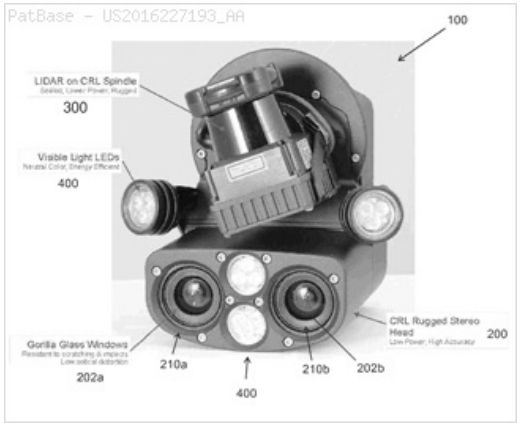
View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN110785523 A	20200211	LSPB	+	published / reissued	
CN110785523 A	20200211	LSPB	PB01	公开 (The publication of application)	TEXT : 公开 (DISCLOSURE)
FI20175563 A	20181217	LSPB	+	published / reissued	
WO18229334 A1	20181220	LSPB	+	published / reissued	
WO18229334 A1	20191217	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

29) Family number: 57468138 (US2016227193A)

Title: METHODS, SYSTEMS, AND APPARATUS FOR MULTI-SENSORY STEREO VISION FOR ROBOTICS

Abstract: Embodiments of the present invention include multi-sensory stereo vision sensors suitable for use in robotics, navigation, **machine** vision, manufacturing, and other applications. In some cases, a sensor includes a stereo camera that produces image data for use in generating disparity maps to determine the positions of objects in the scene and/or the position of the sensor itself. The stereo sensor may include image sensors that are fastened to a unitary frame to prevent undesired drift and a thermal pad that wicks heat away from a processor. The processor may provide an efficient means to directly compute stereo disparity maps onboard the sensor. A sensor can also include a laser rangefinder that provides range data suitable for calibrating the stereo camera and for improving its accuracy in certain environments. In some cases, the laser is coupled to a spindle, which in turn is driven by a geartrain through a slipping clutch.



Classifications:
International (IPC 8-9): A61B1/04 B25J19/02 B25J9/16 B60R11/04 G01B11/00 G01B11/245 G01B11/27 G01D11/24 G01M11/02 G01S17/02 G01S17/42 G01S17/88 G01S7/497 G02B27/22 G03B17/02 G03B17/55 G03B35/08 G06T1/00 G06T7/00 G06T7/20 G06T7/593 G06T7/70 G06T7/80 G1S17/88 H04N13/00 H04N13/02 H04N13/128 H04N13/239 H04N13/246 H04N5/225 (Advanced/Invention); G01S17/08 (Advanced/Non-invention)
CPC: G01S7/4972 G01S17/42 G03B17/02 G03B17/55 G03B35/08 G06T7/593 G06T7/85 G06T2207/10012 G06T2207/10028 H04N13/239 Y10S901/47 B25J9/1697 G06T7/20 H04N5/2252 H04N5/2253 H04N5/2254 H04N2013/0081
US: 1/1 348/47
JP F-Term: 2F065 2F065/AA01 2F065/AA04 2F065/AA06 2F065/AA12 2F065/CC11 2F065/CC14 2F065/CC16 2F065/FF05 2F065/GG04 2F065/HH04 2F065/JJ05 2F065/JJ19 2F065/JJ26 2F065/LL28 2F065/MM11 2F065/QQ24 2F065/QQ25 2F065/QQ31 2F065/QQ33 2F065/QQ43 2F065/RR08 5B057 5B057/AA05 5B057/BA02 5B057/CA13 5B057/CB13 5B057/CC01 5B057/DA07 5B057/DB03 5B057/DC32 5L096
JP F-Index: G01B11/00/A G01B11/245/H G06T1/00/315 G06T7/593

Family:

Publication number	Publication date	Application number	Application date
AU2014239979 AA	20150917	AU20140239979	20140314
AU2014239979 BB	20170622	AU20140239979	20140314
CA2902430 AA	20150824	CA20142902430	20140314
CN105164549 A	20151216	CN201480022190	20140314
CN105164549 B	20190702	CN201480022190	20140314
EP2972478 A2	20160120	EP20140770009	20140314
EP2972478 A4	20161109	EP20140770009	20140314
JP2016513804 T2	20160516	JP20160502343T	20140314
JP6514681 B2	20190515	JP20160502343T	20140314
KR101803164 B1	20171228	KR20157029111	20140314
KR20150130511 A	20151123	KR20157029111	20140314
US2016227193 AA	20160804	US20140777427	20140314
US10412368 BB	20190910	US20140777427	20140314
WO14152254 A2	20140925	WO2014US27126	20140314
WO14152254 A3	20141113	WO2014US27126	20140314

Priority:

US20130792468P 20130315 US20140777427 20140314 WO2014US27126 20140314

Probable Assignee: UTAC LLC

Assignee(s): (std): CARNEGIE ROBOTICS LLC ; UBER TECHNOLOGIES INC ; APP INT C V ; APPARATE INT C V ; UBER TECH INC

Assignee(s): UTAC LLC ; APPARATE INT CV ; LAROSE DAVID ARTHUR ; OSTERWOOD CHRISTOPHER CHARLES ; STROTHER DANIEL LELAND ; UBER INT CV

Inventor(s): (std): OSTERWOOD CHRISTOPHER CHARLES ; STROTHER DANIEL LELAND ; LAROSE DAVID ARTHUR

Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; SMITHS IP; CASEY ALAN MICHAEL; MAHAMEDI IP LAW LLP; TEJA JOSEPH JR ET AL

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2014239979 AA	20150917	LSPB	+	published / reissued	
AU2014239979 AA	20160721	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	PARTYTYPE : OWNER OWNER : APPARATE INTERNATIONAL C.V. OLDPARTY : FORMER APPLICANT(S): UBER TECHNOLOGIES, INC.

AU2014239979 AA	20171019	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2014239979 BB	20170622	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2014239979 BB	20340314	PEXP		Calculated Patent Term Expiry	
CA2902430 AA	20150824	LSPB	+	published / reissued	
CA2902430 AA	20160317	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20160314
CN105164549 A	20151216	LSPB	+	published / reissued	
CN105164549 A	20151216	LSPB	+C06	PUBLICATION	
CN105164549 A	20151216	LSPB	PB01	公开 (The publication of application)	TEXT : 公开 (DISCLOSURE)
CN105164549 B	20190702	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105164549 B	20190702	LSGT	+GR01	PATENT GRANT	
CN105164549 B	20340314	PEXP		Calculated Patent Term Expiry	
EP2972478 A2	20160120	LSPB	+	published / reissued	
EP2972478 A2	20160120	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20151001
EP2972478 A2	20160907	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : APPARATE INTERNATIONAL C.V.
EP2972478 A4	20161109	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20161007
EP2972478 A4	20190522	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20190424
JP2016513804 T2	20160516	LSPB	+	published / reissued	
JP2016513804 T2	20170313	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170313
JP2016513804 T2	20170313	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20170313
JP2016513804 T2	20180130	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20180130
JP2016513804 T2	20180530	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180530
JP2016513804 T2	20181003	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20181003
JP2016513804 T2	20190204	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190204
JP2016513804 T2	20190215	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20190214
JP2016513804 T2	20190305	LSGT	+TRDD	DECISION OF GRANT OR	

				REJECTION WRITTEN	
JP2016513804 T2	20190313	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20190313
JP2016513804 T2	20190418	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20190412
JP2016513804 T2	20190419	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6514681 COUNTRY OF REF DOCUMENT : JP
JP6514681 B2	20190515	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6514681 B2	20190322	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6514681 B2	20190416	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6514681 B2	20190419	LSGT	+R150	特許証 (Patent certificate)	
JP6514681 B2	20340314	PEXP		Calculated Patent Term Expiry	
KR101803164 B1	20171228	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101803164 B1	20340314	PEXP		Calculated Patent Term Expiry	
KR20150130511 A	20151123	LSPB	+	published / reissued	
KR20150130511 A	20160316	LSES	A201	REQUEST FOR EXAMINATION	
KR20150130511 A	20161128	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20150130511 A	20170926	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20150130511 A	20171123	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
US10412368 BB	20190910	LSGT	+	granted / extensions (spc, cpc, pte)	
US10412368 BB	20150605	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : UBER TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CARNEGIE ROBOTICS LLC; REEL/FRAME:035795/0853 EFFECTIVE DATE : 20150303
US10412368 BB	20151016	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CARNEGIE ROBOTICS LLC, PENNSYLVANIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OSTERWOOD, CHRISTOPHER CHARLES; STROTHER, DANIEL LELAND; LAROSE, DAVID ARTHUR; SIGNING DATES FROM 20141023 TO 20141229; REEL/FRAME:036814/0276
US10412368 BB	20151016	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : UBER TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CARNEGIE ROBOTICS LLC; REEL/FRAME:036814/0332 EFFECTIVE DATE : 20150303

US10412368 BB	20160608	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : UBER INTERNATIONAL C.V., BERMUDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:UBER TECHNOLOGIES, INC.; REEL/FRAME:038847/0853 EFFECTIVE DATE : 20151120
US10412368 BB	20160609	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPARATE INTERNATIONAL C.V., BERMUDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:UBER INTERNATIONAL C.V.; REEL/FRAME:038867/0970 EFFECTIVE DATE : 20160304
US10412368 BB	20191101	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : UTAC, LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:UBER TECHNOLOGIES, INC.; REEL/FRAME:050912/0757 EFFECTIVE DATE : 20190701
US10412368 BB	20350512	PEXP		Calculated Patent Term Expiry (PTA 424 days)	
US2016227193 AA	20160804	LSPB	+	published / reissued	
US2016227193 AA	20160830	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : UBER TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:APPARATE INTERNATIONAL C.V.; REEL/FRAME:039589/0860 EFFECTIVE DATE : 20160830
US2016227193 AA	20171222	LSES	NFA1	Non Final Action Mailed	
US2016227193 AA	20180418	LSES	NFA1	Non Final Action Mailed	
US2016227193 AA	20190405	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016227193 AA	20190605	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2016227193 AA	20190610	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016227193 AA	20190711	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016227193 AA	20190821	LSGT	PAT1	Patented Case	
US2016227193 AA	20190821	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
WO14152254 A2	20140925	LSPB	+	published / reissued	
WO14152254 A2	20140314	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201480022190.5 COUNTRY OF REF DOCUMENT : CN
WO14152254 A3	20150824	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2902430 COUNTRY OF REF DOCUMENT : CA
WO14152254 A3	20150911	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2016502343 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO14152254 A3	20150917	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014239979 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20140314 KIND CODE OF REF DOCUMENT : A

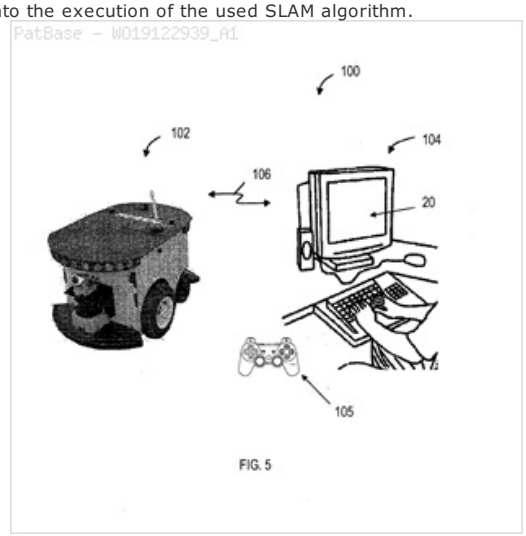
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WO14152254 A3	20151001	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2014770009 COUNTRY OF REF DOCUMENT : EP
WO14152254 A3	20151013	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20157029111 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

30) Family number: 74877142 (WO19122939A1)

Title: INTERACTIVE COMPUTER-IMPLEMENTED METHOD, GRAPHICAL USER INTERFACE AND COMPUTER PROGRAM PRODUCT FOR BUILDING A HIGH-ACCURACY ENVIRONMENT MAP

Abstract: A computer-implemented method for interactively building a high-accuracy environment map (10), an interactive graphical user interface (20), and a computer program product are disclosed. The computer- implemented method, in accordance with the present invention comprising the steps of iterative inputting of user corrections and subsequently rebuilding of the environment map (10) and of at least one trajectory (11), honouring the inputted user corrections and sensor measurement dataset, wherein after each inputted user correction the subsequently rebuilt environment map (10) and at least one rebuilt trajectory (11) are displayed in the graphical user interface (20); assessing by the user in the graphical user interface (20) if there are still visible defects in the subsequently rebuilt environment map (10), and if not exporting the rebuilt environment map (10) to the persistent storage (212). The interactive graphical user (20), in accordance with the present invention, comprising a zoomable/pannable main map window (400); a user corrections management window (403), and a zoomable/scrollable trajectories timeline window (405), wherein the graphical user interface (20) is provided with **tools** for rewinding the environment map (10) along selected trajectory (11), and with **tools** for iterative inputting of user corrections. The interactive method and an intuitive, easy-to-use, user interface (20) enabling users without expert knowledge about SLAM algorithms to tune the final output, i.e. the built environment map (10) and trajectory (11), by intervention into the execution of the used SLAM algorithm.

Classifications:
International (IPC 8-9): B25J9/16 G01S17/89 G01S19/40 G05D1/00 G05D1/02 G06T7/579 (Advanced/Invention)
CPC: B25J9/1664 G01C21/206 G01S5/02 G01S5/0257 G05D1/0044 G05D1/0274 G05D2201/0207 G06K9/00664 G01S19/40



Family:

Publication number	Publication date	Application number	Application date
WO19122939 A1	20190627	WO2017HR00019	20171221

Priority:
WO2017HR00019 20171221

Probable Assignee: UNIV OF ZAGREB FACULTY OF ELECTRICAL ENGINEERING AND COMPUTING
Assignee(s): (std): UNIV OF ZAGREB FACULTY OF ELECTRICAL ENGINEERING AND COMPUTING
Assignee(s): OF ZAGREB FACULTY OF ELECTRICAL ENGINEERING AND COMPUTING UNIV
Inventor(s): (std): ORSULIC JURAJ ; MIKLIC DAMJAN ; KOVACIC ZDENKO
Agent(s): SUCIC TAJANA
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
WO19122939 A1	20190627	LSPB	+	published / reissued	

31) Family number: 76793145 (US2019369641A)

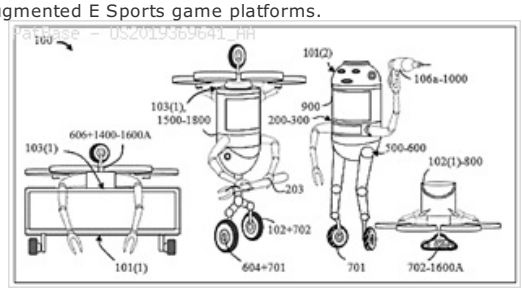
Title: ROBOT AND DRONE ARRAY

Abstract: A mobile robot and drone **device** configured to dynamically allocate one or more task objectives and **handling** objectives, the mobile robot and drone **device** systematically couples to one another creating a hybrid robot-drone. The robot and drone array are utilized to **work** and obtain target objects in an environment, wherein the mobile robot and drone **device** comprise robotic arms and legs comprising propulsion drive **wheels** managed accordingly by AI system components including; an adaptive robot control system, an autonomous coupling system and an autonomous charging system configured with processors, and subsystems including; user interface, Cloud-Based Analysis and Data Usage Network, a sensor I/O **devices** including; LIDAR, RADAR, an altitude gyroscope sensors and cameras for scanning surrounding objects in an environment, and an identifier scanning system configured for identifying users, mobile robots, drone **devices** and target objects in a **work** environment and in a game environment. The **work** environment can include a consigned robot and drone array to **work** inside a cargo **vehicle** to gather cargo boxes and packages for delivery, and the array of **working** mobile robot and subsequently the drone **device** transports the boxes and packages by a flight plan and by a land-based drone **device** drive mode in flight restricted zones, and the game environment includes real-time gameplay, virtual reality and augmented E Sports game platforms.

Classifications:

International (IPC 8-9): A63F9/24 B25J9/16 B60L53/80 B64C37/00 B64C39/02 B64F1/22 G05D1/00 G05D1/02 G05D1/10 G06F19/00 G06Q30/06 G06Q50/28 (Advanced/Invention)

CPC: G05D1/0287 B25J19/0025 B25J9/163 G05D1/101 G05D1/0285 G05D1/0027 B25J9/1664 G05D1/0212 A63F9/24 G05D1/0257 G05D1/0238 B64F1/22 B64C39/024 B64C37/00 G05D1/0278 B60L53/80 G05D1/0088 A63F2009/2483 B64C2201/06 H04W4/80 H04W84/12 B25J9/08 B62D57/028 B25J9/0087



Family:

Publication number	Publication date	Application number	Application date
US2019369641 AA	20191205	US20180993609	20180531
WO19231477 A1	20191205	WO2018US36535	20180607

Priority:

US20180993609 20180531

Probable Assignee: GILLETT CARLA R

Assignee(s): (std): GILLETT CARLA R

Inventor(s): (std): GILLETT CARLA R ; GILLETT CARLA

Agent(s): BIELEN THEODORE J JR

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
US2019369641 AA	20191205	LSPB	+	published / reissued	
WO19231477 A1	20191205	LSPB	+	published / reissued	

32) Family number: 57790149 (EP2821187B1)

Title: PROCESSING **DEVICE** AND PROCESSING METHOD DISPOSITIF ET PROCEDE DE TRAITEMENT

Abstract: Source: EP2821187A3 [DE] Die Erfindung betrifft eine Einrichtung (1) und ein Verfahren zum Bearbeiten von Werkstuecken (2), die auf einem Schwerkraftfoerderer (3) durch ihr Eigengewicht transportiert werden. Am Schwerkraftfoerderer (3) ist ein automatisierter Prozessbereich (9) mit einem Industrieroboter (5,6) und gegebenenfalls ein manueller Prozessbereich (10) angeordnet. Im Prozessbereich (9,10) erfolgt die Bearbeitung der Werkstuecke (2) auf dem Schwerkraftfoerderer (3). Dies kann in einer ruhenden Arbeitsposition (23) oder waehrend der Transportbewegung der Werkstuecke (2) erfolgen.

Classifications:
International (IPC 8-9): B23Q7/08 B23Q7/14 B25J9/00 B65G35/08 (Advanced/Invention)
CPC: B25J9/0093 B25J9/0084

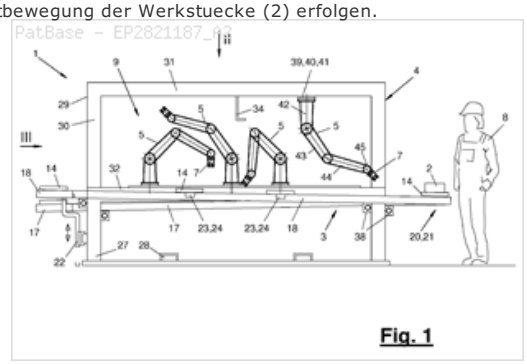


Fig. 1

Family:

Publication number	Publication date	Application number	Application date
DE202013102852 U1	20141120	DE201320102852U	20130701
DE502014002023 D1	20170105	DE201450002023T	20140626
EP2821187 A2	20150107	EP20140174561	20140626
EP2821187 A3	20150826	EP20140174561	20140626
EP2821187 B1	20161123	EP20140174561	20140626

Priority:
DE201320102852U 20130701 EP20140174561 20140626

Probable Assignee: KUKA SYSTEMS GMBH
Assignee(s): (std): KUKA SYSTEMS GMBH
Inventor(s): (std): STURM THOMAS
Agent(s): ERNICKE KLAUS STEFAN
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
DE202013102852 U1	20141120	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202013102852 U1	20141120	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20141120
DE202013102852 U1	20160707	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	
DE202013102852 U1	20230701	PEXP		Calculated Patent Term Expiry	
EP2821187 A2	20150107	LSPB	+	published / reissued	
EP2821187 A2	20150107	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140626
EP2821187 A3	20160316	LSES	+R17P	REQUEST FOR EXAMINATION FILED (CORRECTED)	EFFECTIVE DATE : 20160204
EP2821187 A3	20160720	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160620
EP2821187 B1	20161123	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2821187 B1	20161123	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D TEXT : NOT ENGLISH

EP2821187 B1	20161130	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2821187 B1	20161214	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D TEXT : LANGUAGE OF EP DOCUMENT: GERMAN
EP2821187 B1	20161215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 847447 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20161215
EP2821187 B1	20170105	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 502014002023 COUNTRY OF REF DOCUMENT : DE
EP2821187 B1	20170228	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 : 20161123
EP2821187 B1	20170327	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2821187 B1	20170428	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 : 20161123
EP2821187 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161123
EP2821187 B1	20170428	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 : 20170223
EP2821187 B1	20170428	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 : 20170224
EP2821187 B1	20170428	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 : 20161123
EP2821187 B1	20170511	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 4
EP2821187 B1	20170531	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 : 20161123
EP2821187 B1	20170531	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 : 20161123
EP2821187 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : PT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170323
EP2821187 B1	20170531	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 : 20161123
EP2821187 B1	20170531	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 : 20161123
EP2821187 B1	20170531	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 : 20161123
EP2821187 B1	20170731	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 : 20161123
EP2821187 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161123
EP2821187 B1	20170731	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 : 20161123
EP2821187 B1	20170731	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 : 20161123
EP2821187 B1	20170731	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 : 20161123

EP2821187 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170511 YEAR OF FEE PAYMENT : 4
EP2821187 B1	20170824	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 502014002023 COUNTRY OF REF DOCUMENT : DE
EP2821187 B1	20170831	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 : 20170223
EP2821187 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SM NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161123
EP2821187 B1	20170831	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 : 20161123
EP2821187 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170621 YEAR OF FEE PAYMENT : 4
EP2821187 B1	20171101	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20170824
EP2821187 B1	20171130	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 : 20161123
EP2821187 B1	20180131	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 : 20161123
EP2821187 B1	20180131	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2821187 B1	20180321	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2821187 B1	20180430	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 : 20170626
EP2821187 B1	20180430	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 : 20170626
EP2821187 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : LI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170630

				NATIONAL OFFICE TO EPO]	
EP2821187 B1	20180430	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 : 20170630
EP2821187 B1	20180511	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 5
EP2821187 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180612 YEAR OF FEE PAYMENT : 5
EP2821187 B1	20180831	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 : 20170630
EP2821187 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180511 YEAR OF FEE PAYMENT : 5
EP2821187 B1	20180928	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 : 20161123
EP2821187 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180403 YEAR OF FEE PAYMENT : 5
EP2821187 B1	20190628	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 : 20140626
EP2821187 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190612 YEAR OF FEE PAYMENT : 6
EP2821187 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190510 YEAR OF FEE PAYMENT : 6
EP2821187 B1	20191031	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 : 20161123
EP2821187 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190626 YEAR OF FEE PAYMENT : 6
EP2821187 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161123
EP2821187 B1	20340626	PEXP		Calculated Patent	

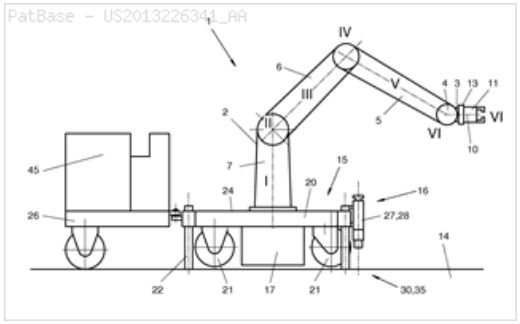
Term Expiry

33) Family number: 54314153 (US2013226341A)

Title: ROBOT ARRANGEMENT

Abstract: A robot arrangement has a movable, programmable robot (2), which has a plurality of links (4, 5, 6, 7) and axes of motion (I-VII) and is arranged on a movable, drivable carrying **device** (15). The robot arrangement (1) has a drive of its own (16), which can be actuated by the robot (2), for the carrying means (15).

Classifications:
International (IPC 8-9): A61G7/10 B25J18/04 B25J19/02 B25J5/00 B25J5/02 B25J9/02 B25J9/08 (Advanced/Invention)
CPC: B25J5/00 A61G7/1046 B25J5/007 G05D2201/0206 G05D2201/0211
US: 1/1 700/245 901/1



Family:

Publication number	Publication date	Application number	Application date
DE202012100646 U1	20130725	DE201220100646U	20120227
EP2631042 A2	20130828	EP20130156290	20130222
EP2631042 A3	20141126	EP20130156290	20130222
US2013226341 AA	20130829	US20130776870	20130226
US9149927 BB	20151006	US20130776870	20130226

Priority:

DE201220100646U 20120227

Probable Assignee: KUKA SYSTEMS GMBH

Assignee(s): (std): KUKA SYSTEMS GMBH

Inventor(s): (std): STURM THOMAS

Agent(s): ERNICKE KLAUS STEFAN; MCGLEW AND TUTTLE 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
DE202012100646 U1	20130725	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202012100646 U1	20130725	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20130725
DE202012100646 U1	20150306	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	
DE202012100646 U1	20150416	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	EFFECTIVE DATE : 20150306
DE202012100646 U1	20180226	LSGT	+R151	TERM OF PROTECTION EXTENDED TO 8 YEARS	
DE202012100646 U1	20220227	PEXP		Calculated Patent Term Expiry	
EP2631042 A2	20130828	LSPB	+	published / reissued	
EP2631042 A3	20150701	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150526
EP2631042 A3	20180613	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20180511
US2013226341 AA	20130829	LSPB	+	published / reissued	

US2013226341 AA	20150916	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9149927 BB	20151006	LSGT	+	granted / extensions (spc, cpc, pte)	
US9149927 BB	20130226	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KUKA SYSTEMS GMBH, GERMANY OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:STURM, THOMAS; REEL/FRAME:029874/0521 EFFECTIVE DATE : 20130214
US9149927 BB	20150916	LSGT	PAT1	Patented Case	
US9149927 BB	20190321	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9149927 BB	20330624	PEXP		Calculated Patent Term Expiry (PTA 118 days)	

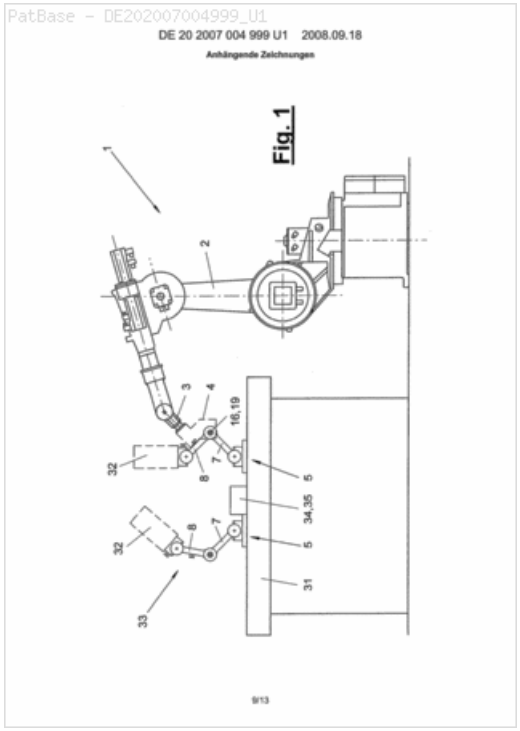
34) Family number: 42115158 (DE202007004999U1)

Title: POSITIONIEREINRICHTUNG POSITIONING (**Machine** translation)

Abstract: Source: DE202007004999U1 [DE] (Claim 1) Positioniereinrichtung fuer Aufbauten, insbesondere Werkzeuge, wobei die Positioniereinrichtung (5) mehrachsig verstellbar ist und mindestens zwei Arme (7, 8) aufweist, die untereinander und mit einem Sockel (9) sowie einem Kopfteil (10) gelenkig und arretierbar verbunden sind und die Positioniereinrichtung (5) fuer eine maschinelle Verstellung, z.

Machine translation: (Claim 1) to positioning mechanism for superstructures, in particular **tools**, whereby the positioning mechanism (5) is adjustable more oh victory and exhibits at least two arms (7, 8), those among themselves and with a base (9) as well as a heading (10) articulated and lockable connected and the positioning mechanism (5) for a **machine** adjustment, z are.

Classifications:
International (IPC 8-9)**:** B25J11/00 B25J18/06 B25J9/06 (Advanced/Invention);
B25J11/00 B25J18/00 B25J9/06 (Core/Invention)
CPC: B23Q3/18 B25J15/0095
European: B23Q3/18



Family:

Publication number	Publication date	Application number	Application date
DE202007004999 U1	20080814	DE200720004999U	20070403

Priority:
DE200720004999U 20070403

Probable Assignee: KUKA SYSTEMS GMBH
Assignee(s): (std)**:** KUKA SYSTEMS GMBH

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
DE202007004999 U1	20080814	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202007004999 U1	20080918	LSGT	R207	UTILITY MODEL SPECIFICATION	EFFECTIVE DATE : 20080918
DE202007004999 U1	20100617	LSGT	+R150	TERM OF PROTECTION EXTENDED TO 6 YEARS	EFFECTIVE DATE : 20100409
DE202007004999 U1	20130409	LSGT	+R151	TERM OF PROTECTION EXTENDED TO 8 YEARS	
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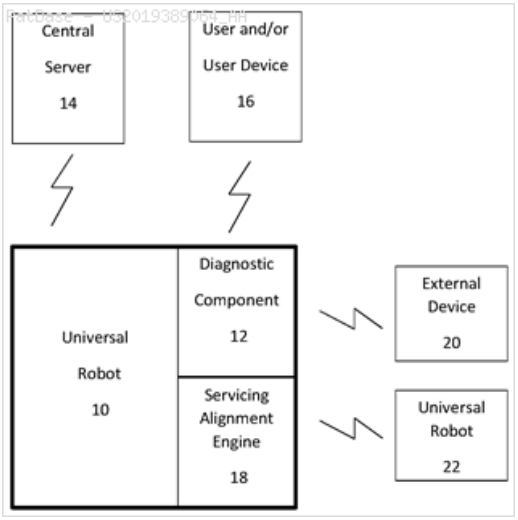
DE202007004999 U1	20170430	LSLE	-R071	EXPIRY OF RIGHT
DE202007004999 U1	20170403	PEXP		Calculated Patent Term Expiry

35) Family number: 77059164 (US2019389064A)

Title: UNIVERSAL ROBOT AND **DEVICE** SUPPORT SYSTEM

Abstract: A support system for an autonomous robot may include a diagnostic component coupled to the autonomous robot; one or more on-board sensors coupled to the autonomous robot, the one or more on-board sensors configured to communicate with the diagnostic component; a servicing alignment engine configured to store information, the servicing alignment engine configured to communicate with the diagnostic component; and an **auxiliary** robot configured to communicate with the diagnostic component. The diagnostic component is configured to continuously monitor a status of the autonomous robot, determine if the status is within a predetermined operating value, and send a notification to the **auxiliary** robot based on the status. The **auxiliary** robot is configured to determine a remedial action based on a notification that the status is outside of the predetermined operating value and initiate the remedial action on the autonomous robot when the status is not within the predetermined operating value.

Classifications:
International (IPC 8-9)**:** B25J11/00 B25J13/00 B25J13/08 B25J9/00 B25J9/16 (Advanced/Invention)
CPC: B25J9/1674 B25J9/1664 B25J9/163 B25J13/08 B25J19/0066 G05D1/02



Family:

Publication number	Publication date	Application number	Application date
US2019389064 AA	20191226	US20190450183	20190624
WO20005828 A1	20200102	WO2019US38718	20190624

Priority:
US20180689635P 20180625 US20190450183 20190624

Probable Assignee: WALMART APOLLO LLC
Assignee(s): (std)**:** WALMART APOLLO LLC
Inventor(s): (std)**:** HIGH DONALD R ; O BRIEN JOHN J ; MCHALE BRIAN ; CANTRELL ROBERT
Agent(s): KAMINSKI JEFFRI 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 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)

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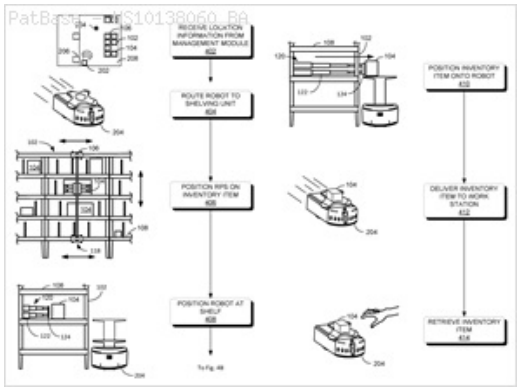
Patent	Date recorded	Event group	Code	Event	Details
US2019389064 AA	20191226	LSPB	+	published / reissued	
WO20005828 A1	20200102	LSPB	+	published / reissued	

36) Family number: 72070165 (US10138060B)

Title: MODULAR, MULTI-FUNCTION ROBOTIC POSITIONING SYSTEM

Abstract: A system to select and reposition inventory items on one or more shelving units is disclosed. The system can include a robotic positioning system (RPS) to move inventory items on a shelf to the front of the shelf, or off the shelf, to facilitate selection, delivery, and restocking of the inventory item. The RPS can include a movement system to enable it to position itself behind a particular inventory item on a shelf. The RPS can also include a positioner to enable the RPS to move the inventory item backward and forward on the shelf. The RPS can be mounted on a free-standing frame to enable movement in two axes and repositioning of inventory items in a third axis. The RPS can also be centrally mounted in a shelving unit and can move vertically and rotate about a single axis to reposition inventory items radially.

Classifications:
International (IPC 8-9): B25J18/02 B25J5/02 B65G1/04 B65G1/137 G05B15/02 G06Q10/08 (Advanced/Invention)
CPC: B65G1/137 B25J5/02 B25J18/025 G05B15/02 G06Q10/08 G05B2219/45083 B65G1/0407 B65G1/0485 B65G1/1371 B65G2203/0233 B65G2203/0283 B25J9/023 B25J15/0253



Family:

Publication number	Publication date	Application number	Application date
US10138060 BA	20181127	US20160189239	20160622

Priority:
US20160189239 20160622

Probable Assignee: AMAZON TECH INC
Assignee(s): (std): AMAZON TECH INC
Assignee(s): AMAZON TECHNOLOGIES INC
Inventor(s): (std): MANTHA SRIKANTH ; DARROW JOHN ELIAS ; CANAVOR DARREN ERNEST
Agent(s): LEE AND HAYES PC; WARNER CHARLES L

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10138060 BA	20181127	LSGT	+	granted / extensions (spc, cpc, pte)	
US10138060 BA	20181107	LSGT	PAT1	Patented Case	
US10138060 BA	20181107	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US10138060 BA	20360622	PEXP		Calculated Patent Term Expiry	

37) Family number: 51109167 (US2014009561A)

Title: CUSTOMIZABLE ROBOTIC SYSTEM

Abstract: A telepresence robot uses a series of connectible modules and preferably includes a head module adapted to receive and cooperate with a third party telecommunication **device** that includes a display screen. The module design provides cost advantages with respect to shipping and storage while also allowing flexibility in robot configuration and specialized applications.

Classifications:

International (IPC 8-9): A63H30/00 B25J11/00 B25J19/02 B25J5/00 B25J9/00 B25J9/08 B25J9/16 B60L11/00 B60L50/00 B60R11/02 B60R11/04 B62D11/04 F16M11/04 F16M11/10 F16M11/18 F16M11/20 F16M11/24 F16M11/42 F16M13/00 G06F15/00 H04B7/26 H04L29/06 H04N5/225 H04N5/30 H04N7/14 H04N7/15 H04N7/18 H04W4/70 (Advanced/Invention);
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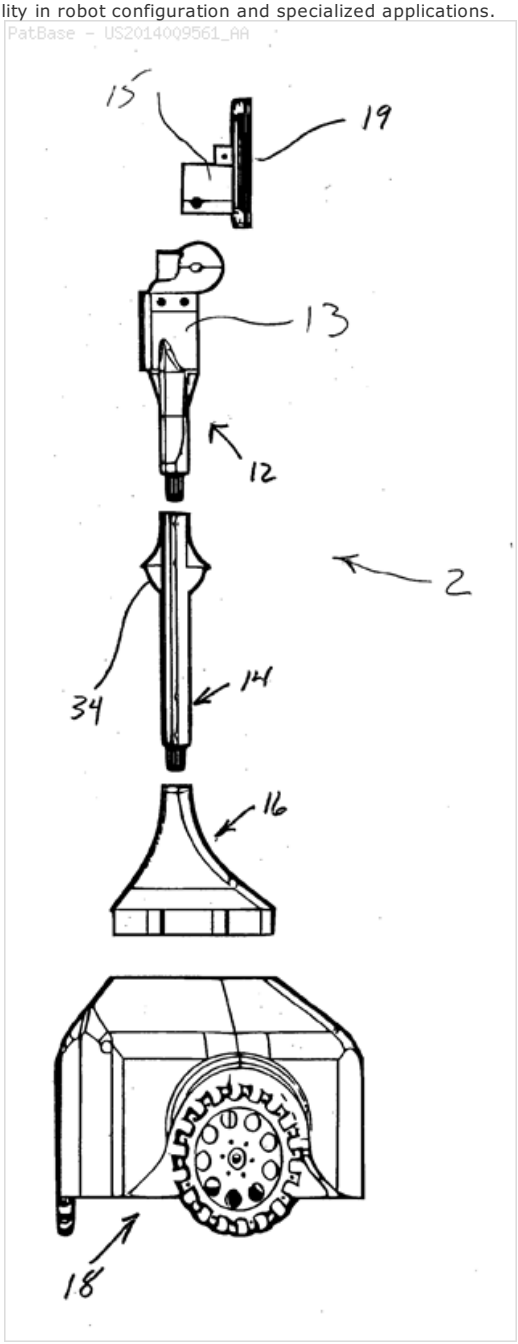
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European: B25J19/02B4 B25J5/00W B25J9/08 F16M11/04A F16M11/10 F16M11/18 F16M11/24 F16M11/42 F16M13/00 H04N7/18D2 R16M200/08

US: 180/167 180/22 180/6.5 180/7.1 318/568.12 345/156 345/660 345/698 348/14.05 348/14.08 348/158 382/153 382/154 446/175 463/40 600/300 600/432 700/245 700/248 700/259 700/91 701/23 701/24 701/26 701/28 901/1

JP F-Term: 3C707 3C707/AS34 3C707/BS26 3C707/CS08 3C707/CU09 3C707/JU12 3C707/KS36 3C707/KS39 3C707/KT01 3C707/KT15 3C707/KV18 3C707/WA16 5C164 5C164/FA10 5C164/VA04 5C164/VA06 5C164/VA07 5C164/VA16 5C164/VA31

JP F-Index: B25J5/00/A B25J9/08 H04N7/14/120 H04N7/15/150 H04N7/15/170 H04N7/15/630/Z



Family:

Publication number	Publication date	Application number	Application date
CA2720886 AA	20120512	CA20102720886	20101112
CA2817670 AA	20130510	CA20112817670	20111114
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JP2014506023 T2	20140306	JP20130538011T	20111114
JP5993376 B2	20160914	JP20130538011T	20111114
US2014009561 AA	20140109	US20110806382	20111114
US2020009738 AA	20200109	US20180042153	20180723
US8994776 BB	20150331	US20110806382	20111114
WO12061932 A1	20120518	WO2011CA01251	20111114

Priority:

CA20102720886 20101112 CA20112817670 20111114 WO2011CA01251 20111114
US20120806382 20121221 US20150662431 20150319 US20160255935 20160902

US20180042153 20180723

Probable Assignee: CROSSWING INC

Assignee(s): (std): COULOMBE SAM ; CROSSWING INC ; SUTHERLAND STEPHEN ; WICK DALE

Inventor(s): (std): SUTHERLAND STEPHEN B ; SUTHERLAND STEPHEN ; COULOMBE SAM ; WICK DALE

Agent(s): DENNISON ASSOCIATES; SUMIYOSHI KATSUHIKO; HALL S WARREN ET AL

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

Legal status (INPADOC)

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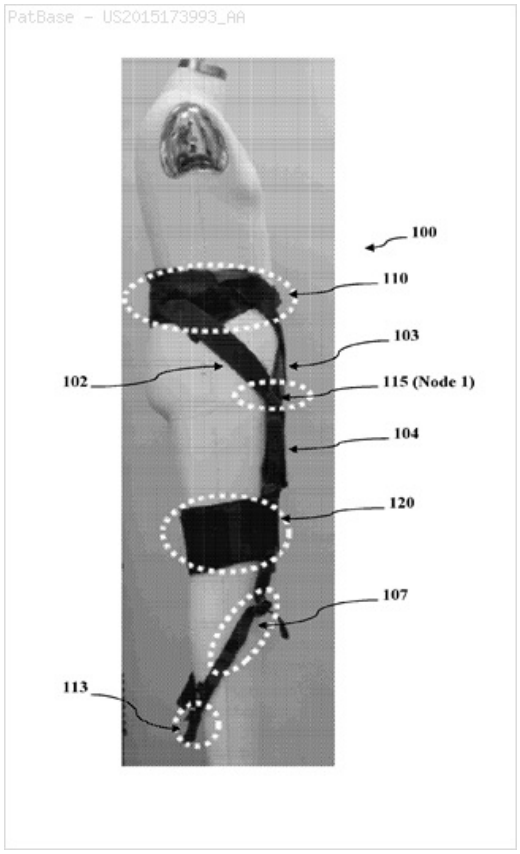
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CA2720886 AA	20150715	LSLE	-FZDE	DEAD	EFFECTIVE DATE : 20150520
CA2817670 AA	20130510	LSPB	+	published / reissued	
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CA2817670 C	20180731	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2817670 C	20311114	PEXP		Calculated Patent Term Expiry	
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JP5993376 B2	20160728	LSGT	+A01	特許査定書	

				(Decision of patent grant)	
JP5993376 B2	20160823	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5993376 B2	20160826	LSGT	+R150	特許証 (Patent certificate)	
JP5993376 B2	20190829	LSFE	R20	特許料納付書 (Patent fee payment form)	
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US2014009561 AA	20150311	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2020009738 AA	20200109	LSPB	+	published / reissued	
US2020009738 AA	20200110	LSES	NFA1	Non Final Action Mailed	
US8994776 BB	20150331	LSGT	+	granted / extensions (spc, cpc, pte)	
US8994776 BB	20121221	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CROSSWING INC., CANADA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SUTHERLAND, STEPHEN; WICK, DALE; COULOMBE, SAM; SIGNING DATES FROM 20120924 TO 20120926; REEL/FRAME:029518/0940
US8994776 BB	20150311	LSGT	PAT1	Patented Case	
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US8994776 BB	20190322	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
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38) Family number: 56914170 (US2015173993A)

Title: SOFT EXOSUIT FOR ASSISTANCE WITH HUMAN MOTION

Abstract: In at least one aspect, there is provided a system for generating force about one or more joints including a soft exosuit having a plurality of anchor elements and at least one connection element disposed between the plurality of anchor elements. The system also includes at least one sensor to determine a force the at least one connection element or at least one of the plurality of anchor elements and to output signals relating to the force, at least one actuator configured to change a tension in the soft exosuit and at least one controller configured to receive the signals output from the at least one sensor and actuate the at least one actuator responsive to the received signals.



Classifications:
International (IPC 8-9): A41D13/00 A61B5/00 A61B5/103 A61B5/11 A61F2/36 A61F2/50 A61F2/60 A61F2/68 A61F2/70 A61F5/00 A61F5/01 A61H1/00 A61H1/02 A61H3/00 A61H3/04 A63B21/00 A63B21/005 A63B21/02 A63B21/04 A63B22/00 A63B24/00 A63B26/00 A63B69/00 A63B71/00 A63B71/02 A63B71/06 B25J11/00 B25J13/00 B25J9/00 B25J9/10 B25J9/16 F03G5/06 F03G7/08 G06F19/00 G09B19/00 (Advanced/Invention);
A61H1/02 A61H3/00 A63B24/00 (Advanced/Non-invention)
CPC: A63B71/0054 A61H3/008 A61H3/04 A61H2003/043 A63B21/00181 A63B26/003 A63B69/0064 A63B2022/0092 A63B2071/0072 A63B2071/025 A63B2220/803 A61F13/08 A61H2201/1207 A61H2201/14 A61H2201/1623 A61H2201/169 A61H2201/5028 A61F5/0127 A61F2005/0158 A61B5/04888 A61B5/4851 A61B5/6811 G16H20/30 A61H1/0277 A61H2201/0107 A63B21/0058 A63B21/157 A63B2024/0093 A63B2071/0655 A63B2220/16 A63B2220/89 G09B19/003 A61H2201/1659 A61H2201/1695 A61H2201/503 A61H2201/5038 A61H2201/5071 A61H2205/106 A61B5/112 A61B5/6812 A61B5/6828 A61B5/6831 A61H2201/123 A61H2201/1253 A61H2201/1676 A61H2201/5046 A61H2201/5048 A63B21/00178 A63B21/0054 A63B21/008 A63B21/023 A63B21/152 A63B21/4009 A63B21/4013 A63B21/4015 A63B21/4025 A63B21/4047 A63B23/03541 A63B23/0405 A63B24/0087 A63B2071/0666 A63B2071/068 A63B2220/24 A63B2220/40 A63B2220/51 A63B2220/801 A63B2225/20 A63B2225/50 A63B2230/60 F03G7/005 G09B19/0038 A61H2003/007 B25J9/104 B25J9/1694 A61H2201/1246 A61H2201/1261 A61H2201/1481 A61H2201/1628 A61H2201/1652 A61H2201/1664 A61H2201/1671 A61H2201/5002 A61H2201/5007 A61H2201/5079 A61H2201/5097 A61H2230/60 B25J9/0006 A61F5/01 A61H1/0262 A61H3/00 Y02A90/26 A61F5/0102 A61F5/0123 A61F5/0125 A61F2005/0179 A61H1/024 A61H1/0244 A61H1/0266 A61H2003/001 A61H2201/0165 A61H2201/1215 A61H2201/1238 A61H2201/149 A61H2201/164 A61H2201/1642 A61H2201/165 A61H2201/1673 A61H2201/501 A61H2201/5015 A61H2201/5061 A61H2201/5064 A61H2201/5069 A61H2201/5082 A61H2201/5084 A61H2230/505 A61H2230/605 A61F2005/0137 A61F2005/0155 A61F2005/0165 A61F2005/0188 A61F2005/0197
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JP F-Index: A61F2/70 B25J11/00/Z A61H1/02/N A61H3/00/B

Family:

Publication number	Publication date	Application number	Application date
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CN108670195 A	20181019	CN201810311441	20140530
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US2016107309 AA	20160421	US20140893934	20140530
US2016220438 AA	20160804	US20160097744	20160413
US2016346156 AA	20161201	US20150117034	20150205
US2017027735 AA	20170202	US20150302347	20150410
US2017202724 AA	20170720	US20140102694	20141203
US2018008502 AA	20180111	US20150511894	20150919
US9351900 BB	20160531	US20130371675	20130917
US10278883 BB	20190507	US20150117034	20150205
US10427293 BB	20191001	US20150660704	20150317
US10434030 BB	20191008	US20150511894	20150919
WO14109799 A1	20140717	WO2013US60225	20130917
WO14194257 A1	20141204	WO2014US40340	20140530
WO15088863 A2	20150618	WO2014US68462	20141203
WO15088863 A3	20151217	WO2014US68462	20141203
WO15120186 A1	20150813	WO2015US14672	20150205
WO15157731 A1	20151015	WO2015US25472	20150410
WO16089466 A2	20160609	WO2015US51107	20150919
WO16089466 A3	20160909	WO2015US51107	20150919
WO16089466 A9	20160707	WO2015US51107	20150919

Priority:

US201207019 70P 20120917	US20130829686P 20130531	US20130873433P 20130904
JP20150532154T 20130917	US20130371675 20130917	WO2013US60225 20130917
US20130913863P 20131209	US20140928281P 20140116	US20140936162P 20140205
US20140977880P 20140410	US20140980961P 20140417	CN201480031224 20140530
US20140893934 20140530	WO2014US40340 20140530	US20140371675 20140710
US20140048076P 20140909	US20140052562P 20140919	US20140102694 20141203
WO2014US68462 20141203	US20150107729P 20150126	US20150117034 20150205
WO2015US14672 20150205	US20150660704 20150317	US20150138848P 20150326
US20150302347 20150410	WO2015US25472 20150410	US20150173887P 20150610
US20150183149P 20150622	US20150193793P 20150717	US20150511894 20150919
WO2015US51107 20150919	US20160097744 20160413	JP20190000257 20190104

Probable Assignee: PRESIDENT AND FELLOWS OF HARVARD COLLEGE

Assignee(s): (std)**:** ASBECK ALAN T ; ASSOCIATION PRESIDENT AND RESEARCH FELLOW AT HARVARD UNIV ; HARVARD COLLEGE ; CHILDRENS MEDICAL CENTER ; PRESIDENT AND FELLOWS OF HARVARD COLLEGE ; LEE JILLIAN CHRISTINE ; YARRI MATTHEW W ; WALSH CONOR JAMES ; DE ROSSI STEFANO MARCO MARIA ; WALSH CONOR J ; PRISIDENT AND FELLOWS OF HARVARD COLLEGE

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Inventor(s): ODONNELL KATHLEEN ELIZABETH

Agent(s): WRAYS PTY LTD; ROBIC; OSLO PATENTKONTOR AS; FUKAMI PATENT OFFICE PC; GREENBERG TRAURIG LLP; TODD C; DAVID J; DYKEMAN DAVID J; BASILE TODD C; PEGG WILLIAM D ET AL; RESNICK DAVID S ET AL; ZACHARAKIS MARIA LACCOTRIPE ET AL; DYKEMAN DAVID J ET AL

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2014364219 AA	20160630	LSPB	+	published /	

				reissued	
AU2014364219 AA	20191219	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
CA2885228 AA	20150316	LSPB	+	published / reissued	
CA2885228 AA	20190201	LSES	+EEER	EXAMINATION REQUEST	EFFECTIVE DATE : 20190124
CA2911275 AA	20151102	LSPB	+	published / reissued	
CA2932883 AA	20160606	LSPB	+	published / reissued	
CN104869969 A	20150826	LSPB	+	published / reissued	
CN104869969 A	20170609	LSGT	+GR01	PATENT GRANT	
CN104869969 B	20170609	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104869969 B	20330917	PEXP		Calculated Patent Term Expiry	
CN105263448 A	20160120	LSPB	+	published / reissued	
CN105263448 A	20160120	LSPB	+C06	PUBLICATION	
CN105263448 B	20180504	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105263448 B	20180504	LSGT	+GR01	PATENT GRANT	
CN105263448 B	20340530	PEXP		Calculated Patent Term Expiry	
CN105992554 A	20161005	LSPB	+	published / reissued	
CN105992554 A	20161005	LSPB	+C06	PUBLICATION	
CN106795868 A	20170531	LSPB	+	published / reissued	
CN106795868 A	20170531	LSPB	PB01	PUBLICATION	
CN108670195 A	20181019	LSPB	+	published / reissued	
CN108670195 A	20181019	LSPB	PB01	PUBLICATION	
EP2895133 A1	20150722	LSPB	+	published / reissued	
EP2895133 A1	20150722	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150416
EP2895133 A4	20161005	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20160902
EP2895133 A4	20180425	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20180327
EP3003231 A1	20160413	LSPB	+	published / reissued	
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EP3003231 A4	20170621	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20170519
EP3003231 A4	20180725	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20180626
EP3003231 A4	20190508	LSGT	+INTG	INTENTION TO	EFFECTIVE DATE : 20190412

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EP3003231 B1	20190918	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3003231 B1	20190918	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP3003231 B1	20190930	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP3003231 B1	20191010	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602014053944 COUNTRY OF REF DOCUMENT : DE
EP3003231 B1	20191015	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1180351 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20191015
EP3003231 B1	20191016	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP3003231 B1	20200131	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 : 20191218
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EP3003231 B1	20200131	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 : 20191218
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EP3003231 B1	20340530	PEXP		Calculated Patent Term Expiry	
EP3079581 A2	20161019	LSPB	+	published / reissued	
EP3079581 A2	20161019	LSES	+17P	REQUEST FOR	EFFECTIVE DATE : 20160610

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EP3079581 A4	20161228	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20161130
EP3079581 A4	20181212	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20181108
EP3102171 A1	20161214	LSPB	+	published / reissued	
EP3102171 A1	20161214	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160830
EP3102171 A4	20180328	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20180227
EP3128963 A1	20170215	LSPB	+	published / reissued	
EP3128963 A1	20170215	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20161107
EP3128963 A4	20171206	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20171107
EP3128963 A4	20181205	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20180605
EP3194769 A2	20170726	LSPB	+	published / reissued	
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EP3194769 A4	20180711	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20180611
EP3194769 A4	20191127	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20191030
IN201637023537 A	20160826	LSPB	+	published / reissued	
JP2015529574 T2	20151008	LSPB	+	published / reissued	
JP2015529574 T2	20150701	LSRE	A529	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 34 (PCT)	TEXT : JAPANESE INTERMEDIATE CODE: A529 EFFECTIVE DATE : 20150515
JP2015529574 T2	20160916	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160916
JP2015529574 T2	20160916	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20160916
JP2015529574 T2	20160923	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160923
JP2015529574 T2	20171024	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20171024
JP2015529574 T2	20180323	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180323
JP2015529574 T2	20180905	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20180905
JP2016528940 T2	20160923	LSPB	+	published / reissued	

JP2016528940 T2	20170523	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20170523
JP2016528940 T2	20170727	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170727
JP2016528940 T2	20180508	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20180508
JP2016528940 T2	20180907	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180907
JP2016528940 T2	20181207	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2016528940 T2	20181211	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20181211
JP2016528940 T2	20190117	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20190109
JP2016528940 T2	20190118	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6466420 COUNTRY OF REF DOCUMENT : JP
JP2016539723 T2	20161222	LSPB	+	published / reissued	
JP2016539723 T2	20160928	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160809
JP2016539723 T2	20171129	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20171129
JP2016539723 T2	20181002	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20181002
JP2016539723 T2	20190514	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20190514
JP2017529161 T2	20171005	LSPB	+	published / reissued	
JP2017529161 T2	20180918	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20180918
JP2017529161 T2	20180918	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20180918
JP2017529161 T2	20181109	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20181109
JP2017529161 T2	20190820	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20190820
JP2017529161 T2	20200117	LSRE	A524	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 19 (PCT)	TEXT : JAPANESE INTERMEDIATE CODE: A524 EFFECTIVE DATE : 20200117
JP2019077037 A2	20190523	LSPB	+	published / reissued	
JP2019077037 A2	20190618	LSRE	A521	WRITTEN	TEXT : JAPANESE INTERMEDIATE CODE:

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JP6466420 B2	20190206	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6466420 B2	20181213	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6466420 B2	20190115	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6466420 B2	20190118	LSGT	+R150	特許証 (Patent certificate)	
JP6466420 B2	20340530	PEXP		Calculated Patent Term Expiry	
KR20150077413 A	20150707	LSPB	+	published / reissued	
KR20150077413 A	20190730	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20160016925 A	20160215	LSPB	+	published / reissued	
KR20160016925 A	20190717	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
KR20160098354 A	20160818	LSPB	+	published / reissued	
KR20160098354 A	20200104	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
US10278883 BB	20190507	LSGT	+	granted / extensions (spc, cpc, pte)	
US10278883 BB	20160906	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL SCIENCE FOUNDATION, VIRGINIA OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:HARVARD UNIVERSITY; REEL/FRAME:039918/0207 EFFECTIVE DATE : 20160818
US10278883 BB	20190417	LSGT	PAT1	Patented Case	
US10278883 BB	20360205	PEXP		Calculated Patent Term Expiry (PTA 365 days)	
US10427293 BB	20191001	LSGT	+	granted / extensions (spc, cpc, pte)	
US10427293 BB	20350421	PEXP		Calculated Patent Term Expiry (PTA 35 days)	
US10434030 BB	20191008	LSGT	+	granted / extensions (spc, cpc, pte)	
US10434030 BB	20170327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ASBECK, ALAN T.; DING, YE; BUJANDA, IGNACIO GALIANA; AND OTHERS; SIGNING DATES FROM 20151124 TO 20160106; REEL/FRAME:041750/0181
US10434030 BB	20190918	LSGT	PAT1	Patented Case	
US10434030 BB	20360724	PEXP		Calculated Patent Term Expiry (PTA 309 days)	
US2015173993 AA	20150625	LSPB	+	published / reissued	

US2015173993 AA	20160511	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015321339 AA	20151112	LSPB	+	published / reissued	
US2015321339 AA	20150729	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ASBECK, ALAN T.; DING, YE; DYER, ROBERT JOSEPH; AND OTHERS; SIGNING DATES FROM 20131030 TO 20131218; REEL/FRAME:036208/0948
US2015321339 AA	20150807	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL SCIENCE FOUNDATION, VIRGINIA OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:HARVARD UNIVERSITY; REEL/FRAME:036308/0493 EFFECTIVE DATE : 20150603
US2015321339 AA	20170322	LSES	NFA1	Non Final Action Mailed	
US2015321339 AA	20170901	LSES	NFA1	Non Final Action Mailed	
US2015321339 AA	20180617	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2015321339 AA	20180626	LSES	NFA1	Non Final Action Mailed	
US2015321339 AA	20190430	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015321339 AA	20190802	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2015321339 AA	20190822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LARUSSON, ARNAR FREYR; REEL/FRAME:050128/0228 EFFECTIVE DATE : 20131030
US2015321339 AA	20190911	LSGT	PAT1	Patented Case	
US2015321339 AA	20190911	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016107309 AA	20160421	LSPB	+	published / reissued	
US2016107309 AA	20151208	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ASBECK, ALAN T.; DE ROSSI, STEFANO MARCO MARIA; DING, YE; AND OTHERS; SIGNING DATES FROM 20140620 TO 20140623; REEL/FRAME:037236/0005
US2016107309 AA	20190517	LSES	NFA1	Non Final Action Mailed	
US2016107309 AA	20191009	LSES	NFA1	Non Final Action Mailed	
US2016220438 AA	20160804	LSPB	+	published / reissued	
US2016220438 AA	20160813	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ASBECK, ALAN T.; DING, YE; DYER, ROBERT JOSEPH; AND OTHERS; SIGNING DATES FROM 20131030 TO 20131218;

					REEL/FRAME:039426/0798
US2016220438 AA	20190821	LSES	NFA1	Non Final Action Mailed	
US2016346156 AA	20161201	LSPB	+	published / reissued	
US2016346156 AA	20170221	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PARK, EVELYN J.; SONG, SANG EUN; WALSH, CONOR JAMES; SIGNING DATES FROM 20150811 TO 20150818; REEL/FRAME:041320/0269
US2016346156 AA	20170221	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CHILDREN'S MEDICAL CENTER CORPORATION, MASSACHUSET OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOLDFIELD, EUGENE C.; REEL/FRAME:041320/0321 EFFECTIVE DATE : 20150819
US2016346156 AA	20190115	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016346156 AA	20190326	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016346156 AA	20190417	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017027735 AA	20170202	LSPB	+	published / reissued	
US2017027735 AA	20170206	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ASBECK, ALAN T.; COCHRAN, JILLIAN CHRISTINE; DE ROSSI, STEFANO MARCO MARIA; AND OTHERS; SIGNING DATES FROM 20150915 TO 20150918; REEL/FRAME:041181/0775
US2017027735 AA	20170303	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ASBECK, ALAN T.; COCHRAN, JILLIAN CHRISTINE; WALSH, CONOR JAMES; AND OTHERS; SIGNING DATES FROM 20170111 TO 20170117; REEL/FRAME:041870/0001
US2017027735 AA	20190923	LSES	NFA1	Non Final Action Mailed	
US2017202724 AA	20170720	LSPB	+	published / reissued	
US2017202724 AA	20170224	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRUSTEES OF BOSTON UNIVERSITY, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HOLT, KENNETH G.; REEL/FRAME:041365/0759 EFFECTIVE DATE : 20160315
US2017202724 AA	20170224	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ASBECK, ALAN T.; BAE, JAEHYUN; DE ROSSI, STEFANO MARCO MARIA; AND OTHERS; SIGNING DATES FROM 20160314 TO 20160404; REEL/FRAME:041365/0711

US2017202724 AA	20170419	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRUSTEES OF BOSTON UNIVERSITY, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HOLT, KENNETH G.; REEL/FRAME:042051/0684 EFFECTIVE DATE : 20170109
US2017202724 AA	20170419	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ASBECK, ALAN T.; BAE, JAEHYUN; DEROSSI, STEFANO MARCO MARIA; AND OTHERS; SIGNING DATES FROM 20170109 TO 20170413; REEL/FRAME:042094/0401
US2017202724 AA	20180123	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TRUSTEES OF BOSTON UNIVERSITY, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:HOLT, KENNETH G; REEL/FRAME:044694/0710 EFFECTIVE DATE : 20160315
US2017202724 AA	20191008	LSES	NFA1	Non Final Action Mailed	
US2018008502 AA	20180111	LSPB	+	published / reissued	
US2018008502 AA	20190513	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018008502 AA	20190820	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2018008502 AA	20190918	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9351900 BB	20160531	LSGT	+	granted / extensions (spc, cpc, pte)	
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US9351900 BB	20141008	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ASBECK, ALAN T.; BUJANDA, IGNACIO GALIANA; DING, YE; AND OTHERS; SIGNING DATES FROM 20131030 TO 20131218; REEL/FRAME:033909/0192
US9351900 BB	20141209	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PRESIDENT AND FELLOWS OF HARVARD COLLEGE, MASSACHU OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNOR NAME PREVIOUSLY RECORDED AT REEL: 033909 FRAME: 0192. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:GALIANA BUJANDA, IGNACIO; REEL/FRAME:034565/0923 EFFECTIVE DATE : 20131013
US9351900 BB	20150106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL SCIENCE FOUNDATION, VIRGINIA OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:HARVARD UNIVERSITY; REEL/FRAME:034730/0367

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US9351900 BB	20160511	LSGT	PAT1	Patented Case	
US9351900 BB	20191202	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9351900 BB	20330917	PEXP		Calculated Patent Term Expiry	
WO14109799 A1	20140717	LSPB	+	published / reissued	
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WO14109799 A1	20150316	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2885228 COUNTRY OF REF DOCUMENT : CA
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WO14194257 A1	20141204	LSPB	+	published / reissued	
WO14194257 A1	20140530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201480031224.7 COUNTRY OF REF DOCUMENT : CN
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WO15088863 A2	20150618	LSPB	+	published / reissued	
WO15088863 A3	20160606	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2932883 COUNTRY OF REF DOCUMENT : CA
WO15088863 A3	20160608	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2016537519 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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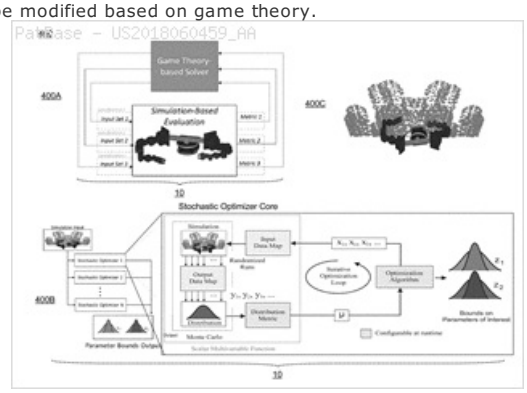
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WO15088863 A3	20160630	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2014364219 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20141203 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO15088863 A3	20160711	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20167018659 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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WO15120186 A1	20150813	LSPB	+	published / reissued	
WO15120186 A1	20160805	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO15120186 A1	20160830	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2015746146 COUNTRY OF REF DOCUMENT : EP
WO15157731 A1	20151015	LSPB	+	published / reissued	
WO15157731 A1	20161006	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15302347 COUNTRY OF REF DOCUMENT : US
WO15157731 A1	20161010	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15157731 A1	20161107	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2015776544 COUNTRY OF REF DOCUMENT : EP
WO16089466 A2	20160609	LSPB	+	published / reissued	
WO16089466 A3	20170317	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017515148 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO16089466 A3	20170320	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO16089466 A3	20170419	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2015864962 COUNTRY OF REF DOCUMENT : EP

39) Family number: 68721174 (US2018060459A)

Title: SYSTEM AND METHOD FOR GAME THEORY-BASED DESIGN OF ROBOTIC SYSTEMS

Abstract: A method, computer program product, and computer system for configuring a stochastic simulation scenario, wherein the stochastic simulation scenario may include one or more variables, wherein at least a portion of the one or more variables may include agent behavior, and wherein the stochastic simulation scenario may be randomized and digital. The stochastic simulation scenario may be executed to generate one or more results of the stochastic simulation scenario. At least a portion of the one or more variables may be optimized using one or more optimization metrics on the one or more results of the stochastic simulation scenario, wherein at least the portion of the one or more variables may be modified based on game theory.

Classifications:
International (IPC 8-9): B25J9/16 G06F17/11 G06F17/18 G06F17/50 (Advanced/Invention)
CPC: G05B2219/40429 B25J9/1671 G06F30/20 G06F2111/08
US: 1/1 703/2



Family:

Publication number	Publication date	Application number	Application date
US2018060459 AA	20180301	US20160254383	20160901
US10445442 BB	20191015	US20160254383	20160901

Priority:
US20160254383 20160901

Probable Assignee: ENERGID TECHNOLOGIES CORP
Assignee(s): (std): ENERGID TECH CORP
Assignee(s): ENERGID TECHNOLOGIES CORP ; GOVERNMENT OF UNITED STATES SECRETARY OF ARMY ; GENRAD LLC ; LITEPOINT CORP ; NEXTEST SYSTEMS CORP ; TERADYNE INC ; BARCLAYS BANK PLC COLLATERAL AGENT AS ; EAGLE TEST SYSTEMS INC
Inventor(s): (std): LIMONE BRETT L ; MUENCH PAUL ; ENGLISH JAMES D ; PENNING RYAN S ; BARKER DOUGLAS E
Agent(s): WHITTENBERGER MARK H; HOLLAND AND KNIGHT LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10445442 BB	20191015	LSGT	+	granted / extensions (spc, cpc, pte)	
US10445442 BB	20160901	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ENERGID TECHNOLOGIES CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ENGLISH, JAMES D.; PENNING, RYAN S.; BARKER, DOUGLAS E.; AND OTHERS; SIGNING DATES FROM 20160829 TO 20160830; REEL/FRAME:039615/0054
US10445442 BB	20161006	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOVERNMENT OF THE UNITED STATES, SECRETARY OF THE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MUENCH, PAUL; REEL/FRAME:039957/0242 EFFECTIVE DATE : 20160930
US10445442 BB	20380121	PEXP		Calculated Patent Term Expiry (PTA 507 days)	
US2018060459 AA	20180301	LSPB	+	published / reissued	
US2018060459 AA	20180611	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARCLAYS BANK PLC, AS COLLATERAL AGENT, NEW YORK OLDPARTY : PATENT SECURITY

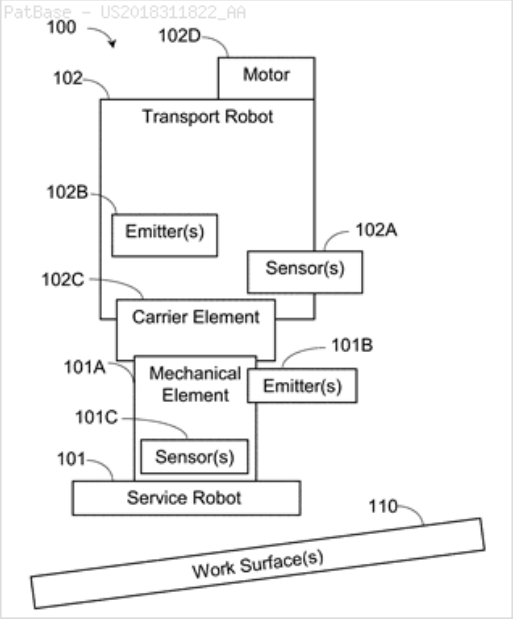
					AGREEMENT; ASSIGNOR:ENERGID TECHNOLOGIES CORPORATION; REEL/FRAME:046330/0911 EFFECTIVE DATE : 20180511
US2018060459 AA	20190205	LSES	NFA1	Non Final Action Mailed	
US2018060459 AA	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GENRAD, LLC, MASSACHUSETTS OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US2018060459 AA	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : TERADYNE, INC., MASSACHUSETTS OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US2018060459 AA	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EAGLE TEST SYSTEMS, INC., ILLINOIS OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US2018060459 AA	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NEXTEST SYSTEMS CORPORATION, CALIFORNIA OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US2018060459 AA	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ENERGID TECHNOLOGIES CORPORATION, MASSACHUSETTS OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US2018060459 AA	20190628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LITEPOINT CORPORATION, CALIFORNIA OLDPARTY : RELEASE OF SECURITY INTEREST IN INTELLECTUAL PROPERTY; ASSIGNOR:BARCLAYS BANK PLC, AS COLLATERAL AGENT; REEL/FRAME:049632/0940 EFFECTIVE DATE : 20190627
US2018060459 AA	20190801	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018060459 AA	20190910	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2018060459 AA	20190925	LSGT	PAT1	Patented Case	
US2018060459 AA	20190925	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

40) Family number: 65575175 (US2018311822A)

Title: ROBOTIC COOPERATIVE SYSTEM

Abstract: An automatic method for autonomous interactions between robots, comprising an action of automatically receiving, by a transport robot, a request for transporting a service robot. The method comprises an action of automatically computing a location of the service robot. The method comprises an action of automatically moving the transport robot to the location of the service robot. The method comprises an action of automatically sending a signal from the service robot to the transport robot using a signal emitter incorporated into a mechanical element attached to the service robot. The method comprises an action of automatically coupling, using the signal, the mechanical element to a carrier element attached to the transport robot.

Classifications:
International (IPC 8-9): B25J B25J11/00 B25J5/00 B25J9/16 B60D1/01 G05D1/00 G05D1/02 (Advanced/Invention);
B25J (Subclass/Invention)
CPC: B25J9/1682 B25J11/008 B25J9/1612 B25J9/1664 B25J9/162 G05D1/0088 B25J5/005 B25J9/1679 G05D1/0094 G05D1/0225
US: 1/1 700/248
JP F-Term: 3C707 3C707/AS01 3C707/AS14 3C707/AS15 3C707/CS08 3C707/LS15 3C707/WA16 5H301 5H301/AA01 5H301/AA10 5H301/BB11 5H301/BB14 5H301/CC03 5H301/CC04 5H301/CC06 5H301/CC07 5H301/CC10 5H301/FF05 5H301/FF08 5H301/FF11 5H301/GG07 5H301/GG08 5H301/GG09 5H301/GG10 5H301/QQ04
JP F-Index: B25J9/16 G05D1/02/H



Family:

Publication number	Publication date	Application number	Application date
AU2016347660 AA	20180621	AU20160347660	20161027
CN108602189 A	20180928	CN201680076303	20161027
EP3368250 A1	20180905	EP20160859208	20161027
EP3368250 A4	20190626	EP20160859208	20161027
IL258995 A0	20180628	IL20160258995	20161027
IN201817019684 A	20180921	IN201817019684	20180525
JP2018535837 T2	20181206	JP20180521266T	20161027
KR20180083342 A	20180720	KR20187015076	20161027
US2018311822 AA	20181101	US20160771354	20161027
WO17072771 A1	20170504	WO2016IL51163	20161027

Priority:
US20150247212P 20151028 US20160771354 20161027 WO2016IL51163 20161027

Probable Assignee: BAR ILAN UNIV

Assignee(s): (std): BAR ILAN UNIV ; ELMALIACH YEHUDA ; ERUSALIMCHIK DAN ; FRIEDLER ASSAF ; KAMINKA GAL ; UNIV BAR ILAN ; YAKIR ARI

Inventor(s): (std): KAMINKA GAL ; FRIEDLER ASSAF ; YAKIR ARI ; ERUSALIMCHIK DAN ; ELMALIACH YEHUDA

Agent(s): COLLISON AND CO; BOULT WADE TENNANT LLP; GASSNER DVIR 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 KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2016347660 AA	20180621	LSPB	+	published / reissued	
CN108602189 A	20180928	LSPB	+	published / reissued	
CN108602189 A	20180928	LSPB	PB01	PUBLICATION	
EP3368250 A1	20180905	LSPB	+	published / reissued	

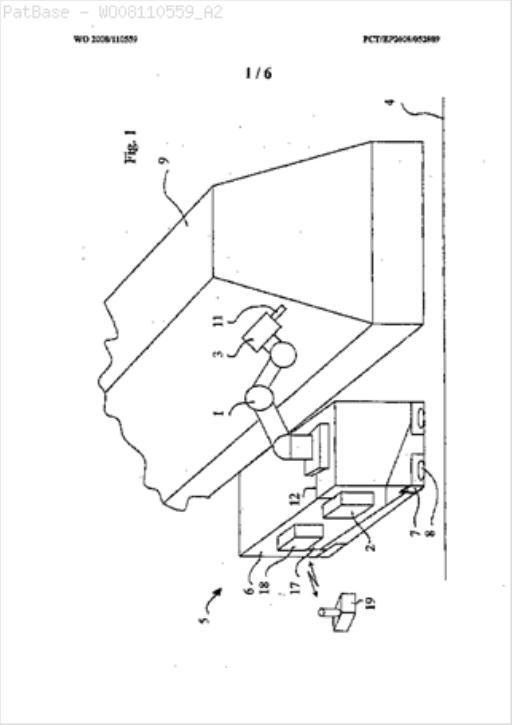
EP3368250 A1	20180905	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20180528
EP3368250 A4	20190626	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20190523
IN201817019684 A	20180921	LSPB	+	published / reissued	
JP2018535837 T2	20181206	LSPB	+	published / reissued	
JP2018535837 T2	20191008	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20191008
KR20180083342 A	20180720	LSPB	+	published / reissued	
US2018311822 AA	20181101	LSPB	+	published / reissued	
US2018311822 AA	20180620	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BAR-ILAN UNIVERSITY, ISRAEL OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KAMINKA, GAL; FRIEDLER, ASSAF; YAKIR, ARI; AND OTHERS; SIGNING DATES FROM 20180418 TO 20180528; REEL/FRAME:046143/0540
WO17072771 A1	20170504	LSPB	+	published / reissued	
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WO17072771 A1	20180426	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 258995 COUNTRY OF REF DOCUMENT : IL
WO17072771 A1	20180427	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 15771354 COUNTRY OF REF DOCUMENT : US
WO17072771 A1	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17072771 A1	20180528	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20187015076 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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WO17072771 A1	20180621	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2016347660 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20161027 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

41) Family number: 34469178 (WO08110559A2)

Title: A SUPPORT ARRANGEMENT FOR A TREATMENT **DEVICE**

Abstract: A support system for supporting a treatment **device** configured to move in a three dimensional space relative an objectis disclosed. A method for treating objects based on a support system is also disclosed. The support system comprises a free-standing base element for supporting an actuator of the treatment **device** and at least one transfer element for enabling movement of the free-standing base element relative to the object upon activation of a transfer element actuator. Acontrol arrangement is provided for controlling the position of the free-standing base element, the control arrangement comprising at least one positioning **tool** for providing positioning information. The control arrangement is configured to adapt movements of the treatment **device** between successive positions of the free-standing base element based on the positioning information such that synchronised treatment of the object is provided.

Classifications:
International (IPC 8-9): B23Q15/22 B25J13/08 B25J15/00 B25J9/16 G01B11/25 (Advanced/Invention);
B23Q15/20 B25J13/08 B25J15/00 B25J9/16 G01B11/24 (Core/Invention)
CPC: B25J5/00 B25J13/089 B23Q15/22 B25J9/162 B25J5/02 B25J9/1697 B63B71/00 G05B19/4207 G05B2219/37048 G05B2219/45062
European: B23Q15/22 B25J13/08V2 B25J5/00 B25J5/02 B25J9/16K2 B25J9/16V1 B63B9/00C G05B19/42B2 S05B219/37048 S05B219/45062



Family:

Publication number	Publication date	Application number	Application date
GB200704733 A0	20070418	GB20070004733	20070312
GB2447455 A1	20080917	GB20070004733	20070312
ITTO20070389 A1	20081205	IT2007TO00389	20070604
WO08110559 A2	20080918	WO2008EP52889	20080311
WO08110559 A3	20081113	WO2008EP52889	20080311
WO08110899 A2	20080918	WO2008IB00570	20080311
WO08110899 A3	20090402	WO2008IB00570	20080311

Priority:
GB20070004733 20070312 IT2007TO00389 20070604

Probable Assignee: MASTER AUTOMATION GROUP OY

Assignee(s): (std): AZIMUT BENETTI S P A ; MASTER AUTOMATION GROUP OY ; RAGGI CLAUDIO

Assignee(s): AZIMUT BENETTI SPA

Inventor(s): (std): RAGGI CLAUDIO

Inventor(s): CLAUDIO RAGGI

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
GB2447455 A1	20080917	LSPB	+	published / reissued	
GB2447455 A1	20090729	LSWD	-WAP	APPLICATION WITHDRAWN, TAKEN TO BE WITHDRAWN OR REFUSED ** AFTER	

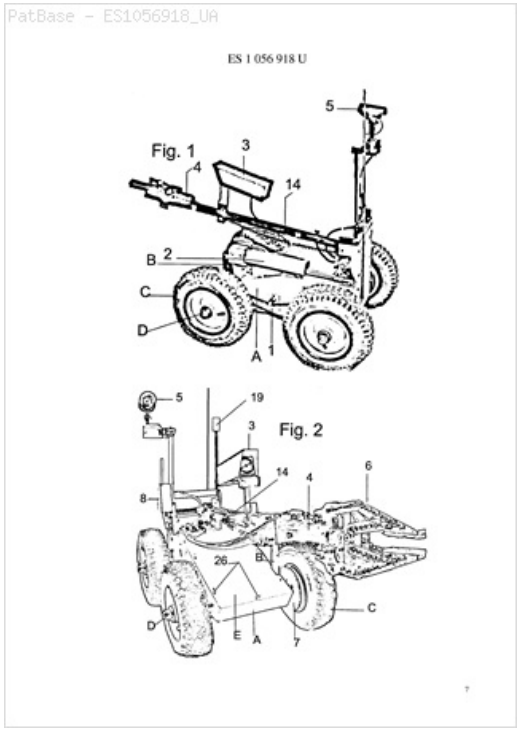
				PUBLICATION UNDER SECTION 16(1)	
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WO08110559 A2	20080918	LSPB	+	published / reissued	
WO08110559 A3	20090915	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO08110559 A3	20100526	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08717635 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :
WO08110899 A2	20080918	LSPB	+	published / reissued	
WO08110899 A3	20090915	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

42) Family number: 34674182 (ES1056918Y)

Title: ROBOT DE DESACTIVACION DE ARTEFACTOS EXPLOSIVOS MINAS Y MUNICIONES.

Abstract: Source: ES1056918U [ES] 1. Robot de desactivacion de explosivos, minas y municiones que siendo del tipo de ruedas (C), se caracteriza por estar constituido por un chasis (A) de acero inoxidable de forma rectangular con inclinacion hacia arriba en su parte delantera baja y con inclinacion hacia abajo en su parte delantera alta, al que se le atraviesan con barras redondas de acero inoxidable conformando de esta forma los ejes para la colocacion de las ruedas (C) en cada uno de los laterales del chasis, las cuales son atacadas por medio de cadena de transmision (13), que engrana en los pinones de cada uno de los motores y en las coronas dentadas (7) de cada una de las ruedas (C). Esta cadena (13) se encuentra tensada por medio de un tensor automatico y manual (1) para cada uno de los lados del robot. El movimiento del robot se consigue mediante este sistema de una sola cadena de traccion (13) para cada uno de los laterales, la traccion es continua a todas las ruedas, tipo 4x4, los giros se consiguen mediante la traccion hacia delante de un lado y hacia atras del lado contrario, de tal forma que el giro es proporcional a la velocidad de cada uno de los motores, este giro podemos decir que es del tipo tanque. El robot dispone de brazos (14)(16)(21) para cada tipo de operacion a realizar, ademas de pinza manipuladora (6) capaz de asir y manipular objetos con una gran precision. El movimiento de los brazos se consigue mediante la operacion de un actuador lineal (2) al que se ancla una leva de elevacion (10), que a su vez transmite el movimiento a la barra de sujecion (24) del brazo principal (12), y este a su vez a los brazos (14)(16)(21). Dispone de canones disruptores (4) y de escopeta (9) para la efectiva desactivacion de los distintos artefactos. Estos dispositivos (4)(9) son apuntados mediante la colocacion de un visor (11) de reticula luminosa al que se le acopla una camara para el correcto apunte a distancia. Tambien dispone de una pinza manipuladora (6) a la que se acopla una camara, que consigue del robot una herramienta capaz de manipular a distancia objetos con gran precision. Dispone de camaras (3)(5) para el correcto manejo a considerables distancias de todo el sistema, visionando las imagenes que se envian a traves del modulo de transmision (8) en el monitor TFT (29). Tanto el robot como los dispositivos operativos, son mandados a distancia mediante el maletin de mando con control remoto (27), mediante radiofrecuencia con modulacion PPM/PCM. En el maletin de mando se dispone del receptor de video audio (28) que recibe las senales mediante radiofrecuencia, y del monitor TFT (29). El telemando (27) se encuentra dispuesto en una caja plastica en la que se han colocado todos los dispositivos electronicos, en el exterior se han dispuesto los mandos de los brazos (30) y el de control de movimiento del robot (30), asi como los interruptores de control de mando de camaras, de mando de la pinza manipuladora (6) e interruptor de disparo, consiguiendo este ultimo mediante la utilizacion de distintos dispositivos electronicos una seguridad extrema frente a posibles disparos fortuitos, de tal forma que es necesario armar el sistema mediante un selector, antes de poder efectuar el disparo. **Machine translation:** 1. Deactivation of explosives, mines and ammunition robot which being of the type of **wheels** (C) is characterized by being constituted by a rectangular stainless steel frame (A) with inclination upward at the front low and with high tilt down at the front, to which a cross with stainless steel round bars forming in this way the axes for the placement of the **wheels** (C) on each side of the chassis, which are attacked by means of drive chain (13), which engages in the pinions of each of the motors and the gear rings (7) of each of the **wheels** (C). This string (13) is tensioned by means of an automatic tensioner and manual (1) for each of the sides of the robot. The movement of the robot is achieved by this system a single chain drive (13) for each side, traction is continuous with all-**wheel** drive, type 4x4, the turns are achieved by pulling forward from one side and rearward of the opposite side, so that the rotation is proportional to the rotation speed of each of the motors, this we can say that it is of the type tank. The robot has arms (14)(16)(21) for each type of operation to be performed, as well as manipulative clamp (6) able to grasp and manipulate objects with a high accuracy. The movement of the arms is achieved by the operation of a linear actuator (2) which is anchored a lift cam (10), which in turn transmits the movement to the clamping bar (24) of the main arm (12), and this in turn to the arms (14)(16)(21). (4) disrupting cannons and shotgun has (9) for the effective deactivation of the various artifacts. These **devices** (4)(9) are targeted by the placement of a viewer (11) to which is coupled a camera light grid for the correct point. It also has a clamp (6) which engages a manipulative chamber, which achieved the robot a **tool** capable of **handling** remote objects with great precision. Chambers (3)(5) available for the correct operation of the whole system, visionando considerable distances the images that are sent through the transmission module (8) on the monitor TFT (29). The robot operating **devices**, are sent by the remote control with remote control distance (27) by radio frequency modulation PPM/PCM. In the case of command is available audio video receiver (28) which receives the signals by means of radio frequency, and the TFT monitor (29). The remote control (27) is arranged in a plastic box in which are placed all electronic **devices**, the controls are arranged on the outside of the arms (30) and the control of movement of the robot (30), as well as the switches control of cameras, control of the clamp (6) manipulative and release switch, achieving the latter by the use of different electronic **devices** an extreme security against possible accidental firing, in such a way that it is necessary to arm the system by means of a selector, before firing.

Classifications:
International (IPC 8-9): B25J5/00 F42B33/06 (Advanced/Invention); B25J5/00 F42B33/00 (Core/Invention)
International (IPC 1-7): B25J5/00 F42B33/06
CPC: F41H7/005 F41H11/28 F41H11/32



Family:

Publication number	Publication date	Application number	Application date
ES1056918 UA	20040601	ES20030002925U	20030811
ES1056918 Y1	20040916	ES20030002925U	20030811

Priority:

ES20030002925U 20030811

Probable Assignee: COSTERO CORTON VICENTE MIGUEL

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Inventor(s): (std)**:** COSTERO CORTON VICENTE MIGUEL

Legal status (INPADOC)

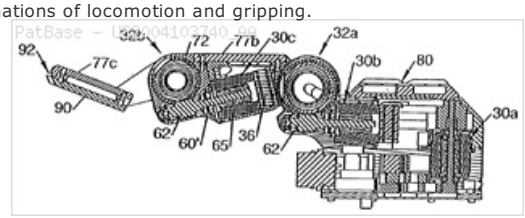
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Patent	Date recorded	Event group	Code	Event	Details
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ES1056918 Y1	20040916	LSGT	+	granted / extensions (spc, cpc, pte)	
ES1056918 Y1	20040916	LSGT	+FG1K	UTILITY MODEL GRANTED	
ES1056918 Y1	20051201	LSWD	-FA1K	APPLICATION WITHDRAWN	EFFECTIVE DATE : 20051115
ES1056918 Y1	20100323	LSLE	-FD1K	UTILITY MODEL LAPSED	EFFECTIVE DATE : 20100310
ES1056918 Y1	20130811	PEXP		Calculated Patent Term Expiry	

43) Family number: 30457185 (US2004103740A)

Title: INTELLIGENT, SELF-CONTAINED ROBOTIC HAND

Abstract: A robotic **device** has a base and at least one finger having at least two links that are connected in series on rotary joints with at least two degrees of freedom. A brushless motor and an associated controller are located at each joint to produce a rotational movement of a link. Wires for electrical power and communication serially connect the controllers in a distributed control network. A network operating controller coordinates the operation of the network, including power distribution. At least one, but more typically two to five, wires interconnect all the controllers through one or more joints. Motor sensors and external world sensors monitor operating parameters of the robotic hand. The electrical signal output of the sensors can be input anywhere on the distributed control network. V-grooves on the robotic hand locate objects precisely and **assist** in gripping. The hand is sealed, immersible and has electrical connections through the rotary joints for anodizing in a single dunk without masking. In various forms, this intelligent, self-contained, dexterous hand, or combinations of such hands, can perform a wide variety of object gripping and manipulating tasks, as well as locomotion and combinations of locomotion and gripping.



Classifications:
International (IPC 8-9): B25J13/00 B25J15/00 B25J15/08 B25J15/10 B25J17/00 B25J9/16 C25D11/02 C25D11/04 C25D7/00 G05B19/414 H01R13/648 H01R13/66 H02H7/08 H02K11/33 H02K29/10 H02M7/00 H02P5/00 H02P7/06 H02P7/292 H05K7/20 (Advanced/Invention); B25J15/10 (Advanced/Non-invention); B25J15/00 B25J9/16 C25D11/02 H01R13/648 H02H7/08 H02K29/06 H02P5/00 H02P7/06 H02P7/18 H05K7/20 (Core/Invention); B25J (Subclass/Invention)
International (IPC 1-7): B25J15/10 B25J17/00
CPC: Y10S294/907 C25D11/005 C25D11/02 B25J9/1612 B25J15/0009 B25J15/10 H02K11/048 C25D11/04 Y10T74/20305 Y10T74/20329 H02K11/01 H02K11/215 H02K11/33 H02K2213/12 H02M7/003
European: B25J15/00B B25J15/10 B25J9/16H C25D11/02 C25D11/04 H02K11/00H1 H02K11/04D1 H02M7/00D T02K11/00B
US: 165/185 205/122 205/128 205/136 205/145 205/324 257/602 257/701 294/106 294/907 318/254 318/400.13 318/400.130S 318/400.31 318/400.310P 318/400.4 318/400.400P 318/472 318/472S 318/491 318/565 318/568.11 318/568.2 361/679.01 361/714 361/714S 361/748 361/807 439/108 439/44 439/620.01 439/620.06 439/620.15 439/65 439/92 700/250 74/490.01 74/490.05 901/38 901/46
JP F-Term: 5H571 5H571/AA03 5H571/AA14 5H571/BB02 5H571/BB03 5H571/BB04 5H571/BB05 5H571/BB09 5H571/FF04 5H571/GG01 5H571/GG02 5H571/GG03 5H571/GG04 5H571/GG05 5H571/HA09 5H571/HA18 5H571/HC00 5H571/JJ03 5H571/KK05 5H571/LL08 5H571/LL22 5H571/LL31 5H571/LL34 5H571/MM01 5H571/MM02 5H571/MM06 5H571/MM12 5H571/PP01 5H571/PP02
JP F-Index: H02P5/172/L H02P5/172/M H02P5/172/Z H02P7/292/K H02P7/292/Z

Family:

Publication number	Publication date	Application number	Application date
AU2003278994 AA	20040419	AU20030278994	20030926
AU2003278994 AH	20040419	AU20030278994	20030926
CA2500005 AA	20050323	CA20032500005	20030926
CA2500005 C	20111206	CA20032500005	20030926
CA2581191 AA	20070320	CA20052581191	20050930
EP1805886 A2	20070711	EP20050802427	20050930
EP1805886 A4	20100526	EP20050802427	20050930
EP1805886 B1	20190102	EP20050802427	20050930
EP1805886 B8	20190313	EP20050802427	20050930
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US2009295317 AA	20091203	US20090383891	20090330
US7168748 BB	20070130	US20030672888	20030926
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WO04028753 A2	20040408	WO2003US30451	20030926
WO04028753 A3	20040715	WO2003US30451	20030926
WO06039662 A2	20060413	WO2005US35525	20050930
WO06039662 A3	20071213	WO2005US35525	20050930

Priority:

US20020414044P 20020926 US20030672888 20030926 WO2003US30451 20030926
US20040615490P 20040930 US20050699564P 20050715 US20050241516 20050930
WO2005US35525 20050930 US20060515107 20060831 US20090383917 20090330
US20090383891 20090330

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Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK

DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
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AU2003278994 AA	20050714	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
CA2500005 AA	20050323	LSPB	+	published / reissued	
CA2500005 AA	20080829	LSES	+EEER	EXAMINATION REQUEST	
CA2500005 C	20111206	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2500005 C	20230926	PEXP		Calculated Patent Term Expiry	
CA2581191 AA	20070320	LSPB	+	published / reissued	
CA2581191 AA	20100916	LSES	+EEER	EXAMINATION REQUEST	
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EP1805886 A2	20070711	LSPB	+	published / reissued	
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EP1805886 A2	20080123	LSES	R17D	DEFERRED SEARCH REPORT PUBLISHED (CORRECTED)	EFFECTIVE DATE : 20071213
EP1805886 A4	20100526	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20100423
EP1805886 A4	20170503	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20170330
EP1805886 A4	20180711	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180615
EP1805886 B1	20190102	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP1805886 B1	20190115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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					COUNTRY OF REF DOCUMENT : DE
EP1805886 B1	20190206	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, LLC
EP1805886 B1	20190215	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PK TEXT : BERICHTIGUNG B8
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EP1805886 B8	20191031	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 : 20190102
EP1805886 B8	20191031	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 : 20190102
EP1805886 B8	20191031	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 : 20190102
EP1805886 B8	20191031	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 : 20190102
EP1805886 B8	20191211	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20191003
JP2008515382 T2	20080508	LSPB	+	published / reissued	
JP2008515382 T2	20080923	LSES	+A621	WRITTEN REQUEST	TEXT : JAPANESE INTERMEDIATE

				FOR APPLICATION EXAMINATION	CODE: A621 EFFECTIVE DATE : 20080922
JP2008515382 T2	20110518	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110517
JP2008515382 T2	20111118	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111117
JP2008515382 T2	20120725	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120724
JP2008515382 T2	20130321	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20130319
US2004103740 AA	20040603	LSPB	+	published / reissued	
US2004103740 AA	20070110	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006071622 AA	20060406	LSPB	+	published / reissued	
US2006071622 AA	20090311	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2007039831 AA	20070222	LSPB	+	published / reissued	
US2007039831 AA	20111019	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009289584 AA	20091126	LSPB	+	published / reissued	
US2009289584 AA	20110202	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009295317 AA	20091203	LSPB	+	published / reissued	
US2009295317 AA	20101201	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7168748 BB	20070130	LSGT	+	granted / extensions (spc, cpc, pte)	
US7168748 BB	20030926	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TOWNSEND, WILLIAM T.; HAUPTMAN, TRAVELER; CROWELL, ADAM; AND OTHERS; REEL/FRAME:014552/0383 EFFECTIVE DATE : 20030926
US7168748 BB	20070110	LSGT	PAT1	Patented Case	
US7168748 BB	20100730	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7168748 BB	20140519	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7168748 BB	20160211	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, LLC, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BARRETT TECHNOLOGY, INC.; REEL/FRAME:037719/0442 EFFECTIVE DATE : 20160205
US7168748 BB	20180625	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7168748 BB	20240307	PEXP		Calculated Patent Term Expiry (PTA 163 days)	
US7511443 BB	20090331	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
US7511443 BB	20051220	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TOWNSEND, WILLIAM T.; CROWELL, ADAM; PRATT, GILL; AND OTHERS; REEL/FRAME:017135/0396; SIGNING DATES FROM 20051105 TO 20051107
US7511443 BB	20090311	LSGT	PAT1	Patented Case	
US7511443 BB	20120504	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7511443 BB	20160211	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, LLC, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BARRETT TECHNOLOGY, INC.; REEL/FRAME:037719/0442 EFFECTIVE DATE : 20160205
US7511443 BB	20160810	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7511443 BB	20251121	PEXP		Calculated Patent Term Expiry (PTA 52 days)	
US7854631 BB	20101221	LSGT	+	granted / extensions (spc, cpc, pte)	
US7854631 BB	20101201	LSGT	PAT1	Patented Case	
US7854631 BB	20110426	LSRE	CC	CERTIFICATE OF CORRECTION	
US7854631 BB	20140604	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7854631 BB	20150623	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PRATT, GILL; REEL/FRAME:035960/0619 EFFECTIVE DATE : 20051105
US7854631 BB	20150623	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TOWNSEND, WILLIAM T.; CROWELL, ADAM; HAUPTMAN, TRAVELER; REEL/FRAME:035960/0691 EFFECTIVE DATE : 20051107
US7854631 BB	20160211	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, LLC, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BARRETT TECHNOLOGY, INC.; REEL/FRAME:037719/0442 EFFECTIVE DATE : 20160205
US7854631 BB	20180806	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7854631 BB	20181024	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
US7854631 BB	20181024	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7854631 BB	20290330	PEXP		Calculated Patent Term Expiry	
US7893644 BB	20110222	LSGT	+	granted / extensions (spc, cpc, pte)	

US7893644 BB	20110202	LSGT	PAT1	Patented Case	
US7893644 BB	20140617	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7893644 BB	20150623	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PRATT, GILL; REEL/FRAME:035960/0757 EFFECTIVE DATE : 20051105
US7893644 BB	20150623	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TOWNSEND, WILLIAM T.; CROWELL, ADAM; HAUPTMAN, TRAVELER; REEL/FRAME:035960/0713 EFFECTIVE DATE : 20051107
US7893644 BB	20160211	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, LLC, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BARRETT TECHNOLOGY, INC.; REEL/FRAME:037719/0442 EFFECTIVE DATE : 20160205
US7893644 BB	20180626	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7893644 BB	20290330	PEXP		Calculated Patent Term Expiry	
US8052857 BB	20111108	LSGT	+	granted / extensions (spc, cpc, pte)	
US8052857 BB	20111019	LSGT	PAT1	Patented Case	
US8052857 BB	20150410	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8052857 BB	20150623	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TOWNSEND, WILLIAM T.; HAUPTMAN, TRAVELER; CROWELL, ADAM; AND OTHERS; REEL/FRAME:035960/0545 EFFECTIVE DATE : 20030926
US8052857 BB	20160211	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BARRETT TECHNOLOGY, LLC, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BARRETT TECHNOLOGY, INC.; REEL/FRAME:037719/0442 EFFECTIVE DATE : 20160205
US8052857 BB	20190701	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8052857 BB	20191216	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8052857 BB	20191216	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8052857 BB	20191216	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8052857 BB	20200107	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20191108
US8052857 BB	20291102	PEXP		Calculated Patent	

				Term Expiry (PTA 1159 days)	
WO04028753 A2	20040408	LSPB	+	published / reissued	
WO04028753 A3	20050323	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2500005 COUNTRY OF REF DOCUMENT : CA
WO04028753 A3	20051116	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO04028753 A3	20060825	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO04028753 A3	20060825	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	TEXT : JP
WO06039662 A2	20060413	LSPB	+	published / reissued	
WO06039662 A2	20070320	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2581191 COUNTRY OF REF DOCUMENT : CA
WO06039662 A2	20070329	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007534870 COUNTRY OF REF DOCUMENT : JP
WO06039662 A2	20070331	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO06039662 A2	20070418	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005802427 COUNTRY OF REF DOCUMENT : EP
WO06039662 A2	20070711	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005802427 COUNTRY OF REF DOCUMENT : EP

44) Family number: 75674193 (US2019299732A)

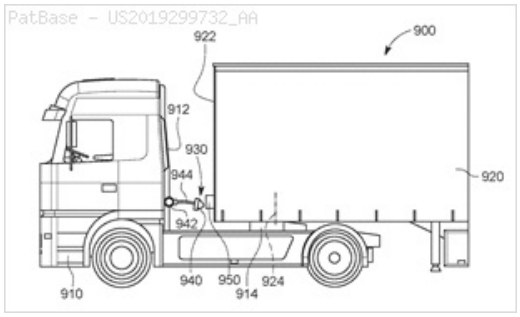
Title: SYSTEMS AND METHODS FOR AUTOMATED OPERATION AND **HANDLING** OF AUTONOMOUS TRUCKS AND TRAILERS HAULED THEREBY

Abstract: A system and method for operation of an autonomous **vehicle** (AV) yard truck is provided. A processor facilitates autonomous movement of the AV yard truck, and connection to and disconnection from trailers. A plurality of sensors are interconnected with the processor that sense terrain/objects and **assist** in automatically connecting/disconnecting trailers. A server, interconnected, wirelessly with the processor, that tracks movement of the truck around and determines locations for trailer connection and disconnection. A door station unlatches/opens rear doors of the trailer when adjacent thereto, securing them in an opened position via clamps, etc. The system computes a height of the trailer, and/or if landing gear of the trailer is on the ground and interoperates with the fifth **wheel** to change height, and whether docking is safe, allowing a user to take manual control, and optimum charge time(s). Reversing sensors/safety, automated chocking, and intermodal container organization are also provided.

Classifications:

International (IPC 8-9): B25J9/16 B60D1/24 B60D1/26 B60D1/32 B60D1/62 B60D1/64 B60L53/36 B60L58/12 B60R25/04 B60R25/102 B60R25/23 B60R25/25 B60S9/14 B60S9/21 B60W30/14 B60W40/02 B62D13/06 B62D15/02 B62D33/02 B62D53/08 B65G69/00 E05B81/54 E05C17/02 G05D1/00 G05D1/02 (Advanced/Invention)

CPC: B60D1/64 B60D1/26 B62D63/08 B25J9/1679 G05D2201/0213 G05D1/0231 G05D1/0061 E05Y2900/531 G05D1/0276 B60D1/62 B60L58/12 B60L53/36 B62D53/0821 B60R25/25 B60R25/23 B60R25/102 B60R25/04 E05B81/54 E05C17/02 B60L2200/36 E05Y2900/516 G05D1/0088 B62D15/0285 B65G69/005 B62D33/0222 G05D1/0225 B62D13/06 B65G69/003 B65G69/2882 G05D1/0094



Family:

Publication number	Publication date	Application number	Application date
US2019299732 AA	20191003	US20190282279	20190221
US2019302764 AA	20191003	US20190282258	20190221
US2019322319 AA	20191024	US20190282290	20190221
WO19165147 A1	20190829	WO2019US19049	20190221
WO19165150 A1	20190829	WO2019US19052	20190221

Priority:

US20180633185P 20180221 US20180681044P 20180605 US20180715757P 20180807
US20190282279 20190221 US20190282258 20190221 US20190282290 20190221

Probable Assignee: AZEVTEC INC

Assignee(s): (std): AZEVTEC INC

Inventor(s): (std): ROSENBLUM MARK A ; NETT JEREMY ; JOHANNES MATTHEW ; ROSENBLUM MARK ; SOTOLA MARTIN ; LANGENDERFER STEPHEN ; KLEIN LAWRENCE ; SMITH ANDREW ; NETT JEREMY M ; SEMINARA GARY ; JOHANNES MATTHEW S ; ROWLEY DALE ; JAMES PETER ; ROSENBLUM MARK H ; BAHL VIKAS ; SOTOLA MARTIN E ; LANGENDERFER STEPHEN A ; KLEIN LAWRENCE S ; SMITH ANDREW F

Agent(s): LOGINOV WILLIAM A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE 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)

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Patent	Date recorded	Event group	Code	Event	Details
US2019299732 AA	20191003	LSPB	+	published / reissued	
US2019299732 AA	20190311	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AZEVTEC, INC., OREGON OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SMITH, ANDREW F.; KLEIN, LAWRENCE S.; LANGENDERFER, STEPHEN A.; AND OTHERS; SIGNING DATES FROM 20190225 TO 20190310; REEL/FRAME:048561/0882
US2019302764 AA	20191003	LSPB	+	published / reissued	
US2019302764 AA	20190311	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AZEVTEC, INC., OREGON OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SMITH, ANDREW F.; KLEIN, LAWRENCE S.; LANGENDERFER, STEPHEN A.; AND OTHERS; SIGNING DATES FROM 20190225 TO 20190226; REEL/FRAME:048561/0704

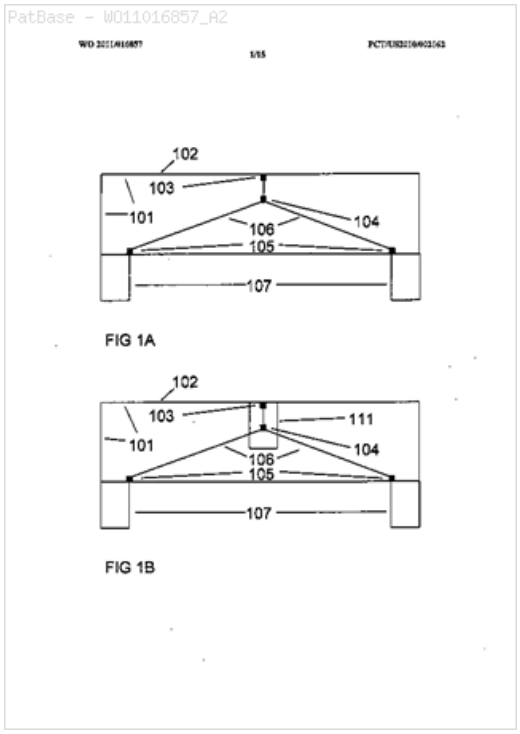
US2019322319 AA	20191024	LSPB	+	published / reissued	
US2019322319 AA	20190311	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AZEVTEC, INC., OREGON OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SMITH, ANDREW F.; KLEIN, LAWRENCE S.; LANGENDERFER, STEPHEN A.; AND OTHERS; SIGNING DATES FROM 20190225 TO 20190310; REEL/FRAME:048562/0121
WO19165147 A1	20190829	LSPB	+	published / reissued	
WO19165150 A1	20190829	LSPB	+	published / reissued	

45) Family number: 48261195 (WO11016857A2)

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): KOVNAT SAM ; ELLIOTT JAMES C ; GRAVES SPENCER

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)

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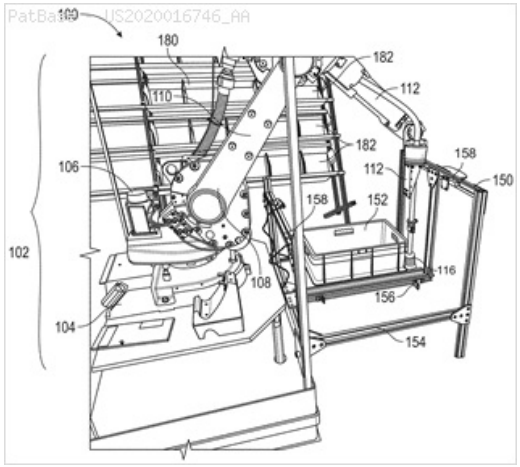
Patent	Date recorded	Event group	Code	Event	Details
WO11016857 A2	20110210	LSPB	+	published / reissued	
WO11016857 A3	20120227	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11016857 A3	20120829	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 10806749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

46) Family number: 77319196 (US2020016746A)

Title: ROBOTIC SYSTEM FOR PICKING, SORTING, AND PLACING A PLURALITY OF RANDOM AND NOVEL OBJECTS

Abstract: The present disclosure generally relates to pick and place robotic systems. An exemplary system for coupling a detachable **tool** to a motion **device** comprises: a first magnetic ring affixed to a distal end of the motion **device**, wherein the motion **device** and the first magnetic ring form a first hollow chamber; a second magnetic ring affixed to a proximal end of the detachable **tool**, wherein the second magnetic ring and the detachable **tool** forms a second hollow chamber extending from a center of the second magnetic ring and the detachable **tool**, wherein the first magnetic ring and the second magnetic ring are configured to automatically couple together via a magnetic field in an aligned manner, and wherein the coupling of the first magnetic ring and the second magnetic ring joins the first hollow chamber and the second hollow chamber to allow for a pass-through mechanism.

Classifications:
International (IPC 8-9): B25J15/04 B25J15/06 B25J9/16 B65G47/90 B65G47/91 B65G47/92 (Advanced/Invention)
CPC: B65G47/91 B65G2207/42 B65G2203/042 B65G47/92 B25J15/0608 B25J15/0616 B25J9/1687 B25J9/1612 B65G47/905



Family:

Publication number	Publication date	Application number	Application date
US2020016746 AA	20200116	US20190511347	20190715
US2020017314 AA	20200116	US20190511406	20190715
US2020017315 AA	20200116	US20190511402	20190715
US2020017316 AA	20200116	US20190511415	20190715
US2020017317 AA	20200116	US20190511408	20190715
WO20018468 A1	20200123	WO2019US41894	20190715

Priority:

US20180698679P 20180716 US20180778221P 20181211 US20190827708P 20190401
US20190511406 20190715 US20190511402 20190715 US20190511408 20190715
US20190511347 20190715 US20190511415 20190715

Probable Assignee: XYZ ROBOTICS GLOBAL INC

Assignee(s): (std): XYZ ROBOTICS GLOBAL INC ; XYZ ROBOTICS INC

Assignee(s): BOARD OF UNIV OF NEBRASKA

Inventor(s): (std): ROSE AIDAN ERIC ; YAP JASON CHUA ; YU KUAN TING ; ZHOU JIAJI ; LIN NI CHING ; DONLON ELLIOTT

Agent(s): YUAN YUNAN

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)

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Patent	Date recorded	Event group	Code	Event	Details
US2020016746 AA	20200116	LSPB	+	published / reissued	
US2020016746 AA	20190822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYZ ROBOTICS GLOBAL INC., CAYMAN ISLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:YAP, JASON CHUA; YU, KUAN-TING; REEL/FRAME:050132/0149 EFFECTIVE DATE : 20190801
US2020016746 AA	20191030	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYZ ROBOTICS GLOBAL INC., CAYMAN ISLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:XYZ ROBOTICS INC.; REEL/FRAME:050869/0625 EFFECTIVE DATE : 20191024

US2020017314 AA	20200116	LSPB	+	published / reissued	
US2020017314 AA	20190822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYZ ROBOTICS GLOBAL INC., CAYMAN ISLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROSE, AIDEN ERIC; YAP, JASON CHUA; YU, KUAN-TING; AND OTHERS; SIGNING DATES FROM 20190801 TO 20190803; REEL/FRAME:050132/0542
US2020017314 AA	20191030	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYZ ROBOTICS GLOBAL INC., CAYMAN ISLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:XYZ ROBOTICS INC.; REEL/FRAME:050869/0625 EFFECTIVE DATE : 20191024
US2020017315 AA	20200116	LSPB	+	published / reissued	
US2020017315 AA	20190823	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYZ ROBOTICS GLOBAL INC., CAYMAN ISLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:YAP, JASON CHUA; ROSE, AIDAN ERIC; YU, KUAN-TING; AND OTHERS; SIGNING DATES FROM 20190801 TO 20190802; REEL/FRAME:050149/0518
US2020017315 AA	20191030	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYZ ROBOTICS GLOBAL INC., CAYMAN ISLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:XYZ ROBOTICS INC.; REEL/FRAME:050869/0625 EFFECTIVE DATE : 20191024
US2020017316 AA	20200116	LSPB	+	published / reissued	
US2020017316 AA	20190822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYZ ROBOTICS GLOBAL INC., CAYMAN ISLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DONLON, ELLIOTT; YAP, JASON CHUA; YU, KUAN-TING; AND OTHERS; SIGNING DATES FROM 20190801 TO 20190802; REEL/FRAME:050141/0369
US2020017316 AA	20191030	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYZ ROBOTICS GLOBAL INC., CAYMAN ISLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:XYZ ROBOTICS INC.; REEL/FRAME:050869/0625 EFFECTIVE DATE : 20191024
US2020017316 AA	20191119	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CARLSON, MARK; XIE, JINGWEI; CHEN, SHIXUAN; SIGNING DATES FROM 20180613 TO 20180614; REEL/FRAME:051052/0146
US2020017317 AA	20200116	LSPB	+	published / reissued	
US2020017317 AA	20190822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYZ ROBOTICS GLOBAL INC., CAYMAN ISLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:YAP, JASON CHUA; YU, KUAN-TING; REEL/FRAME:050141/0374 EFFECTIVE DATE : 20190801
US2020017317 AA	20191030	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : XYZ ROBOTICS GLOBAL INC., CAYMAN ISLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:XYZ ROBOTICS INC.; REEL/FRAME:050869/0625 EFFECTIVE DATE : 20191024
WO20018468 A1	20200123	LSPB	+	published / reissued	

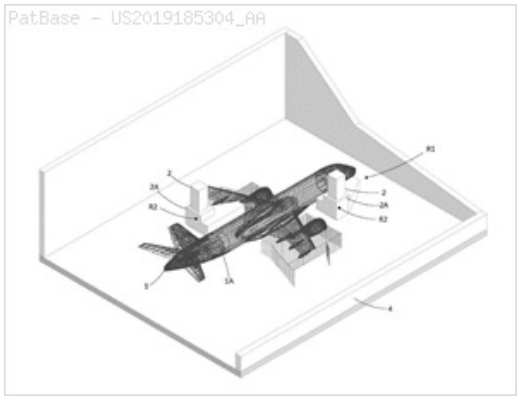
47) Family number: 74169197 (US2019185304A)

Title: COLLISION AVOIDANCE ASSISTANCE SYSTEM FOR MOVABLE **WORK** PLATFORMS

Abstract: The present invention relates to an apparatus and a method for generating a cloud of points (**1**A) representative of the real outer shape of a human transportation **vehicle** (**1**) located in a building (**4**) and for determining the position and orientation of said human transportation **vehicle** (**1**) in said building (**4**) and for determining the relative position and orientation of at least one movable **work** platform (**2**), the position and orientation of said human transportation **vehicle** (**1**) and the position and orientation of said movable **work** platform (**2**) being referenced with respect to at least one known building (**4**) reference point (R**1**), said apparatus being for preventing collisions between the movable **work** platform (**2**) and the human transportation **vehicle** (**1**), said apparatus comprising:

- at least one known building reference point (R**1**) being the origin point of a 6 degrees of freedom coordinate system and serving as a central common reference point, and
- at least one three-dimensional scanning means (**3**) for determining said real outer shape of said human transportation **vehicle** (**1**), and
- at least one stationary calculator means (**6**) for generating said cloud of points (**1**A) representative of the real outer shape of the human transportation **vehicle** (**1**), and
- one known movable **work** platform (**2**) reference point (R**2**) located on said movable **work** platform (**2**), and
- at least one setting means (**8**) for setting the position and orientation up to 6 degrees of freedom of the movable **work** platform (**2**) according to reference point (R**2**) with respect to the reference point (R**1**), and
- at least one first processor (**21**) for generating a three dimensional model (**2**A) representative of the movable **work** platform (**2**), and
- said first processor (**21**) for determining the up to 6 degrees of freedom position and orientation of said three dimensional model (**2**A) representative of said movable **work** platform (**2**), and
- the three-dimensional scanning means (**3**), the setting means (**8**), the stationary calculator means (**6**) and the first processor (**21**) being linked together via a communication means, and
- said first processor (**21**) being for preventing collisions between the movable **work** platform (**2**) and the human transportation **vehicle** (**1**).

Classifications:
International (IPC 8-9): B25J9/16 B60W30/08 B64F5/00 B64F5/10 B66F11/04 G01B11/00 G01B11/24 G01C3/06 G01S17/93 G05B17/00 G06F15/00 G06F17/50 G06T17/00 G06T7/73 G08G1/16 G08G5/04 (Advanced/Invention)
International (IPC 1-7): B25J9/16 B64F5/00 G01B11/00
CPC: B66F11/046 B66F11/04 B64F5/10 B66F17/006 G01S17/87 G01S17/89 G01S17/93 G06T17/00 G06T2210/56 G01S17/42 G06T7/75 G06T2207/10028 G06T2207/30261 G06F30/13 G06F30/15
US: 1/1
JP F-Term: 2F112 2F112/AD01 2F112/BA14 2F112/BA18 2F112/CA08 2F112/FA03 2F112/FA21 2F112/FA35 2F112/FA45 2F112/GA01 5J084 5J084/AA04 5J084/AA05 5J084/AA10 5J084/AA13 5J084/AB01 5J084/AB02 5J084/AB03 5J084/AB04 5J084/AC07 5J084/AD01 5J084/BA03 5J084/BA48 5J084/CA03 5J084/DA07 5J084/EA22
JP F-Index: G01C3/06/120/Q G01C3/06/140 G01S17/93



Family:

Publication number	Publication date	Application number	Application date
BR202018076808 U2	20190730	BR20182076808U	20181220
CN209496410 U	20191015	CN201822149440U	20181220
DE202018005865 U1	20190509	DE201820005865U	20181220
FR3077914 A1	20190816	FR20190000063	20181220
JP3224107 U	20191128	JP20190000754U	20190301
US2019185304 AA	20190620	US20180960390	20180423

Priority:
LU20170100588 20171220 LU20180100766 20180416 JP20180237809 20181219

Probable Assignee: CTI SYSTEMS RL SA
Assignee(s): (std): AMOVA SARL ; CTI SYSTEMS S A R L ; CTI SYSTEMS SARL ; LENTZWEILER
Assignee(s): CTI SYSTEMS RL SA
Inventor(s): (std): LESQUIR FRANCOIS ; FRANCOIS LESQUIR
Agent(s): DENNEMEYER AND ASSOCIATES SA

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BR202018076808 U2	20190730	LSPB	B03A	PUBLICATION OF AN APPLICATION: PUBLICATION OF A PATENT APPLICATION OR OF A CERTIFICATE OF ADDITION OF INVENTION	
CN209496410 U	20191015	LSGT	+	granted /	

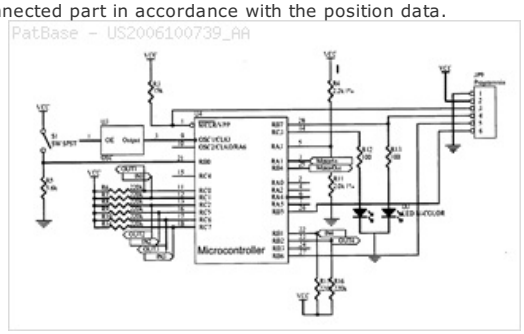
				extensions (spc, cpc, pte)	
CN209496410 U	20191015	LSGT	+GR01	PATENT GRANT	
CN209496410 U	20281220	PEXP		Calculated Patent Term Expiry	
DE202018005865 U1	20190509	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202018005865 U1	20190509	LSGT	R207	UTILITY MODEL SPECIFICATION	
DE202018005865 U1	20281220	PEXP		Calculated Patent Term Expiry	
FR3077914 A1	20190816	LSPB	+	published / reissued	
FR3077914 A1	20191220	LSFE	+PLFP	FEE PAYMENT	YEAR OF FEE PAYMENT : 2
FR3077914 A1	20200110	LSES	PLSC	SEARCH REPORT READY	EFFECTIVE DATE : 20200110
JP3224107 U	20191128	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3224107 U	20190813	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190812
JP3224107 U	20190930	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190930
JP3224107 U	20191106	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 3224107 COUNTRY OF REF DOCUMENT : JP
JP3224107 U	20290301	PEXP		Calculated Patent Term Expiry	
US2019185304 AA	20190620	LSPB	+	published / reissued	
US2019185304 AA	20180521	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AMOVA SARL, LUXEMBOURG OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:LESQUIR, FRANCOIS; REEL/FRAME:045858/0078 EFFECTIVE DATE : 20180413
US2019185304 AA	20180830	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CTI SYSTEMS S.A R.L., GERMANY OLDPARTY : CHANGE OF NAME; ASSIGNOR:AMOVA S.A R.L.; REEL/FRAME:046985/0941 EFFECTIVE DATE : 20180705
US2019185304 AA	20181025	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CTI SYSTEMS S.A R.L., LUXEMBOURG OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE THE ADDRESS OF THE ASSIGNEE PREVIOUSLY RECORDED AT REEL: 046985 FRAME: 0941. ASSIGNOR(S) HEREBY CONFIRMS THE CHANGE OF NAME; ASSIGNOR:AMOVA S.A R.L.; REEL/FRAME:047310/0961 EFFECTIVE DATE : 20180705

48) Family number: 32891210 (US2006100739A)

Title: PHYSICAL MODELING SYSTEM FOR CONSTRUCTING AND CONTROLLING ARTICULATED FORMS WITH MOTORIZED JOINTS

Abstract: A "construction set" consisting of active and passive parts connected by joints that can be manipulated to form an movable articulated assembly representing things like animals and skeletons. Each active part includes a position sensor for acquiring and storing position data specifying a sequence of positions assumed by the active part as the assembly is reshaped, and a controllable drive motor for moving the active part relative to a connected part in accordance with the position data.

Classifications:
International (IPC 8-9): B25J9/18 G06F19/00 (Advanced/Invention); G05B19/19 (Advanced/Non-invention); B25J9/18 G06F19/00 (Core/Invention); G05B19/19 (Core/Non-invention)
CPC: B25J9/08 B25J9/1617 G05B2219/40302 G05B2219/40304 G05B2219/45007
European: B25J9/08 B25J9/16K1 S05B219/40302 S05B219/40304 S05B219/45007
US: 318/560 318/568.1 318/568.11 318/568.12 446/85 446/91 700/245 700/245P 700/253 700/253S 700/263 901/14 901/23



Family:

Publication number	Publication date	Application number	Application date
US2006100739 AA	20060511	US20050107120	20050415
US7747352 BB	20100629	US20050107120	20050415

Priority:

US20040563756P 20040420 US20050107120 20050415

Probable Assignee: MASSACHUSETTS INST OF TECHNOLOGY

Assignee(s): (std)**:** MASSACHUSETTS INST TECHNOLOGY

Assignee(s): MASSACHUSETTS INSTITUTE OF TECHNOLOGY ; MASSACHUSETTS INST ; MASSACHUSETTS INST OF TECHNOLOGY

Inventor(s): (std)**:** RAFFLE HAYES S ; PARKES AMANDA J ; ISHII HIROSHI ; PARKES AMANDA JANE ; RAFFLE HAYES SOLOS

Inventor(s): PARKES AMANDA ; RAFFLE HAYES

Agent(s): CHARLES G CALL; CHARLES G

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2006100739 AA	20060511	LSPB	+	published / reissued	
US2006100739 AA	20100609	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7747352 BB	20100629	LSGT	+	granted / extensions (spc, cpc, pte)	
US7747352 BB	20050415	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MASSACHUSETTS INSTITUTE OF TECHNOLOGY, MASSACHUSET OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RAFFEL, HAYES SOLOS; PARKES, AMANDA JANE; ISHII, HIROSHI; REEL/FRAME:016482/0396 EFFECTIVE DATE : 20050413
US7747352 BB	20050415	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MASSACHUSETTS INSTITUTE OF TECHNOLOGY,MASSACHUSETT OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RAFFEL, HAYES SOLOS; PARKES, AMANDA JANE; ISHII, HIROSHI; REEL/FRAME:016482/0396 EFFECTIVE DATE : 20050413
US7747352 BB	20100609	LSGT	PAT1	Patented Case	
US7747352 BB	20131230	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7747352 BB	20171229	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8

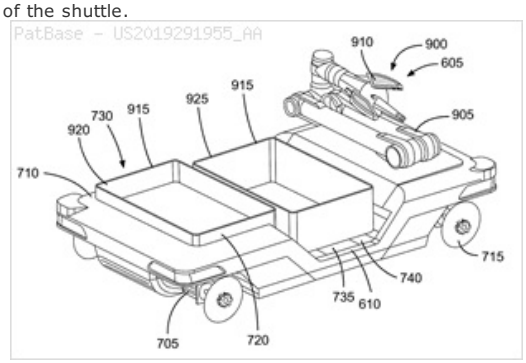
US7747352 BB	20280422	PEXP	Calculated Patent Term Expiry (PTA 1103 days)

49) Family number: 75992218 (US2019291955A)

Title: ROBOTIC SHUTTLE SYSTEM

Abstract: A robotic shuttle system includes a rack system and one or more shuttles. The rack system includes a rack and a shuttle frame. The rack has storage locations for containers containing items. The shuttle frame has rails disposed along the rack. The shuttle includes a powertrain, container transfer mechanism, and a robot arm. The power train is configured to move the shuttle along the rails of the rack and on a surface outside of the rack system. The container transfer mechanism is configured to transfer the containers between the rack and the shuttle. The robot arm extends from the shuttle to transfer the items between one of the containers on the shuttle and a container in a container holder of the shuttle.

Classifications:
International (IPC 8-9): B25J15/06 B60L5/38 B60L50/60 B65G1/04 B65G1/06 B65G1/137 (Advanced/Invention)
CPC: B65G1/1375 B65G1/0492



Family:

Publication number	Publication date	Application number	Application date
US2019291955 AA	20190926	US20190359641	20190320
WO19183249 A1	20190926	WO2019US23210	20190320

Priority:

US20180645459P 20180320 US20190359641 20190320

Probable Assignee: BASTIAN SOLUTIONS LLC

Assignee(s): (std): BASTIAN SOLUTIONS LLC ; BASTIAN WILLIAM A III

Assignee(s): BASTIAN WILLIAM A

Inventor(s): (std): BASTIAN II WILLIAM A ; BASTIAN WILLIAM

Inventor(s): BASTIAN WILLIAM A III

Agent(s): SCHMAL CHARLES 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 LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

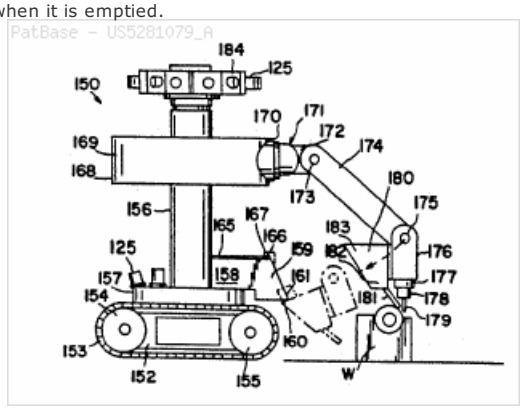
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Patent	Date recorded	Event group	Code	Event	Details
US2019291955 AA	20190926	LSPB	+	published / reissued	
US2019291955 AA	20190516	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BASTIAN SOLUTIONS, LLC, INDIANA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BASTIAN, WILLIAM A., II; REEL/FRAME:049198/0435 EFFECTIVE DATE : 20190328
WO19183249 A1	20190926	LSPB	+	published / reissued	

50) Family number: 33533218 (US5281079A)

Title: AUTOMATIC MANIPULATOR WITH RESERVOIR AND METHODS

Abstract: An automatic, moveable manipulator includes an arm supported on a carriage and holding at least one **tool**. Both the arm and the carriage can be moved under the control of signals transmitted from a remote location, such as a central controller, which signal is stored in a storage **device**. The manipulator further supports a reservoir for holding materials that can be used by the **tool**, for example to apply to the workpieces, such as fluids, fasteners, expendable materials, and the like. An automatic resupply system permits the manipulator to re-fill the reservoir, such as when it is emptied.



Classifications:
International (IPC 8-9): B23Q11/10 B23Q41/00 B25J15/04 B25J19/02 B25J5/00 B25J9/00 B25J9/04 B25J9/10 B25J9/16 B66C23/00 G05B19/14 G05B19/418 G05B19/425 G06K13/26 G06K7/04 G11B15/18 G11B15/58 G11B27/10 G11B27/28 H03D13/00 H04L27/16 (Advanced/Invention)
International (IPC 1-7): B25J15/04 B25J17/02
CPC: B23Q41/00 B25J5/005 B25J9/0084 B25J9/0093 B25J9/041 B25J9/1015 B25J9/161 B25J15/0491 B25J19/021 B25J19/023 G05B19/14 G05B19/41815 G05B19/425 G05B2219/33192 G05B2219/33207 G05B2219/36395 G05B2219/36511 G05B2219/36513 G05B2219/37553 G05B2219/37572 G05B2219/40283 G05B2219/40284 G05B2219/40298 G05B2219/41249 G05B2219/45045 G05B2219/45051 G05B2219/45083 G05B2219/45213 G05B2219/49395 G06K7/04 G06K13/26 G11B15/1883 G11B15/58 G11B27/102 G11B27/28 H03D13/005 Y10T29/5107 Y10T29/5124 H04L27/16 B23Q11/1076
European: B23Q11/10 B23Q41/00 B25J15/04R B25J19/02B B25J19/02B4 B25J5/00T B25J9/00P B25J9/00T B25J9/04B B25J9/10A3 B25J9/16C3 G05B19/14 G05B19/418C G05B19/425 G06K13/26 G06K7/04 G11B15/18C G11B15/58 G11B27/10A G11B27/28 H03D13/00C H04L27/16 S05B219/33192 S05B219/33207 S05B219/36395 S05B219/36511 S05B219/36513 S05B219/37553 S05B219/37572 S05B219/40283 S05B219/40284 S05B219/40298 S05B219/41249 S05B219/45045 S05B219/45051 S05B219/45083 S05B219/45213 S05B219/49395
US: 29/26A 29/563 414/744.3 414/744.6 414/744.8 901/29 901/41 G9B/015.031 G9B/015.075 G9B/027.018 G9B/027.029 G9B/15.031 G9B/15.075 G9B/27.018 G9B/27.029

Family:

Publication number	Publication date	Application number	Application date
US5281079 A	19940125	US19930084507	19930629

Priority:

US19540449874 19540728
US19610152702 19611017
US19650465812 19650408
US19680717065 19680312
US19740436073 19740124
US19760753321 19761220
US19800200347 19801024
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US19540477467 19541224
US19620219357 19620813
US19670629758 19670410
US19690858560 19690829
US19750544832 19750128
US19780910998 19780530
US19810251656 19810406
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US19640387954 19640806
US19680712443 19680312
US19710107357 19710118
US19750544832 19750129
US19790091908 19791106
US19840639301 19840809
US19900621341 19901203

Probable Assignee: LEMELSON JEROME H
Assignee(s): (std): LEMELSON JEROME H
Inventor(s): (std): LEMELSON JEROME H

Legal status (INPADOC)

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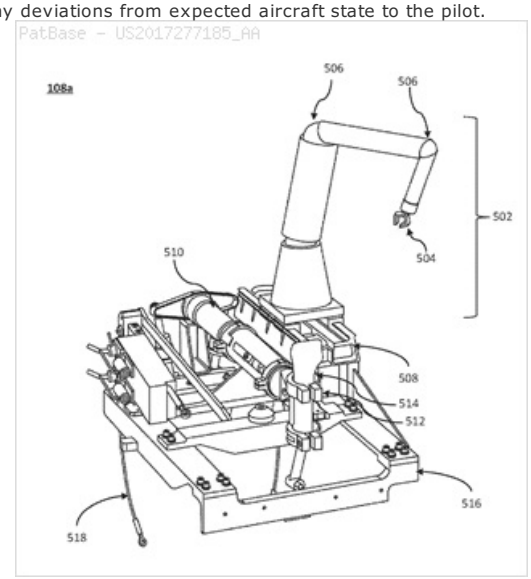
Patent	Date recorded	Event group	Code	Event	Details
US5281079 A	19940125	LSGT	+	granted / extensions (spc, cpc, pte)	
US5281079 A	19940110	LSGT	PAT1	Patented Case	
US5281079 A	19970723	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5281079 A	20010502	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5281079 A	20050722	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5281079 A	20130629	PEXP		Calculated Patent Term Expiry	

51) Family number: 67077220 (US2017277185A)

Title: AIRCREW AUTOMATION SYSTEM AND METHOD

Abstract: An aircrew automation system that provides a pilot with high-fidelity knowledge of the aircraft's physical state, and notifies that pilot of any deviations in expected state based on predictive models. The aircrew automation may be provided as a non-invasive ride-along aircrew automation system that perceives the state of the aircraft through visual techniques, derives the aircraft state vector and other aircraft information, and communicates any deviations from expected aircraft state to the pilot.

Classifications:
International (IPC 8-9): B25J11/00 B64C13/18 B64D43/00 B64D45/00 G05D G05D1/00 G05D1/10 G06F3/041 G06N5/00 (Advanced/Invention); G05D (Subclass/Invention)
CPC: B64D43/00 B64D45/00 B64D2045/0075 B64D2045/0085 G06N5/02 B64C13/18 G06F3/0416 B25J11/00 G05D1/0088 G05D1/101
US: 1/1 701/11



Family:

Publication number	Publication date	Application number	Application date
AU2017238122 AA	20180906	AU20170238122	20170322
CN109070997 A	20181221	CN201780023666	20170322
EP3433167 A1	20190130	EP20170771033	20170322
EP3433167 A4	20191120	EP20170771033	20170322
IL261322 A0	20181031	IL20170261322	20170322
JP2019513610 T2	20190530	JP20180549976T	20170322
KR20180118793 A	20181031	KR20187029828	20170322
US2017277185 AA	20170928	US20170464786	20170321
US10359779 BB	20190723	US20170464786	20170321
WO17165481 A1	20170928	WO2017US23523	20170322

Priority:

US20160311659P 20160322 US20160383032P 20160902 US20170464786 20170321 WO2017US23523 20170322

Probable Assignee: AURORA FLIGHT SCIENCES CORP

Assignee(s): (std): AURORA FLIGHT SCIENCES CORP

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2017238122 AA	20180906	LSPB	+	published / reissued	
CN109070997 A	20181221	LSPB	+	published / reissued	
CN109070997 A	20181221	LSPB	PB01	PUBLICATION	
EP3433167 A1	20190130	LSPB	+	published / reissued	

EP3433167 A1	20190130	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20180919
EP3433167 A4	20191120	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20191022
JP2019513610 T2	20190530	LSPB	+	published / reissued	
KR20180118793 A	20181031	LSPB	+	published / reissued	
US10359779 BB	20190723	LSGT	+	granted / extensions (spc, cpc, pte)	
US10359779 BB	20190702	LSGT	PAT1	Patented Case	
US10359779 BB	20370818	PEXP		Calculated Patent Term Expiry (PTA 150 days)	
US2017277185 AA	20170928	LSPB	+	published / reissued	
US2017277185 AA	20181024	LSES	NFA1	Non Final Action Mailed	
US2017277185 AA	20190213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURORA FLIGHT SCIENCES CORPORATION, VIRGINIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DUDA, JESSICA E.; TYLKA, JOHN; MINDELL, DAVID; AND OTHERS; SIGNING DATES FROM 20161007 TO 20171106; REEL/FRAME:048317/0605
US2017277185 AA	20190213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURORA FLIGHT SCIENCES CORPORATION, VIRGINIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PADUANO, JAMES DONALD; WISSLER, JOHN BROOKE; MUSTO, ANDREW; AND OTHERS; SIGNING DATES FROM 20161110 TO 20161118; REEL/FRAME:048317/0720
US2017277185 AA	20190213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURORA FLIGHT SCIENCES CORPORATION, VIRGINIA OLDPARTY : EMPLOYEE PRACTICES AGREEMENT; ASSIGNOR:KUNZI, FABRICE; REEL/FRAME:048326/0480 EFFECTIVE DATE : 20131007
US2017277185 AA	20190218	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : AURORA FLIGHT SCIENCES CORPORATION, VIRGINIA OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE CONVEYING PARTY PREVIOUSLY RECORDED AT REEL: 048317 FRAME: 0605. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:TYLKO, JOHN; REEL/FRAME:048358/0782 EFFECTIVE DATE : 20161007
US2017277185 AA	20190301	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017277185 AA	20190605	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017277185 AA	20190702	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
WO17165481 A1	20170928	LSPB	+	published / reissued	
WO17165481 A1	20180822	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 261322 COUNTRY OF REF DOCUMENT : IL

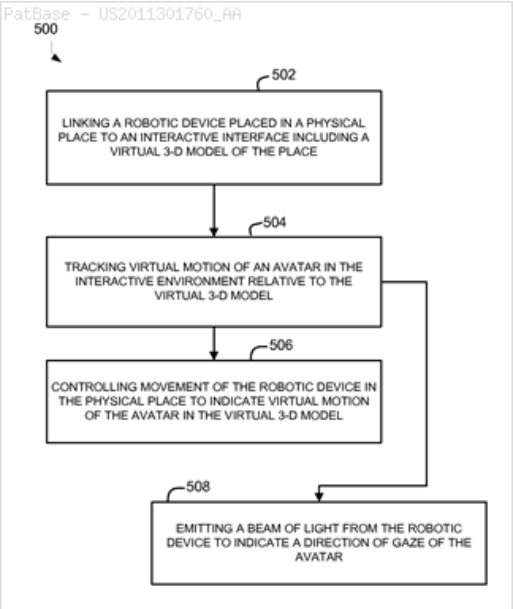
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WO17165481 A1	20180925	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO17165481 A1	20181022	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2017771033 COUNTRY OF REF DOCUMENT : EP
WO17165481 A1	20181026	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017771033 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20181022

52) Family number: 50081245 (US2011301760A)

Title: CREATION AND USE OF VIRTUAL PLACES

Abstract: An apparatus, method and system facilitate efficient creation of virtual places and provide **tools** for using the virtual places. The virtual places include a virtual real estate listing, newsworthy place and a virtual box seat. **Tools** are provided including an automatic declutter **tool** and a staging **tool**.

Classifications:
International (IPC 8-9): B25J13/00 G02B27/01 G06F17/30 G06F3/01 G06F3/0481 G06T15/04 G06T17/00 G06T17/10 G06T19/00 H04L12/18 H04L29/06 H04N21/21 H04N21/2187 H04N21/422 H04N21/4223 H04N5/225 H04N5/232 H04N7/14 H04N7/15 (Advanced/Invention); H04M1/725 (Advanced/Non-invention)
CPC: H04N7/157 G06T17/10 G06F3/04815 G06F3/016 G06T17/00 G06T19/00 G06T15/04 G06T2200/24 A63F2300/5553 A63F2300/8082 H04L12/1822 H04L67/38 H04M1/72544 H04N21/2187 H04N21/4223 G02B27/017 G02B2027/0138 G02B2027/014 G02B2027/0178 G02B2027/0187 G06F3/013 G06T19/003 G06F16/00
European: G02B27/01C G06F3/01B4 G06F3/01F G06T17/00 G06T19/00 S02B27/01A10 S02B27/01A11 S02B27/01C3 S02B27/01D4
US: 1/1 345/419 345/420 345/420S 348/14.05 348/14.16 348/207.1 348/207.100P 348/211.2 348/211.200S 348/211.4 348/211.400S 348/E5.024 348/E5.043 348/E50.24S 348/E50.43S 700/264 700/264P 707/802 715/200 715/575 726/27 901/2 901/2S



Family:

Publication number	Publication date	Application number	Application date
US2011301760 AA	20111208	US20110155380	20110607
US2012044365 AA	20120223	US20110215172	20110822
US2014240442 AA	20140828	US20140270245	20140505
US2014303778 AA	20141009	US20140247190	20140407
US2017186228 AA	20170629	US20170457850	20170313
US2018115748 AA	20180426	US20170838206	20171211
US8694553 BB	20140408	US20110155380	20110607
US8717447 BB	20140506	US20110215172	20110822
US9595136 BB	20170314	US20140247190	20140407
US9843771 BB	20171212	US20140270245	20140505

Priority:

US20100352071P 20100607 US20100352237P 20100607 US20100375394P 20100820
US20110155380 20110607 US20110215172 20110822 US20140247190 20140407
US20140270245 20140505 US20170457850 20170313 US20170838206 20171211

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Inventor(s): (std): SHUSTER BRIAN MARK ; SHUSTER GARY STEPHEN
Agent(s): NOVAK DRUCE CONNOLLY BOVE AND QUIGG LLP; JONATHAN; COLEMAN AND HOROWITT LLP; SHERRIE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2011301760 AA	20111208	LSPB	+	published / reissued	
US2011301760 AA	20140319	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012044365 AA	20120223	LSPB	+	published / reissued	
US2012044365 AA	20140416	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014240442 AA	20140828	LSPB	+	published / reissued	

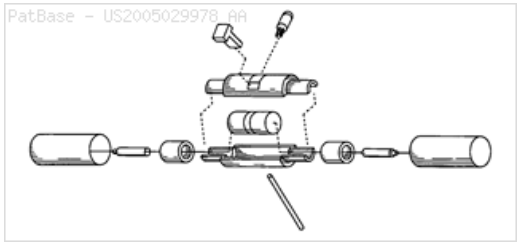
US2014240442 AA	20170808	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014240442 AA	20171108	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2014240442 AA	20171109	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2014240442 AA	20171121	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014303778 AA	20141009	LSPB	+	published / reissued	
US2014303778 AA	20170222	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017186228 AA	20170629	LSPB	+	published / reissued	
US2017186228 AA	20190813	LSES	NFA1	Non Final Action Mailed	
US2017186228 AA	20200127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PFAQUTRUMA RESEARCH LLC, DELAWARE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SHUSTER, GARY STEPHEN; SHUSTER, BRIAN MARK; REEL/FRAME:051634/0240 EFFECTIVE DATE : 20200109
US2018115748 AA	20180426	LSPB	+	published / reissued	
US2018115748 AA	20180307	LSES	NFA1	Non Final Action Mailed	
US2018115748 AA	20190804	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US8694553 BB	20140408	LSGT	+	granted / extensions (spc, cpc, pte)	
US8694553 BB	20140319	LSGT	PAT1	Patented Case	
US8694553 BB	20171120	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8694553 BB	20180405	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554)
US8694553 BB	20180405	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8694553 BB	20200127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PFAQUTRUMA RESEARCH LLC, DELAWARE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SHUSTER, GARY STEPHEN; SHUSTER, BRIAN MARK; REEL/FRAME:051634/0240 EFFECTIVE DATE : 20200109
US8694553 BB	20320214	PEXP		Calculated Patent Term Expiry (PTA 252 days)	
US8717447 BB	20140506	LSGT	+	granted / extensions (spc, cpc, pte)	
US8717447 BB	20140416	LSGT	PAT1	Patented Case	
US8717447 BB	20171218	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US8717447 BB	20180502	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554)

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US8717447 BB	20320803	PEXP		Calculated Patent Term Expiry (PTA 347 days)	
US9595136 BB	20170314	LSGT	+	granted / extensions (spc, cpc, pte)	
US9595136 BB	20170222	LSGT	PAT1	Patented Case	
US9595136 BB	20200127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PFAQUTRUMA RESEARCH LLC, DELAWARE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SHUSTER, GARY STEPHEN; SHUSTER, BRIAN MARK; REEL/FRAME:051634/0240 EFFECTIVE DATE : 20200109
US9595136 BB	20340407	PEXP		Calculated Patent Term Expiry	
US9843771 BB	20171212	LSGT	+	granted / extensions (spc, cpc, pte)	
US9843771 BB	20171121	LSGT	PAT1	Patented Case	
US9843771 BB	20200127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PFAQUTRUMA RESEARCH LLC, DELAWARE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SHUSTER, GARY STEPHEN; REEL/FRAME:051634/0216 EFFECTIVE DATE : 20200109
US9843771 BB	20340505	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	

53) Family number: 31521246 (US2005029978A)

Title: MICROROBOT FOR SURGICAL APPLICATIONS

Abstract: The present invention provides a micro-robot for use inside the body during minimally-invasive surgery. The micro-robot may include various sensors, imaging **devices** or manipulators.



Classifications:
International (IPC 8-9): A61B1/00 A61B1/04 A61B1/06 A61B1/313 A61B1/32 A61B10/02 A61B10/04 A61B10/06 A61B17/00 A61B17/02 A61B17/22 A61B17/28 A61B17/34 A61B17/94 A61B18/00 A61B19/00 A61B34/00 A61B34/20 A61B34/30 A61B5/00 A61B5/05 A61B5/06 A61B5/07 A61B90/00 A61B90/30 A61F2/84 A61M25/00 A61M25/14 A61M29/00 A61M29/02 A61M31/00 A61M5/00 A61M5/142 A61M5/145 A61M5/168 B25H5/00 B25J13/00 B25J15/06 B25J18/00 B25J19/02 B25J19/04 B25J3/00 B25J5/00 B25J7/00 B25J9/08 B25J9/18 B33Y80/00 G03B4/00 G03B41/00 G06F3/033 (Advanced/Invention);
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A61B1/00 A61B1/32 A61B17/00 A61B19/00 A61M29/02 B25H5/00 B25J13/00 B25J18/00 B25J19/02 B25J3/00 B25J5/00 B25J7/00 G03B41/00 G06F3/033 (Core/Invention);
A61B1/06 A61B1/313 A61B17/94 A61B19/00 (Core/Non-invention)
International (IPC 1-7): B25J5/00
CPC: Y10S901/02 Y10S901/28 A61B1/00149 A61B1/05 A61B1/051 A61B5/01 A61B5/03 Y10S901/30 Y10T74/20317 Y10S901/01 Y10S901/15 Y10S901/19 A61B2018/00595 A61B2018/00994 A61B2560/0462 A61B2017/00039 A61B2017/00044 A61B2017/00221 A61B2017/00734 A61B2017/2943 A61M5/19 A61M5/20 A61M5/2066 A61B10/04 B08B9/045 B25J9/065 A61B2017/0225 A61B2034/301 A61B17/0218 A61B19/5212 A61B2019/2215 A61B2019/2249 A61B2019/5206 A61B1/00156 A61B2090/306 A61B1/00188 B25J18/00 A61B1/32 A61B17/0281 A61B17/3468 A61B90/50 A61B2017/00292 A61B2017/00345 A61B2017/00349 A61B2017/0042 A61B2017/00557 A61B2017/00283 A61B90/30 B33Y80/00 A61B1/06 A61B1/3132 A61B17/29 A61B34/74 A61B90/36 A61B90/37 A61B2017/2919 A61B2034/742 A61B2090/372 A61B2090/373 A61B34/71 A61B2017/00278 A61B2017/00539 A61B2017/00544 A61B2034/306 A61B17/00234 A61B1/00158 A61B1/041 A61B1/313 A61B5/05 A61B5/062 A61B5/073 A61B5/416 A61B10/06 A61B34/30 A61B34/70 A61B34/72 A61B34/73 A61B90/361 A61B2017/00398 A61B2017/00876 A61B2017/22082 A61B2034/302 A61B2090/065 A61M5/14276 A61M5/1452 A61M5/16827 A61M31/00 A61M2205/3523 A61M2205/3569 A61B34/20 A61B2034/2057 B25J5/00 B25J7/00 A61B18/00
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Family:

Publication number	Publication date	Application number	Application date
CA2655964 AA	20081222	CA20072655964	20070621
CA2655964 C	20141028	CA20072655964	20070621
CA2678610 AA	20090817	CA20072678610	20071231
CA2678610 C	20150707	CA20072678610	20071231
CA2690808 AA	20091214	CA20082690808	20080711
CA2690808 C	20160927	CA20082690808	20080711
CA2695615 AA	20100203	CA20082695615	20080815
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CA2861159 C	20180227	CA20072861159	20070621
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EP2178456 B1	20181031	EP20080798014	20080815
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JP2014168681 A2	20140918	JP20140021651	20140206
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Priority:

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Assignee(s): (std): BOARD OF UNIV OF NEBRASKA ; BOARD OF UNIV OF NABRASKA ; OLEYNIKOV DMITRY ; FARRITOR SHANE ; HADZIALIC ADNAN ; PLATT STEPHEN R ; DUMPERT JASON ; BOARD OR UNIVER ; LEHMAN AMY ; PLATT STEVE ; NEBRASKA SURGICAL SOLUTIONS IN ; BOCK ADAM ; FARRITOR SHANE M ; HAWKS JEFF ; PLATT STEPHEN A ; PLATT STEPHEN ; RENTSCHLER MARK ; UNIV NEBRASKA ; WOOD NATHAN A ; REGENTS FOR UNIV OF ; PRIOR REED ; VIRTUAL INCISION CORP ; UNIV NEBRASKA UNEMED BOARD OF REGENTS ; WOOD NATHAN ; UNIV OF NEBRASKA BOARD OF REGENTS

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2655964 AA	20081222	LSPB	+	published / reissued	
CA2655964 AA	20120308	LSES	+EEER	EXAMINATION REQUEST	
CA2655964 C	20141028	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2655964 C	20270621	PEXP		Calculated Patent Term Expiry	
CA2678610 AA	20090817	LSPB	+	published / reissued	
CA2678610 AA	20120911	LSES	+EEER	EXAMINATION REQUEST	
CA2678610 C	20150707	LSGT	+	granted / extensions (spc, cpc, pte)	
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CA2690808 C	20160927	LSGT	+	granted / extensions (spc, cpc, pte)	
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CA2695615 AA	20100203	LSPB	+	published / reissued	
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EP2034922 A2	20091007	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20090902
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EP2034922 A2	20160706	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160610
EP2034922 A2	20161116	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20161020
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EP2034922 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170315

EP2034922 B1	20180221	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20171218
EP2034922 B1	20180228	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 : 20170315
EP2034922 B1	20180430	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 : 20170621
EP2034922 B1	20180628	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP2034922 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180612 YEAR OF FEE PAYMENT : 12
EP2034922 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20180625 YEAR OF FEE PAYMENT : 12
EP2034922 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20180629 YEAR OF FEE PAYMENT : 12
EP2034922 B1	20180831	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 : 20170630
EP2034922 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180628 YEAR OF FEE PAYMENT : 12
EP2034922 B1	20180928	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20170621
EP2034922 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180625 YEAR OF FEE PAYMENT : 12
EP2034922 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180620 YEAR OF FEE PAYMENT : 12
EP2034922 B1	20190628	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 : 20070621
EP2034922 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190625 YEAR OF FEE PAYMENT : 13
EP2034922 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20190624 YEAR OF FEE PAYMENT : 13

EP2034922 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190627 YEAR OF FEE PAYMENT : 13
EP2034922 B1	20190930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20190628 YEAR OF FEE PAYMENT : 13
EP2034922 B1	20191031	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20170315
EP2034922 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190626 YEAR OF FEE PAYMENT : 13
EP2034922 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190625 YEAR OF FEE PAYMENT : 13
EP2034922 B1	20270621	PEXP		Calculated Patent Term Expiry	
EP2132007 A2	20091216	LSPB	+	published / reissued	
EP2132007 A2	20091216	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20090921
EP2132007 A2	20130529	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20130424
EP2132007 A2	20151021	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20150923
EP2132007 B1	20160330	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2132007 B1	20160330	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2132007 B1	20160331	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2132007 B1	20160415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 784839 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160415
EP2132007 B1	20160420	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2132007 B1	20160512	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602007045594 COUNTRY OF REF DOCUMENT : DE
EP2132007 B1	20160725	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2132007 B1	20160729	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 : 20160701
EP2132007 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160330
EP2132007 B1	20160815	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 784839 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160330
EP2132007 B1	20160831	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 : 20160330
EP2132007 B1	20160831	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 : 20160330
EP2132007 B1	20160831	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 : 20160330
EP2132007 B1	20160929	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, US REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 602007045594 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, LINCOLN, NEBR., US
EP2132007 B1	20160929	LSAS	REG	REFERENCE TO A NATIONAL CODE	PARTYTYPE : OWNER REF COUNTRY CODE : DE OWNER : VIRTUAL INCISION CORPORATION UNIVERSITY OF NEB, US REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 602007045594 COUNTRY OF REF DOCUMENT : DE OLDPARTY : FORMER OWNER: BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, LINCOLN, NEBR., US
EP2132007 B1	20160930	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 : 20160330
EP2132007 B1	20161031	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 : 20160330
EP2132007 B1	20161031	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 : 20160330
EP2132007 B1	20161031	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 : 20160730
EP2132007 B1	20161130	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 : 20160801
EP2132007 B1	20161130	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 : 20160330
EP2132007 B1	20161130	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 : 20160330
EP2132007 B1	20161130	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 : 20160330
EP2132007 B1	20161130	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 : 20160330
EP2132007 B1	20161130	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 : 20160330
EP2132007 B1	20161229	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
EP2132007 B1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO

				INFORMATION FROM NATIONAL OFFICE TO EPO]	SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160330
EP2132007 B1	20170103	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602007045594 COUNTRY OF REF DOCUMENT : DE
EP2132007 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160330
EP2132007 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20161223 YEAR OF FEE PAYMENT : 10
EP2132007 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20161230 YEAR OF FEE PAYMENT : 10
EP2132007 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161228 YEAR OF FEE PAYMENT : 10
EP2132007 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20161221 YEAR OF FEE PAYMENT : 10
EP2132007 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161229 YEAR OF FEE PAYMENT : 10
EP2132007 B1	20170308	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20170103
EP2132007 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161229 YEAR OF FEE PAYMENT : 10
EP2132007 B1	20170531	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 : 20160330
EP2132007 B1	20170929	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MC NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160330
EP2132007 B1	20171031	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 : 20161231
EP2132007 B1	20171229	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 11
EP2132007 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	PAYMENT DATE : 20171229 YEAR OF FEE PAYMENT : 11
EP2132007 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180103 YEAR OF FEE PAYMENT : 11
EP2132007 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20180115 YEAR OF FEE PAYMENT : 11
EP2132007 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180103 YEAR OF FEE PAYMENT : 11
EP2132007 B1	20180531	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 : 20160330
EP2132007 B1	20180531	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 : 20071231
EP2132007 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20180110 YEAR OF FEE PAYMENT : 11
EP2132007 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20171229 YEAR OF FEE PAYMENT : 11
EP2132007 B1	20180629	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 : 20160330
EP2132007 B1	20180731	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 : 20160330
EP2132007 B1	20180928	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20161231
EP2132007 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20181224 YEAR OF FEE PAYMENT : 12
EP2132007 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181224 YEAR OF FEE PAYMENT : 12
EP2132007 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181227

				NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 12
EP2132007 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181227 YEAR OF FEE PAYMENT : 12
EP2132007 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20190115 YEAR OF FEE PAYMENT : 12
EP2132007 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181228 YEAR OF FEE PAYMENT : 12
EP2132007 B1	20271231	PEXP		Calculated Patent Term Expiry	
EP2170564 A2	20100407	LSPB	+	published / reissued	
EP2170564 A2	20100714	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA
EP2170564 A2	20100929	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100819
EP2170564 A4	20151007	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20150907
EP2170564 A4	20161005	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20160405
EP2178431 A1	20100428	LSPB	+	published / reissued	
EP2178431 A1	20100428	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100208
EP2178431 A4	20170118	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20161221
EP2178431 A4	20180124	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20170720
EP2178456 A1	20100428	LSPB	+	published / reissued	
EP2178456 A1	20100428	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100209
EP2178456 A4	20160720	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	EFFECTIVE DATE : 20160620
EP2178456 A4	20170412	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20170310
EP2178456 A4	20180606	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180509
EP2178456 B1	20181031	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2178456 B1	20181031	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2178456 B1	20181031	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2178456 B1	20181115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1058462 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181115
EP2178456 B1	20181122	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602008057719 COUNTRY OF REF DOCUMENT :

					DE
EP2178456 B1	20181128	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2178456 B1	20190312	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2178456 B1	20190415	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1058462 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181031
EP2178456 B1	20190430	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 : 20181031
EP2178456 B1	20190430	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 : 20181031
EP2178456 B1	20190430	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 : 20190228
EP2178456 B1	20190430	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 : 20181031
EP2178456 B1	20190430	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 : 20181031
EP2178456 B1	20190430	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 : 20190131
EP2178456 B1	20190430	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 : 20190131
EP2178456 B1	20190430	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	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 : 20181031
EP2178456 B1	20190430	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 : 20181031
EP2178456 B1	20190430	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 : 20181031
EP2178456 B1	20190531	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 : 20190301
EP2178456 B1	20190531	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 : 20181031
EP2178456 B1	20190531	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 : 20190201
EP2178456 B1	20190531	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 : 20181031
EP2178456 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181031
EP2178456 B1	20190731	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 : 20181031
EP2178456 B1	20190801	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER :

					602008057719 COUNTRY OF REF DOCUMENT : DE
EP2178456 B1	20190830	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 : 20181031
EP2178456 B1	20190830	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 : 20181031
EP2178456 B1	20190830	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 : 20181031
EP2178456 B1	20191009	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20190801
EP2178456 B1	20191031	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 : 20181031
EP2178456 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190830 YEAR OF FEE PAYMENT : 12
EP2178456 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20190823 YEAR OF FEE PAYMENT : 12
EP2178456 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190826 YEAR OF FEE PAYMENT : 12
EP2178456 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190820 YEAR OF FEE PAYMENT : 12
EP2178456 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190815 YEAR OF FEE PAYMENT : 12
EP2178456 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20190829 YEAR OF FEE PAYMENT : 12
EP2178456 B1	20280815	PEXP		Calculated Patent Term Expiry	
EP2397101 A2	20111221	LSPB	+	published / reissued	
EP2397101 A2	20111221	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20110912
EP2397101 A3	20171220	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20171122
EP2397101 B1	20180613	LSGT	+	granted / extensions (spc, cpc, pte)	

EP2397101 B1	20180613	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2397101 B1	20180615	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1007624 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20180615
EP2397101 B1	20180615	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2397101 B1	20180628	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 12
EP2397101 B1	20180711	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2397101 B1	20180712	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602007055130 COUNTRY OF REF DOCUMENT : DE
EP2397101 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20180629 YEAR OF FEE PAYMENT : 12
EP2397101 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20180625 YEAR OF FEE PAYMENT : 12
EP2397101 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180628 YEAR OF FEE PAYMENT : 12
EP2397101 B1	20181025	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2397101 B1	20181031	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 : 20180613
EP2397101 B1	20181031	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 : 20180613
EP2397101 B1	20181031	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 : 20180913
EP2397101 B1	20181031	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 : 20180613

EP2397101 B1	20181031	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 : 20180613
EP2397101 B1	20181031	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 : 20180613
EP2397101 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180827 YEAR OF FEE PAYMENT : 12
EP2397101 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180627 YEAR OF FEE PAYMENT : 12
EP2397101 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180626 YEAR OF FEE PAYMENT : 12
EP2397101 B1	20181130	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 : 20180613
EP2397101 B1	20181130	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 : 20180914
EP2397101 B1	20181215	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1007624 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20180613
EP2397101 B1	20181231	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 : 20180613
EP2397101 B1	20190131	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 : 20181013
EP2397101 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : PL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180613
EP2397101 B1	20190131	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 : 20180613
EP2397101 B1	20190131	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 : 20180613
EP2397101 B1	20190131	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 : 20180613
EP2397101 B1	20190131	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 : 20180613
EP2397101 B1	20190131	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 : 20180613
EP2397101 B1	20190314	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602007055130 COUNTRY OF REF DOCUMENT : DE
EP2397101 B1	20190329	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 : 20180621
EP2397101 B1	20190329	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 : 20180613
EP2397101 B1	20190522	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20190314
EP2397101 B1	20190531	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 : 20180630
EP2397101 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : SI 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 : 20180613
EP2397101 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180613
EP2397101 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20190624 YEAR OF FEE PAYMENT : 13
EP2397101 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190625 YEAR OF FEE PAYMENT : 13
EP2397101 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190627 YEAR OF FEE PAYMENT : 13
EP2397101 B1	20190930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20190628 YEAR OF FEE PAYMENT : 13
EP2397101 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190626 YEAR OF FEE PAYMENT : 13
EP2397101 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190625 YEAR OF FEE PAYMENT : 13
EP2397101 B1	20200131	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20180621
EP2397101 B1	20270621	PEXP		Calculated Patent Term Expiry	
EP3072640 A1	20160928	LSPB	+	published / reissued	
EP3072640 A1	20160928	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160429
EP3072640 A1	20170809	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20170713
EP3072640 A1	20180124	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION
EP3072640 A1	20180124	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA
EP3072640 B1	20180214	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3072640 B1	20180214	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP3072640 B1	20180215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP3072640 B1	20180307	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP3072640 B1	20180315	LSNP	REG	REFERENCE TO A	REF COUNTRY CODE : AT

				NATIONAL CODE	REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 969569 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20180315
EP3072640 B1	20180315	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602007053938 COUNTRY OF REF DOCUMENT : DE
EP3072640 B1	20180715	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 969569 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20180214
EP3072640 B1	20180731	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 : 20180214
EP3072640 B1	20180731	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 : 20180214
EP3072640 B1	20180731	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 : 20180214
EP3072640 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 : 20180214
EP3072640 B1	20180731	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 : 20180214
EP3072640 B1	20180831	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 : 20180515
EP3072640 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE

				NATIONAL OFFICE TO EPO]	DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180514
EP3072640 B1	20180831	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 : 20180214
EP3072640 B1	20180831	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 : 20180214
EP3072640 B1	20180831	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 : 20180214
EP3072640 B1	20181031	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 : 20180214
EP3072640 B1	20181031	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 : 20180214
EP3072640 B1	20181031	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 : 20180214
EP3072640 B1	20181115	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602007053938 COUNTRY OF REF DOCUMENT : DE
EP3072640 B1	20181130	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 : 20180214
EP3072640 B1	20181130	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 : 20180214

EP3072640 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20180214
EP3072640 B1	20190123	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20181115
EP3072640 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20181224 YEAR OF FEE PAYMENT : 12
EP3072640 B1	20190228	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 : 20180214
EP3072640 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181227 YEAR OF FEE PAYMENT : 12
EP3072640 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20181224 YEAR OF FEE PAYMENT : 12
EP3072640 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181228 YEAR OF FEE PAYMENT : 12
EP3072640 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CH PAYMENT DATE : 20190115 YEAR OF FEE PAYMENT : 12
EP3072640 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20181227 YEAR OF FEE PAYMENT : 12
EP3072640 B1	20190830	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 : 20181231
EP3072640 B1	20190830	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 : 20180214
EP3072640 B1	20191129	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 : 20181231
EP3072640 B1	20200131	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20181231
EP3072640 B1	20271231	PEXP		Calculated Patent Term Expiry	
EP3078344 A1	20161012	LSPB	+	published / reissued	

EP3078344 A1	20161012	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20160401
EP3078344 A1	20191016	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190919
JP2009540934 T2	20091126	LSPB	+	published / reissued	
JP2009540934 T2	20100619	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100618
JP2009540934 T2	20100619	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20100618
JP2009540934 T2	20120509	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120508
JP2009540934 T2	20121109	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20121108
JP2009540934 T2	20130321	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130319
JP2009540934 T2	20130919	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130918
JP2009540934 T2	20131216	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2009540934 T2	20131225	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20131224
JP2009540934 T2	20140130	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20140123
JP2009540934 T2	20140131	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2010518963 T2	20100603	LSPB	+	published / reissued	
JP2010518963 T2	20101228	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20101227
JP2010518963 T2	20120905	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20120904
JP2010518963 T2	20130228	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130227
JP2010518963 T2	20130822	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2010518963 T2	20130828	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130827
JP2010518963 T2	20131003	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130925
JP2010518963 T2	20131004	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2010518963 T2	20131004	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5378236 COUNTRY OF REF DOCUMENT : JP

JP2010533045 T2	20101021	LSPB	+	published / reissued	
JP2010533045 T2	20110712	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110711
JP2010533045 T2	20130116	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130115
JP2010533045 T2	20130711	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130710
JP2010533045 T2	20131211	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20131210
JP2010533045 T2	20140607	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140606
JP2010533045 T2	20140625	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2010533045 T2	20140702	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140701
JP2010533045 T2	20140807	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20140730
JP2010533045 T2	20140808	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5591696 COUNTRY OF REF DOCUMENT : JP
JP2010536435 T2	20101202	LSPB	+	published / reissued	
JP2010536435 T2	20110811	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110810
JP2010536435 T2	20130123	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130122
JP2010536435 T2	20131120	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20131119
JP2010536436 T2	20101202	LSPB	+	published / reissued	
JP2010536436 T2	20110811	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110810
JP2010536436 T2	20110811	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110810
JP2010536436 T2	20130306	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130305
JP2010536436 T2	20130906	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130905
JP2010536436 T2	20131219	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2010536436 T2	20140108	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140107
JP2010536436 T2	20140213	LSFE	+A61	FIRST PAYMENT OF	TEXT : JAPANESE INTERMEDIATE

				ANNUAL FEES (DURING GRANT PROCEDURE)	CODE: A61 EFFECTIVE DATE : 20140206
JP2010536436 T2	20140214	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2013099659 A2	20130523	LSPB	+	published / reissued	
JP2013099659 A2	20140226	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140225
JP2013099659 A2	20150108	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20150107
JP2013099659 A2	20150501	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150501
JP2013099659 A2	20150602	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150515
JP2013099659 A2	20150616	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20150615
JP2013099659 A2	20150708	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150707
JP2013099659 A2	20160107	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160107
JP2013099659 A2	20160201	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20160129
JP2013099659 A2	20160609	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20160601
JP2013099659 A2	20160610	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5946784 COUNTRY OF REF DOCUMENT : JP
JP2014100582 A2	20140605	LSPB	+	published / reissued	
JP2014100582 A2	20140917	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140916
JP2014100582 A2	20150114	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150114
JP2014100582 A2	20150417	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014100582 A2	20150430	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20150428
JP2014100582 A2	20150528	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20150522
JP2014100582 A2	20150529	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5753570 COUNTRY OF REF DOCUMENT : JP
JP2014168681 A2	20140918	LSPB	+	published / reissued	
JP2014168681 A2	20150212	LSES	-A131	NOTIFICATION OF	TEXT : JAPANESE INTERMEDIATE

				REASONS FOR REFUSAL	CODE: A131 EFFECTIVE DATE : 20150210
JP2014168681 A2	20150807	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150807
JP2014168681 A2	20151117	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014168681 A2	20151125	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20151124
JP2014168681 A2	20160104	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20151224
JP2014168681 A2	20160108	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5864634 COUNTRY OF REF DOCUMENT : JP
JP2014176622 A2	20140925	LSPB	+	published / reissued	
JP2014176622 A2	20150212	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150210
JP2014176622 A2	20150807	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150807
JP2014176622 A2	20151119	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014176622 A2	20151125	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20151124
JP2014176622 A2	20160104	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20151224
JP2014176622 A2	20160108	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5864628 COUNTRY OF REF DOCUMENT : JP
JP2015024142 A2	20150205	LSPB	+	published / reissued	
JP2015024142 A2	20150610	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150609
JP2015024142 A2	20160106	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20160105
JP2015024142 A2	20160506	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20160506
JP2015024142 A2	20160615	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20160614
JP2015024142 A2	20160905	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A912 EFFECTIVE DATE : 20160902
JP2015024142 A2	20170620	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170620
JP2015024142 A2	20171130	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING	TEXT : JAPANESE INTERMEDIATE CODE: A61

				GRANT PROCEDURE)	EFFECTIVE DATE : 20171122
JP2015024142 A2	20171201	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6250496 COUNTRY OF REF DOCUMENT : JP
JP5378236 B2	20131225	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5378236 B2	20130829	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5378236 B2	20131001	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5378236 B2	20160804	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5378236 B2	20160809	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5378236 B2	20191003	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20191001
JP5378236 B2	20191008	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5378236 B2	20271231	PEXP		Calculated Patent Term Expiry	
JP5466004 B2	20140409	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5466004 B2	20131226	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5466004 B2	20140128	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5466004 B2	20140131	LSGT	+R150	特許証 (Patent certificate)	
JP5466004 B2	20170202	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5466004 B2	20170207	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5466004 B2	20180201	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5466004 B2	20180206	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5466004 B2	20270621	PEXP		Calculated Patent Term Expiry	
JP5475662 B2	20140416	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5475662 B2	20140109	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5475662 B2	20140210	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5475662 B2	20140214	LSGT	+R150	特許証 (Patent certificate)	
JP5475662 B2	20170202	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5475662 B2	20170207	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5475662 B2	20180215	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5475662 B2	20180227	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5475662 B2	20280815	PEXP		Calculated Patent Term Expiry	
JP5591696 B2	20140917	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5591696 B2	20140703	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5591696 B2	20140805	LSFE	R100	特許料納付書 (Patent fee	

				payment form)	
JP5591696 B2	20140808	LSGT	+R150	特許証 (Patent certificate)	
JP5591696 B2	20170810	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5591696 B2	20170815	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5591696 B2	20180809	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5591696 B2	20180814	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5591696 B2	20190808	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5591696 B2	20190813	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5591696 B2	20280711	PEXP		Calculated Patent Term Expiry	
JP5753570 B2	20150722	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5753570 B2	20150507	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5753570 B2	20150526	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5753570 B2	20150529	LSGT	+R150	特許証 (Patent certificate)	
JP5753570 B2	20180531	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5753570 B2	20180605	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5753570 B2	20331128	PEXP		Calculated Patent Term Expiry	
JP5864628 B2	20160217	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5864628 B2	20151126	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5864628 B2	20151228	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5864628 B2	20160108	LSGT	+R150	特許証 (Patent certificate)	
JP5864628 B2	20190110	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5864628 B2	20190115	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5864628 B2	20200110	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20200109
JP5864628 B2	20200114	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5864628 B2	20340123	PEXP		Calculated Patent Term Expiry	
JP5864634 B2	20160217	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5864634 B2	20151126	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5864634 B2	20151228	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5864634 B2	20160108	LSGT	+R150	特許証 (Patent certificate)	
JP5864634 B2	20190110	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5864634 B2	20190115	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5864634 B2	20200110	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20200109

JP5864634 B2	20200114	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5864634 B2	20340206	PEXP		Calculated Patent Term Expiry	
JP5946784 B2	20160706	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5946784 B2	20130305	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20130304
JP5946784 B2	20160526	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5946784 B2	20160607	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5946784 B2	20160610	LSGT	+R150	特許証 (Patent certificate)	
JP5946784 B2	20190613	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5946784 B2	20190618	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5946784 B2	20330304	PEXP		Calculated Patent Term Expiry	
JP6250496 B2	20171220	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6250496 B2	20171026	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6250496 B2	20171128	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6250496 B2	20171201	LSGT	+R150	特許証 (Patent certificate)	
JP6250496 B2	20340730	PEXP		Calculated Patent Term Expiry	
US10307199 BB	20190604	LSGT	+	granted / extensions (spc, cpc, pte)	
US10307199 BB	20350726	PEXP		Calculated Patent Term Expiry (PTA 167 days and a terminal disclaimer has been filed)	
US10335024 BB	20190702	LSGT	+	granted / extensions (spc, cpc, pte)	
US10335024 BB	20360902	PEXP		Calculated Patent Term Expiry (PTA 207 days)	
US10376323 BB	20190813	LSGT	+	granted / extensions (spc, cpc, pte)	
US10376323 BB	20180205	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; LEHMAN, AMY; WOOD, NATHAN; AND OTHERS; SIGNING DATES FROM 20070702 TO 20070708; REEL/FRAME:044834/0043
US10376323 BB	20180205	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10376323 BB	20180228	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10376323 BB	20380205	PEXP		Calculated Patent Term Expiry	
US2005029978 AA	20050210	LSPB	+	published / reissued	
US2005029978 AA	20060419	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US2006119304 AA	20060608	LSPB	+	published / reissued	
US2006119304 AA	20060713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; PLATT, STEPHEN; OLEYNIKOV, DMITRY; AND OTHERS; REEL/FRAME:017939/0715 EFFECTIVE DATE : 20060705
US2006119304 AA	20060714	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; PLATT, STEPHEN; OLEYNIKOV, DMITRY; AND OTHERS; REEL/FRAME:017948/0265; SIGNING DATES FROM 20060608 TO 20060705
US2006119304 AA	20061004	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006196301 AA	20060907	LSPB	+	published / reissued	
US2006196301 AA	20070314	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006198619 AA	20060907	LSPB	+	published / reissued	
US2006198619 AA	20080204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION, NEBRASKA OLDPARTY : MERGER; ASSIGNOR:NEBRASKA SURGICAL SOLUTIONS, INC.; REEL/FRAME:020451/0932 EFFECTIVE DATE : 20071220
US2006198619 AA	20080213	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2007080658 AA	20070412	LSPB	+	published / reissued	
US2007080658 AA	20080204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION, NEBRASKA OLDPARTY : MERGER; ASSIGNOR:NEBRASKA SURGICAL SOLUTIONS, INC.; REEL/FRAME:020451/0932 EFFECTIVE DATE : 20071220
US2007080658 AA	20080423	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2007241714 AA	20071018	LSPB	+	published / reissued	
US2007241714 AA	20080204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION, NEBRASKA OLDPARTY : MERGER; ASSIGNOR:NEBRASKA SURGICAL SOLUTIONS, INC.; REEL/FRAME:020451/0932 EFFECTIVE DATE : 20071220
US2007241714 AA	20090128	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2008004634 AA	20080103	LSPB	+	published / reissued	
US2008004634 AA	20080204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION, NEBRASKA OLDPARTY : MERGER; ASSIGNOR:NEBRASKA SURGICAL SOLUTIONS, INC.; REEL/FRAME:020451/0932 EFFECTIVE DATE : 20071220
US2008004634 AA	20150211	LSGT	STCF	INFORMATION ON STATUS: PATENT	TEXT : PATENTED CASE

				GRANT	
US2008058835 AA	20080306	LSPB	+	published / reissued	
US2008058835 AA	20140827	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2008058989 AA	20080306	LSPB	+	published / reissued	
US2008058989 AA	20080204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION, NEBRASKA OLDPARTY : MERGER; ASSIGNOR:NEBRASKA SURGICAL SOLUTIONS, INC.; REEL/FRAME:020451/0932 EFFECTIVE DATE : 20071220
US2008058989 AA	20091026	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008111513 AA	20080515	LSPB	+	published / reissued	
US2008111513 AA	20080204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION, NEBRASKA OLDPARTY : MERGER; ASSIGNOR:NEBRASKA SURGICAL SOLUTIONS, INC.; REEL/FRAME:020451/0932 EFFECTIVE DATE : 20071220
US2008111513 AA	20090422	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008221591 AA	20080911	LSPB	+	published / reissued	
US2008221591 AA	20120518	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; WOOD, NATHAN; SIGNING DATES FROM 20120418 TO 20120503; REEL/FRAME:028234/0361
US2008221591 AA	20120518	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; RENTSCHLER, MARK; BOCK, ADAM; SIGNING DATES FROM 20120418 TO 20120423; REEL/FRAME:028234/0084
US2008221591 AA	20120518	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; LEHMAN, AMY; PRIOR, REED; SIGNING DATES FROM 20120418 TO 20120425; REEL/FRAME:028234/0241
US2008221591 AA	20170208	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009048612 AA	20090219	LSPB	+	published / reissued	
US2009048612 AA	20100215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA,NEB OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE M.; RENTSCHLER, MARK; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:023935/0986
US2009048612 AA	20100215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS

					OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE M.; RENTSCHLER, MARK; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:023935/0986
US2009048612 AA	20100224	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA,NEB OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE THE THIRD-NAMED ASSIGNOR WHICH WAS INADVERTENTLY OMITTED. THE THIRD-NAMED ASSIGNOR SHOULD READ - LEHMAN, AMY. PREVIOUSLY RECORDED ON REEL 023935 FRAME 0986. ASSIGNOR(S) HEREBY CONFIRMS THE THE THIRD-NAMED ASSIGNOR WAS INADVERTENTLY OMITTED. THE THIRD-NAMED INVENTOR SHOULD READ - LEHMAN, AMY.; ASSIGNORS:FARRITOR, SHANE; RENTSCHLER, MARK; LEHMAN, AMY; SIGNING DATES FROM 20090909 TO 20091026; REEL/FRAME:023981/0390
US2009048612 AA	20100224	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE THE THIRD-NAMED ASSIGNOR WHICH WAS INADVERTENTLY OMITTED. THE THIRD-NAMED ASSIGNOR SHOULD READ - LEHMAN, AMY. PREVIOUSLY RECORDED ON REEL 023935 FRAME 0986. ASSIGNOR(S) HEREBY CONFIRMS THE THE THIRD-NAMED ASSIGNOR WAS INADVERTENTLY OMITTED. THE THIRD-NAMED INVENTOR SHOULD READ - LEHMAN, AMY.; ASSIGNORS:FARRITOR, SHANE; RENTSCHLER, MARK; LEHMAN, AMY; SIGNING DATES FROM 20090909 TO 20091026; REEL/FRAME:023981/0390
US2009048612 AA	20101126	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:UNIVERSITY OF NEBRASKA MEDICAL CENTER; REEL/FRAME:025413/0514 EFFECTIVE DATE : 20101022
US2009048612 AA	20150218	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009054909 AA	20090226	LSPB	+	published / reissued	
US2009054909 AA	20100121	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:UNIVERSITY OF NEBRASKA MEDICAL CENTER; REEL/FRAME:023826/0134 EFFECTIVE DATE : 20100114
US2009054909 AA	20100215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA,NEB OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE M.; RENTSCHLER, MARK; LEHMAN, AMY; AND OTHERS; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:023936/0278

US2009054909 AA	20100215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE M.; RENTSCHLER, MARK; LEHMAN, AMY; AND OTHERS; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:023936/0278
US2009054909 AA	20121212	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009069821 AA	20090312	LSPB	+	published / reissued	
US2009069821 AA	20090930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE M.; OLEYNIKOV, DMITRY; PLATT, STEPHEN R.; AND OTHERS; REEL/FRAME:023306/0863; SIGNING DATES FROM 20071212 TO 20090914
US2009069821 AA	20090930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE M.; OLEYNIKOV, DMITRY; PLATT, STEPHEN R.; AND OTHERS; SIGNING DATES FROM 20071212 TO 20090914; REEL/FRAME:023306/0863
US2009069821 AA	20100721	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009076536 AA	20090319	LSPB	+	published / reissued	
US2009076536 AA	20100215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA,NEB OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RENTSCHLER, MARK; FARRITOR, SHANE M.; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:023935/0656
US2009076536 AA	20121129	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : US ARMY, SECRETARY OF THE ARMY, MARYLAND OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:UNIVERSITY OF NEBRASKA MEDICAL CENTER; REEL/FRAME:029381/0060 EFFECTIVE DATE : 20120813
US2009076536 AA	20151102	LSAL	NAF1	Notice of Appeal Filed	
US2009076536 AA	20160620	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009171373 AA	20090702	LSPB	+	published / reissued	
US2009171373 AA	20100215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA,NEB OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE M.; RENTSCHLER, MARK; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:023936/0117

US2009171373 AA	20100215	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE M.; RENTSCHLER, MARK; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:023936/0117
US2009171373 AA	20100224	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA,NEB OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE THIRD-NAMED ASSIGNOR WHICH WAS INADVERTENTLY OMITTED. THE THIRD-NAMED ASSIGNOR SHOULD READ - LEHMAN, AMY. PREVIOUSLY RECORDED ON REEL 023936 FRAME 0117. ASSIGNOR(S) HEREBY CONFIRMS THE THIRD-NAMED ASSIGNOR WAS INADVERTENTLY OMITTED. THE THIRD-NAMED ASSIGNOR SHOULD READ - LEHMAN, AMY.; ASSIGNORS:FARRITOR, SHANE M.; RENTSCHLER, MARK; LEHMAN, AMY; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:023981/0989
US2009171373 AA	20100224	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE THIRD-NAMED ASSIGNOR WHICH WAS INADVERTENTLY OMITTED. THE THIRD-NAMED ASSIGNOR SHOULD READ - LEHMAN, AMY. PREVIOUSLY RECORDED ON REEL 023936 FRAME 0117. ASSIGNOR(S) HEREBY CONFIRMS THE THIRD-NAMED ASSIGNOR WAS INADVERTENTLY OMITTED. THE THIRD-NAMED ASSIGNOR SHOULD READ - LEHMAN, AMY.; ASSIGNORS:FARRITOR, SHANE M.; RENTSCHLER, MARK; LEHMAN, AMY; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:023981/0989
US2009171373 AA	20101115	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:UNIVERSITY OF NEBRASKA MEDICAL CENTER; REEL/FRAME:025363/0440 EFFECTIVE DATE : 20101022
US2009171373 AA	20140305	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2010318059 AA	20101216	LSPB	+	published / reissued	
US2010318059 AA	20110525	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011224605 AA	20110915	LSPB	+	published / reissued	
US2011224605 AA	20120425	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012179168 AA	20120712	LSPB	+	published / reissued	
US2012179168 AA	20140820	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013131694 AA	20130523	LSPB	+	published / reissued	
US2013131694 AA	20131120	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US2014066955 AA	20140306	LSPB	+	published / reissued	
US2014066955 AA	20140311	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; OLEYNIKOV, DMITRY; PLATT, STEPHEN; AND OTHERS; SIGNING DATES FROM 20140128 TO 20140226; REEL/FRAME:032403/0001
US2014066955 AA	20160713	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014257335 AA	20140911	LSPB	+	published / reissued	
US2014257335 AA	20151021	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014350574 AA	20141127	LSPB	+	published / reissued	
US2014350574 AA	20141203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:UNIVERSITY OF NEBRASKA MEDICAL CENTER; REEL/FRAME:034535/0052 EFFECTIVE DATE : 20141110
US2014350574 AA	20150219	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:UNIVERSITY OF NEBRASKA MEDICAL CENTER; REEL/FRAME:035059/0846 EFFECTIVE DATE : 20141110
US2014350574 AA	20171219	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2014350574 AA	20171219	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014350574 AA	20180119	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2014350574 AA	20180129	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014350574 AA	20180322	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2014350574 AA	20180411	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015223896 AA	20150813	LSPB	+	published / reissued	
US2015223896 AA	20161207	LSES	NFA1	Non Final Action Mailed	
US2015223896 AA	20170606	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OLEYNIKOV, DMITRY; DUMPERT, JASON; RENTSCHLER, MARK; AND OTHERS; SIGNING DATES FROM 20070702 TO 20070708; REEL/FRAME:042617/0510
US2015223896 AA	20180227	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2015223896 AA	20180228	LSES	NFA1	Non Final Action Mailed	
US2015223896 AA	20190116	LSES	+NAM1	Notice of Allowance Mailed -- Application	

				Received in Office of Publications	
US2015223896 AA	20190207	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015223896 AA	20190423	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2015223896 AA	20190515	LSGT	PAT1	Patented Case	
US2015223896 AA	20190515	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016058515 AA	20160303	LSPB	+	published / reissued	
US2016058515 AA	20170503	LSES	NFA1	Non Final Action Mailed	
US2016058515 AA	20170928	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016058515 AA	20171012	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2016058515 AA	20171031	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016058515 AA	20171103	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2016058515 AA	20171126	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016058515 AA	20171226	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2016058515 AA	20171227	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016058515 AA	20180117	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016157709 AA	20160609	LSPB	+	published / reissued	
US2016157709 AA	20180730	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016157709 AA	20180731	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016157709 AA	20181102	LSWD	-ABD7	Abandonment for Failure to Correct Drawings/Oath/NonPub Request	
US2016157709 AA	20190520	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016157709 AA	20190605	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016157709 AA	20190612	LSGT	PAT1	Patented Case	
US2016157709 AA	20190612	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016331480 AA	20161117	LSPB	+	published / reissued	
US2016331480 AA	20160812	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; OLEYNIKOV, DMITRY; PLATT, STEPHEN R; AND OTHERS; SIGNING DATES FROM 20140128 TO 20140226; REEL/FRAME:039421/0834
US2016331480 AA	20170427	LSES	NFA1	Non Final Action Mailed	
US2016331480 AA	20180710	LSWD	-ABD3	Abandoned -- Failure	

				to Respond to an Office Action	
US2018153631 AA	20180607	LSPB	+	published / reissued	
US2018153631 AA	20181003	LSES	NFA1	Non Final Action Mailed	
US2018153631 AA	20190404	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018153631 AA	20190605	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2018153631 AA	20190617	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018153631 AA	20190624	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2018153631 AA	20190724	LSGT	PAT1	Patented Case	
US2018153631 AA	20190724	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2018250082 AA	20180906	LSPB	+	published / reissued	
US2018250082 AA	20191114	LSES	NFA1	Non Final Action Mailed	
US2019365490 AA	20191205	LSPB	+	published / reissued	
US2019365490 AA	20190813	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; LEHMAN, AMY; WOOD, NATHAN; AND OTHERS; SIGNING DATES FROM 20070702 TO 20070708; REEL/FRAME:050034/0327
US7042184 BB	20060509	LSGT	+	granted / extensions (spc, cpc, pte)	
US7042184 BB	20040109	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OLEYNIKOV, DMITRY; FARRITOR, SHANE; HADZIALIC, ADNAN; AND OTHERS; REEL/FRAME:014865/0362; SIGNING DATES FROM 20031022 TO 20031219
US7042184 BB	20060419	LSGT	PAT1	Patented Case	
US7042184 BB	20060808	LSRE	CC	CERTIFICATE OF CORRECTION	
US7042184 BB	20091109	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7042184 BB	20131111	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7042184 BB	20171103	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7042184 BB	20230728	PEXP		Calculated Patent Term Expiry (PTA 20 days)	
US7126303 BB	20061024	LSGT	+	granted / extensions (spc, cpc, pte)	
US7126303 BB	20061004	LSGT	PAT1	Patented Case	
US7126303 BB	20080204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION, NEBRASKA OLDPARTY : MERGER; ASSIGNOR:NEBRASKA SURGICAL SOLUTIONS, INC.; REEL/FRAME:020451/0932 EFFECTIVE DATE : 20071220

US7126303 BB	20100323	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7126303 BB	20140312	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7126303 BB	20180420	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7126303 BB	20260124	PEXP		Calculated Patent Term Expiry	
US7199545 BB	20070403	LSGT	+	granted / extensions (spc, cpc, pte)	
US7199545 BB	20070314	LSGT	PAT1	Patented Case	
US7199545 BB	20070619	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OLEYNIKOV, DMITRY; FARRITOR, SHANE; HADZIALIC, ADNAN; AND OTHERS; REEL/FRAME:019440/0963; SIGNING DATES FROM 20031022 TO 20031219
US7199545 BB	20071002	LSRE	CC	CERTIFICATE OF CORRECTION	
US7199545 BB	20080108	LSRE	CC	CERTIFICATE OF CORRECTION	
US7199545 BB	20080204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION, NEBRASKA OLDPARTY : MERGER; ASSIGNOR:NEBRASKA SURGICAL SOLUTIONS, INC.; REEL/FRAME:020451/0932 EFFECTIVE DATE : 20071220
US7199545 BB	20100922	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7199545 BB	20140712	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7199545 BB	20180927	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7199545 BB	20260405	PEXP		Calculated Patent Term Expiry	
US7339341 BB	20080304	LSGT	+	granted / extensions (spc, cpc, pte)	
US7339341 BB	20060713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; PLATT, STEPHEN; OLEYNIKOV, DMITRY; AND OTHERS; REEL/FRAME:017939/0721 EFFECTIVE DATE : 20060705
US7339341 BB	20080213	LSGT	PAT1	Patented Case	
US7339341 BB	20110824	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7339341 BB	20150824	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7339341 BB	20190830	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7339341 BB	20260413	PEXP		Calculated Patent Term Expiry	
US7372229 BB	20080513	LSGT	+	granted / extensions (spc, cpc, pte)	
US7372229 BB	20070322	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE M.; OLEYNIKOV, DMITRY;

					PLATT, STEPHEN R.; AND OTHERS; REEL/FRAME:019050/0344; SIGNING DATES FROM 20070223 TO 20070306
US7372229 BB	20080423	LSGT	PAT1	Patented Case	
US7372229 BB	20080923	LSRE	CC	CERTIFICATE OF CORRECTION	
US7372229 BB	20090310	LSRE	CC	CERTIFICATE OF CORRECTION	
US7372229 BB	20110923	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7372229 BB	20150807	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7372229 BB	20191112	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US7372229 BB	20261126	PEXP		Calculated Patent Term Expiry (PTA 33 days)	
US7492116 BB	20090217	LSGT	+	granted / extensions (spc, cpc, pte)	
US7492116 BB	20070608	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OLEYMIKOV, DMITRY; FARRITOR, SHANE; HADZIALIC, ADNAN; AND OTHERS; REEL/FRAME:019401/0130; SIGNING DATES FROM 20031022 TO 20031219
US7492116 BB	20070614	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:OLEYNIKOV, DMITRY; FARRITOR, SHANE; HADZIALIC, ADNAN; AND OTHERS; REEL/FRAME:019426/0553; SIGNING DATES FROM 20031022 TO 20031219
US7492116 BB	20090128	LSGT	PAT1	Patented Case	
US7492116 BB	20090714	LSRE	CC	CERTIFICATE OF CORRECTION	
US7492116 BB	20120525	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7492116 BB	20160810	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7492116 BB	20270403	PEXP		Calculated Patent Term Expiry	
US7772796 BB	20100810	LSGT	+	granted / extensions (spc, cpc, pte)	
US7772796 BB	20080204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION, NEBRASKA OLDPARTY : MERGER; ASSIGNOR:NEBRASKA SURGICAL SOLUTIONS, INC.; REEL/FRAME:020451/0932 EFFECTIVE DATE : 20071220
US7772796 BB	20100721	LSGT	PAT1	Patented Case	
US7772796 BB	20140210	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7772796 BB	20180208	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7772796 BB	20280909	PEXP		Calculated Patent Term Expiry (PTA 285 days and a terminal disclaimer has been filed)	

US7960935 BB	20110614	LSGT	+	granted / extensions (spc, cpc, pte)	
US7960935 BB	20100902	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : THE BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE M.; OLEYNIKOV, DMITRY; PLATT, STEPHEN R.; AND OTHERS; SIGNING DATES FROM 20100806 TO 20100827; REEL/FRAME:024932/0954
US7960935 BB	20110525	LSGT	PAT1	Patented Case	
US7960935 BB	20141204	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7960935 BB	20181129	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7960935 BB	20300616	PEXP		Calculated Patent Term Expiry	
US8179073 BB	20120515	LSGT	+	granted / extensions (spc, cpc, pte)	
US8179073 BB	20120425	LSGT	PAT1	Patented Case	
US8179073 BB	20150807	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8179073 BB	20191112	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8179073 BB	20310513	PEXP		Calculated Patent Term Expiry	
US8343171 BB	20130101	LSGT	+	granted / extensions (spc, cpc, pte)	
US8343171 BB	20121212	LSGT	PAT1	Patented Case	
US8343171 BB	20160629	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8343171 BB	20310802	PEXP		Calculated Patent Term Expiry (PTA 1117 days)	
US8604742 BB	20131210	LSGT	+	granted / extensions (spc, cpc, pte)	
US8604742 BB	20121119	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; OLEYNIKOV, DMITRY; PLATT, STEPHEN; AND OTHERS; SIGNING DATES FROM 20120823 TO 20121119; REEL/FRAME:029322/0926
US8604742 BB	20131120	LSGT	PAT1	Patented Case	
US8604742 BB	20170608	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8604742 BB	20320511	PEXP		Calculated Patent Term Expiry	
US8679096 BB	20140325	LSGT	+	granted / extensions (spc, cpc, pte)	
US8679096 BB	20140305	LSGT	PAT1	Patented Case	
US8679096 BB	20141222	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:UNIVERSITY OF NEBRASKA MEDICAL CENTER; REEL/FRAME:034692/0640 EFFECTIVE DATE : 20101022
US8679096 BB	20150122	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:UNIVERSITY OF

					NEBRASKA MEDICAL CENTER; REEL/FRAME:034796/0329 EFFECTIVE DATE : 20101022
US8679096 BB	20170925	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8679096 BB	20320708	PEXP		Calculated Patent Term Expiry (PTA 1320 days)	
US8828024 BB	20140909	LSGT	+	granted / extensions (spc, cpc, pte)	
US8828024 BB	20120112	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:UNIVERSITY OF NEBRASKA MEDICAL CENTER; REEL/FRAME:027531/0320 EFFECTIVE DATE : 20120101
US8828024 BB	20140820	LSGT	PAT1	Patented Case	
US8828024 BB	20150618	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:UNIVERSITY OF NEBRASKA MEDICAL CENTER; REEL/FRAME:035950/0907 EFFECTIVE DATE : 20120101
US8828024 BB	20180308	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8828024 BB	20311219	PEXP		Calculated Patent Term Expiry	
US8834488 BB	20140916	LSGT	+	granted / extensions (spc, cpc, pte)	
US8834488 BB	20070727	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; RENTSCHLER, MARK; DUMPERT, JASON; AND OTHERS; REEL/FRAME:019618/0135; SIGNING DATES FROM 20070702 TO 20070703
US8834488 BB	20070727	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; RENTSCHLER, MARK; DUMPERT, JASON; AND OTHERS; SIGNING DATES FROM 20070702 TO 20070703; REEL/FRAME:019618/0135
US8834488 BB	20080204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VIRTUAL INCISION CORPORATION, NEBRASKA OLDPARTY : MERGER; ASSIGNOR:NEBRASKA SURGICAL SOLUTIONS, INC.; REEL/FRAME:020451/0932 EFFECTIVE DATE : 20071220
US8834488 BB	20140827	LSGT	PAT1	Patented Case	
US8834488 BB	20180312	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8834488 BB	20291229	PEXP		Calculated Patent Term Expiry (PTA 922 days)	
US8968332 BB	20150303	LSGT	+	granted / extensions (spc, cpc, pte)	
US8968332 BB	20070725	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE

					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; LEHMAN, AMY; WOOD, NATHAN; AND OTHERS; REEL/FRAME:019609/0511; SIGNING DATES FROM 20070702 TO 20070708
US8968332 BB	20070725	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE; LEHMAN, AMY; WOOD, NATHAN; AND OTHERS; SIGNING DATES FROM 20070702 TO 20070708; REEL/FRAME:019609/0511
US8968332 BB	20150211	LSGT	PAT1	Patented Case	
US8968332 BB	20180821	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8968332 BB	20310202	PEXP		Calculated Patent Term Expiry (PTA 1322 days and a terminal disclaimer has been filed)	
US8974440 BB	20150310	LSGT	+	granted / extensions (spc, cpc, pte)	
US8974440 BB	20150218	LSGT	PAT1	Patented Case	
US8974440 BB	20180907	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8974440 BB	20320208	PEXP		Calculated Patent Term Expiry (PTA 1272 days and a terminal disclaimer has been filed)	
US9179981 BB	20151110	LSGT	+	granted / extensions (spc, cpc, pte)	
US9179981 BB	20151021	LSGT	PAT1	Patented Case	
US9179981 BB	20180321	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE, FARR; RENTSCHLER, MARK; LEHMAN, AMY; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:045302/0280
US9179981 BB	20190509	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9179981 BB	20340310	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9403281 BB	20160802	LSGT	+	granted / extensions (spc, cpc, pte)	
US9403281 BB	20151210	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9403281 BB	20160713	LSGT	PAT1	Patented Case	
US9403281 BB	20200131	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9403281 BB	20331107	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9579088 BB	20170228	LSGT	+	granted / extensions (spc, cpc, pte)	
US9579088 BB	20170208	LSGT	PAT1	Patented Case	
US9579088 BB	20310301	PEXP		Calculated Patent Term Expiry (PTA 1159 days)	
US9883911 BB	20180206	LSGT	+	granted / extensions	

				(spc, cpc, pte)	
US9883911 BB	20180117	LSGT	PAT1	Patented Case	
US9883911 BB	20180321	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BOARD OF REGENTS OF THE UNIVERSITY OF NEBRASKA, NE OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FARRITOR, SHANE, FARR; RENTSCHLER, MARK; LEHMAN, AMY; SIGNING DATES FROM 20090911 TO 20091026; REEL/FRAME:045302/0280
US9883911 BB	20351109	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9956043 BB	20180501	LSGT	+	granted / extensions (spc, cpc, pte)	
US9956043 BB	20180411	LSGT	PAT1	Patented Case	
US9956043 BB	20360131	PEXP		Calculated Patent Term Expiry (PTA 542 days and a terminal disclaimer has been filed)	
WO07149559 A2	20071227	LSPB	+	published / reissued	
WO07149559 A3	20081222	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2655964 COUNTRY OF REF DOCUMENT : CA
WO07149559 A3	20081222	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009516581 COUNTRY OF REF DOCUMENT : JP
WO07149559 A3	20081223	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO07149559 A3	20090119	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007796365 COUNTRY OF REF DOCUMENT : EP
WO07149559 A3	20090122	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : RU
WO08103212 A2	20080828	LSPB	+	published / reissued	
WO08103212 A3	20090817	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2678610 COUNTRY OF REF DOCUMENT : CA
WO08103212 A3	20090819	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2009550867 COUNTRY OF REF DOCUMENT : JP
WO08103212 A3	20090821	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO08103212 A3	20090921	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007870120 COUNTRY OF REF DOCUMENT : EP
WO09014917 A2	20090129	LSPB	+	published / reissued	
WO09014917 A3	20100113	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09014917 A3	20100129	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008826500 COUNTRY OF REF DOCUMENT : EP
WO09014917 A9	20091214	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2690808 COUNTRY OF REF DOCUMENT : CA
WO09014917 A9	20091225	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010516278 COUNTRY OF REF DOCUMENT :

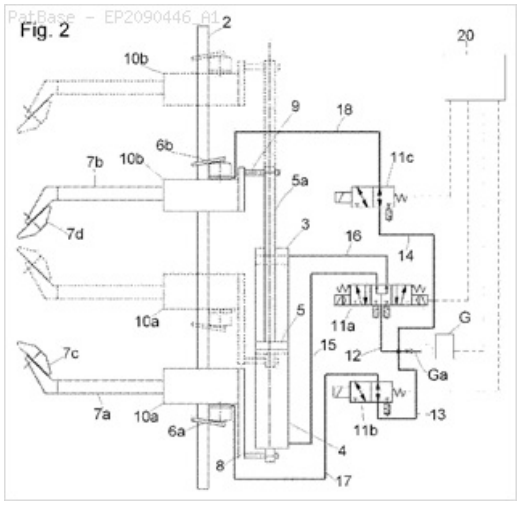
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WO09023839 A1	20090219	LSPB	+	published / reissued	
WO09023839 A1	20100203	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2695615 COUNTRY OF REF DOCUMENT : CA
WO09023839 A1	20100208	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008797988 COUNTRY OF REF DOCUMENT : EP
WO09023839 A1	20100210	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010521203 COUNTRY OF REF DOCUMENT : JP
WO09023839 A1	20100216	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09023851 A1	20090219	LSPB	+	published / reissued	
WO09023851 A1	20100203	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2695619 COUNTRY OF REF DOCUMENT : CA
WO09023851 A1	20100209	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008798014 COUNTRY OF REF DOCUMENT : EP
WO09023851 A1	20100210	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2010521208 COUNTRY OF REF DOCUMENT : JP
WO09023851 A1	20100216	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

54) Family number: 42939254 (EP2090446A1)

Title: BEAD RELEASING **DEVICE**

Abstract: The present invention relates to a **handling** **device** for a resistant load comprising: - a guide track (2) or a plurality of parallel guide tracks; - a pair of slides or carriages (10a, 10b) slidingly mounted on a guide track (2) or a respective guide track; - removable locking means (6a, 6b) associated with each slide or carriage (10a, 10b) and designed to keep in position its respective slide or carriage along the respective guide track (2); - a linear actuator means (3) associated with each slide or carriage (10a, 10b) and having at least one first component (4) and at least one second component (5a) which can be displaced, upon control, one with respect to the other parallely to the guide track (2) or plurality of parallel guide tracks, the at least one first component (4) being displaceable together with a slide or carriage (10a) of the pair, and the at least one second component (5a) being displaceable together with the other slide or carriage (10b) of the pair; - engagement means (7a, 7b) for a resistant load displaceable together with the linear actuator means; and - control means designed to control the removable locking means (6a, 6b) and the linear actuator means (3).

Classifications:
International (IPC 8-9): B23P19/00 B25J15/08 B60C25/138 B62D65/12 (Advanced/Invention);
B23P19/00 B25J15/08 B60C25/00 B62D65/00 (Core/Invention)
CPC: B60C25/138
European: B60C25/138
JP F-Term: 3C007 3C007/AS06 3C007/AS23 3C007/DS01 3C007/ES03 3C007/ET08 3C007/EU04 3C007/EU16 3C007/EU17 3C007/EU18 3C007/EU20 3C007/EW07 3C007/HS14 3C007/NS11 3C707 3C707/AS06 3C707/AS23 3C707/DS01 3C707/ES03 3C707/ET08 3C707/EU04 3C707/EU16 3C707/EU17 3C707/EU18 3C707/EU20 3C707/EW07 3C707/HS14 3C707/NS11 3D114 3D114/AA20 3D114/BA24 3D114/CA20 3D114/EA20
JP F-Index: B25J15/08/C B62D65/12/C



Family:

Publication number	Publication date	Application number	Application date
CN101508066 A	20090819	CN200910008851	20090210
CN101508066 B	20121212	CN200910008851	20090210
DE602009020363 D1	20140123	DE200960020363T	20090211
EP2090446 A1	20090819	EP20090152504	20090211
EP2090446 B1	20131127	EP20090152504	20090211
ITVR20080018 A1	20090814	IT2008VR00018	20080213
JP2009190168 A2	20090827	JP20090031188	20090213
JP5355129 B2	20131127	JP20090031188	20090213

Priority:
IT2008VR00018 20080213 EP20090152504 20090211

Probable Assignee: BUTLER ENGINEERING AND MARKETING SPA
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Assignee(s): BUTLER ENGINEERING AND MARKETING ROLO SPA ; BUTLER ENGINEERING AND MARKETING S P A
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Inventor(s): GONZAGA TULLIO 42015 ; SANTI SILVANO 40026
Agent(s): RENIERO CIRILLO SILVANO; FELTRINELLI SECONDO ANDREA; SHIOKAWA SHUJI
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN101508066 A	20090819	LSPB	+	published / reissued	
CN101508066 A	20090819	LSPB	+C06	PUBLICATION	
CN101508066 B	20121212	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101508066 B	20121212	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101508066 B	20290210	PEXP		Calculated Patent Term Expiry	
EP2090446 A1	20090819	LSPB	+	published / reissued	
EP2090446 A1	20100310	LSES	+17P	REQUEST FOR	EFFECTIVE DATE : 20100202

				EXAMINATION FILED	
EP2090446 A1	20100428	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 : HR 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 : MK COUNTRY OF REF DOCUMENT : MT COUNTRY OF REF DOCUMENT : NL COUNTRY OF REF DOCUMENT : NO 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
EP2090446 A1	20130213	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20130117
EP2090446 A1	20130424	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20130328
EP2090446 A1	20130626	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : BUTLER ENGINEERING & MARKETING S.P.A.
EP2090446 A1	20131002	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20130903
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EP2090446 B1	20131127	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
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EP2090446 B1	20140828	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602009020363 COUNTRY OF REF DOCUMENT : DE
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EP2090446 B1	20141105	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20140828
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EP2090446 B1	20141204	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602009020363 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20140828
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EP2090446 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170227 YEAR OF FEE PAYMENT : 9
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EP2090446 B1	20290211	PEXP		Calculated Patent Term Expiry	
ITVR20080018 A1	20090814	LSPB	+	published / reissued	
JP2009190168 A2	20090827	LSPB	+	published / reissued	
JP2009190168 A2	20120211	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120210
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JP2009190168 A2	20130622	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130621
JP2009190168 A2	20130729	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2009190168 A2	20130807	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130806
JP2009190168 A2	20130905	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130827
JP2009190168 A2	20130906	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2009190168 A2	20130906	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5355129 COUNTRY OF REF DOCUMENT : JP
JP5355129 B2	20131127	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5355129 B2	20130808	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5355129 B2	20130903	LSFE	R100	特許料納付書 (Patent fee payment form)	

JP5355129 B2	20160825	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5355129 B2	20160830	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5355129 B2	20170831	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5355129 B2	20170905	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5355129 B2	20180830	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5355129 B2	20180904	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5355129 B2	20190829	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5355129 B2	20190903	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5355129 B2	20290213	PEXP		Calculated Patent Term Expiry	

55) Family number: 60047266 (US2016084642A)

Title: DETERMINING A VIRTUAL REPRESENTATION OF AN ENVIRONMENT BY PROJECTING TEXTURE PATTERNS

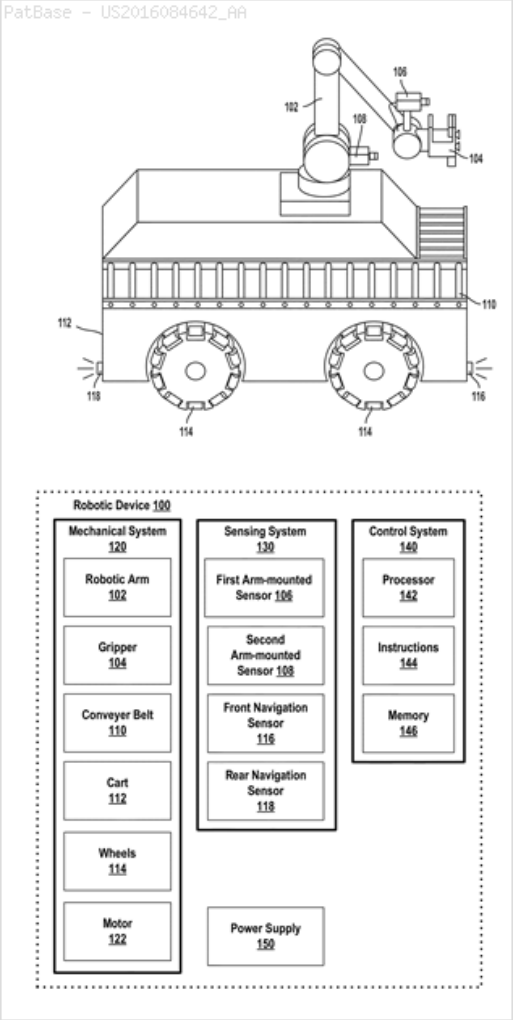
Abstract: Example methods and systems for determining 3D scene geometry by projecting patterns of light onto a scene are provided. In an example method, a first projector may project a first random texture pattern having a first wavelength and a second projector may project a second random texture pattern having a second wavelength. A computing **device** may receive sensor data that is indicative of an environment as perceived from a first viewpoint of a first optical sensor and a second viewpoint of a second optical sensor. Based on the received sensor data, the computing **device** may determine corresponding features between sensor data associated with the first viewpoint and sensor data associated with the second viewpoint. And based on the determined corresponding features, the computing **device** may determine an output including a virtual representation of the environment that includes depth measurements indicative of distances to at least one object.

Classifications:

International (IPC 8-9): B25J13/08 B25J18/00 B25J19/00 B25J19/02 B25J5/00 B25J9/00 B25J9/16 B65G41/00 B65G47/46 B65G47/50 B65G47/90 G01B11/25 G05B19/04 G05B19/18 G06F19/00 G06F7/00 G06K9/00 G06K9/32 G06K9/46 G06K9/52 G06K9/62 G06T17/00 G06T19/00 G06T7/00 G06T7/13 G06T7/529 G06T7/593 G06T7/60 H04N13/02 H04N13/239 H04N5/33 (Advanced/Invention); B25J19/02 B65G61/00 B65H67/06 H04N13/00 (Advanced/Non-invention)

CPC: G06T7/0059 G06T7/0075 G06T7/0085 B25J9/1671 G05B2219/40053 G05B2219/40298 G05B2219/40442 G06K9/00201 G06T17/00 G06T7/13 G06T7/529 G06T7/55 G06T7/593 H04N13/239 Y10S901/01 Y10S901/02 Y10S901/06 Y10S901/09 Y10S901/47 B25J5/00 B25J9/0093 B25J9/1612 B25J9/162 B25J9/163 B25J9/1664 B25J9/1687 B25J9/1694 B25J9/1697 B25J19/00 B25J19/021 B65G41/008 B65G47/46 B65G47/50 B65G61/00 B65H67/065 G01B11/254 G05B2219/31312 G05B2219/39391 G05B2219/40543 G06K9/00664 G06K9/3208 G06K9/4604 G06K9/4661 G06K9/52 G06K9/6202 G06T7/60 G06T19/003 G06T2200/04 H04N5/33 H04N2013/0081

US: 1/1 348/136 348/47 414/471 700/214 700/253 901/1 901/9



Family:

Publication number	Publication date	Application number	Application date
US2016084642 AA	20160324	US20150961607	20151207
US2016089791 AA	20160331	US20150964724	20151210
US2016221187 AA	20160804	US20160093118	20160407
US2016288324 AA	20161006	US20160182881	20160615
US2018093377 AA	20180405	US20170827321	20171130
US2018243904 AA	20180830	US20180968323	20180501
US9102055 BA	20150811	US20140212328	20140314
US9227323 BA	20160105	US20140213191	20140314
US9233470 BA	20160112	US20140212514	20140314
US9238304 BA	20160119	US20140212994	20140314
US9333649 BA	20160510	US20140213089	20140314
US9393686 BA	20160719	US20140213300	20140314
US9492924 BB	20161115	US20160182881	20160615
US9630320 BA	20170425	US20150793246	20150707
US9630321 BB	20170425	US20150964724	20151210
US9707682 BA	20170718	US20150950828	20151124
US9862093 BB	20180109	US20150961607	20151207
US9987746 BB	20180605	US20160093118	20160407
US10518410 BB	20191231	US20180968323	20180501

Priority:

US20130793151P 20130315 US20130798151P 20130315 US20130798425P 20130315
US20130798564P 20130315 US20130798505P 20130315 US20140212328 20140314
US20140213191 20140314 US20140212514 20140314 US20140212994 20140314
US20140213089 20140314 US20140213300 20140314 US20150793246 20150707
US20150950828 20151124 US20150961607 20151207 US20150964724 20151210
US20160093118 20160407 US20160182881 20160615 US20170827321 20171130
US20180968323 20180501

Probable Assignee: X DEVELOPMENT LLC

Assignee(s): (std): IND PERCEPTION INC ; GOOGLE INC ; X DEV LLC

Assignee(s): GOOGLE LLC ; INDUSTRIAL PERCEPTION INC ; INDUSTRIAL PERCEPTION LLC ; X DEVELOPMENT LLC

Inventor(s): (std): STRASDAT HAUKE ; RUBLEE ETHAN ; BRADSKI GARY ; KONOLIGE KURT ; STRASZHEIM TROY ; HINTERSTOISSER STEFAN ; CROFT STEVE ; ZEVENBERGEN JOHN ; STRASDAT HAUKE MALTE

Agent(s): MCDONNELL BOEHNEN HULBERT AND BERGHOFF LLP; MCDONNELL BOEHNEN HULBERT

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10518410 BB	20191231	LSGT	+	granted / extensions (spc, cpc, pte)	
US10518410 BB	20180501	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:045685/0521 EFFECTIVE DATE : 20171026
US10518410 BB	20180501	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRADSKI, GARY; CROFT, STEVE; KONOLIGE, KURT; AND OTHERS; SIGNING DATES FROM 20140326 TO 20140501; REEL/FRAME:045685/0453
US10518410 BB	20180501	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:045685/0612 EFFECTIVE DATE : 20171030
US10518410 BB	20180501	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:046048/0832 EFFECTIVE DATE : 20150417
US10518410 BB	20180501	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US10518410 BB	20380501	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US2016084642 AA	20160324	LSPB	+	published / reissued	
US2016084642 AA	20170414	LSES	NFA1	Non Final Action Mailed	
US2016084642 AA	20170901	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016084642 AA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671

					EFFECTIVE DATE : 20171030
US2016084642 AA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026
US2016084642 AA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US2016084642 AA	20171204	LSFE	+PPV1	Publications - - Issue Fee Payment Verified	
US2016084642 AA	20171220	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016089791 AA	20160331	LSPB	+	published / reissued	
US2016089791 AA	20170405	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016221187 AA	20160804	LSPB	+	published / reissued	
US2016221187 AA	20170419	LSES	NFA1	Non Final Action Mailed	
US2016221187 AA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026
US2016221187 AA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671 EFFECTIVE DATE : 20171030
US2016221187 AA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US2016221187 AA	20171222	LSAL	NAF1	Notice of Appeal Filed	
US2016221187 AA	20180318	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2016221187 AA	20180501	LSFE	+PPR1	Publications - - Issue Fee Payment Received	
US2016221187 AA	20180503	LSFE	+PPV1	Publications - - Issue Fee Payment Verified	
US2016221187 AA	20180516	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016288324 AA	20161006	LSPB	+	published / reissued	
US2016288324 AA	20161026	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US2018093377 AA	20180405	LSPB	+	published / reissued	
US2018093377 AA	20171201	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044269/0623 EFFECTIVE DATE : 20171030
US2018093377 AA	20171201	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRADSKI, GARY; KONOLIGE, KURT; RUBLEE, ETHAN; SIGNING DATES FROM 20140526 TO 20140529; REEL/FRAME:044269/0605
US2018093377 AA	20171201	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION, LLC; REEL/FRAME:044269/0613 EFFECTIVE DATE : 20171026
US2018093377 AA	20171201	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044595/0192 EFFECTIVE DATE : 20150416
US2018243904 AA	20180830	LSPB	+	published / reissued	
US2018243904 AA	20190605	LSAL	NAF1	Notice of Appeal Filed	
US2018243904 AA	20190605	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	TEXT : NOTICE OF APPEAL FILED
US2018243904 AA	20190911	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018243904 AA	20191121	LSFE	+PPV1	Publications - - Issue Fee Payment Verified	
US2018243904 AA	20191211	LSGT	PAT1	Patented Case	
US2018243904 AA	20191211	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9102055 BA	20150811	LSGT	+	granted / extensions (spc, cpc, pte)	
US9102055 BA	20140403	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KONOLIGE, KURT; RUBLEE, ETHAN; HINTERSTOISSER, STEFAN; AND OTHERS; SIGNING DATES FROM 20140326 TO 20140331; REEL/FRAME:032597/0042
US9102055 BA	20150722	LSGT	PAT1	Patented Case	
US9102055 BA	20150722	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9102055 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671 EFFECTIVE DATE : 20171030

US9102055 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026
US9102055 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US9102055 BA	20190205	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9102055 BA	20340314	PEXP		Calculated Patent Term Expiry	
US9227323 BA	20160105	LSGT	+	granted / extensions (spc, cpc, pte)	
US9227323 BA	20140403	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KONOLIGE, KURT; RUBLEE, ETHAN; BRADSKI, GARY; SIGNING DATES FROM 20140326 TO 20140329; REEL/FRAME:032597/0138
US9227323 BA	20151216	LSGT	PAT1	Patented Case	
US9227323 BA	20151216	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9227323 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671 EFFECTIVE DATE : 20171030
US9227323 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026
US9227323 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US9227323 BA	20190628	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9227323 BA	20340314	PEXP		Calculated Patent Term Expiry	
US9233470 BA	20160112	LSGT	+	granted / extensions (spc, cpc, pte)	
US9233470 BA	20140403	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRADSKI, GARY; KONOLIGE, KURT; RUBLEE, ETHAN; SIGNING DATES FROM 20140326 TO 20140329; REEL/FRAME:032591/0409
US9233470 BA	20151222	LSGT	PAT1	Patented Case	
US9233470 BA	20151222	LSGT	STCF	INFORMATION	TEXT : PATENTED CASE

				ON STATUS: PATENT GRANT	
US9233470 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671 EFFECTIVE DATE : 20171030
US9233470 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026
US9233470 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US9233470 BA	20190705	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9233470 BA	20340314	PEXP		Calculated Patent Term Expiry	
US9238304 BA	20160119	LSGT	+	granted / extensions (spc, cpc, pte)	
US9238304 BA	20140416	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRADSKI, GARY; KONOLIGE, KURT; RUBLEE, ETHAN; AND OTHERS; SIGNING DATES FROM 20140325 TO 20140414; REEL/FRAME:032689/0690
US9238304 BA	20151229	LSGT	PAT1	Patented Case	
US9238304 BA	20151229	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9238304 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671 EFFECTIVE DATE : 20171030
US9238304 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026
US9238304 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US9238304 BA	20190712	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9238304 BA	20340314	PEXP		Calculated Patent Term Expiry	
US9333649 BA	20160510	LSGT	+	granted / extensions (spc, cpc, pte)	
US9333649 BA	20140512	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS

					INTEREST; ASSIGNORS:BRADSKI, GARY; CROFT, STEVE; KONOLIGE, KURT; AND OTHERS; SIGNING DATES FROM 20140326 TO 20140501; REEL/FRAME:032870/0397
US9333649 BA	20160420	LSGT	PAT1	Patented Case	
US9333649 BA	20160420	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9333649 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671 EFFECTIVE DATE : 20171030
US9333649 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026
US9333649 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US9333649 BA	20191106	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9333649 BA	20340314	PEXP		Calculated Patent Term Expiry	
US9393686 BA	20160719	LSGT	+	granted / extensions (spc, cpc, pte)	
US9393686 BA	20140612	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BRADSKI, GARY; REEL/FRAME:033093/0508 EFFECTIVE DATE : 20140326
US9393686 BA	20140612	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CROFT, STEVE; KONOLIGE, KURT; RUBLEE, ETHAN; AND OTHERS; SIGNING DATES FROM 20140429 TO 20140519; REEL/FRAME:033093/0535
US9393686 BA	20160629	LSGT	PAT1	Patented Case	
US9393686 BA	20160629	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9393686 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026
US9393686 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671 EFFECTIVE DATE : 20171030
US9393686 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.;

					REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US9393686 BA	20200115	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9393686 BA	20341015	PEXP		Calculated Patent Term Expiry (PTA 215 days)	
US9492924 BB	20161115	LSGT	+	granted / extensions (spc, cpc, pte)	
US9492924 BB	20161026	LSGT	PAT1	Patented Case	
US9492924 BB	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CROFT, STEVE; KONOLIGE, KURT; RUBLEE, ETHAN; AND OTHERS; SIGNING DATES FROM 20140429 TO 20170429; REEL/FRAME:044290/0270
US9492924 BB	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BRADSKI, GARY; REEL/FRAME:044290/0267 EFFECTIVE DATE : 20140326
US9492924 BB	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671 EFFECTIVE DATE : 20171030
US9492924 BB	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026
US9492924 BB	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US9492924 BB	20360615	PEXP		Calculated Patent Term Expiry	
US9630320 BA	20170425	LSGT	+	granted / extensions (spc, cpc, pte)	
US9630320 BA	20150707	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KONOLIGE, KURT; RUBLEE, ETHAN; HINTERSTOISSER, STEFAN; AND OTHERS; SIGNING DATES FROM 20140326 TO 20140331; REEL/FRAME:036014/0091
US9630320 BA	20170405	LSGT	PAT1	Patented Case	
US9630320 BA	20170405	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9630320 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026

US9630320 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671 EFFECTIVE DATE : 20171030
US9630320 BA	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US9630320 BA	20350831	PEXP		Calculated Patent Term Expiry (PTA 55 days and a terminal disclaimer has been filed)	
US9630321 BB	20170425	LSGT	+	granted / extensions (spc, cpc, pte)	
US9630321 BB	20170405	LSGT	PAT1	Patented Case	
US9630321 BB	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRADSKI, GARY; KONOLIGE, KURT; RUBLEE, ETHAN; AND OTHERS; SIGNING DATES FROM 20140325 TO 20140414; REEL/FRAME:044289/0501
US9630321 BB	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044291/0525 EFFECTIVE DATE : 20171026
US9630321 BB	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044291/0671 EFFECTIVE DATE : 20171030
US9630321 BB	20171204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:044683/0688 EFFECTIVE DATE : 20150417
US9630321 BB	20351210	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9707682 BA	20170718	LSGT	+	granted / extensions (spc, cpc, pte)	
US9707682 BA	20151124	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:KONOLIGE, KURT; RUBLEE, ETHAN; BRADSKI, GARY; SIGNING DATES FROM 20140326 TO 20140329; REEL/FRAME:037134/0633
US9707682 BA	20170628	LSGT	PAT1	Patented Case	
US9707682 BA	20170628	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9707682 BA	20171006	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

					OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:GOOGLE INC.; REEL/FRAME:044144/0001 EFFECTIVE DATE : 20170929
US9707682 BA	20171020	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE'S NAME PREVIOUSLY RECORDED AT REEL: 037134 FRAME: 0633. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNORS:KONOLIGE, KURT; RUBLEE, ETHAN; BRADSKI, GARY; SIGNING DATES FROM 20140326 TO 20140329; REEL/FRAME:044510/0829
US9707682 BA	20180104	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INDUSTRIAL PERCEPTION LLC; REEL/FRAME:044538/0496 EFFECTIVE DATE : 20171026
US9707682 BA	20180104	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE LLC; REEL/FRAME:044538/0450 EFFECTIVE DATE : 20171030
US9707682 BA	20180104	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:INDUSTRIAL PERCEPTION, INC.; REEL/FRAME:045004/0593 EFFECTIVE DATE : 20150417
US9707682 BA	20180625	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE CORRECTIVE BY NULLIFICATION TO CORRECT INCORRECTLY RECORDED APPLICATION NUMBERS PREVIOUSLY RECORDED ON REEL 044144 FRAME 0001. ASSIGNOR(S) HEREBY CONFIRMS THE CHANGE OF NAME; ASSIGNOR:GOOGLE INC.; REEL/FRAME:047894/0508 EFFECTIVE DATE : 20170929
US9707682 BA	20351124	PEXP		Calculated Patent Term Expiry	
US9862093 BB	20180109	LSGT	+	granted / extensions (spc, cpc, pte)	
US9862093 BB	20151207	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BRADSKI, GARY; KONOLIGE, KURT; RUBLEE, ETHAN; SIGNING DATES FROM 20140326 TO 20140329; REEL/FRAME:037228/0541
US9862093 BB	20171220	LSGT	PAT1	Patented Case	
US9862093 BB	20360211	PEXP		Calculated Patent Term Expiry (PTA 66 days and a terminal disclaimer has been filed)	
US9987746 BB	20180605	LSGT	+	granted / extensions (spc, cpc, pte)	
US9987746 BB	20160407	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INDUSTRIAL PERCEPTION, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS

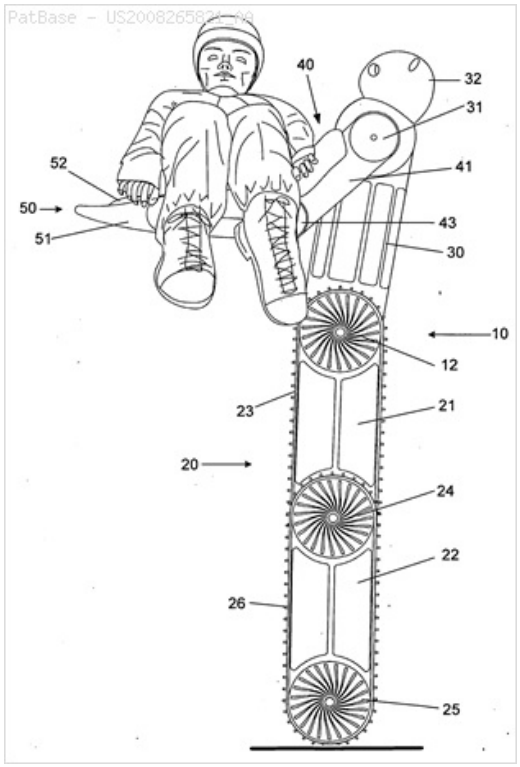
					INTEREST; ASSIGNORS:BRADSKI, GARY; CROFT, STEVE; KONOLIGE, KURT; AND OTHERS; SIGNING DATES FROM 20140326 TO 20140501; REEL/FRAME:038220/0263
US9987746 BB	20180516	LSGT	PAT1	Patented Case	
US9987746 BB	20360407	PEXP		Calculated Patent Term Expiry	

56) Family number: 41629273 (US2008265821A)

Title: MOBILE EXTRACTION-**ASSIST** ROBOT

Abstract: An all-terrain mobile robot comprising a mobile robotic platform, having either **wheels** or tank-treaded-like legs capable of navigating over rough terrain, wherein the robotic platform utilizes dynamic balancing behavior; a hydraulic powered anthropomorphic torso and articulated arms, wherein the hydraulic system possesses a pressure sensor for enabling the anthropomorphic torso and articulated arms to lift a payload using acute and delicate movements that reduce the chance of causing structural harm to the payload.

Classifications:
International (IPC 8-9): B25J15/02 B25J5/00 B25J9/16 B62D57/02 B62D57/032 G05B19/04 G06F19/00 (Advanced/Invention); B25J15/02 B25J5/00 G06F19/00 (Core/Invention)
CPC: B25J5/005 B62D55/065 B62D55/075 B62D57/024 B62D57/032 B62D57/028 B62D57/02 B25J11/009
European: B25J5/00T B62D55/065 B62D55/075 B62D57/028
US: 1/1 318/568.1 318/568.11 318/568.12 318/568.2 318/568.21 318/568.22 318/628 700/245 901/1



Family:

Publication number	Publication date	Application number	Application date
US2008265821 AA	20081030	US20080054276	20080324
US7348747 BA	20080325	US20060393577	20060330
US7719222 BB	20100518	US20080054276	20080324
US7902784 BA	20110308	US20100721803	20100311
US8102134 BA	20120124	US20100721792	20100311
US8106616 BA	20120131	US20100721810	20100311
US9387895 BA	20160712	US20110283770	20111028

Priority:

US20060393577 20060330 US20080054276 20080324 US20100721803 20100311
US20100721792 20100311 US20100721810 20100311 US20110283770 20111028

Probable Assignee: VECNA TECHNOLOGIES INC

Assignee(s): (std): ALLEN THOMAS ; THEOBALD DANIEL ; VECNA ; VECNA TECHNOLOGIES INC ; VEENA TECHNOLOGIES INC

Inventor(s): (std): ORNSTEIN JOSHUA ; NICHOL JAMIE G ; THEOBOLD DANIEL ; KULLBERG SCOTT ERIC ; THEOBALD DANIEL ; ALLEN THOMAS

Agent(s): WRIGHT LAW GROUP PLLC; WRIGHT MARK F; MARK F; ALBERT J

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2008265821 AA	20081030	LSPB	+	published / reissued	
US2008265821 AA	20100428	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7348747 BA	20080325	LSGT	+	granted / extensions (spc, cpc, pte)	
US7348747 BA	20060330	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VECNA, MARYLAND

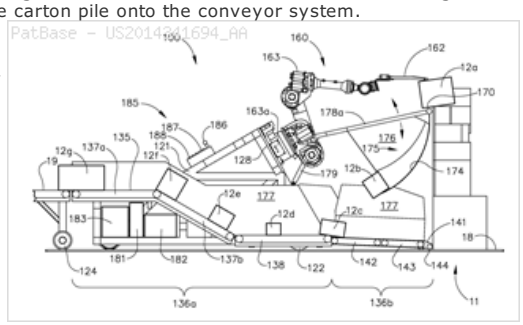
					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:THEOBOLD, DANIEL; ORNSTEIN, JOSHUA; NICHOL, JAMIE G.; AND OTHERS; REEL/FRAME:017744/0530 EFFECTIVE DATE : 20060327
US7348747 BA	20080305	LSGT	PAT1	Patented Case	
US7348747 BA	20110912	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7348747 BA	20160325	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7348747 BA	20160425	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7348747 BA	20160425	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7348747 BA	20160517	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160325
US7348747 BA	20260829	PEXP		Calculated Patent Term Expiry (PTA 152 days)	
US7719222 BB	20100518	LSGT	+	granted / extensions (spc, cpc, pte)	
US7719222 BB	20080610	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VECNA TECHNOLOGIES, INC., MARYLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THEOBALD, DANIEL; REEL/FRAME:021072/0610 EFFECTIVE DATE : 20080401
US7719222 BB	20080610	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VECNA TECHNOLOGIES, INC.,MARYLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THEOBALD, DANIEL; REEL/FRAME:021072/0610 EFFECTIVE DATE : 20080401
US7719222 BB	20100428	LSGT	PAT1	Patented Case	
US7719222 BB	20131008	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7719222 BB	20180101	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7719222 BB	20180119	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : 7.5 YR SURCHARGE - LATE PMT W/IN 6 MO, SMALL ENTITY (ORIGINAL EVENT CODE: M2555)
US7719222 BB	20180119	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7719222 BB	20280324	PEXP		Calculated Patent Term Expiry	
US7902784 BA	20110308	LSGT	+	granted / extensions (spc, cpc, pte)	
US7902784 BA	20110216	LSGT	PAT1	Patented Case	
US7902784 BA	20110216	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7902784 BA	20140903	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7902784 BA	20180905	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VECNA TECHNOLOGIES, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THEOBALD, DANIEL; REEL/FRAME:047015/0045

					EFFECTIVE DATE : 20180831
US7902784 BA	20180910	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7902784 BA	20300311	PEXP		Calculated Patent Term Expiry	
US8102134 BA	20120124	LSGT	+	granted / extensions (spc, cpc, pte)	
US8102134 BA	20120104	LSGT	PAT1	Patented Case	
US8102134 BA	20120104	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8102134 BA	20150617	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8102134 BA	20180905	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VECNA TECHNOLOGIES, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THEOBALD, DANIEL; REEL/FRAME:047015/0045 EFFECTIVE DATE : 20180831
US8102134 BA	20190716	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8102134 BA	20300421	PEXP		Calculated Patent Term Expiry (PTA 41 days and a terminal disclaimer has been filed)	
US8106616 BA	20120131	LSGT	+	granted / extensions (spc, cpc, pte)	
US8106616 BA	20120111	LSGT	PAT1	Patented Case	
US8106616 BA	20120111	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8106616 BA	20150617	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8106616 BA	20180905	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VECNA TECHNOLOGIES, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THEOBALD, DANIEL; REEL/FRAME:047015/0045 EFFECTIVE DATE : 20180831
US8106616 BA	20190716	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8106616 BA	20300311	PEXP		Calculated Patent Term Expiry	
US9387895 BA	20160712	LSGT	+	granted / extensions (spc, cpc, pte)	
US9387895 BA	20111209	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : VECNA TECHNOLOGIES, INC., MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:THEOBALD, DANIEL; ALLEN, THOMAS; REEL/FRAME:027360/0805 EFFECTIVE DATE : 20111208
US9387895 BA	20160622	LSGT	PAT1	Patented Case	
US9387895 BA	20160622	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9387895 BA	20311028	PEXP		Calculated Patent Term Expiry	

57) Family number: 57802276 (US2014341694A)

Title: ROBOTIC CARTON UNLOADER

Abstract: A robotic carton unloader for automatic unloading of cartons from a carton pile stacked within a trailer. In various embodiments, a robotic carton unloader may comprise a conveyor system, a manipulator movably attached to an end of a robotic positioner and configured to dislodge one or more cartons from a carton pile; and a frame comprising a bumper configured to be pressed against the carton pile below one or more cartons being dislodged from the carton pile by the manipulator to stabilize the carton pile below the one or more cartons being dislodged; and a shelf configured to catch the one or more cartons dislodged from the carton pile and guide the one or more cartons dislodged from the carton pile onto the conveyor system.



Classifications:
International (IPC 8-9): B25J11/00 B25J13/08 B25J15/00 B25J15/06 B25J15/08 B25J15/10 B25J18/00 B25J19/02 B25J5/00 B25J9/00 B25J9/14 B25J9/16 B65G13/00 B65G37/00 B65G41/00 B65G43/00 B65G43/08 B65G47/06 B65G47/244 B65G47/90 B65G47/91 B65G57/02 B65G57/03 B65G59/00 B65G59/02 B65G61/00 B65G67/02 B65G67/08 B65G67/20 B65G67/24 F15B15/14 G05B19/418 G06F19/00 G06F7/00 (Advanced/Invention); B25J19/02 B65G67/08 B65G67/20 B65G67/24 (Advanced/Non-invention); B25J15/00 B65G61/00 (Core/Invention)
International (IPC 1-7): B25J15/10 B25J18/00 B65G47/90
CPC: B25J19/02 B65G43/08 B65G2047/685 G05B19/4189 B65G47/2445 B65G57/03 B65G57/02 B25J9/144 B65G47/912 F15B15/1466 F15B15/149 F15B2211/8855 F15B2211/89 F15B15/1457 B65G67/20 B25J5/00 B25J19/021 B65G47/244 B65G47/682 B65G37/00 B65G47/261 G05B2219/40442 B25J11/00 B25J15/10 B25J15/0014 B65G67/02 B25J9/1687 B25J9/1697 B65G67/24 G05B2219/40006 G05B2219/45056 G06K9/00664 Y10S901/47 B25J9/1664 B25J9/1679 B25J15/0052 B65G67/08 B25J15/08 Y10S901/01 Y10S901/02 Y10S901/15 Y10S901/27 B25J5/007 B25J9/0093 B25J11/008 B25J15/00 B65G47/71 B65G61/00 B25J15/0616 B65G41/002 B65G59/02
US: 1/1 414/392 414/518 414/574 414/792.6 414/796.2 414/796.5 414/797 414/797.2 700/228 92/163

Family:

Publication number	Publication date	Application number	Application date
BR112015028738 A2	20170725	BR20151128738	20140516
BR112016004033 A2	20171212	BR20161104033	20140828
BR112016004140 A2	20170801	BR20161104140	20140828
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US2015274447 AA	20151001	US20150675697	20150331
US2015308466 AA	20151029	US20150698711	20150428
US2017073175 AA	20170316	US20160351960	20161115
US2017190054 AA	20170706	US20170466953	20170323
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US2018099415 A9	20180412	US20170466953	20170323
US2018111765 AA	20180426	US20170483151	20170410
US2018111769 AA	20180426	US20170481969	20170407
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US2018297786 AA	20181018	US20180009838	20180615
US2018326594 AA	20181115	US20180976570	20180510
US2019084769 AA	20190321	US20180193127	20181116
US2019352110 AA	20191121	US20190386952	20190417
US9623569 BB	20170418	US20150675697	20150331
US9738463 BB	20170822	US20160351960	20161115
US9969573 BB	20180515	US20140279694	20140516
US9982691 BB	20180529	US20150698711	20150428
US10029374 BB	20180724	US20170466953	20170323
US10065811 BB	20180904	US20170587549	20170505
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Priority:

US20130824550P 20130517	US20130860209P 20130730	US20130871292P 20130828
US20130894871P 20131023	US20130894878P 20131023	US20130894889P 20131023
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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BR112016025261 A2	20180619	LSRV	-B11A	DISMISSAL ACC. ART.33 OF IPL - EXAMINATION NOT REQUESTED WITHIN 36 MONTHS OF FILING	
BR112016025261 A2	20181016	LSRV	-B11Y	DEFINITIVE DISMISSAL ACC. ARTICLE 33 OF IPL - EXTENSION OF TIME LIMIT FOR REQUEST OF EXAMINATION EXPIRED	
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CA2912528 AA	20151113	LSPB	+	published / reissued	
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GB2569506 A1	20190619	LSPB	+	published / reissued	
MX2015015750 A1	20160908	LSPB	+	published / reissued	
MX2016012736 A1	20170427	LSPB	+	published / reissued	
MX2016014101 A1	20170523	LSPB	+	published / reissued	
MX2016015810 A1	20170719	LSPB	+	published / reissued	
US10029374 BB	20180724	LSGT	+	granted / extensions (spc, cpc, pte)	
US10029374 BB	20180704	LSGT	PAT1	Patented Case	
US10029374 BB	20370323	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10065811 BB	20180904	LSGT	+	granted / extensions (spc, cpc, pte)	
US10065811 BB	20170525	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCCARTHY, MICHAEL DONOVAN; FERNER, THOMAS MICHAEL; GIRTMAN, MICHAEL; SIGNING DATES FROM 20161101 TO 20170424; REEL/FRAME:042506/0418
US10065811 BB	20180821	LSGT	PAT1	Patented Case	
US10065811 BB	20370505	PEXP		Calculated Patent Term Expiry	
US10239701 BB	20190326	LSGT	+	granted / extensions (spc, cpc, pte)	
US10239701 BB	20170410	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WICKS, MATTHEW R; TANKASALA, SRIRAM PAVAN; ADAMS, JEREMY JOSEPH; AND OTHERS; SIGNING DATES FROM 20170214 TO 20170405; REEL/FRAME:041939/0574
US10239701 BB	20190306	LSGT	PAT1	Patented Case	
US10239701 BB	20370410	PEXP		Calculated Patent Term Expiry	
US10315866 BB	20190611	LSGT	+	granted / extensions (spc, cpc, pte)	
US10315866 BB	20170410	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:YUVARAJ, KARTHIKEYAN; TANKASALA, SRIRAM PAVAN; NILSON, BENJAMIN E.; AND OTHERS; SIGNING DATES FROM 20170214 TO 20170405; REEL/FRAME:041936/0398
US10315866 BB	20370731	PEXP		Calculated Patent Term Expiry (PTA 115 days)	
US2014341694 AA	20141120	LSPB	+	published / reissued	

US2014341694 AA	20170208	LSES	NFA1	Non Final Action Mailed	
US2014341694 AA	20171223	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2014341694 AA	20171226	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014341694 AA	20180327	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2014341694 AA	20180329	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2014341694 AA	20180425	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015274447 AA	20151001	LSPB	+	published / reissued	
US2015274447 AA	20170329	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015308466 AA	20151029	LSPB	+	published / reissued	
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US2015308466 AA	20180120	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2015308466 AA	20180131	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2015308466 AA	20180421	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
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US2017073175 AA	20170316	LSPB	+	published / reissued	
US2017073175 AA	20170418	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017073175 AA	20170510	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017073175 AA	20170516	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017073175 AA	20170524	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017073175 AA	20170713	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2017073175 AA	20170720	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017073175 AA	20170802	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017190054 AA	20170706	LSPB	+	published /	

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US2017190054 AA	20171005	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCCOLLUM, JOSHUA; SIMONE, THOMAS S.; GIRTMAN, MICHAEL; SIGNING DATES FROM 20150506 TO 20150513; REEL/FRAME:043791/0174
US2017190054 AA	20171227	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017190054 AA	20180209	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017190054 AA	20180514	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2018086575 AA	20180329	LSPB	+	published / reissued	
US2018086575 AA	20180207	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
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US2018111765 AA	20180723	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
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US2018111765 AA	20181102	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018111765 AA	20190208	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
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US2018111769 AA	20190122	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018111769 AA	20190424	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
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US2018111769 AA	20190522	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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US2018215560 AA	20180418	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GIRTMAN, MICHAEL; WICKS, MATTHEW; SIGNING DATES FROM 20140515 TO 20140516; REEL/FRAME:045569/0034
US2018215560 AA	20190314	LSES	NFA1	Non Final Action Mailed	
US2018215560 AA	20191226	LSES	NFA1	Non Final Action Mailed	
US2018297786 AA	20181018	LSPB	+	published / reissued	
US2018297786 AA	20180615	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WICKS, MATTHEW R.; CLUCAS, DOMINIC GEORGE; REEL/FRAME:046101/0691 EFFECTIVE DATE : 20180612
US2018297786 AA	20190102	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PASIPANODYA, DOROTHY; REEL/FRAME:047878/0642 EFFECTIVE DATE : 20190101
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US2018297786 AA	20191112	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
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US2018297786 AA	20200106	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018326594 AA	20181115	LSPB	+	published / reissued	
US2018326594 AA	20190103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCCOLLUM, JOSHUA; SIMONE, THOMAS S.; GIRTMAN, MICHAEL; SIGNING DATES FROM 20150506 TO 20150513; REEL/FRAME:048002/0020
US2018326594 AA	20190822	LSES	NFA1	Non Final Action Mailed	
US2018326594 AA	20200117	LSES	+NAM1	Notice of Allowance Mailed	

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US2019084769 AA	20190321	LSPB	+	published / reissued	
US2019084769 AA	20181116	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WICKS, MATTHEW R.; CLUCAS, DOMINIC GEORGE; REEL/FRAME:047524/0332 EFFECTIVE DATE : 20180612
US2019084769 AA	20191108	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2019084769 AA	20200123	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2019352110 AA	20191121	LSPB	+	published / reissued	
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US2019352110 AA	20191002	LSES	NFA1	Non Final Action Mailed	
US2019352110 AA	20200121	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
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US9623569 BB	20150522	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MCCOLLUM, JOSHUA; SIMONE, THOMAS S.; GIRTMAN, MICHAEL; SIGNING DATES FROM 20150506 TO 20150513; REEL/FRAME:035696/0160
US9623569 BB	20170329	LSGT	PAT1	Patented Case	
US9623569 BB	20350703	PEXP		Calculated Patent Term Expiry (PTA 94 days)	
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US9738463 BB	20170104	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WICKS, MATTHEW R.; SIMONS, JOHN; GIRTMAN, MICHAEL; AND OTHERS; SIGNING DATES FROM 20161101 TO 20161122; REEL/FRAME:040841/0111
US9738463 BB	20170802	LSGT	PAT1	Patented Case	
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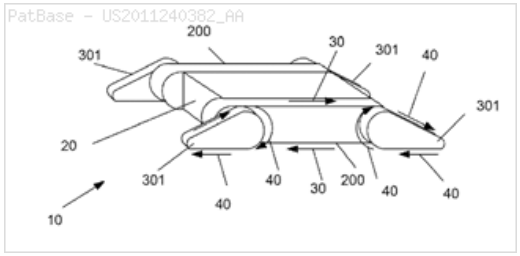
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US9969573 BB	20180425	LSGT	PAT1	Patented Case	
US9969573 BB	20350222	PEXP		Calculated Patent Term Expiry (PTA 282 days)	
US9982691 BB	20180529	LSGT	+	granted / extensions (spc, cpc, pte)	
US9982691 BB	20150522	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTELLIGRATED HEADQUARTERS, LLC, OHIO OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GIRTMAN, MICHAEL; WALES, KENNETH S.; SIGNING DATES FROM 20150507 TO 20150508; REEL/FRAME:035696/0352
US9982691 BB	20180509	LSGT	PAT1	Patented Case	
US9982691 BB	20360404	PEXP		Calculated Patent Term Expiry (PTA 342 days)	
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WO14186781 A1	20140516	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201480034201.1 COUNTRY OF REF DOCUMENT : CN
WO14186781 A1	20151113	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2912528 COUNTRY OF REF DOCUMENT : CA
WO14186781 A1	20151113	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2015/015750 COUNTRY OF REF DOCUMENT : MX
WO14186781 A1	20151116	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2014797635 COUNTRY OF REF DOCUMENT : EP
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WO14186781 A1	20170725	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112015028738 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20151116
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WO15153697 A1	20160928	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2944374 COUNTRY OF REF DOCUMENT : CA
WO15153697 A1	20160928	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2016/012736 COUNTRY OF REF DOCUMENT : MX
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WO15153697 A1	20161025	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2015718033 COUNTRY OF REF DOCUMENT : EP
WO15153697 A1	20170815	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112016022556 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20160928

WO15168173 A1	20151105	LSPB	+	published / reissued	
WO15168173 A1	20161026	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : MX/A/2016/014101 COUNTRY OF REF DOCUMENT : MX
WO15168173 A1	20161027	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2947278 COUNTRY OF REF DOCUMENT : CA
WO15168173 A1	20161028	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15168173 A1	20161103	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2015723788 COUNTRY OF REF DOCUMENT : EP
WO15168173 A1	20170815	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112016025261 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20161027
WO17091343 A1	20170601	LSPB	+	published / reissued	
WO17091343 A9	20180505	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17091343 A9	20180604	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016805926 COUNTRY OF REF DOCUMENT : EP
WO18013876 A1	20180118	LSPB	+	published / reissued	
WO18013876 A1	20190115	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18013876 A1	20190215	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017748973 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190214
WO18013878 A1	20180118	LSPB	+	published / reissued	
WO18013878 A1	20190115	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18013878 A1	20190215	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017745227 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190214
WO18075884 A1	20180426	LSPB	+	published / reissued	
WO18075884 A1	20190415	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	TEXT : PCT FILING DATE = 20171020 REF DOCUMENT NUMBER : 201905329 COUNTRY OF REF DOCUMENT : GB KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO18075884 A1	20191113	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 17794527 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO19028482 A1	20190214	LSPB	+	published / reissued	
WO19028482 A1	20190222	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018761998 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190107

58) Family number: 49698291 (US2011240382A)

Title: ROBOTIC SYSTEM AND METHOD OF USE

Abstract: A robotic system that can have a body and four flippers is described. Any or all of the flippers can be rotated. The flippers can have self-cleaning tracks. The tracks can be driven or passive. The robotic system can be controlled by, and send audio and/or video to and/or from, a remote operator control module. The methods of using and making the robotic system are also described.



Classifications:
International (IPC 8-9): A63H17/14 B25J5/00 B60K11/06 B60S1/62 B60S9/21 B62D55/00 B62D55/02 B62D55/06 B62D55/065 B62D55/075 B62D55/08 B62D55/088 B62D55/12 B62D55/26 B62D57/00 B62D57/04 (Advanced/Invention)
CPC: B62D55/0885 B62D55/12 Y10S901/01 B62D55/0655 B62D55/06 B62D55/08 B62D55/075
European: B62D55/075 B62D55/088C B62D55/12
US: 1/1 180/167 180/7.1 180/7.100S 180/9.1 180/9.100P 180/9.32 180/9.42 180/9.46 305/115 901/1 901/1S
JP F-Term: 3C707 3C707/AS32 3C707/CS08 3C707/JU12 3C707/JU14 3C707/KT01 3C707/KT04 3C707/WA17 3C707/WA22 3C707/WA24 3C707/WL06 3D114 3C007 3C707/AS14 3C707/CY32 3C707/CY34 3C707/HT39 3C707/HT40 3C707/JS07 3C707/KS10 3C707/KS27 3C707/KS39 3C707/MS02 3C707/WA21 3C707/WA26 3C707/WA27
JP F-Index: B25J5/00/B B62D55/065 B62D55/02

Family:

Publication number	Publication date	Application number	Application date
CN102947145 A	20130227	CN201180028009	20110110
CN102947145 B	20150701	CN201180028009	20110110
EP2555954 A1	20130213	EP20110766288	20110110
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KR20120130791 A	20121203	KR20127029166	20110110
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TWI454398 B	20141001	TW20110105168	20110216
US2011240382 AA	20111006	US20100755264	20100406
US2011240383 AA	20111006	US20100755293	20100406
US2012152626 AA	20120621	US20120407655	20120228
US2012152627 AA	20120621	US20120407679	20120228
US2012175173 AA	20120712	US20110233994	20110915
US2013306385 AA	20131121	US20130840957	20130315
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US8544573 BB	20131001	US20120407655	20120228
US8813880 BB	20140826	US20130840957	20130315
US9387892 BB	20160712	US20140450163	20140801
WO11126582 A1	20111013	WO2011US20688	20110110

Priority:

US20100755264 20100406
US20100755293 20100406
JP20130503748 20110110
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WO2011US20688 20110110
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US20130840957 20130315
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US20140552288 20141124

Probable Assignee: ROBOTEX INC

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Inventor(s): (std): SILER III EDWARD J ; STEVENS ANDREW G ; GETTINGS NATHAN D ; GETTINGS ADAM M ; PENN TAYLOR J ; SILER EDWARD J III ; SILER III EDWARD JOHN ; SCHNEIDER MICHAEL ; APPLEBY JON ; GAWLOWSKI MATTHEW

Agent(s): Zinnecker Armin; LEVINE BAGADE HAN LLP; LEVINE DAVID 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 LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details

CN102947145 A	20130227	LSPB	+	published / reissued	
CN102947145 A	20130227	LSPB	+C06	PUBLICATION	
CN102947145 A	20150701	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN102947145 A	20170118	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN102947145 B	20150701	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102947145 B	20310110	PEXP		Calculated Patent Term Expiry	
EP2555954 A1	20130213	LSPB	+	published / reissued	
EP2555954 A1	20130213	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20121026
EP2555954 A4	20131204	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20131105
EP2555954 A4	20141015	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20140916
EP2555954 A4	20150722	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20150127
JP2013147247 A2	20130801	LSPB	+	published / reissued	
JP2013147247 A2	20140225	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140225
JP2013147247 A2	20140624	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140623
JP2013147247 A2	20141202	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20141202
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JP5247952 B2	20130724	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5247952 B2	20130228	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP5247952 B2	20130314	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5247952 B2	20130416	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5247952 B2	20130418	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130409
JP5247952 B2	20130419	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP5247952 B2	20130422	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3

JP5247952 B2	20160421	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP5247952 B2	20180412	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5247952 B2	20180417	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5247952 B2	20190411	LSFE	R20	特許料納付書 (Patent fee payment form)	
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KR101288646 B1	20121106	LSES	A201	REQUEST FOR EXAMINATION	
KR101288646 B1	20121106	LSES	A302	REQUEST FOR ACCELERATED EXAMINATION	
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KR20120130791 A	20130510	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
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TW201204586 A	20120201	LSPB	+	published / reissued	
TWI454398 B	20141001	LSGT	+	granted / extensions (spc, cpc, pte)	
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US2011240382 AA	20111006	LSPB	+	published / reissued	
US2011240382 AA	20120104	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2011240383 AA	20111006	LSPB	+	published / reissued	
US2011240383 AA	20120328	LSGT	STCF	INFORMATION	TEXT : PATENTED CASE

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US2012152626 AA	20120621	LSPB	+	published / reissued	
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US2012152627 AA	20130417	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012175173 AA	20120712	LSPB	+	published / reissued	
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US2013306385 AA	20131121	LSPB	+	published / reissued	
US2013306385 AA	20140806	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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US8100205 BB	20120104	LSGT	PAT1	Patented Case	
US8100205 BB	20120807	LSRE	CC	CERTIFICATE OF CORRECTION	
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US8100205 BB	20190426	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8100205 BB	20300406	PEXP		Calculated Patent Term Expiry	
US8157032 BB	20120417	LSGT	+	granted / extensions (spc, cpc, pte)	
US8157032 BB	20100406	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROBOTEX INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GETTINGS, NATHAN D.; GETTINGS, ADAM M.; PENN, TAYLOR J.; AND OTHERS; SIGNING DATES FROM 20100330 TO 20100331; REEL/FRAME:024194/0457
US8157032 BB	20120328	LSGT	PAT1	Patented Case	

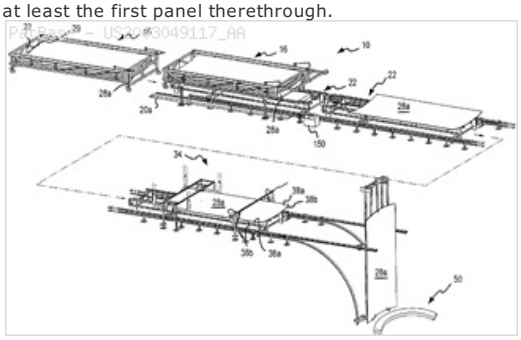
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US8157032 BB	20300406	PEXP		Calculated Patent Term Expiry	
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US8397842 BB	20110915	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROBOTEX INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GETTINGS, NATHAN D.; GETTINGS, ADAM M.; PENN, TAYLOR J.; AND OTHERS; SIGNING DATES FROM 20100330 TO 20100331; REEL/FRAME:026914/0848
US8397842 BB	20130227	LSGT	PAT1	Patented Case	
US8397842 BB	20160504	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8397842 BB	20310915	PEXP		Calculated Patent Term Expiry	
US8434575 BB	20130507	LSGT	+	granted / extensions (spc, cpc, pte)	
US8434575 BB	20120228	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROBOTEX INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GETTINGS, NATHAN D.; GETTINGS, ADAM M.; PENN, TAYLOR J.; AND OTHERS; SIGNING DATES FROM 20100330 TO 20100331; REEL/FRAME:027778/0940
US8434575 BB	20130417	LSGT	PAT1	Patented Case	
US8434575 BB	20160725	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8434575 BB	20320228	PEXP		Calculated Patent Term Expiry	
US8544573 BB	20131001	LSGT	+	granted / extensions (spc, cpc, pte)	
US8544573 BB	20120228	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROBOTEX INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GETTINGS, NATHAN D.; GETTINGS, ADAM M.; PENN, TAYLOR J.; AND OTHERS; SIGNING DATES FROM 20100330 TO 20100331; REEL/FRAME:027778/0881
US8544573 BB	20130911	LSGT	PAT1	Patented Case	
US8544573 BB	20170525	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8544573 BB	20320228	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8813880 BB	20140826	LSGT	+	granted / extensions (spc, cpc, pte)	
US8813880 BB	20130315	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROBOTEX INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GETTINGS, NATHAN D.; GETTINGS, ADAM M.; PENN, TAYLOR J.; AND OTHERS; SIGNING DATES FROM 20100330 TO 20100331; REEL/FRAME:030021/0148
US8813880 BB	20140806	LSGT	PAT1	Patented Case	

US8813880 BB	20180223	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8813880 BB	20330315	PEXP		Calculated Patent Term Expiry	
US9387892 BB	20160712	LSGT	+	granted / extensions (spc, cpc, pte)	
US9387892 BB	20140801	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ROBOTEX INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GETTINGS, NATHAN D.; GETTINGS, ADAM M.; PENN, TAYLOR J.; AND OTHERS; SIGNING DATES FROM 20100330 TO 20100331; REEL/FRAME:033449/0532
US9387892 BB	20160622	LSGT	PAT1	Patented Case	
US9387892 BB	20191021	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9387892 BB	20341211	PEXP		Calculated Patent Term Expiry (PTA 132 days and a terminal disclaimer has been filed)	
WO11126582 A1	20111013	LSPB	+	published / reissued	
WO11126582 A1	20110110	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201180028009.8 COUNTRY OF REF DOCUMENT : CN
WO11126582 A1	20120925	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2013503748 COUNTRY OF REF DOCUMENT : JP
WO11126582 A1	20121008	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO11126582 A1	20121026	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2011766288 COUNTRY OF REF DOCUMENT : EP
WO11126582 A1	20121106	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20127029166 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

59) Family number: 30141297 (US2003049117A)

Title: AUTOMATED BARREL PANEL TRANSFER AND PROCESSING SYSTEM

Abstract: An automated system for preparing weld land areas of panels to be welded to each other is disclosed. Generally, the system of the present invention includes a system for cleaning contaminants from such weld land areas. In one embodiment, the system for cleaning contaminants includes a system for blasting carbon dioxide granules or pellets against the weld land areas. In instances where the panels comprise aluminum, the system may further include a system for removing at least a first layer of aluminum oxide from the weld land areas. In one embodiment, the system for removing includes a system for moving a plurality of sheets of sand paper over the weld land areas. For purposes of moving the panels relative to the system for cleaning contaminants and/or the system for removing at least the first layer of aluminum oxide, the automated system of the present invention may further include a shuttle system for supporting and moving at least the first panel therethrough.



Classifications:
International (IPC 8-9): B24B7/00 B24B7/06 B24D13/04 G01N23/04 (Advanced/Invention); B24B7/00 G01N23/02 (Core/Invention)
International (IPC 1-7): B23K B24B1/00 B25J5/02 B65G56/00 B65G67/02 G01N23/02 G01N23/04
CPC: G01N23/046 B24B7/005 B24B7/06 G01N2223/419 G01N23/04 B24D13/04
European: B24B7/00B B24B7/06 B24D13/04 G01N23/04 G01N23/04D
US: 228/104 238/170 238/172 238/205 238/206 378/58 378/59 378/62 414/331.09 414/331.17 414/742 414/782 414/796.4 414/796.400S 414/801 414/801P 414/809 414/816 414/816S 451/36 451/37 451/38 451/39 451/75 73/865.8
JP F-Term: 2G001 2G001/AA01 2G001/BA11 2G001/CA01 2G001/DA09 2G001/FA06 2G001/HA01 2G001/HA07 2G001/HA12 2G001/HA13 2G001/JA01 2G001/JA06 2G001/JA11 2G001/KA03 2G001/LA02 2G001/SA02 2G001/SA04
JP F-Index: G01N23/04 G01N23/083

Family:

Publication number	Publication date	Application number	Application date
AU199956765 A1	20000314	AU19990056765	19990817
AU199956765 A5	20000314	AU19990056765	19990817
AU199961298 A1	20000314	AU19990061298	19990817
AU199961298 A5	20000314	AU19990061298	19990817
EP1105717 A1	20010613	EP19990948045	19990817
EP1105717 A4	20060816	EP19990948045	19990817
JP2002523740 T2	20020730	JP20000566662T	19990817
US2003049117 AA	20030313	US20020260261	20020930
US6137860 A	20001024	US19990376706	19990817
US6213849 BA	20010410	US19990376704	19990817
US6457932 BA	20021001	US19990376765	19990817
US6729838 BB	20040504	US20020260261	20020930
WO0010761 A2	20000302	WO1999US18694	19990817
WO0010761 A3	20000713	WO1999US18694	19990817
WO0011455 A1	20000302	WO1999US18695	19990817
WO0011455 C1	20000727	WO1999US18695	19990817
WO0011455 C2	20020829	WO1999US18695	19990817

Priority:

US19980096848P 19980818
US19990376765 19990817
US20020260261 20020930
US19990376704 19990817
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WO1999US18694 19990817
WO1999US18695 19990817

Probable Assignee: LOCKHEED MARTIN CORP

Assignee(s): (std): LOCKHEED CORP

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Inventor(s): MARION D BARKER ; JOHN A JOHNSON ; BRENT K CHRISTNER ; BLAINE J WILTSHIRE ; LEE M KLYNN ; JOHN P ELLEGOOD ; RICHARD K HANSEN

Agent(s): MARSH FISCHMANN AND BREYFOGLE LLP

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU199956765 A1	20000314	LSPB	+	published / reissued	
AU199956765 A1	20010517	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG.	

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AU199961298 A1	20000314	LSPB	+	published / reissued	
AU199961298 A1	20010517	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
EP1105717 A1	20010613	LSPB	+	published / reissued	
EP1105717 A1	20010613	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20010312
EP1105717 A4	20060816	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20060714
EP1105717 A4	20071017	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20070301
JP2002523740 T2	20020730	LSPB	+	published / reissued	
US2003049117 AA	20030313	LSPB	+	published / reissued	
US6137860 A	20001024	LSGT	+	granted / extensions (spc, cpc, pte)	
US6137860 A	19990817	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LOCKHEED MARTIN CORP., MARYLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ELLEGOOD, JOHN P.; WILTSHIRE, BLAINE J.; BARKER, MARION D.; AND OTHERS; REEL/FRAME:010184/0174 EFFECTIVE DATE : 19990817
US6137860 A	20040426	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6137860 A	20080424	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6137860 A	20121024	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6137860 A	20121119	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6137860 A	20121119	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6137860 A	20121211	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20121024
US6137860 A	20190817	PEXP		Calculated Patent Term Expiry	
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US6213849 BA	20011016	LSRE	CC	CERTIFICATE OF CORRECTION	
US6213849 BA	20041012	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

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US6729838 BB	20020930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LOCKHEED MARTIN CORPORATION, MARYLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JOHNSON, JOHN A.; HANSEN, RICHARD K.; CHRISTNER, BRENT K.; REEL/FRAME:013357/0250; SIGNING DATES FROM 19990816 TO 19990817
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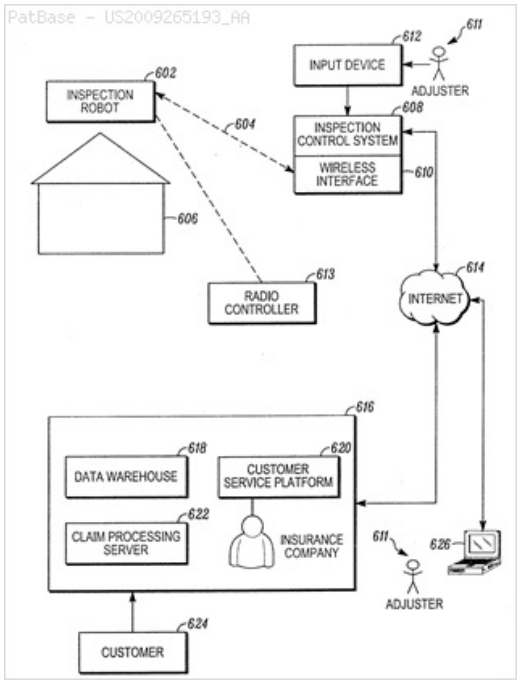
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US6729838 BB	20220930	PEXP		Calculated Patent Term Expiry	
WO0010761 A2	20000302	LSPB	+	published / reissued	
WO0010761 A3	20010621	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0010761 A3	20020605	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO
WO0011455 A1	20000302	LSPB	+	published / reissued	
WO0011455 C1	20000727	LSRE	CR1	CORRECTION OF ENTRY IN SECTION I	TEXT : PAT. BUL. 09/2000 UNDER (30) REPLACE "NOT FURNISHED" BY "09/376706"
WO0011455 C1	20010312	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1999948045 COUNTRY OF REF DOCUMENT : EP
WO0011455 C1	20010613	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999948045 COUNTRY OF REF DOCUMENT : EP
WO0011455 C1	20010621	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0011455 C2	20070301	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1999948045 COUNTRY OF REF DOCUMENT : EP

60) Family number: 43861310 (US2009265193A)

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 G05D1/00 G06F19/00 G06Q G06Q10/00 G06Q30/00 G06Q40/00 G06Q40/08 G06Q50/00 G07C1/10 (Advanced/Invention);
B25J19/02 (Advanced/Non-invention)
International (IPC 1-7): G05D1/00
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
BRPI0910573 B1	20190903	BR2009PI10573	20090417
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CA2721708 C	20180109	CA20092721708	20090417
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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): THE TRAVELERS INDEMNITY COMPANY ; MACK NAIR ERIN

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 ; 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)

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Patent	Date recorded	Event group	Code	Event	Details
BRPI0910573 A2	20190813	LSGT	B09A	DECISION:	

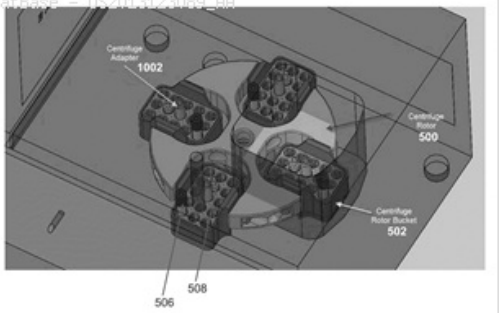
				INTENTION TO GRANT	
BRPI0910573 B1	20190903	LSGT	+B16A	PATENT OR CERTIFICATE OF ADDITION OF INVENTION GRANTED	TEXT : PRAZO DE VALIDADE: 10 (DEZ) ANOS CONTADOS A PARTIR DE 03/09/2019, OBSERVADAS AS CONDICOES LEGAIS. (CO) 10 (DEZ) ANOS CONTADOS A PARTIR DE 03/09/2019, OBSERVADAS AS CONDICOES LEGAIS
BRPI0910573 B1	20290903	PEXP		Calculated Patent Term Expiry	
CA2721708 AA	20091022	LSPB	+	published / reissued	
CA2721708 AA	20130515	LSES	+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	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20101117
EP2281255 A2	20130220	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20130118
EP2281255 A2	20160330	LSES	+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	LSES	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

61) Family number: 53733315 (US2013123089A)

Title: CENTRIFUGE SYSTEM AND WORKFLOW

Abstract: Systems, methods and apparatus are described for a centrifuge module of a laboratory analysis system. Specimen containers may be weighed, loaded into a centrifuge adapter, and transported to a centrifuge module by an adapter shuttle. A centrifuge adapter gripper may transport the centrifuge adapter into a centrifuge for centrifugation. The centrifuge adapter may be transported by the centrifuge adapter gripper to an adapter shuttle for unloading of the specimen containers, which may be performed by a specimen container gripper. A centrifuge drawer that allows a centrifuge to be extended from its installed position is also described. Additional embodiments pertain to a sequence for replacing, in a centrifuge, a set of centrifuge adapters that have been centrifuged with a set of centrifuge adapters that have not been centrifuged. A sequence for loading specimen containers into centrifuge adapters is also described.



Classifications:
International (IPC 8-9): A61B19/02 A61B50/36 B01D21/26 B01L3/00 B04B11/00 B04B11/04 B04B13/00 B04B15/00 B04B5/02 B04B7/02 B04B7/08 B04B9/14 B23Q7/04 B25J11/00 B25J15/04 B25J15/10 B25J19/02 B25J9/00 B29C49/78 B29C65/82 B65B69/00 B65D51/24 B65G11/02 B65G47/28 B66C1/42 G01B11/02 G01B11/08 G01B11/10 G01B11/14 G01B11/24 G01B7/02 G01B7/12 G01F23/00 G01F23/292 G01F23/296 G01G19/00 G01G19/52 G01L19/08 G01M1/14 G01N21/00 G01N21/17 G01N21/27 G01N21/90 G01N31/00 G01N35/00 G01N35/02 G01N35/04 G01N35/10 G01S15/04 G06K9/00 G06M7/00 G06T7/00 (Advanced/Invention);
B01L3/00 B04B11/04 G01N35/10 G01S15/04 (Advanced/Non-invention)
International (IPC 1-7): B01D21/26 B01L3/00 B04B11/04 B04B15/00 B04B7/08 B04B9/14 B25J11/00 B29C49/78 B29C65/82 G01B11/02 G01B11/08 G01B11/10 G01B11/24 G01M1/14 G01N21/27 G01N21/90 G01N35/00 G01N35/04 G01N35/10
CPC: B65G11/023 G01F23/0061 B65B69/00 B25J15/0475 G01F23/2962 G01S15/04 B23Q7/04 B25J15/10 B25J19/02 B25J19/021 G01B7/02 G01G19/52 G01B11/14 B25J15/103 A61B50/36 G01B7/12 G01N21/17 B01L3/5021 B04B7/02 B04B9/146 B04B2011/046 G01N35/00732 G01N35/0099 G01N35/04 G01N2035/00495 G01N2035/0405 G01N2035/0462 G01N2035/0491 G01N2035/1025 G01N2035/1032 Y10T29/49826 B01D21/262 B04B7/08 B04B9/14 B04B11/04 B04B13/00 B04B15/00 B04B2009/143 B04B2013/006 B25J11/00 B65D51/24 B65G47/28 G01B11/02 G01B11/08 G01B11/10 G01B11/24 G01F23/00 G01L19/08 G01M1/14 G01N21/27 G01N35/00584 G01N35/10 G01N35/1009
US: 1/1 116/200 116/309 193/2R 198/439 198/465.1 206/459.1 29/428 294/106 294/86.4 324/714 348/135 356/213 356/402 356/445 356/614 356/634 356/73 382/128 414/226.01 414/800 422/63 422/67 494/37 494/43 494/83 702/54 702/55 73/460 73/862.68 73/863.01 73/864.23 901/2 901/47
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JP F-Index: G01N35/04/G G01N35/06/A G01N35/10/A G01N35/02/B G01N35/02/C G01N35/00/F B04B11/00/A B04B5/02/Z B25J15/08/K G01F23/292/B G01F23/296/B G06M7/00/371

Family:

Publication number	Publication date	Application number	Application date
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Priority:

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US20160236185 20160812		

Probable Assignee: BECKMAN COULTER INC

Assignee(s): (std): BECKMAN COULTER INC

Assignee(s): BECKMAN COULTER INC BREA ; BCEKMAN COULTER INC

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Inventor(s): BEARDEN LUKAS INDIANAPOLIS

Agent(s): MUELLER BORE AND PARTNER PATENTANWAELTE PARTG MBB; MUELLER BORE AND PARTNER PATENTANWAELTE PARTG MBB; DEL VALLE SONIA; DEL VALLE VALIENTE SONIA; KILPATRICK TOWNSEND AND STOCKTON LLP; JOHNS ATHENA C ET AL; JEWIK PATRICK R ET AL; MALHOTRA REENA ET AL

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
BR112014010955 A2	20180904	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A ANUIDADE.
BR112014010955 A2	20181226	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : EM VIRTUDE DO ARQUIVAMENTO PUBLICADO NA RPI 2487 DE 04-09-2018 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDO O ARQUIVAMENTO DO PEDIDO DE PATENTE, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
BR112014011035 A2	20190424	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A ANUIDADE.
BR112014011035 A2	20190424	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A ANUIDADE.
BR112014011035 A2	20190806	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC.	TEXT : REFERENTE AO ARQUIVAMENTO PUBLICADO NA RPI 2520 DE 25/04/2019.

				ART. 87)	
BR112014011035 A2	20190806	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : REFERENTE AO ARQUIVAMENTO PUBLICADO NA RPI 2520 DE 25/04/2019.
BR112014011043 A2	20190716	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A ANUIDADE.
BR112014011043 A2	20190716	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A ANUIDADE.
BR112014011043 A2	20191105	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : EM VIRTUDE DO ARQUIVAMENTO PUBLICADO NA RPI 2532 DE 16-07-2019 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDO O ARQUIVAMENTO DO PEDIDO DE PATENTE, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
BR112014011043 A2	20191105	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : EM VIRTUDE DO ARQUIVAMENTO PUBLICADO NA RPI 2532 DE 16-07-2019 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDO O ARQUIVAMENTO DO PEDIDO DE PATENTE, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
BR112014011044 A2	20170502	LSRV	-B11A	DISMISSAL ACC. ART.33 OF IPL - EXAMINATION NOT REQUESTED WITHIN 36 MONTHS OF FILING	
BR112014011044 A2	20170905	LSRV	-B11Y	DEFINITIVE DISMISSAL ACC. ARTICLE 33 OF IPL - EXTENSION OF TIME LIMIT FOR REQUEST OF EXAMINATION EXPIRED	
BR112014011046 A2	20190424	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A ANUIDADE.
BR112014011046 A2	20190424	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A ANUIDADE.
BR112014011046 A2	20190806	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : REFERENTE AO ARQUIVAMENTO PUBLICADO NA RPI 2520 DE 25/04/2019.
BR112014011046 A2	20190806	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC.	TEXT : REFERENTE AO ARQUIVAMENTO PUBLICADO NA RPI 2520 DE 25/04/2019.

				ART. 87)	
BR112014011048 A2	20180904	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	TEXT : REFERENTE A 6A ANUIDADE.
BR112014011048 A2	20181226	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : EM VIRTUDE DO ARQUIVAMENTO PUBLICADO NA RPI 2487 DE 04-09-2018 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDO O ARQUIVAMENTO DO PEDIDO DE PATENTE, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
BR112015008363 A2	20180814	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	
BR112015008363 A2	20181204	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	TEXT : EM VIRTUDE DO ARQUIVAMENTO PUBLICADO NA RPI 2484 DE 14-08-2018 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDO O ARQUIVAMENTO DO PEDIDO DE PATENTE, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
BR112015008438 A2	20170718	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	
BR112015008438 A2	20171121	LSLE	-B08K	LAPSE AS NO EVIDENCE OF PAYMENT OF THE ANNUAL FEE HAS BEEN FURNISHED TO INPI (ACC. ART. 87)	
CN103975245 A	20140806	LSPB	+	published / reissued	
CN103975245 A	20140806	LSPB	+C06	PUBLICATION	
CN103975245 A	20160330	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
CN104040352 A	20140910	LSPB	+	published / reissued	
CN104040352 A	20140910	LSPB	+C06	PUBLICATION	
CN104040352 B	20160907	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104040352 B	20160907	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN104040352 B	20321107	PEXP		Calculated Patent Term Expiry	
CN104040353 A	20140910	LSPB	+	published / reissued	
CN104040353 A	20140910	LSPB	+C06	PUBLICATION	
CN104040353 A	20161130	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN104040353 B	20161130	LSGT	+	granted / extensions	

				(spc, cpc, pte)	
CN104040353 B	20321107	PEXP		Calculated Patent Term Expiry	
CN104040357 A	20140910	LSPB	+	published / reissued	
CN104040357 A	20140910	LSPB	+C06	PUBLICATION	
CN104040357 A	20161123	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN104040357 B	20161123	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104040357 B	20321107	PEXP		Calculated Patent Term Expiry	
CN104053997 A	20140917	LSPB	+	published / reissued	
CN104053997 A	20140917	LSPB	+C06	PUBLICATION	
CN104053997 A	20161221	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN104053997 B	20161221	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104053997 B	20321107	PEXP		Calculated Patent Term Expiry	
CN104105969 A	20141015	LSPB	+	published / reissued	
CN104105969 A	20141015	LSPB	+C06	PUBLICATION	
CN104105969 B	20161012	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104105969 B	20161012	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN104105969 B	20321107	PEXP		Calculated Patent Term Expiry	
CN104718457 A	20150617	LSPB	+	published / reissued	
CN104718457 A	20150617	LSPB	+C06	PUBLICATION	
CN104718457 A	20170620	LSGT	+GR01	PATENT GRANT	
CN104718457 B	20170620	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104718457 B	20331016	PEXP		Calculated Patent Term Expiry	
CN104736439 A	20150624	LSPB	+	published / reissued	
CN104736439 A	20150624	LSPB	+C06	PUBLICATION	
CN104736439 A	20160601	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP2776843 A2	20140917	LSPB	+	published / reissued	
EP2776843 A2	20140917	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140528
EP2776843 A2	20170628	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20170526

EP2776843 A2	20190102	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20181206
EP2776843 B1	20190327	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2776843 B1	20190327	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2776843 B1	20190329	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2776843 B1	20190415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1113731 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190415
EP2776843 B1	20190417	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2776843 B1	20190418	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602012058336 COUNTRY OF REF DOCUMENT : DE
EP2776843 B1	20190731	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 : 20190327
EP2776843 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 : 20190627
EP2776843 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 : 20190327
EP2776843 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 : 20190327
EP2776843 B1	20190830	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 : 20190628
EP2776843 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	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

				INFORMATION FROM NATIONAL OFFICE TO EPO]	LAPSED DATE : 20190327
EP2776843 B1	20190830	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 : 20190327
EP2776843 B1	20190830	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 : 20190327
EP2776843 B1	20190830	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 : 20190327
EP2776843 B1	20190830	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 : 20190627
EP2776843 B1	20190915	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1113731 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190327
EP2776843 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190327
EP2776843 B1	20191031	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 : 20190327
EP2776843 B1	20191031	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 : 20190327
EP2776843 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING	COUNTRY OF REF DOCUMENT : EE NOTIFICATIONOFLAPSE : LAPSE

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190327
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EP2776843 B1	20191031	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 : 20190727
EP2776843 B1	20191031	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2729283 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20191031
EP2776843 B1	20191129	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 : 20190327
EP2776843 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SM NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190327
EP2776843 B1	20191231	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 : 20190327
EP2776843 B1	20191231	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 : 20190727
EP2776843 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190327

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EP2776843 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191119 YEAR OF FEE PAYMENT : 8
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EP2776844 A2	20140917	LSPB	+	published / reissued	
EP2776844 A2	20140917	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140522
EP2776844 A2	20170412	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20170313
EP2776845 A1	20140917	LSPB	+	published / reissued	
EP2776845 A1	20140917	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140522
EP2776845 A1	20170412	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20170313
EP2776846 A1	20140917	LSPB	+	published / reissued	
EP2776846 A1	20140917	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140528
EP2776846 A1	20190501	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190404
EP2776846 B1	20190821	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2776846 B1	20190821	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2776846 B1	20190830	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2776846 B1	20190912	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602012063178 COUNTRY OF REF DOCUMENT : DE
EP2776846 B1	20190915	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1170343 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190915
EP2776846 B1	20190918	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2776846 B1	20200110	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2776846 B1	20200131	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 : 20191121
EP2776846 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING	COUNTRY OF REF DOCUMENT : LT NOTIFICATIONOFLAPSE : LAPSE

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190821
EP2776846 B1	20200131	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 : 20190821
EP2776846 B1	20200131	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 : 20191121
EP2776846 B1	20200131	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 : 20190821
EP2776846 B1	20200131	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 : 20190821
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EP2776847 A1	20140917	LSPB	+	published / reissued	
EP2776847 A1	20140917	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140528
EP2776847 A1	20150916	LSWD	-18W	APPLICATION WITHDRAWN	EFFECTIVE DATE : 20150810
EP2776848 A2	20140917	LSPB	+	published / reissued	
EP2776848 A2	20140917	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140528

EP2776848 A2	20170712	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20170613
EP2776848 A2	20190717	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190621
EP2776848 B1	20191225	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2776848 B1	20191225	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2776848 B1	20191230	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2776848 B1	20200115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1217706 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20200115
EP2776848 B1	20200116	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602012066742 COUNTRY OF REF DOCUMENT : DE
EP2776848 B1	20200122	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2776848 B1	20321107	PEXP		Calculated Patent Term Expiry	
EP2909089 A1	20150826	LSPB	+	published / reissued	
EP2909089 A1	20150826	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150416
EP2909089 A1	20160525	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20151202
EP2909634 A1	20150826	LSPB	+	published / reissued	
EP2909634 A1	20150826	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150430
EP2909634 A1	20160622	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20151222
EP2909635 A1	20150826	LSPB	+	published / reissued	
EP2909635 A1	20150826	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150430
EP2909635 A1	20180117	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20171215
EP2909635 A1	20180829	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20180801
EP2909635 B1	20181205	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2909635 B1	20181205	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2909635 B1	20181214	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2909635 B1	20181215	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1073722 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181215

EP2909635 B1	20181226	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2909635 B1	20181227	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602013047864 COUNTRY OF REF DOCUMENT : DE
EP2909635 B1	20190415	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1073722 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20181205
EP2909635 B1	20190425	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2909635 B1	20190430	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 : 20190305
EP2909635 B1	20190430	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 : 20190305
EP2909635 B1	20190430	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 : 20181205
EP2909635 B1	20190430	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 : 20181205
EP2909635 B1	20190430	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 : 20181205
EP2909635 B1	20190430	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 : 20181205
EP2909635 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	COUNTRY OF REF DOCUMENT : FI NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181205
EP2909635 B1	20190517	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2712975 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) : EFFECTIVE DATE : 20190517
EP2909635 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AL NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181205
EP2909635 B1	20190531	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 : 20181205
EP2909635 B1	20190531	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 : 20181205
EP2909635 B1	20190531	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 : 20190306
EP2909635 B1	20190628	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 : 20181205
EP2909635 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 : 20181205
EP2909635 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 : 20190405

EP2909635 B1	20190731	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 : 20181205
EP2909635 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SM NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181205
EP2909635 B1	20190830	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 : 20181205
EP2909635 B1	20190830	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 : 20190405
EP2909635 B1	20190830	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 : 20181205
EP2909635 B1	20190830	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 : 20181205
EP2909635 B1	20190906	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602013047864 COUNTRY OF REF DOCUMENT : DE
EP2909635 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20181205
EP2909635 B1	20191031	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 : 20181205

EP2909635 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190927 YEAR OF FEE PAYMENT : 7
EP2909635 B1	20191113	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20190906
EP2909635 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191001 YEAR OF FEE PAYMENT : 7
EP2909635 B1	20331016	PEXP		Calculated Patent Term Expiry	
EP3373015 A1	20180912	LSPB	+	published / reissued	
EP3373015 A1	20190417	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190307
ES2712975 T3	20190517	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2712975 T3	20331016	PEXP		Calculated Patent Term Expiry	
ES2729283 T3	20191031	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2729283 T3	20321107	PEXP		Calculated Patent Term Expiry	
IN02704DN2015 A	20150904	LSPB	+	published / reissued	
IN02705DN2015 A	20150904	LSPB	+	published / reissued	
IN03671DN2014 A	20150213	LSPB	+	published / reissued	
IN03672DN2014 A	20150213	LSPB	+	published / reissued	
IN03698DN2014 A	20150213	LSPB	+	published / reissued	
IN03702DN2014 A	20150213	LSPB	+	published / reissued	
IN03705DN2014 A	20150213	LSPB	+	published / reissued	
IN03706DN2014 A	20160831	LSPB	+	published / reissued	
JP2014532879 T2	20141208	LSPB	+	published / reissued	
JP2014532879 T2	20151106	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151106
JP2014532879 T2	20151106	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20151106
JP2014532879 T2	20160906	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160906
JP2014532879 T2	20161121	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20161121
JP2014532879 T2	20170417	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20170417

JP2014532879 T2	20170718	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170718
JP2014532879 T2	20170727	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014532879 T2	20170801	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20170801
JP2014532879 T2	20170810	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20170804
JP2014532879 T2	20170810	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6190380 COUNTRY OF REF DOCUMENT : JP
JP2014532880 T2	20141208	LSPB	+	published / reissued	
JP2014532880 T2	20151106	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151106
JP2014532880 T2	20151106	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20151106
JP2014532880 T2	20160818	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160818
JP2014532880 T2	20161118	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20161118
JP2014532880 T2	20161201	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014532880 T2	20161207	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20161207
JP2014532880 T2	20161222	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20161214
JP2014532880 T2	20161222	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6062449 COUNTRY OF REF DOCUMENT : JP
JP2014532881 T2	20141208	LSPB	+	published / reissued	
JP2014532882 T2	20141208	LSPB	+	published / reissued	
JP2014532882 T2	20151106	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151106
JP2014532882 T2	20151106	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20151106
JP2014532882 T2	20160818	LSES	-A131	NOTIFICATION	TEXT : JAPANESE INTERMEDIATE CODE:

				OF REASONS FOR REFUSAL	A131 EFFECTIVE DATE : 20160818
JP2014532882 T2	20161205	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20161205
JP2014532882 T2	20170605	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170605
JP2014532882 T2	20170615	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014532882 T2	20170619	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20170619
JP2014532882 T2	20170629	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20170621
JP2014532882 T2	20170630	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6165755 COUNTRY OF REF DOCUMENT : JP
JP2014534447 T2	20141218	LSPB	+	published / reissued	
JP2014534447 T2	20151106	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151106
JP2014534447 T2	20151106	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20151106
JP2014534447 T2	20160902	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20160902
JP2014534447 T2	20161201	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20161201
JP2014534447 T2	20161219	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014534447 T2	20161222	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20161222
JP2014534447 T2	20170126	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20170119
JP2014534447 T2	20170127	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6082018 COUNTRY OF REF DOCUMENT : JP
JP2015502841 T2	20150129	LSPB	+	published / reissued	
JP2015502841 T2	20151106	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151106
JP2015502841 T2	20151106	LSES	+A621	WRITTEN REQUEST FOR APPLICATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20151106

				EXAMINATION	
JP2015502841 T2	20161215	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20161215
JP2015502841 T2	20170314	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20170314
JP2015502841 T2	20170703	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20170703
JP2015502841 T2	20171212	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20171212
JP2015502841 T2	20180314	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2015502841 T2	20180319	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20180319
JP2015502841 T2	20180412	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20180404
JP2015502841 T2	20180413	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6320926 COUNTRY OF REF DOCUMENT : JP
JP2015533221 T2	20151119	LSPB	+	published / reissued	
JP2015533221 T2	20160706	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20160706
JP2015533221 T2	20170529	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2015533221 T2	20170601	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20170601
JP2015533221 T2	20170706	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20170629
JP2015533221 T2	20170707	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6170165 COUNTRY OF REF DOCUMENT : JP
JP2016500878 T2	20160114	LSPB	+	published / reissued	
JP6062449 B2	20170118	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6062449 B2	20161215	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6062449 B2	20161220	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6062449 B2	20161222	LSGT	+R150	特許証 (Patent certificate)	

JP6062449 B2	20191128	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20191127
JP6062449 B2	20191203	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP6062449 B2	20321107	PEXP		Calculated Patent Term Expiry	
JP6082018 B2	20170215	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6082018 B2	20170105	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6082018 B2	20170124	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6082018 B2	20170127	LSGT	+R150	特許証 (Patent certificate)	
JP6082018 B2	20191226	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20191224
JP6082018 B2	20200107	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP6082018 B2	20321107	PEXP		Calculated Patent Term Expiry	
JP6165755 B2	20170719	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6165755 B2	20170622	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6165755 B2	20170627	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6165755 B2	20170630	LSGT	+R150	特許証 (Patent certificate)	
JP6165755 B2	20321107	PEXP		Calculated Patent Term Expiry	
JP6170165 B2	20170726	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6170165 B2	20170608	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6170165 B2	20170704	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6170165 B2	20170707	LSGT	+R150	特許証 (Patent certificate)	
JP6170165 B2	20331016	PEXP		Calculated Patent Term Expiry	
JP6190380 B2	20170830	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6190380 B2	20170803	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6190380 B2	20170808	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6190380 B2	20170810	LSGT	+R150	特許証 (Patent certificate)	
JP6190380 B2	20321107	PEXP		Calculated Patent Term	

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JP6320926 B2	20180509	LSGT	+	granted / extensions (spc, cpc, pte)
JP6320926 B2	20180322	LSGT	+A01	特許査定書 (Decision of patent grant)
JP6320926 B2	20180410	LSFE	R100	特許料納付書 (Patent fee payment form)
JP6320926 B2	20180413	LSGT	+R150	特許証 (Patent certificate)
JP6320926 B2	20321107	PEXP		Calculated Patent Term Expiry
KR102040996 B1	20191105	LSGT	+	granted / extensions (spc, cpc, pte)
KR102040996 B1	20321107	PEXP		Calculated Patent Term Expiry
KR102077879 B1	20200214	LSGT	+	granted / extensions (spc, cpc, pte)
KR102077879 B1	20331016	PEXP		Calculated Patent Term Expiry
KR20140091032 A	20140718	LSPB	+	published / reissued
KR20140091032 A	20171208	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION
KR20140091033 A	20140718	LSPB	+	published / reissued
KR20140091033 A	20180106	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION
KR20140092375 A	20140723	LSPB	+	published / reissued
KR20140092375 A	20180106	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION
KR20140092377 A	20140723	LSPB	+	published / reissued
KR20140092377 A	20171229	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION
KR20140092378 A	20140723	LSPB	+	published / reissued
KR20140092378 A	20171229	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION
KR20140092869 A	20140724	LSPB	+	published / reissued
KR20140092869 A	20170925	LSES	A201	REQUEST FOR EXAMINATION
KR20140092869 A	20190305	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL
KR20140092869 A	20191024	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT
KR20140092869 A	20191030	LSGT	+GRNT	WRITTEN DECISION TO GRANT
KR20150068395 A	20150619	LSPB	+	published / reissued
KR20150068395 A	20190920	LSES	-E902	NOTIFICATION

				OF REASON FOR REFUSAL	
KR20150068395 A	20200130	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20150068396 A	20150619	LSPB	+	published / reissued	
KR20150068396 A	20181117	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
US10048284 BB	20180814	LSGT	+	granted / extensions (spc, cpc, pte)	
US10048284 BB	20180725	LSGT	PAT1	Patented Case	
US10048284 BB	20360204	PEXP		Calculated Patent Term Expiry (PTA 281 days)	
US10274505 BB	20190430	LSGT	+	granted / extensions (spc, cpc, pte)	
US10274505 BB	20190410	LSGT	PAT1	Patented Case	
US10274505 BB	20360812	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US2013123089 AA	20130516	LSPB	+	published / reissued	
US2013123089 AA	20161012	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013125648 AA	20130523	LSPB	+	published / reissued	
US2013125648 AA	20130129	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GROSS, MARK; ALLEN, SANTIAGO; SIGNING DATES FROM 20121222 TO 20121223; REEL/FRAME:029717/0057
US2013125648 AA	20130131	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MURASHIE, ED; REEL/FRAME:029735/0669 EFFECTIVE DATE : 20121108
US2013125648 AA	20150420	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2013125675 AA	20130523	LSPB	+	published / reissued	
US2013125675 AA	20140509	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:EBERHARDT, MICHAEL; REEL/FRAME:032858/0536 EFFECTIVE DATE : 20140509
US2013125675 AA	20161109	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013126302 AA	20130523	LSPB	+	published / reissued	

US2013126302 AA	20150218	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013128035 AA	20130523	LSPB	+	published / reissued	
US2013128035 AA	20160831	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013129166 AA	20130523	LSPB	+	published / reissued	
US2013129166 AA	20150513	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014036276 AA	20140206	LSPB	+	published / reissued	
US2014036276 AA	20130827	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:TROCHMAN, ALLAN M.; REEL/FRAME:031090/0229 EFFECTIVE DATE : 20130813
US2014036276 AA	20131105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BCEKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ALLEN, SANTIAGO; TROCHMAN, ALLAN; RUECKL, STEFAN; AND OTHERS; SIGNING DATES FROM 20131101 TO 20131104; REEL/FRAME:031545/0313
US2014036276 AA	20131106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:MURASHIE, EDWARD A.; REEL/FRAME:031557/0629 EFFECTIVE DATE : 20131106
US2014036276 AA	20131223	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE NAME PREVIOUSLY RECORDED ON REEL 031545 FRAME 0313. ASSIGNOR(S) HEREBY CONFIRMS THE ASIGNEE NAME SHOULD BE BECKMAN COULTER, INC.; ASSIGNORS:ALLEN, SANTIAGO; TROCHMAN, ALLAN; RUECKL, STEFAN; AND OTHERS; SIGNING DATES FROM 20131101 TO 20131104; REEL/FRAME:031868/0907
US2014036276 AA	20140106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GROSS, MARK; REEL/FRAME:031900/0213 EFFECTIVE DATE : 20131230
US2014036276 AA	20150707	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014103674 AA	20140417	LSPB	+	published / reissued	
US2014103674 AA	20150401	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014105719 AA	20140417	LSPB	+	published / reissued	
US2014105719 AA	20150211	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US2014107953 AA	20140417	LSPB	+	published / reissued	
US2014107953 AA	20131212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MUELLER, MARTIN; BEARDEN, LUKAS; DONNER-REHM, ANDREAS; SIGNING DATES FROM 20130104 TO 20131122; REEL/FRAME:031770/0943
US2014107953 AA	20131223	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE EXECUTION DATE OF SIGNATURE OF MARTIN MUELLER PREVIOUSLY RECORDED ON REEL 031770 FRAME 0943. ASSIGNOR(S) HEREBY CONFIRMS THE EXECUTION DATE OF SIGNATURE OF MARTIN MUELLER IS 11/04/2013; ASSIGNORS:MUELLER, MARTIN; BEARDEN, LUKAS; DONNER-REHM, ANDREAS; SIGNING DATES FROM 20131104 TO 20131122; REEL/FRAME:031868/0887
US2014107953 AA	20170421	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014305227 AA	20141016	LSPB	+	published / reissued	
US2014305227 AA	20161012	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:JOHNS, CHARLES W.; REEL/FRAME:039996/0197 EFFECTIVE DATE : 20140716
US2014305227 AA	20170616	LSES	NFA1	Non Final Action Mailed	
US2014305227 AA	20171029	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2014305227 AA	20171031	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014305227 AA	20180102	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014305227 AA	20180112	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2014305227 AA	20180116	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2014305227 AA	20180214	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015238978 AA	20150827	LSPB	+	published / reissued	
US2015238978 AA	20180320	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	

US2015238978 AA	20180327	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MUELLER, MARTIN; WEIHS, ANDREAS; GUNZER, GERHARD; AND OTHERS; SIGNING DATES FROM 20121219 TO 20121221; REEL/FRAME:045361/0870
US2015238978 AA	20180601	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015238978 AA	20180705	LSWD	-ABD2	Abandoned -- Failure to Pay Issue Fee	
US2015238978 AA	20180710	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2015238978 AA	20180725	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015298321 AA	20151022	LSPB	+	published / reissued	
US2015298321 AA	20131213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MURASHIE, EDWARD A.; BEARDEN, LUKAS; OTTS, STEPHEN L.; AND OTHERS; SIGNING DATES FROM 20131104 TO 20131122; REEL/FRAME:031783/0253
US2015298321 AA	20140103	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GROSS, MARK; REEL/FRAME:031890/0238 EFFECTIVE DATE : 20131230
US2015298321 AA	20140204	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:RUECKL, STEFAN; TROCHMAN, ALLAN; SIGNING DATES FROM 20140113 TO 20140204; REEL/FRAME:032131/0166
US2015298321 AA	20160909	LSES	NFA1	Non Final Action Mailed	
US2015298321 AA	20170505	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2016349278 AA	20161201	LSPB	+	published / reissued	
US2016349278 AA	20171006	LSES	NFA1	Non Final Action Mailed	
US2016349278 AA	20180425	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016349278 AA	20181220	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016349278 AA	20190327	LSFE	+AWA3	Awaiting TC Resp, Issue	

				Fee Payment Verified	
US2016349278 AA	20190328	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016349278 AA	20190410	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8967691 BB	20150303	LSGT	+	granted / extensions (spc, cpc, pte)	
US8967691 BB	20131212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MUELLER, MARTIN; BEARDEN, LUKAS; SIGNING DATES FROM 20131104 TO 20131122; REEL/FRAME:031771/0629
US8967691 BB	20150211	LSGT	PAT1	Patented Case	
US8967691 BB	20180904	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8967691 BB	20331016	PEXP		Calculated Patent Term Expiry	
US8973736 BB	20150310	LSGT	+	granted / extensions (spc, cpc, pte)	
US8973736 BB	20121228	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JOHNS, CHARLES W.; RIZZOTTE, SAMUEL H.; SIGNING DATES FROM 20121219 TO 20121220; REEL/FRAME:029544/0168
US8973736 BB	20150218	LSGT	PAT1	Patented Case	
US8973736 BB	20180910	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8973736 BB	20321107	PEXP		Calculated Patent Term Expiry	
US9010819 BB	20150421	LSGT	+	granted / extensions (spc, cpc, pte)	
US9010819 BB	20131212	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MUELLER, MARTIN; LAUTERBACH, SOPHIA; SIGNING DATES FROM 20131104 TO 20131114; REEL/FRAME:031770/0161
US9010819 BB	20150401	LSGT	PAT1	Patented Case	
US9010819 BB	20181022	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9010819 BB	20331016	PEXP		Calculated Patent Term Expiry	
US9046506 BB	20150602	LSGT	+	granted / extensions (spc, cpc, pte)	
US9046506 BB	20121228	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MUELLER, MARTIN; WEIHS, ANDREAS; GUNZER, GERHARD; AND OTHERS; SIGNING DATES FROM 20121219 TO 20121221; REEL/FRAME:029544/0054

US9046506 BB	20150513	LSGT	PAT1	Patented Case	
US9046506 BB	20181203	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9046506 BB	20330501	PEXP		Calculated Patent Term Expiry (PTA 175 days)	
US9446418 BB	20160920	LSGT	+	granted / extensions (spc, cpc, pte)	
US9446418 BB	20121228	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JOHNS, CHARLES W.; CHEN, CHI S.; QUINT, JOSEPH F.; REEL/FRAME:029544/0046 EFFECTIVE DATE : 20121219
US9446418 BB	20160302	LSAL	NAF1	Notice of Appeal Filed	
US9446418 BB	20160302	LSAL	NAF1	Notice of Appeal Filed	
US9446418 BB	20160831	LSGT	PAT1	Patented Case	
US9446418 BB	20341222	PEXP		Calculated Patent Term Expiry (PTA 775 days)	
US9482684 BB	20161101	LSGT	+	granted / extensions (spc, cpc, pte)	
US9482684 BB	20121228	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:JOHNS, CHARLES W.; OTTS, STEPHEN; REEL/FRAME:029544/0069 EFFECTIVE DATE : 20121219
US9482684 BB	20151014	LSES	NFA1	Non Final Action Mailed	
US9482684 BB	20161012	LSGT	PAT1	Patented Case	
US9482684 BB	20350227	PEXP		Calculated Patent Term Expiry (PTA 842 days)	
US9506943 BB	20161129	LSGT	+	granted / extensions (spc, cpc, pte)	
US9506943 BB	20130129	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BECKMAN COULTER, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MUELLER, MARTIN; JOHNS, CHARLES W.; REEL/FRAME:029717/0034 EFFECTIVE DATE : 20121219
US9506943 BB	20161109	LSGT	PAT1	Patented Case	
US9506943 BB	20340827	PEXP		Calculated Patent Term Expiry (PTA 658 days)	
US9910054 BB	20180306	LSGT	+	granted / extensions (spc, cpc, pte)	
US9910054 BB	20180214	LSGT	PAT1	Patented Case	
US9910054 BB	20340813	PEXP		Calculated Patent Term Expiry (PTA 644 days)	

WO13070716 A2	20130516	LSPB	+	published / reissued	
WO13070716 A4	20140507	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO13070716 A4	20141203	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 12798482 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :
WO13070740 A1	20130516	LSPB	+	published / reissued	
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WO13070740 A1	20140507	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO13070740 A1	20170613	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112014011035 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20140507
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WO13070744 A2	20130516	LSPB	+	published / reissued	
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WO13070748 A1	20170425	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112014011044 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20140507
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WO13070754 A1	20140507	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO13070754 A1	20170502	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112014011048 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20140507
WO13070755 A2	20130516	LSPB	+	published / reissued	
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WO13070755 A3	20140523	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012791363 COUNTRY OF REF DOCUMENT : EP
WO13070755 A3	20140530	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20147014680 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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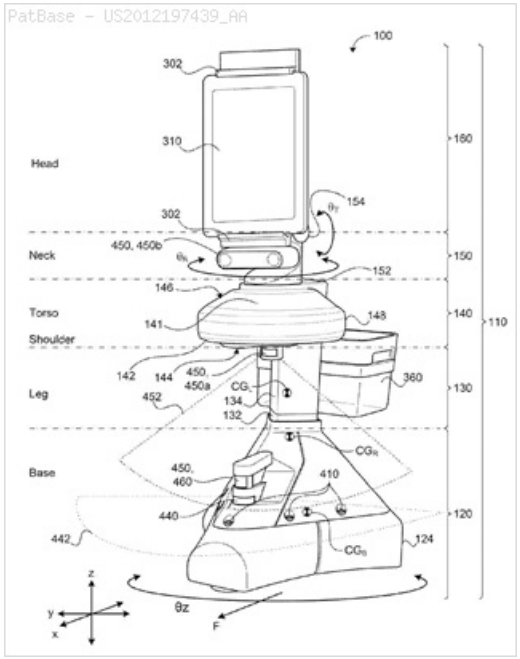
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WO13070756 A3	20140522	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012795933 COUNTRY OF REF DOCUMENT : EP
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WO13070756 A3	20170606	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 112014010955 COUNTRY OF REF DOCUMENT : BR KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) : EFFECTIVE DATE : 20140507
WO14025817 A1	20140213	LSPB	+	published / reissued	
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WO14062785 A1	20140424	LSPB	+	published / reissued	
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WO14062785 A1	20150416	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO14062786 A1	20140424	LSPB	+	published / reissued	
WO14062786 A1	20150416	LSNE	NENP	NON-ENTRY INTO THE	REF COUNTRY CODE : DE

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WO14062828 A1	20150427	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2013783461 COUNTRY OF REF DOCUMENT : EP

62) Family number: 51636319 (US2012197439A)

Title: INTERFACING WITH A MOBILE TELEPRESENCE ROBOT

Abstract: A telepresence robot may include a drive system, a control system, an imaging system, and a mapping module. The mapping module may access a plan view map of an area and tags associated with the area. In various embodiments, each tag may include tag coordinates and tag information, which may include a tag annotation. A tag identification system may identify tags within a predetermined range of the current position and the control system may execute an action based on an identified tag whose tag information comprises a telepresence robot action modifier. The telepresence robot may rotate an upper portion independent from a lower portion. A remote terminal may allow an operator to control the telepresence robot using any combination of control methods, including by selecting a destination in a live video feed, by selecting a destination on a plan view map, or by using a joystick or other peripheral **device**.



Classifications:
International (IPC 8-9): A61B19/00 A61B34/10 A61B34/30 A61B5/00 A61B5/01 A61B5/0205 A61B5/11 A61B5/16 B25J11/00 B25J13/08 B25J19/04 B25J5/00 B25J9/16 G01C21/00 G05D1/00 G05D1/02 G06F19/00 G06F3/0482 G06F3/0484 G06F9/44 G06T11/00 G06T11/60 G06T15/10 G11B27/00 G11B27/036 G11B27/10 G11B27/34 G16H40/40 G16H50/20 H04N5/272 H04N5/77 H04N7/14
H04N7/18 (Advanced/Invention);
A61B5/024 G06F19/00 (Advanced/Non-invention)
CPC: A61B5/0022 A61B5/0077 A61B5/0013 A61B5/0075 A61B5/0008 A61B5/015 A61B5/02055 A61B5/4064 A61B5/1128 A61B5/165 A61B5/4809 A61B5/7275 A61B5/746 A61B5/742 A61B5/741 A61B5/7264 A61B5/024 H04N7/148 H04N7/142 H04N7/185 G05D1/0261 B25J11/008 H04N7/181 H04N7/147 G05D1/0217 G05D1/0088 G05D1/0214 G05D1/0259 G05D1/0011 G05D1/028 H04N7/183 H04N5/77 G11B27/005 G11B27/102 H04N5/272 G11B27/036 G11B27/34 G16H40/67 A61B34/10 G16H50/20 A61B34/30 G16H40/40 B25J9/1689 B25J11/009 B25J11/0095 B25J9/1697 G05D1/0038 G05D1/024 G05D1/0274 G05D2201/0206 G06F19/3418 G06T11/00 Y10S901/01 Y10S901/47 B25J5/00 B25J9/1664 G06F3/0482 G06F3/04842 G06F3/04847 G06T11/60 G06T15/10 G06T2200/24
European: B25J11/00S2 B25J11/00W B25J9/16T4 G05D1/00C5 G05D1/02E14M G05D1/02E6D2 G06F19/34C S05D201/0206
US: 1/1 348/14.03 348/14.05 348/14.08 382/209 600/300 600/474 600/476 600/483 600/500 600/549 600/595 700/245 700/245S 700/252 700/259 700/259P 700/264 701/2 701/25 701/25S 701/26 701/26S 701/28 701/28S 701/2P 901/1 901/1S 901/47 901/47S
JP F-Term: 3C707 3C707/AS34 3C707/CS08 3C707/JS03 3C707/JU02 3C707/JU12 3C707/KS11 3C707/KS12 3C707/KS18 3C707/KS36 3C707/KT03 3C707/KV11 3C707/KV18 3C707/LS15 3C707/MS14 3C707/WA16 3C707/WM06 3C707/WM11
JP F-Index: B25J5/00/A

Family:

Publication number	Publication date	Application number	Application date
CN103459099 A	20131218	CN201280006852	20120127
CN103459099 B	20150826	CN201280006852	20120127
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Priority:

US20110437433P 20110128
US20120360590 20120127
US20120729964P 20121126
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US20150620051 20150211
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US20140221827 20140321
US20150799450 20150714
US20170401949 20170109
US20180985448 20180521

Probable Assignee: INTOUCH TECHNOLOGIES INC

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Assignee(s): NATIONAL INSTITUTES OF HEALTH NIH US DEPT OF HEALTH AND HUMAN SERVICES DHHS US GOVERNMENT ; MIDCAP FINANCIAL TRUST AGENT AS

Inventor(s): (std): LAMBRECHT CHRIS ; ANDREW N ; LAMBRECHT CHRISTOPHER ; NEUSHUL ANDREW ; RAUHUT EBEN CHRISTOPHER ; TEMBY KELTON ; WONG CHEUK WAH ; KEARNS JUSTIN H ; WANG YULUN ; SANCHEZ DANIEL ; HERZOG CODY ; FARLOW TIMOTHY STURTEVANT ; PINTER MARCO ; WHITNEY BLAIR ; CHAN MICHAEL ; WRIGHT TIM ; BALLANTYNE JAMES ; JORDAN CHARLES S ; HANRAHAN KEVIN ; LAI FUJI ; REYNOLDS H NEAL ; WRIGHT TIMOTHY C

Agent(s): ALTON ANDREW; KORY D; STOEL RIVES LLP; POLSINELLI LLP; CHRISTENSEN KORY D

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN103459099 A	20131218	LSPB	+	published / reissued	
CN103459099 A	20131218	LSPB	+C06	PUBLICATION	
CN103459099 B	20150826	LSGT	+	granted / extensions (spc, cpc, pte)	
CN103459099 B	20150826	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN103459099 B	20320127	PEXP		Calculated Patent Term Expiry	
CN104898652 A	20150909	LSPB	+	published / reissued	
CN104898652 A	20150909	LSPB	+C06	PUBLICATION	
CN104898652 B	20180313	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104898652 B	20180313	LSGT	+GR01	PATENT GRANT	
CN104898652 B	20320127	PEXP		Calculated Patent Term Expiry	
EP2668008 A2	20131204	LSPB	+	published / reissued	
EP2668008 A2	20131204	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20130823
EP2668008 A4	20180124	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20180103

JP2014503376 T2	20140213	LSPB	+	published / reissued	
JP2014503376 T2	20150126	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20150126
JP2014503376 T2	20150126	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20150126
JP2014503376 T2	20150930	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20150929
JP2014503376 T2	20151228	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20151228
JP2014503376 T2	20160209	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014503376 T2	20160217	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20160216
JP2014503376 T2	20160324	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20160315
JP2014503376 T2	20160325	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5905031 COUNTRY OF REF DOCUMENT : JP
JP5905031 B2	20160420	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5905031 B2	20131112	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20131011
JP5905031 B2	20160218	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5905031 B2	20160322	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5905031 B2	20160325	LSGT	+R150	特許証 (Patent certificate)	
JP5905031 B2	20190131	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5905031 B2	20190205	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5905031 B2	20320127	PEXP		Calculated Patent Term Expiry	
KR102018763 B1	20190905	LSGT	+	granted / extensions (spc, cpc, pte)	
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KR20140040094 A	20180410	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20140040094 A	20180620	LSRV	-E601	DECISION TO REFUSE APPLICATION	
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KR20180067724 A	20180807	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20180067724 A	20190228	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20180067724 A	20191021	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20180067724 A	20200114	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR20180118219 A	20181030	LSPB	+	published / reissued	
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KR20180118219 A	20190115	LSRE	AMND	AMENDMENT	
KR20180118219 A	20190625	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20180118219 A	20190726	LSRE	AMND	AMENDMENT	
KR20180118219 A	20190822	LSGT	+X701	DECISION TO GRANT (AFTER RE-EXAMINATION)	
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US10334205 BB	20370109	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10399223 BB	20190903	LSGT	+	granted / extensions (spc, cpc, pte)	
US10399223 BB	20170301	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120413; REEL/FRAME:041427/0348
US10399223 BB	20170301	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120413; REEL/FRAME:041427/0348
US10399223 BB	20371014	PEXP		Calculated Patent Term Expiry (PTA 227 days)	
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US2012197439 AA	20121003	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

					OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120413; REEL/FRAME:029071/0001
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US2012197439 AA	20150204	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012197464 AA	20120802	LSPB	+	published / reissued	
US2012197464 AA	20121003	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120413; REEL/FRAME:029069/0417
US2012197464 AA	20121003	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120413; REEL/FRAME:029069/0417
US2012197464 AA	20140416	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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US2013325244 AA	20150403	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20150326 TO 20150402; REEL/FRAME:035333/0015
US2013325244 AA	20160406	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014139616 AA	20140522	LSPB	+	published / reissued	
US2014139616 AA	20151020	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:INTOUCH HEALTH, INC.; REEL/FRAME:036898/0729 EFFECTIVE DATE : 20151009
US2014139616 AA	20170706	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014139616 AA	20200110	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES,

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US2014155755 AA	20140605	LSPB	+	published / reissued	
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US2014155755 AA	20170509	LSAL	NAF1	Notice of Appeal Filed	
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US2014155755 AA	20180117	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
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US2014155755 AA	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US2014155755 AA	20180419	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2014155755 AA	20180502	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014207286 AA	20140724	LSPB	+	published / reissued	
US2014207286 AA	20150624	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014267549 AA	20140918	LSPB	+	published / reissued	
US2014267549 AA	20150715	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015296177 AA	20151015	LSPB	+	published / reissued	
US2015296177 AA	20151020	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:INTOUCH HEALTH, INC.; REEL/FRAME:036907/0842 EFFECTIVE DATE : 20151009
US2015296177 AA	20160722	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PINTER, MARCO; JORDAN, CHARLES S.; SANCHEZ, DANIEL; AND OTHERS; SIGNING DATES FROM 20130613 TO 20130718; REEL/FRAME:039237/0243
US2015296177 AA	20170125	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015298317 AA	20151022	LSPB	+	published / reissued	

US2015298317 AA	20160211	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120305 TO 20120413; REEL/FRAME:037713/0869
US2015298317 AA	20160211	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120305 TO 20120413; REEL/FRAME:037713/0869
US2015298317 AA	20170424	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015298317 AA	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US2015314449 AA	20151105	LSPB	+	published / reissued	
US2015314449 AA	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US2015314449 AA	20190412	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US2016046021 AA	20160218	LSPB	+	published / reissued	
US2016046021 AA	20160928	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017023944 AA	20170126	LSPB	+	published / reissued	
US2017023944 AA	20170427	LSES	NFA1	Non Final Action Mailed	
US2017023944 AA	20170720	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017023944 AA	20170830	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2017023944 AA	20170831	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017023944 AA	20170920	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017127019 AA	20170504	LSPB	+	published / reissued	
US2017127019 AA	20171113	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2017127019 AA	20171114	LSES	NFA1	Non Final Action Mailed	
US2017127019 AA	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS

					AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US2017127019 AA	20190206	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PINTER, MARCO; JORDAN, CHARLES S.; SANCHEZ, DANIEL; AND OTHERS; SIGNING DATES FROM 20130613 TO 20130718; REEL/FRAME:048256/0917
US2017127019 AA	20190212	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017127019 AA	20190514	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017127019 AA	20190605	LSGT	PAT1	Patented Case	
US2017127019 AA	20190605	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017334069 AA	20171123	LSPB	+	published / reissued	
US2017334069 AA	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US2017334069 AA	20190212	LSES	NFA1	Non Final Action Mailed	
US2017334069 AA	20190719	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2017334069 AA	20190729	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017334069 AA	20190814	LSGT	PAT1	Patented Case	
US2017334069 AA	20190814	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2018088583 AA	20180329	LSPB	+	published / reissued	
US2018088583 AA	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US2018088583 AA	20180918	LSES	NFA1	Non Final Action Mailed	
US2018088583 AA	20190318	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20150326 TO 20150402; REEL/FRAME:048628/0386
US2018088583 AA	20190318	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES,

					INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20150326 TO 20150402; REEL/FRAME:048628/0386
US2018088583 AA	20190415	LSES	NFA1	Non Final Action Mailed	
US2018088583 AA	20191031	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018088583 AA	20200109	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018263703 AA	20180920	LSPB	+	published / reissued	
US2018263703 AA	20190517	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C3O CORPORATION; AND OTHERS; REEL/FRAME:049209/0584 EFFECTIVE DATE : 20190516
US2018263703 AA	20190611	LSES	NFA1	Non Final Action Mailed	
US2018263703 AA	20200110	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PINTER, MARCO; WRIGHT, TIMOTHY; REYNOLDS, H. NEAL; AND OTHERS; SIGNING DATES FROM 20160225 TO 20191217; REEL/FRAME:051483/0368
US2019375102 AA	20191212	LSPB	+	published / reissued	
US2019375102 AA	20190822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120415; REEL/FRAME:050140/0753
US2019375102 AA	20190822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120415; REEL/FRAME:050140/0753
US8718837 BB	20140506	LSGT	+	granted / extensions (spc, cpc, pte)	
US8718837 BB	20140416	LSGT	PAT1	Patented Case	
US8718837 BB	20171102	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8718837 BB	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C3O CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US8718837 BB	20320127	PEXP		Calculated Patent Term	

US8965579 BB	20150224	LSGT	+	Expiry granted / extensions (spc, cpc, pte)	
US8965579 BB	20150204	LSGT	PAT1	Patented Case	
US8965579 BB	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US8965579 BB	20180618	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8965579 BB	20320915	PEXP		Calculated Patent Term Expiry (PTA 232 days)	
US9079311 BB	20150714	LSGT	+	granted / extensions (spc, cpc, pte)	
US9079311 BB	20140715	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120413; REEL/FRAME:033317/0675
US9079311 BB	20140715	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120413; REEL/FRAME:033317/0675
US9079311 BB	20150624	LSGT	PAT1	Patented Case	
US9079311 BB	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US9079311 BB	20181217	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9079311 BB	20340321	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9098611 BB	20150804	LSGT	+	granted / extensions (spc, cpc, pte)	
US9098611 BB	20130719	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PINTER, MARCO; JORDAN, CHARLES S.; SANCHEZ, DANIEL; AND OTHERS; SIGNING DATES FROM 20130613 TO 20130718; REEL/FRAME:030841/0695
US9098611 BB	20150715	LSGT	PAT1	Patented Case	
US9098611 BB	20151020	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NATIONAL INSTITUTES OF HEALTH (NIH), U.S. DEPT. OF OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:INTOUCH HEALTH, INC.; REEL/FRAME:036907/0582 EFFECTIVE DATE : 20151009

US9098611 BB	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US9098611 BB	20190118	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9098611 BB	20190130	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9098611 BB	20330406	PEXP		Calculated Patent Term Expiry (PTA 23 days)	
US9168656 BA	20151027	LSGT	+	granted / extensions (spc, cpc, pte)	
US9168656 BA	20150714	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120302 TO 20120413; REEL/FRAME:036087/0543
US9168656 BA	20150714	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120302 TO 20120413; REEL/FRAME:036087/0543
US9168656 BA	20151007	LSGT	PAT1	Patented Case	
US9168656 BA	20151007	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9168656 BA	20350714	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9323250 BB	20160426	LSGT	+	granted / extensions (spc, cpc, pte)	
US9323250 BB	20150626	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US9323250 BB	20160406	LSGT	PAT1	Patented Case	
US9323250 BB	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US9323250 BB	20190918	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9323250 BB	20330823	PEXP		Calculated Patent Term Expiry (PTA 21 days and a terminal disclaimer has been filed)	
US9469030 BB	20161018	LSGT	+	granted / extensions (spc, cpc, pte)	

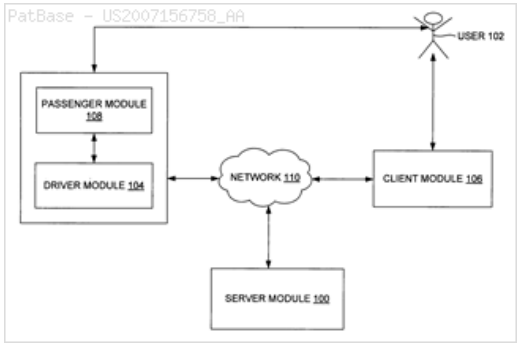
US9469030 BB	20151027	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120413; REEL/FRAME:036896/0694
US9469030 BB	20151027	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20120309 TO 20120413; REEL/FRAME:036896/0694
US9469030 BB	20160928	LSGT	PAT1	Patented Case	
US9469030 BB	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US9469030 BB	20351027	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9571789 BB	20170214	LSGT	+	granted / extensions (spc, cpc, pte)	
US9571789 BB	20170125	LSGT	PAT1	Patented Case	
US9571789 BB	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US9571789 BB	20190118	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9571789 BB	20350623	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9785149 BB	20171010	LSGT	+	granted / extensions (spc, cpc, pte)	
US9785149 BB	20160518	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IROBOT CORPORATION, MASSACHUSETTS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20150326 TO 20150402; REEL/FRAME:038633/0453
US9785149 BB	20160518	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, YULUN; JORDAN, CHARLES S.; WRIGHT, TIM; AND OTHERS; SIGNING DATES FROM 20150326 TO 20150402; REEL/FRAME:038633/0453
US9785149 BB	20170920	LSGT	PAT1	Patented Case	
US9785149 BB	20180302	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : MIDCAP FINANCIAL TRUST, AS

					AGENT, MARYLAND OLDPARTY : SECURITY INTEREST; ASSIGNORS:INTOUCH TECHNOLOGIES, INC.; ACUTECARE TELEMEDICINE, LLC; C30 CORPORATION; AND OTHERS; REEL/FRAME:045488/0518 EFFECTIVE DATE : 20180223
US9785149 BB	20360426	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9974612 BB	20180522	LSGT	+	granted / extensions (spc, cpc, pte)	
US9974612 BB	20180502	LSGT	PAT1	Patented Case	
US9974612 BB	20200110	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTOUCH TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PINTER, MARCO; WRIGHT, TIMOTHY; REYNOLDS, H. NEAL; AND OTHERS; SIGNING DATES FROM 20160225 TO 20191217; REEL/FRAME:051483/0368
US9974612 BB	20340213	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO12103525 A2	20120802	LSPB	+	published / reissued	
WO12103525 A3	20130726	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2013551398 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO12103525 A3	20130729	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO12103525 A3	20130730	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20137020195 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO12103525 A3	20130823	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2012738731 COUNTRY OF REF DOCUMENT : EP
WO15017691 A1	20150205	LSPB	+	published / reissued	
WO15017691 A1	20160202	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO15017691 A1	20160824	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 14831660 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

63) Family number: 34715325 (US2007156758A)

Title: INFORMATION OF PROXIMATE PROPERTIES THROUGH GEOGRAPHIC POSITIONING

Abstract: Information of proximate properties through geographic positioning is disclosed. In one aspect, a method of a server module includes determining a route of a user to arrive at a set of properties that are indicated of interest to the user based on a geographical location of the user communicated by way of a client module indicating a present location of the user; optimally adjusting the route of the user to drive by the set of properties computed through a mathematical algorithm having a parameter related to the geographical location of the user communicated via a client module indicating a present location of the user; and automatically identifying at least one other marketed property proximal to the geographical location of the user communicated via the client module to the server module indicating the present location of the user in addition to the set of marketed properties based on property databases.



Classifications:

International (IPC 8-9): B25J5/00 B25J9/00 B64C19/00 G01C1/00 G01C21/32 G01C21/34 G01C21/36 G05D1/00 G05D1/02 G06F15/16 G06F17/00 G06F17/30 G06F21/62 G06F3/00 G06F3/048 G06F3/14 G06F7/00 G06F9/46 G06Q10/00 G06Q10/06 G06Q10/08 G06Q10/10 G06Q20/24 G06Q30/00 G06Q30/02 G06Q30/06 G06Q30/08 G06Q40/00 G06Q50/00 G06Q50/26 G06Q50/30 G06Q99/00 G06T15/00 G08G1/00 G08G1/123 H04L12/18 H04L12/58 H04L29/06 H04L29/08 H04M3/42 H04W24/00 H04W4/02 H04W4/22 H04W4/90 H04W76/00 (Advanced/Invention);
G06F21/31 G06Q10/00 G06Q50/00 G06Q99/00 H04B7/00 H04L29/08 H04W4/00 (Advanced/Non-invention);
G06F15/16 G06F3/048 G06F3/14 G06F7/00 G06F9/46 G06T15/00 H04M3/42 (Core/Invention)

CPC: G06Q10/047 G06Q30/0645 G06Q10/0832 G06Q10/0833 G06Q20/24 B64C19/00 G06F21/62 G06Q30/0205 G06Q50/26 G06Q30/0259 H04L65/403 H04L51/36 G06Q30/0277 G06Q30/0639 G06Q50/30 H04W4/08 G06Q10/08 G06Q10/08355 H04L67/104 H04L67/12 G06Q30/0246 H04H20/59 G06Q99/00 H04L63/102 G01C1/00 H04L67/18 H04W4/06 H04L67/22 H04L67/306 G05D1/102 G05D1/0274 G01C21/32 G05D1/0022 G05D1/0676 G05D1/0088 G08G1/202 G01C21/3438 G01C21/343 G01C21/3697 G08G1/005 G08G1/205 G01C21/36 G01C21/362 G06Q50/28 G08G5/0069 G06Q30/0241 H04W4/90 G06F16/95 G06F16/24 G06T17/05 G06Q10/107 G06F3/0481 G06F16/29 G06F21/6254 G06F2221/2111 G06Q10/00 H04W4/022 H04W4/21 G06F16/285 G06Q30/06 G06Q30/0623 G06Q30/0631 G06Q30/08 G06Q50/16 H04L51/20 H04L51/32 H04W76/50 G05D1/024 G05D2201/0211 G05D2201/0213 G06Q20/3224 G06Q30/0265 Y10S901/01 Y10S901/47 Y10S901/50 B25J5/007 B25J9/0003 G05D1/0011 H04L67/30 H04W4/22 G06Q30/0261 G06Q50/01 G06F21/31 H04W4/021 H04L51/04 G06Q10/087 G06Q10/10 G06Q30/02

European: G06F17/30L G06F3/0481 G06Q10/047 G06Q10/04R G06Q10/10 G06Q10/107 G06Q10/10M G06Q30/02 G06Q50/16 G06T17/05

US: 1/1 1/1P 345/419 345/419P 379/218.01 379/218.010P 455/432.3 455/456.1 455/456.2 455/456.3 455/518 455/519 700/245 701/117 701/2 701/23 701/25 701/3 701/409 705/14.1 705/14.23 705/14.27 705/14.4 705/14.45 705/14.57 705/14.58 705/26.3 705/26.9 705/28 705/307 705/319 705/325 705/332 705/342 705/343 705/344 705/37 705/39 705/7.11 705/7.34 707/104.1 707/736 707/737 707/999.107 707/999.107S 709/204 709/206 709/206P 715/201 715/706 715/706P 715/757 715/757P 715/757S 715/758 715/764 715/765 715/848 715/849 718/100 726/26 726/28 726/4 901/1 901/47 901/50

Family:

Publication number	Publication date	Application number	Application date
US2007156758 AA	20070705	US20060517756	20060908
US2008240397 AA	20081002	US20070731465	20070329
US2009015582 AA	20090115	US20070827774	20070713
US2009019085 AA	20090115	US20070827400	20070710
US2009019122 AA	20090115	US20070827834	20070712
US2009019366 AA	20090115	US20070827936	20070712
US2009064144 AA	20090305	US20070897689	20070830
US2011219318 AA	20110908	US20110108111	20110516
US2013054317 AA	20130228	US20110242303	20110923
US2013080217 AA	20130328	US20110310819	20111205
US2014172727 AA	20140619	US20140183549	20140219
US2014180914 AA	20140626	US20140207679	20140313
US2014188880 AA	20140703	US20140201788	20140307
US2014189013 AA	20140703	US20140191454	20140227
US2014195350 AA	20140710	US20140207683	20140313
US2014195629 AA	20140710	US20140203531	20140310
US2014200963 AA	20140717	US20140246040	20140405
US2014222577 AA	20140807	US20140251565	20140412
US2014222667 AA	20140807	US20140250402	20140411
US2014222704 AA	20140807	US20140260293	20140424
US2014236753 AA	20140821	US20140260308	20140424
US2014236946 AA	20140821	US20140262827	20140428
US2014237053 AA	20140821	US20140264020	20140428
US2014237062 AA	20140821	US20140262716	20140426
US2014277900 AA	20140918	US20140291008	20140530
US2014317696 AA	20141023	US20140321817	20140702
US2014330456 AA	20141106	US20140288417	20140528
US2015019328 AA	20150115	US20140504449	20141002
US2015161719 AA	20150611	US20140224080	20140325
US2015185034 AA	20150702	US20130142764	20131228
US2015202770 AA	20150723	US20140269081	20140503
US2016027307 AA	20160128	US20150872166	20151001
US7966567 BB	20110621	US20070827936	20070712
US8433609 BB	20130430	US20110310819	20111205

US8769393 BA	20140701	US20140201788	20140307
US8775328 BA	20140708	US20140203531	20140310
US8863245 BA	20141014	US20140321817	20140702
US8965409 BB	20150224	US20140264020	20140428
US9002754 BB	20150407	US20140251565	20140412
US9037516 BB	20150519	US20140262716	20140426
US9064288 BB	20150623	US20140191454	20140227
US9070101 BB	20150630	US20140207679	20140313
US9098545 BB	20150804	US20070827400	20070710
US9459622 BB	20161004	US20130142764	20131228

Priority:

US20050318214	20051223	US20060783226P	20060317	US20060817470P	20060628
US20060517756	20060908	US20060853499P	20061019	US20060854230P	20061025
US20060603442	20061122	US20070653194	20070112	US20070709575	20070221
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US20070827834	20070712	US20070827936	20070712	US20070827774	20070713
US20070897689	20070830	US20070899430	20070905	US20110108111	20110516
US20110526693P	20110824	US20110236964	20110920	US20110242303	20110923
US20110272245	20111013	US20110310819	20111205	US20130894443P	20131023
US20130079611	20131113	US20130089779	20131126	US20130100034	20131209
US20130102474	20131210	US20130141432	20131227	US20130142764	20131228
US20130144612	20131231	US20140157540	20140117	US20140183549	20140219
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US20140260293	20140424	US20140260308	20140424	US20140262716	20140426
US20140262827	20140428	US20140264020	20140428	US20140269081	20140503
US20140288417	20140528	US20140291008	20140530	US20140321817	20140702
US20140504449	20141002	US20150872166	20151001		

Probable Assignee: FATDOOR INC

Assignee(s): (std): ABHYANKER RAJ ; ABHYANKER RAJ V ; ABHYANKER RAJ VASANT ; BERTRAND BLAISE ; FATDOOR INC ; COLIN YOUENN ; EATBID INC ; OIA INTELLECTUALS INC ; CT D CORP ; MYER WARREN H ; LOPEZ MORALES MANUEL R ; PATEL AAMIR ; PHO VINH ; PATRON ANTHONY ; LEGALFORCE INC

Assignee(s): RAJ ABHYANKER PROFESSIONAL CORP ; IP ANALYTICS LLC ; NEXTDOORCOM INC ; GEOTAG INC ; OIA INTELLECTS ; COFFEE ROASTING CO ; DEALMAP INC ; GOOGLE INC ; GOOGLE LLC ; CENTER'D CORP ; CENTER D CORP

Inventor(s): (std): ADIGA SADASHIV ; ABHYANKER RAJ VASANT ; BERTRAND BLAISE ; PATRON ANTHONY ; COLIN YOUENN ; PHO VINH ; PATEL AAMIR ; LOPEZ MORALES MANUEL R ; ABHYANKER RAJ ; MYER WARREN H ; ABHYANKER RAJ V

Agent(s): RAJ ABHYANKER LLP, C/O INTELLEVATE; RAJ ABHYANKER LLP C O INTELLEVATE; PILLSBURY WINTHROP SHAW PITTMAN LLP; DAVID; GOODWIN PROCTER LLP; RAJ ABHYANKER P C; RAJ ABHYANKER PC; RAJ

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2007156758 AA	20070705	LSPB	+	published / reissued	
US2007156758 AA	20060908	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : OIA INTELLECTUALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ADIGA, SADASHIV; REEL/FRAME:018299/0160 EFFECTIVE DATE : 20060901
US2007156758 AA	20070928	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : OIA INTELLECTS, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:019905/0359 EFFECTIVE DATE : 20070125
US2007156758 AA	20091211	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008240397 AA	20081002	LSPB	+	published / reissued	
US2008240397 AA	20070329	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ V.; REEL/FRAME:019178/0602 EFFECTIVE DATE : 20070329
US2008240397 AA	20101213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

					OWNER : CENTER'D CORPORATION, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:FATDOOR, INC.; REEL/FRAME:025496/0031 EFFECTIVE DATE : 20080327
US2008240397 AA	20101213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GEOTAG, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CENTER'D CORPORATION; REEL/FRAME:025496/0038 EFFECTIVE DATE : 20101210
US2008240397 AA	20140208	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IP ANALYTICS, LLC, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GEOTAG, INC.; REEL/FRAME:032177/0846 EFFECTIVE DATE : 20140206
US2008240397 AA	20140423	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ V., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GEOTAG, INC.; REEL/FRAME:032732/0231 EFFECTIVE DATE : 20140107
US2008240397 AA	20140915	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NEXTDOOR.COM, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:IP ANALYTICS; REEL/FRAME:033743/0231 EFFECTIVE DATE : 20140910
US2008240397 AA	20150127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NEXTDOOR.COM, INC.; REEL/FRAME:034825/0404 EFFECTIVE DATE : 20141202
US2008240397 AA	20151019	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008240397 AA	20151110	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RAJ ABHYANKER PROFESSIONAL CORPORATION, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:036997/0600 EFFECTIVE DATE : 20151104
US2008240397 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2009015582 AA	20090115	LSPB	+	published / reissued	
US2009015582 AA	20070713	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ V.; REEL/FRAME:019631/0415 EFFECTIVE DATE : 20070713
US2009015582 AA	20100504	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009015582 AA	20140129	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST;

					ASSIGNOR:DEALMAP INC.; REEL/FRAME:032135/0232 EFFECTIVE DATE : 20111101
US2009015582 AA	20140210	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEALMAP INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:COFFEE ROASTING CO.; REEL/FRAME:032191/0778 EFFECTIVE DATE : 20110729
US2009015582 AA	20140210	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : COFFEE ROASTING CO., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CENTER'D CORPORATION; REEL/FRAME:032191/0786 EFFECTIVE DATE : 20110729
US2009015582 AA	20140210	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CENTER'D CORPORATION, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:FATDOOR, INC.; REEL/FRAME:032191/0689 EFFECTIVE DATE : 20080327
US2009015582 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2009015582 AA	20171006	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:GOOGLE INC.; REEL/FRAME:044142/0357 EFFECTIVE DATE : 20170929
US2009019085 AA	20090115	LSPB	+	published / reissued	
US2009019085 AA	20101213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CENTER'D CORPORATION, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:FATDOOR, INC.; REEL/FRAME:025496/0031 EFFECTIVE DATE : 20080327
US2009019085 AA	20101213	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GEOTAG, INC., TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CENTER'D CORPORATION; REEL/FRAME:025496/0038 EFFECTIVE DATE : 20101210
US2009019085 AA	20140208	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IP ANALYTICS, LLC, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GEOTAG, INC.; REEL/FRAME:032177/0846 EFFECTIVE DATE : 20140206
US2009019085 AA	20140423	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ V., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GEOTAG, INC.; REEL/FRAME:032732/0231 EFFECTIVE DATE : 20140107
US2009019085 AA	20140915	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NEXTDOOR.COM, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:IP ANALYTICS; REEL/FRAME:033743/0231 EFFECTIVE DATE : 20140910
US2009019085 AA	20150127	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

					OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NEXTDOOR.COM, INC.; REEL/FRAME:034825/0404 EFFECTIVE DATE : 20141202
US2009019085 AA	20150715	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009019122 AA	20090115	LSPB	+	published / reissued	
US2009019122 AA	20070712	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ V.; REEL/FRAME:019631/0799 EFFECTIVE DATE : 20070712
US2009019122 AA	20100426	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009019122 AA	20140129	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DEALMAP INC.; REEL/FRAME:032135/0232 EFFECTIVE DATE : 20111101
US2009019122 AA	20140210	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : COFFEE ROASTING CO., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CENTER'D CORPORATION; REEL/FRAME:032191/0786 EFFECTIVE DATE : 20110729
US2009019122 AA	20140210	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEALMAP INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:COFFEE ROASTING CO.; REEL/FRAME:032191/0778 EFFECTIVE DATE : 20110729
US2009019122 AA	20140210	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CENTER'D CORPORATION, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:FATDOOR, INC.; REEL/FRAME:032191/0689 EFFECTIVE DATE : 20080327
US2009019122 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2009019122 AA	20171006	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:GOOGLE INC.; REEL/FRAME:044142/0357 EFFECTIVE DATE : 20170929
US2009019366 AA	20090115	LSPB	+	published / reissued	
US2009019366 AA	20110510	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CENTER'D CORP., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR, INC.; REEL/FRAME:026250/0010 EFFECTIVE DATE : 20110509
US2009019366 AA	20110601	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2009064144 AA	20090305	LSPB	+	published /	

				reissued	
US2009064144 AA	20070830	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ V.; REEL/FRAME:019824/0062 EFFECTIVE DATE : 20070830
US2009064144 AA	20110411	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009064144 AA	20140129	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DEALMAP INC.; REEL/FRAME:032135/0232 EFFECTIVE DATE : 20111101
US2009064144 AA	20140210	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : COFFEE ROASTING CO., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CENTER'D CORPORATION; REEL/FRAME:032191/0786 EFFECTIVE DATE : 20110729
US2009064144 AA	20140210	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CENTER'D CORPORATION, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:FATDOOR, INC.; REEL/FRAME:032191/0689 EFFECTIVE DATE : 20080327
US2009064144 AA	20140210	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEALMAP INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:COFFEE ROASTING CO.; REEL/FRAME:032191/0778 EFFECTIVE DATE : 20110729
US2009064144 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2009064144 AA	20171006	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:GOOGLE INC.; REEL/FRAME:044142/0357 EFFECTIVE DATE : 20170929
US2011219318 AA	20110908	LSPB	+	published / reissued	
US2011219318 AA	20110516	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CENTER'D CORP., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR, INC.; REEL/FRAME:026281/0663 EFFECTIVE DATE : 20110509
US2011219318 AA	20111107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : COFFEE ROASTING CO., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CENTER'D CORPORATION; REEL/FRAME:027186/0596 EFFECTIVE DATE : 20110729
US2011219318 AA	20111107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DEALMAP INC.; REEL/FRAME:027186/0682 EFFECTIVE DATE : 20111101

US2011219318 AA	20111107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEALMAP INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:COFFEE ROASTING CO.; REEL/FRAME:027188/0569 EFFECTIVE DATE : 20110729
US2011219318 AA	20130809	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011219318 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2011219318 AA	20171006	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:GOOGLE INC.; REEL/FRAME:044142/0357 EFFECTIVE DATE : 20170929
US2013054317 AA	20130228	LSPB	+	published / reissued	
US2013054317 AA	20111018	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EATBID, INC.,, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ VASANT; REEL/FRAME:027074/0282 EFFECTIVE DATE : 20110922
US2013054317 AA	20140415	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2013054317 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2013080217 AA	20130328	LSPB	+	published / reissued	
US2013080217 AA	20130402	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ VASANT, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:EATBID, INC.; REEL/FRAME:030137/0165 EFFECTIVE DATE : 20130401
US2014172727 AA	20140619	LSPB	+	published / reissued	
US2014172727 AA	20160429	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014172727 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2014180914 AA	20140626	LSPB	+	published / reissued	
US2014180914 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0713 EFFECTIVE DATE : 20140707
US2014180914 AA	20150610	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

US2014188880 AA	20140703	LSPB	+	published / reissued	
US2014188880 AA	20140715	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IP ANALYTICS, LLC, TEXAS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR, INC.; REEL/FRAME:033315/0716 EFFECTIVE DATE : 20140715
US2014188880 AA	20140915	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NEXTDOOR.COM, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GEOTAG, INC.; IP ANALYTICS; REEL/FRAME:033743/0411 EFFECTIVE DATE : 20140910
US2014188880 AA	20150114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NEXTDOOR.COM, INC.; REEL/FRAME:034702/0749 EFFECTIVE DATE : 20141202
US2014188880 AA	20151019	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:036816/0832 EFFECTIVE DATE : 20151013
US2014188880 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2014188880 AA	20171229	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US2014189013 AA	20140703	LSPB	+	published / reissued	
US2014189013 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0698 EFFECTIVE DATE : 20140707
US2014189013 AA	20150603	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014195350 AA	20140710	LSPB	+	published / reissued	
US2014195350 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0746 EFFECTIVE DATE : 20140707
US2014195350 AA	20151221	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2014195350 AA	20160711	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014195350 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072

					EFFECTIVE DATE : 20160831
US2014195629 AA	20140710	LSPB	+	published / reissued	
US2014195629 AA	20140829	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : LICENSE; ASSIGNOR:FATDOOR, INC.; REEL/FRAME:033639/0355 EFFECTIVE DATE : 20140711
US2014195629 AA	20140915	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NEXTDOOR.COM, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GEOTAG, INC.; IP ANALYTICS; REEL/FRAME:033743/0411 EFFECTIVE DATE : 20140910
US2014195629 AA	20141118	LSRE	CC	CERTIFICATE OF CORRECTION	
US2014195629 AA	20150114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:NEXTDOOR.COM, INC.; REEL/FRAME:034702/0749 EFFECTIVE DATE : 20141202
US2014195629 AA	20151019	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:036886/0490 EFFECTIVE DATE : 20151013
US2014195629 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2014195629 AA	20180108	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US2014200963 AA	20140717	LSPB	+	published / reissued	
US2014200963 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0535 EFFECTIVE DATE : 20140707
US2014200963 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2014200963 AA	20180501	LSES	NFA1	Non Final Action Mailed	
US2014200963 AA	20181106	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014222577 AA	20140807	LSPB	+	published / reissued	
US2014222577 AA	20150318	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014222667 AA	20140807	LSPB	+	published / reissued	

US2014222667 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0530 EFFECTIVE DATE : 20140707
US2014222667 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2014222667 AA	20170323	LSES	NFA1	Non Final Action Mailed	
US2014222667 AA	20171005	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014222704 AA	20140807	LSPB	+	published / reissued	
US2014222704 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0763 EFFECTIVE DATE : 20140707
US2014222704 AA	20151028	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014222704 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2014236753 AA	20140821	LSPB	+	published / reissued	
US2014236753 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0512 EFFECTIVE DATE : 20140707
US2014236753 AA	20160531	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014236753 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2014236946 AA	20140821	LSPB	+	published / reissued	
US2014236946 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0990 EFFECTIVE DATE : 20140707
US2014236946 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072

					EFFECTIVE DATE : 20160831
US2014236946 AA	20170110	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014237053 AA	20140821	LSPB	+	published / reissued	
US2014237053 AA	20150204	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014237062 AA	20140821	LSPB	+	published / reissued	
US2014237062 AA	20150429	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014277900 AA	20140918	LSPB	+	published / reissued	
US2014277900 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0791 EFFECTIVE DATE : 20140707
US2014277900 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2014277900 AA	20170109	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014317696 AA	20141023	LSPB	+	published / reissued	
US2014317696 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2014317696 AA	20180405	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US2014330456 AA	20141106	LSPB	+	published / reissued	
US2014330456 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0800 EFFECTIVE DATE : 20140707
US2014330456 AA	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US2014330456 AA	20161227	LSES	NFA1	Non Final Action Mailed	
US2014330456 AA	20170801	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015019328 AA	20150115	LSPB	+	published / reissued	
US2015019328 AA	20141004	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST;

					ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033887/0589 EFFECTIVE DATE : 20141002
US2015019328 AA	20170613	LSES	NFA1	Non Final Action Mailed	
US2015019328 AA	20180112	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015161719 AA	20150611	LSPB	+	published / reissued	
US2015161719 AA	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0758 EFFECTIVE DATE : 20140707
US2015161719 AA	20151229	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015185034 AA	20150702	LSPB	+	published / reissued	
US2015185034 AA	20160822	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : LEGALFORCE, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR, INC.; REEL/FRAME:039492/0518 EFFECTIVE DATE : 20160819
US2015185034 AA	20160914	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015202770 AA	20150723	LSPB	+	published / reissued	
US2015202770 AA	20140524	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PATRON, ANTHONY; COLIN, YOUENN; BERTRAND, BLAISE; AND OTHERS; REEL/FRAME:032960/0269 EFFECTIVE DATE : 20140507
US2015202770 AA	20151125	LSES	NFA1	Non Final Action Mailed	
US2015202770 AA	20161212	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2016027307 AA	20160128	LSPB	+	published / reissued	
US2016027307 AA	20161222	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US7966567 BB	20110621	LSGT	+	granted / extensions (spc, cpc, pte)	
US7966567 BB	20070712	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ V.; REEL/FRAME:019631/0820 EFFECTIVE DATE : 20070712
US7966567 BB	20110601	LSGT	PAT1	Patented Case	
US7966567 BB	20111107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : COFFEE ROASTING CO., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:CENTER'D CORPORATION; REEL/FRAME:027186/0596 EFFECTIVE DATE : 20110729

US7966567 BB	20111107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:DEALMAP INC.; REEL/FRAME:027186/0682 EFFECTIVE DATE : 20111101
US7966567 BB	20111107	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DEALMAP INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:COFFEE ROASTING CO.; REEL/FRAME:027188/0569 EFFECTIVE DATE : 20110729
US7966567 BB	20141222	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7966567 BB	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US7966567 BB	20171005	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:GOOGLE INC.; REEL/FRAME:044129/0001 EFFECTIVE DATE : 20170929
US7966567 BB	20180207	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE ASSIGNEE NAME PREVIOUSLY RECORDED ON REEL 039917 FRAME 0072. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:045265/0574 EFFECTIVE DATE : 20180201
US7966567 BB	20181221	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7966567 BB	20300419	PEXP		Calculated Patent Term Expiry (PTA 1012 days)	
US8433609 BB	20130430	LSGT	+	granted / extensions (spc, cpc, pte)	
US8433609 BB	20111206	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : EATBID, INC.,, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ VASANT; REEL/FRAME:027329/0888 EFFECTIVE DATE : 20110922
US8433609 BB	20130410	LSGT	PAT1	Patented Case	
US8433609 BB	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US8433609 BB	20170430	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8433609 BB	20170529	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8433609 BB	20170529	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8433609 BB	20170620	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20170430

US8433609 BB	20311205	PEXP		Calculated Patent Term Expiry	
US8769393 BA	20140701	LSGT	+	granted / extensions (spc, cpc, pte)	
US8769393 BA	20140611	LSGT	PAT1	Patented Case	
US8769393 BA	20140611	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8769393 BA	20140617	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033114/0400 EFFECTIVE DATE : 20140617
US8769393 BA	20340307	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8775328 BA	20140708	LSGT	+	granted / extensions (spc, cpc, pte)	
US8775328 BA	20140617	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033114/0603 EFFECTIVE DATE : 20140617
US8775328 BA	20140618	LSGT	PAT1	Patented Case	
US8775328 BA	20140618	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8775328 BA	20340310	PEXP		Calculated Patent Term Expiry	
US8863245 BA	20141014	LSGT	+	granted / extensions (spc, cpc, pte)	
US8863245 BA	20140702	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033226/0913 EFFECTIVE DATE : 20140701
US8863245 BA	20140924	LSGT	PAT1	Patented Case	
US8863245 BA	20140924	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US8863245 BA	20340702	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8965409 BB	20150224	LSGT	+	granted / extensions (spc, cpc, pte)	
US8965409 BB	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0719 EFFECTIVE DATE : 20140707
US8965409 BB	20150204	LSGT	PAT1	Patented Case	
US8965409 BB	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831

US8965409 BB	20180821	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8965409 BB	20340428	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9002754 BB	20150407	LSGT	+	granted / extensions (spc, cpc, pte)	
US9002754 BB	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0527 EFFECTIVE DATE : 20140707
US9002754 BB	20150318	LSGT	PAT1	Patented Case	
US9002754 BB	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US9002754 BB	20340412	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9037516 BB	20150519	LSGT	+	granted / extensions (spc, cpc, pte)	
US9037516 BB	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0769 EFFECTIVE DATE : 20140707
US9037516 BB	20150429	LSGT	PAT1	Patented Case	
US9037516 BB	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US9037516 BB	20190107	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9037516 BB	20190624	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9037516 BB	20190624	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US9037516 BB	20190624	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US9037516 BB	20190716	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20190519
US9037516 BB	20340514	PEXP		Calculated Patent Term Expiry (PTA 18 days and a terminal disclaimer has been filed)	
US9064288 BB	20150623	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
US9064288 BB	20150603	LSGT	PAT1	Patented Case	
US9064288 BB	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US9064288 BB	20181214	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9064288 BB	20340227	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9070101 BB	20150630	LSGT	+	granted / extensions (spc, cpc, pte)	
US9070101 BB	20150610	LSGT	PAT1	Patented Case	
US9070101 BB	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US9070101 BB	20190218	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9070101 BB	20190805	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9070101 BB	20190805	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US9070101 BB	20190805	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US9070101 BB	20190827	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20190630
US9070101 BB	20340313	PEXP		Calculated Patent Term Expiry	
US9098545 BB	20150804	LSGT	+	granted / extensions (spc, cpc, pte)	
US9098545 BB	20070710	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ V.; REEL/FRAME:019631/0118 EFFECTIVE DATE : 20070710
US9098545 BB	20150715	LSGT	PAT1	Patented Case	
US9098545 BB	20151110	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : RAJ ABHYANKER PROFESSIONAL CORPORATION, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:036997/0608 EFFECTIVE DATE : 20151104
US9098545 BB	20160903	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ABHYANKER, RAJ, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST;

					ASSIGNOR:FATDOOR.COM, INC.; REEL/FRAME:039917/0072 EFFECTIVE DATE : 20160831
US9098545 BB	20190201	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9098545 BB	20190202	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9098545 BB	20300307	PEXP		Calculated Patent Term Expiry (PTA 971 days)	
US9459622 BB	20161004	LSGT	+	granted / extensions (spc, cpc, pte)	
US9459622 BB	20140804	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FATDOOR, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:ABHYANKER, RAJ; REEL/FRAME:033451/0506 EFFECTIVE DATE : 20140707
US9459622 BB	20160518	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9459622 BB	20160914	LSGT	PAT1	Patented Case	
US9459622 BB	20350320	PEXP		Calculated Patent Term Expiry (PTA 447 days)	

64) Family number: 69743331 (US2019261565A)

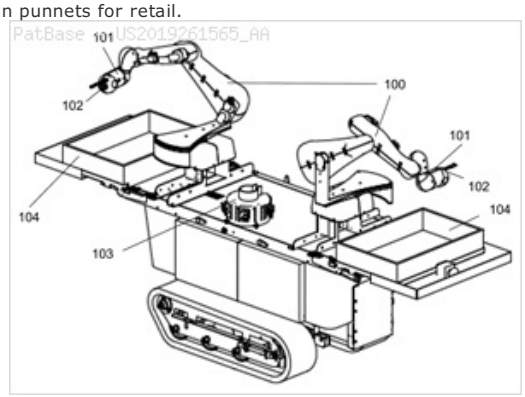
Title: ROBOTIC FRUIT PICKING SYSTEM

Abstract: A robotic fruit picking system includes an autonomous robot that includes a positioning subsystem that enables autonomous positioning of the robot using a computer vision guidance system. The robot also includes at least one picking arm and at least one picking head, or other type of end effector, mounted on each picking arm to either cut a stem or branch for a specific fruit or bunch of fruits or pluck that fruit or bunch. A computer vision subsystem analyses images of the fruit to be picked or stored and a control subsystem is programmed with or learns picking strategies using **machine** learning techniques. A quality control (QC) subsystem monitors the quality of fruit and grades that fruit according to size and/or quality. The robot has a storage subsystem for storing fruit in containers for storage or transportation, or in punnets for retail.

Classifications:

International (IPC 8-9)**:** A01D46/22 A01D46/24 A01D46/253 A01D46/28 A01D46/30 B25J11/00 B25J15/00 B25J9/16 G06K9/00 G06K9/62 G06Q30/02 G06T7/00 G06T7/11 G06T7/50 G06T7/60 G06T7/70 G06T7/90 (Advanced/Invention)

CPC: B25J9/0084 A01D46/28 G06T7/0004 G06K9/00664 G06T7/60 G06T7/11 G06T7/70 G06K9/6282 G06T7/90 G06T7/50 G06K9/626 G06K9/6257 G06Q30/0283 A01D46/253 A01D46/243 A01D46/22 G05B2219/45003 B25J15/0019 B25J9/1679 B25J9/1697 B25J11/00 B25J9/06 B25J15/0033 G05D1/0219 G05D2201/0201 G06K2209/17 G06T2207/10048 G06T2207/20081 G06T2207/20084 G06T2207/30128 A01G9/143 A01D46/30 Y02A40/252



Family:

Publication number	Publication date	Application number	Application date
AU2017357645 AA	20190523	AU20170357645	20171108
CN110139552 A	20190816	CN201780075870	20171108
EP3537867 A1	20190918	EP20170817016	20171108
US2019261565 AA	20190829	US20190406482	20190508
US2019261566 AA	20190829	US20190406505	20190508
WO18087546 A1	20180517	WO2017GB53367	20171108

Priority:

GB20160018809 20161108 WO2017GB53367 20171108 US20190406482 20190508 US20190406505 20190508

Probable Assignee: DOGTOOTH TECH LTD

Assignee(s): (std)**:** DOGTOOTH TECH LTD

Assignee(s): DOGTOOTH TECHNOLOGIES LTD

Inventor(s): (std)**:** ROBERTSON DUNCAN ; COOK MATTHEW ; HERBERT EDWARD ; TULLY FRANK

Agent(s): DAVIES COLLISON CAVE PTY LTD; LANGLEY PETER JAMES; ORIGIN LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE 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
AU2017357645 AA	20190523	LSPB	+	published / reissued	
CN110139552 A	20190816	LSPB	+	published / reissued	
CN110139552 A	20190816	LSPB	PB01	PUBLICATION	
EP3537867 A1	20190918	LSPB	+	published / reissued	
EP3537867 A1	20190918	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190611
US2019261565 AA	20190829	LSPB	+	published / reissued	
US2019261565 AA	20190711	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DOGTOOTH TECHNOLOGIES LIMITED, GREAT BRITAIN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROBERTSON, DUNCAN; COOK, MATTHEW; HERBERT, EDWARD; AND OTHERS;

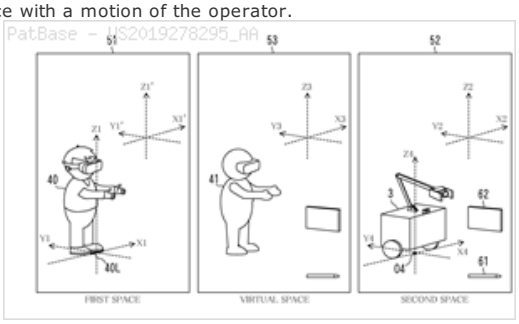
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US2019261565 AA	20190910	LSES	NFA1	Non Final Action Mailed	
US2019261566 AA	20190829	LSPB	+	published / reissued	
US2019261566 AA	20190711	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DOGTOOTH TECHNOLOGIES LIMITED, GREAT BRITAIN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROBERTSON, DUNCAN; COOK, MATTHEW; HERBERT, EDWARD; AND OTHERS; REEL/FRAME:049723/0479 EFFECTIVE DATE : 20190702
US2019261566 AA	20190716	LSES	NFA1	Non Final Action Mailed	
WO18087546 A1	20180517	LSPB	+	published / reissued	
WO18087546 A1	20190509	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18087546 A1	20190523	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017357645 COUNTRY OF REF DOCUMENT : AU DATE OF REF DOCUMENT : 20171108 KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO18087546 A1	20190614	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017817016 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190611

65) Family number: 69908343 (US2019278295A)

Title: ROBOT CONTROL SYSTEM, **MACHINE** CONTROL SYSTEM, ROBOT CONTROL METHOD, **MACHINE** CONTROL METHOD, AND RECORDING MEDIUM

Abstract: An operation computer displays, in a display such as a head-mounted display, a field of view image that shows what appears in a field of view of an operator if the operator present in a first space is in a second space where a robot is present. The operation computer then controls the robot to perform a task in accordance with a motion of the operator.

Classifications:
International (IPC 8-9): B25J13/06 B25J9/22 G05D1/02 G06F3/01 G06T19/00 G09B9/02 (Advanced/Invention)
CPC: G05D1/0276 G06F3/011 G09B9/02 B25J13/06 G06T19/003 G06T19/00
JP F-Term: 3C707 3C707/CS08 3C707/JS03 3C707/JT10 3C707/JU03 3C707/JU12 3C707/JU14 3C707/WA16 5B050 5B050/BA09 5B050/BA11 5B050/CA08 5B050/EA05 5B050/EA07 5B050/EA27 5B050/FA02 5B050/FA06
JP F-Index: B25J9/22/A G06T19/00/300/A



Family:

Publication number	Publication date	Application number	Application date
CN109983510 A	20190705	CN201780072485	20171124
EP3547267 A1	20191002	EP20170873066	20171124
IN201917023020 A	20190802	IN201917023020	20190611
JP2018097223 A1	20191017	JP20180552962T	20171124
US2019278295 AA	20190912	US20190422489	20190524
WO18097223 A1	20180531	WO2017JP42155	20171124

Priority:
JP20160227546 20161124 WO2017JP42155 20171124 US20190422489 20190524

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN109983510 A	20190705	LSPB	+	published / reissued	
CN109983510 A	20190705	LSPB	PB01	PUBLICATION	
EP3547267 A1	20191002	LSPB	+	published / reissued	
EP3547267 A1	20191002	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190618
IN201917023020 A	20190802	LSPB	+	published / reissued	
JP2018097223 A1	20191017	LSPB	+	published / reissued	
JP2018097223 A1	20190521	LSRE	A529	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 34 (PCT)	TEXT : JAPANESE INTERMEDIATE CODE: A5211 EFFECTIVE DATE : 20190521
JP2018097223 A1	20190604	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190604
JP2018097223 A1	20190701	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20190613

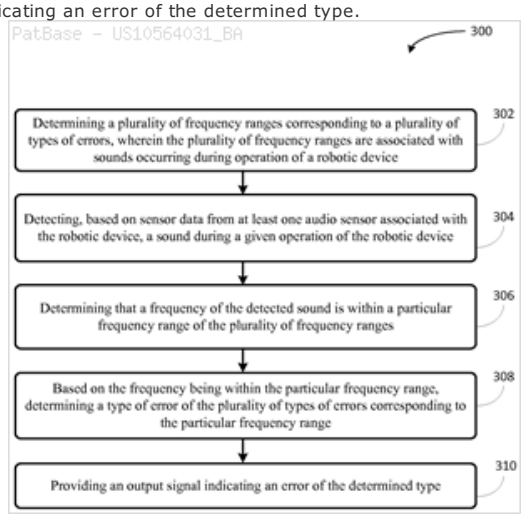
US2019278295 AA	20190912	LSPB	+	published / reissued	
US2019278295 AA	20190604	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KYOTO UNIVERSITY, JAPAN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MATSUNO, FUMITOSHI; MURATA, RYOSUKE; ENDO, TAKAHIRO; SIGNING DATES FROM 20190507 TO 20190515; REEL/FRAME:049365/0574
WO18097223 A1	20180531	LSPB	+	published / reissued	
WO18097223 A1	20190521	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018552962 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO18097223 A1	20190525	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18097223 A1	20190628	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017873066 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190624

66) Family number: 77694346 (US10564031B)

Title: METHODS AND SYSTEMS FOR DETERMINING ERRORS BASED ON DETECTED SOUNDS DURING OPERATION OF A ROBOTIC **DEVICE**

Abstract: An example method includes determining a plurality of frequency ranges corresponding to a plurality of types of errors, where the plurality of frequency ranges are associated with sounds occurring during operation of a robotic **device**. The method also includes detecting, based on sensor data from at least one audio sensor of the robotic **device**, a sound during a given operation of the robotic **device**. The method also includes determining that a frequency of the detected sound is within a particular frequency range of the plurality of frequency ranges. Based on the frequency being within the particular frequency range, the method also includes determining a type of error of the plurality of types of errors corresponding to the particular frequency range. The method also includes providing an output signal indicating an error of the determined type.

Classifications:
International (IPC 8-9): B25J9/16 G01H3/08 G01M13/00 (Advanced/Invention)
CPC: G01H3/08 B25J9/1674 G01M13/00



Family:

Publication number	Publication date	Application number	Application date
US10564031 BA	20200218	US20150833792	20150824

Priority:

US20150833792 20150824

Probable Assignee: X DEVELOPMENT LLC
Assignee(s): GOOGLE INC ; X DEVELOPMENT LLC
Inventor(s): GUILBERT MATTHIEU ; LATIMER CRAIG ; STOIA LAURA
Agent(s): MCDONNELL BOEHNEN HULBERT AND BERGHOFF LLP

Legal status (INPADOC)

View legal status timeline

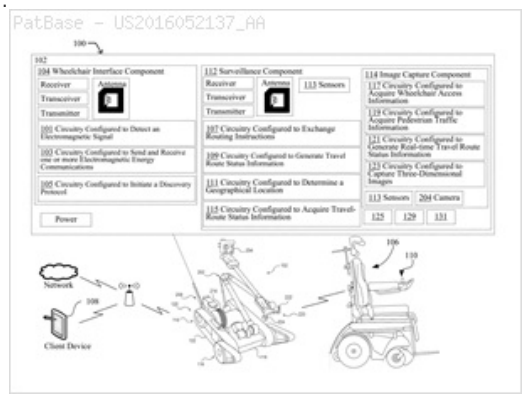
Patent	Date recorded	Event group	Code	Event	Details
US10564031 BA	20200218	LSGT	+	granted / extensions (spc, cpc, pte)	
US10564031 BA	20350824	PEXP		Calculated Patent Term Expiry	

67) Family number: 61741352 (US2016052137A)

Title: SYSTEMS, **DEVICES**, AND METHODS INCLUDING A WHEELCHAIR-**ASSIST** ROBOT

Abstract: Systems, **devices**, and methods are described for providing, among other things, a wheelchair-**assist** robot for **assisting** a wheelchair user with everyday tasks or activities at **work**, at home, and the like. In an embodiment, the mobile wheelchair-**assist** robot includes a wheelchair interface component configured to exchange control information with a wheelchair controller. In an embodiment, a wheelchair-**assist** robot mount assembly is provided for, among other things, electrically and physically coupling a wheelchair-**assist** robot to an associated wheelchair.

Classifications:
International (IPC 8-9): A61G5/04 A61G5/10 B25J11/00 B25J19/02 B25J5/00 B25J9/16 B62D57/024 G01C22/00 G05D1/00 G05D1/02 G06F19/00 (Advanced/Invention)
CPC: B25J11/009 G05D1/0094 G05D1/0276 B25J9/1697 G05D2201/0206 A61G5/047 A61G5/10 B25J5/005 B25J19/023 B62D57/024 G05D1/0016 G05D1/0242 G05D1/0246 G05D1/0257
US: 1/1 701/24 701/28



Family:

Publication number	Publication date	Application number	Application date
US2016052137 AA	20160225	US20140465731	20140821
US2016199983 AA	20160714	US20160064179	20160308
US9314928 BB	20160419	US20140465731	20140821
US9724829 BB	20170808	US20160064179	20160308

Priority:
US20140465731 20140821 US20160064179 20160308

Probable Assignee: ELWHA LLC
Assignee(s): (std): ELWHA LLC
Inventor(s): (std): LORD ROBERT W ; LORD RICHARD T ; LEUTHARDT ERIC C ; RIVET DENNIS J ; KARE JORDIN T ; HYDE RODERICK A ; WOOD JR LOWELL L ; TEGREENE CLARENCE T
Agent(s): DANIEL J; ADVENT LLP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2016052137 AA	20160225	LSPB	+	published / reissued	
US2016052137 AA	20160330	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016199983 AA	20160714	LSPB	+	published / reissued	
US2016199983 AA	20170327	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016199983 AA	20170629	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2016199983 AA	20170630	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016199983 AA	20170719	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9314928 BB	20160419	LSGT	+	granted / extensions (spc, cpc,	

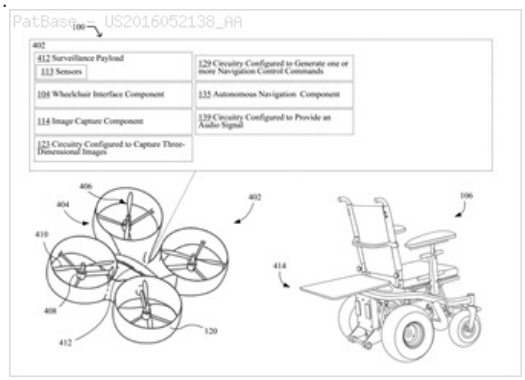
				pte)	
US9314928 BB	20150318	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ELWHA LLC, WASHINGTON OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HYDE, RODERICK A.; KARE, JORDIN T.; LEUTHARDT, ERIC C.; AND OTHERS; SIGNING DATES FROM 20140924 TO 20150318; REEL/FRAME:035194/0826
US9314928 BB	20160330	LSGT	PAT1	Patented Case	
US9314928 BB	20191209	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9314928 BB	20340821	PEXP		Calculated Patent Term Expiry	
US9724829 BB	20170808	LSGT	+	granted / extensions (spc, cpc, pte)	
US9724829 BB	20170719	LSGT	PAT1	Patented Case	
US9724829 BB	20360308	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	

68) Family number: 61741353 (US2016052138A)

Title: SYSTEMS, **DEVICES**, AND METHODS INCLUDING A WHEELCHAIR-**ASSIST** ROBOT

Abstract: Systems, **devices**, and methods are described for providing, among other things, a wheelchair-**assist** robot for **assisting** a wheelchair user with everyday tasks or activities at **work**, at home, and the like. In an embodiment, the mobile wheelchair-**assist** robot includes a wheelchair interface component configured to exchange control information with a wheelchair controller. In an embodiment, a wheelchair-**assist** robot mount assembly is provided for, among other things, electrically and physically coupling a wheelchair-**assist** robot to an associated wheelchair.

Classifications:
International (IPC 8-9): A61G5/10 B25J11/00 B25J9/16 G05D1/00 G05D1/02 (Advanced/Invention);
A61G5/04 (Advanced/Non-invention)
CPC: B25J9/1697 A61G5/04 A61G5/10 A61G5/1094 B64C2201/027 B64C2201/108 B64C2201/127 G05D1/0016 G05D1/0242 G05D1/0246 G05D1/0257 G05D1/0276 G05D2201/0206
US: 701/3



Family:

Publication number	Publication date	Application number	Application date
US2016052138 AA	20160225	US20140465751	20140821
US10099379 BB	20181016	US20140465751	20140821

Priority:

US20140465751 20140821

Probable Assignee: ELWHA LLC

Assignee(s): (std): ELWHA LLC

Inventor(s): (std): TEGREENE CLARENCE T ; WOOD JR LOWELL L ; HYDE RODERICK A ; KARE JORDIN T ; RIVET DENNIS J ; LEUTHARDT ERIC C ; LORD RICHARD T ; LORD ROBERT W

Inventor(s): WOOD JR

Agent(s): HONZ DANIEL J; ADVENT LLP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US10099379 BB	20181016	LSGT	+	granted / extensions (spc, cpc, pte)	
US10099379 BB	20150318	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ELWHA LLC, WASHINGTON OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HYDE, RODERICK A.; KARE, JORDIN T.; LEUTHARDT, ERIC C.; AND OTHERS; SIGNING DATES FROM 20140921 TO 20150318; REEL/FRAME:035195/0063
US10099379 BB	20180926	LSGT	PAT1	Patented Case	
US10099379 BB	20351224	PEXP		Calculated Patent Term Expiry (PTA 490 days)	
US2016052138 AA	20160225	LSPB	+	published / reissued	
US2016052138 AA	20170113	LSAL	APL5	On Appeal -- Awaiting Decision by the Board of Appeals	
US2016052138 AA	20171030	LSAL	BDR1	Board of Appeals Decision Rendered	
US2016052138 AA	20171212	LSES	-NFA2	Non Final Action	

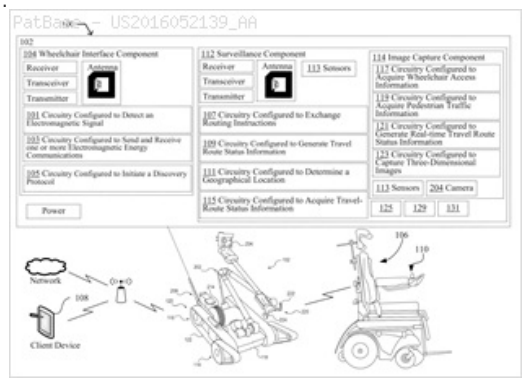
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US2016052138 AA	20180608	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016052138 AA	20180611	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016052138 AA	20180926	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

69) Family number: 61741354 (US2016052139A)

Title: SYSTEMS, **DEVICES**, AND METHODS INCLUDING A WHEELCHAIR-**ASSIST** ROBOT

Abstract: Systems, **devices**, and methods are described for providing, among other things, a wheelchair-**assist** robot for **assisting** a wheelchair user with everyday tasks or activities at **work**, at home, and the like. In an embodiment, the mobile wheelchair-**assist** robot includes a wheelchair interface component configured to exchange control information with a wheelchair controller. In an embodiment, a wheelchair-**assist** robot mount assembly is provided for, among other things, electrically and physically coupling a wheelchair-**assist** robot to an associated wheelchair.

Classifications:
International (IPC 8-9): B25J11/00 B25J9/16 G05D1/00 G05D1/02 G06F19/00 (Advanced/Invention)
CPC: B25J11/009 G05D2201/0206 B25J5/005 A61G5/047 A61G5/10 G05D1/0225 G05D1/0246 B25J9/1697 G05D1/0094 G05D1/0276
US: 1/1 701/24



Family:

Publication number	Publication date	Application number	Application date
US2016052139 AA	20160225	US20140465758	20140821
US9314929 BB	20160419	US20140465758	20140821

Priority:

US20140465758 20140821

Probable Assignee: ELWHA LLC

Assignee(s): (std): ELWHA LLC

Inventor(s): (std): TEGREENE CLARENCE T ; WOOD JR LOWELL L ; HYDE RODERICK A ; KARE JORDIN T ; RIVET DENNIS J ; LEUTHARDT ERIC C ; LORD RICHARD T ; LORD ROBERT W

Agent(s): DANIEL J; ADVENT LLP

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2016052139 AA	20160225	LSPB	+	published / reissued	
US2016052139 AA	20160330	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9314929 BB	20160419	LSGT	+	granted / extensions (spc, cpc, pte)	
US9314929 BB	20150318	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ELWHA LLC, WASHINGTON OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HYDE, RODERICK A.; KARE, JORDIN T.; LEUTHARDT, ERIC C.; AND OTHERS; SIGNING DATES FROM 20140924 TO 20150318; REEL/FRAME:035195/0331
US9314929 BB	20151210	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9314929 BB	20160330	LSGT	PAT1	Patented Case	
US9314929 BB	20191209	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9314929 BB	20340821	PEXP		Calculated Patent Term	

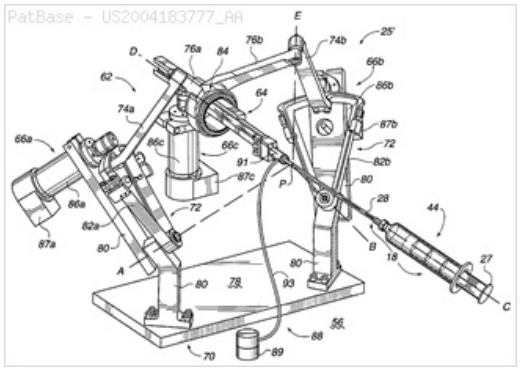
Expiry

70) Family number: 12059368 (US2004183777A)

Title: METHOD AND APPARATUS FOR PROVIDING AN INTERFACE MECHANISM FOR A COMPUTER SIMULATION

Abstract: A mechanical interface for providing high bandwidth and low noise mechanical input and output for computer systems. A gimbal mechanism includes multiple members that are pivotably coupled to each other to provide two revolute degrees of freedom to a user manipulatable about a pivot point located remotely from the members at about an intersection of the axes of rotation of the members. A linear axis member, coupled to the user object, is coupled to at least one of the members, extends through the remote pivot point and is movable in the two rotary degrees of freedom and a third linear degree of freedom. Transducers associated with the provided degrees of freedom include sensors and actuators and provide an electromechanical interface between the object and a computer. Capstan band drive mechanisms transmit forces between the transducers and the object and include a capstan and flat bands, where the flat bands transmit motion and force between the capstan and interface members. Applications include simulations of medical procedures, e.g. epidural anesthesia, where the user object is a needle or other medical instrument, or other types of simulations or games.

Classifications:
International (IPC 8-9): A61B19/00 A61B34/00 B25J9/18 G05G9/04 G05G9/047 G06F3/00 G06F3/03 G09B23/28 G09G5/00 (Advanced/Invention)
International (IPC 1-7): A61B19/00 B25J1/00 G05G9/047 G06F3/00 G06K11/18 G09B23/28 G09G5/00 G09G5/08
CPC: A61B34/70 A61B34/71 A61B34/76 A61B2034/742 G09B23/285 G05G9/04 G06F3/016 G06F3/0338 G06F3/05
European: A61B19/22 G05G9/04 G06F3/01F G06F3/0338 G06F3/05 G09B23/28E K61B19/22D K61B19/22J4 K61B19/22N
US: 345/156 345/156P 345/158 345/161 345/184 414/5 434/262 434/262P



Family:

Publication number	Publication date	Application number	Application date
CA2265590 AA	19990305	CA19972265590	19970904
US2004183777 AA	20040923	US20040797155	20040311
US2006194180 AA	20060831	US20060412290	20060426
US6024576 A	20000215	US19960709012	19960906
US6705871 BA	20040316	US19990448536	19991122
US7249951 BB	20070731	US20040797155	20040311
US7500853 BB	20090310	US20060412290	20060426
WO9809580 A1	19980312	WO1997US15656	19970904

Priority:

US19960709012 19960906 WO1997US15656 19970904 US19990448536 19991122
US20040797155 20040311 US20060412290 20060426

Probable Assignee: IMMERSION CORP

Assignee(s): (std): IMMERSION CORP ; IMMERSION HUMAN INTERFACE CORP ; MOORE DAVID F ; NORWOOD JOHN Q ; LEVIN MIKE D ; BEVIRT JOEBEN ; ROSENBERG LOUIS B

Assignee(s): IMMERSION DELAWARE CORPORATION CORP ; IMMERSION (A DELAWARE CORPORATION) CORP ; IMMERSION (DELAWARE CORPORATION) CORP ; IMMERSION A DELAWARE CORP CORP ; IMMERSION A DELAWARE CORPORATION CORP ; IMMERSION DELAWARE D B A IMMERSION CORP ; IMMERSION DELAWARE CORP CORP

Inventor(s): (std): LEVIN MIKE D ; ROSENBERG LOUIS B ; NORWOOD JOHN Q ; MOORE DAVID F ; BEVIRT JOEBEN

Inventor(s): ROSENBERG LOUIS ; LEVIN MIKE ; NORWOOD JOHN ; MOORE DAVID

Agent(s): SMART AND BIGGAR; IMMERSION THELEN REID AND PRIEST LLP THELEN REID AND PRIEST LLP; DAVID B; THELEN REID BROWN RAYSMAN AND STEINER LLP; NIXON PEABODY LLP; RITCHIE DAVID B

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2265590 AA	19990305	LSPB	+	published / reissued	
CA2265590 AA	19990915	LSES	+EEER	EXAMINATION REQUEST	
CA2265590 AA	20020904	LSLE	-FZDE	DEAD	
US2004183777 AA	20040923	LSPB	+	published / reissued	
US2004183777 AA	20070711	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2006194180 AA	20060831	LSPB	+	published / reissued	

US2006194180 AA	20080116	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION CORPORATION, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:IMMERSION HUMAN INTERFACE CORPORATION; REEL/FRAME:020374/0035 EFFECTIVE DATE : 19980406
US2006194180 AA	20080118	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION CORPORATION (A DELAWARE CORPORATION), CA OLDPARTY : MERGER; ASSIGNOR:IMMERSION CORPORATION (A CALIFORNIA CORPORATION); REEL/FRAME:020388/0487 EFFECTIVE DATE : 19991102
US2006194180 AA	20090218	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6024576 A	20000215	LSGT	+	granted / extensions (spc, cpc, pte)	
US6024576 A	19961217	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION HUMAN INTERFACE CORPORATION, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BEVIRT, JOEBEN; MOORE, DAVID F.; NORWOOD, JOHN Q.; AND OTHERS; REEL/FRAME:008286/0720; SIGNING DATES FROM 19961126 TO 19961211
US6024576 A	19981026	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION CORPORATION, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:IMMERSION HUMAN INTERFACE CORPORATION; REEL/FRAME:009556/0335 EFFECTIVE DATE : 19980406
US6024576 A	20000113	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION CORPORATION (DELAWARE CORPORATION), CALI OLDPARTY : MERGER; ASSIGNOR:IMMERSION CORPORATION (CALIFORNIA CORPORATION); REEL/FRAME:010310/0885 EFFECTIVE DATE : 19991102
US6024576 A	20000202	LSGT	PAT1	Patented Case	
US6024576 A	20000202	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6024576 A	20030815	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6024576 A	20070815	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6024576 A	20110815	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6024576 A	20160906	PEXP		Calculated Patent Term Expiry	
US6705871 BA	20040316	LSGT	+	granted / extensions (spc, cpc, pte)	
US6705871 BA	20040226	LSGT	PAT1	Patented Case	
US6705871 BA	20040226	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6705871 BA	20040311	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION CORPORATION (DELAWARE CORPORATION), CALI OLDPARTY : MERGER; ASSIGNOR:IMMERSION CORPORATION (CALIFORNIA CORPORATION); REEL/FRAME:015071/0223 EFFECTIVE DATE : 19991102

US6705871 BA	20070915	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6705871 BA	20100325	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION HUMAN INTERFACE CORPORATION,CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BEVIRT, JOEBEN; MOORE, DAVID F; NORWOOD, JOHN Q; AND OTHERS; SIGNING DATES FROM 19961126 TO 19961211; REEL/FRAME:024140/0084
US6705871 BA	20100518	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION CORPORATION,CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:IMMERSION HUMAN INTERFACE CORPORATION; REEL/FRAME:024402/0432 EFFECTIVE DATE : 19980406
US6705871 BA	20100518	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION CORPORATION, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:IMMERSION HUMAN INTERFACE CORPORATION; REEL/FRAME:024402/0432 EFFECTIVE DATE : 19980406
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US6705871 BA	20150916	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6705871 BA	20191122	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US7249951 BB	20070731	LSGT	+	granted / extensions (spc, cpc, pte)	
US7249951 BB	20040311	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION HUMAN INTERFACE CORPORATION, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BEVIRT, JOEBEN; MOORE, DAVID F.; NORWOOD, JOHN Q.; AND OTHERS; REEL/FRAME:015071/0279; SIGNING DATES FROM 19961126 TO 19961211
US7249951 BB	20040311	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION CORPORATION, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:IMMERSION HUMAN INTERFACE CORPORATION; REEL/FRAME:015071/0200 EFFECTIVE DATE : 19980406
US7249951 BB	20070711	LSGT	PAT1	Patented Case	
US7249951 BB	20100518	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION CORPORATION DELAWARE D/B/A IMMERSION COR OLDPARTY : MERGER; ASSIGNOR:IMMERSION CORPORATION; REEL/FRAME:024402/0497 EFFECTIVE DATE : 19991102
US7249951 BB	20110131	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7249951 BB	20150202	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7249951 BB	20190318	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7249951 BB	20190902	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY	TEXT : PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES

				MAINTENANCE FEES	(ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7249951 BB	20190902	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7249951 BB	20190902	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7249951 BB	20190924	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20190731
US7249951 BB	20240704	PEXP		Calculated Patent Term Expiry (PTA 115 days)	
US7500853 BB	20090310	LSGT	+	granted / extensions (spc, cpc, pte)	
US7500853 BB	20060614	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : IMMERSION HUMAN INTERFACE CORPORATION, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BEVIRT, JOEBEN; MOORE, DAVID F.; NORWOOD, JOHN Q.; AND OTHERS; REEL/FRAME:017792/0883; SIGNING DATES FROM 19961126 TO 19961211
US7500853 BB	20090218	LSGT	PAT1	Patented Case	
US7500853 BB	20120910	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7500853 BB	20160912	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7500853 BB	20270303	PEXP		Calculated Patent Term Expiry (PTA 311 days and a terminal disclaimer has been filed)	
WO9809580 A1	19980312	LSPB	+	published / reissued	
WO9809580 A1	19990305	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2265590 COUNTRY OF REF DOCUMENT : CA
WO9809580 A1	19990305	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2265590 COUNTRY OF REF DOCUMENT : CA KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO9809580 A1	19990604	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 1998512929 COUNTRY OF REF DOCUMENT : JP
WO9809580 A1	20000126	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF COUNTRY CODE : WO

71) Family number: 70855371 (WO18189221A2)

Title: MANUFACTURING STATION, MANUFACTURING PROCESS AND MANUFACTURING PLANT

Abstract: The invention relates to an automatic manufacturing station (5) for workpieces (2), in particular for **vehicle** body parts, comprising a manufacturing zone (6) that is surrounded by a protective enclosure (7) and includes a plurality of program-controlled manufacturing robots (12), the workpieces (2) being delivered to the manufacturing station (5) from outside on production load carriers (11). The manufacturing station (5) further comprises a station-based conveying means (15) for conveying the production load carriers (11) within the manufacturing station (5), and a loading station (8) with a loading robot (17, 18) for transferring production load carriers (11) between an external conveying means (10) and the station-based conveying means (15).

Classifications:
International (IPC 8-9)**:** B23P21/00 B23P23/06 B23Q7/14 B25J19/06 B62D65/02 B62D65/18 B65G37/00 (Advanced/Invention)
CPC: B23P21/00 B23P21/004 B23P2700/50 B62D65/022 B62D65/18

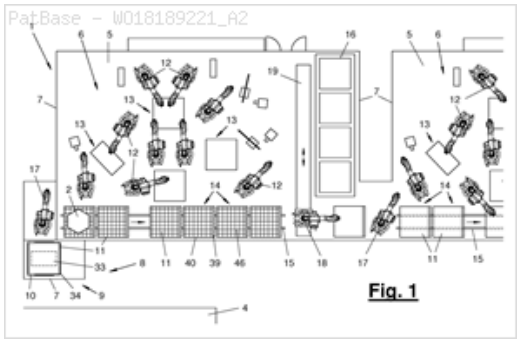


Fig. 1

Family:

Publication number	Publication date	Application number	Application date
DE202017102155 U1	20180830	DE201720102155U	20170411
EP3609773 A2	20200219	EP20180720983	20180411
WO18189221 A2	20181018	WO2018EP59240	20180411
WO18189221 A3	20181213	WO2018EP59240	20180411

Priority:
DE201720102155U 20170411 WO2018EP59240 20180411

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

Legal status (INPADOC)

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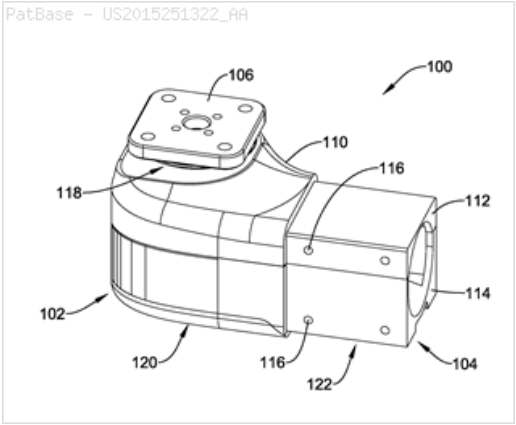
Patent	Date recorded	Event group	Code	Event	Details
DE202017102155 U1	20180830	LSGT	+	granted / extensions (spc, cpc, pte)	
DE202017102155 U1	20180830	LSGT	R207	UTILITY MODEL SPECIFICATION	
DE202017102155 U1	20270411	PEXP		Calculated Patent Term Expiry	
EP3609773 A2	20200219	LSPB	+	published / reissued	
WO18189221 A2	20181018	LSPB	+	published / reissued	
WO18189221 A3	20191012	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO18189221 A3	20191115	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018720983 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20191111

72) Family number: 60278376 (US2015251322A)

Title: MOUNTING AND POSITIONING APPARATUS FOR INCREASED USER INDEPENDENCE

Abstract: An accessibility-enhancing joint module may include a housing, a powered motor disposed within the housing, a rotatable receiving member operatively connected to the powered motor, a coupling element configured to attach to the receiving member, and a control board disposed within the housing and operatively connected to the powered motor, wherein the coupling element is disposed external to the housing. An accessibility-enhancing arm assembly may include a first joint module and a second joint module and a tubular arm member attached to the proximal mounting portion of the first joint module and the proximal mounting portion of the second joint module, each joint module including a housing having a body portion and a proximal mounting portion, a powered motor disposed within the housing, and a rotatable receiving member operatively connected to the powered motor. The joint module(s) and/or the arm assembly may be operable by a variety of accessible controls.

Classifications:
International (IPC 8-9): A61G5/10 B25J11/00 B25J13/00 B25J17/00 B25J17/02 B25J9/06 B25J9/10 B25J9/12 F16M13/02 (Advanced/Invention); A61G7/05 (Advanced/Non-invention)
CPC: B25J11/008 B25J13/006 Y10S901/15 Y10S901/23 Y10S901/25 Y10S901/28 Y10T403/32557 Y10T403/32975 B25J9/102 A61G12/001 F16M11/10 F16M11/18 F16M11/2014 F16M11/28 A61G5/10 A61G5/1094 A61G7/0503 B25J9/06 B25J17/0241 Y10T74/20317
US: 403/113 403/164 74/490.03 901/15 901/23 901/25 901/28



Family:

Publication number	Publication date	Application number	Application date
US2015251322 AA	20150910	US20140586618	20141230
US2015252940 AA	20150910	US20140536612	20141108
US9844871 BB	20171219	US20140586618	20141230

Priority:
US20140948304P 20140305 US20140536612 20141108 US20140586618 20141230

Probable Assignee: BLUESKY DESIGNS INC
Assignee(s): (std): BLUESKY DESIGNS INC
Inventor(s): (std): LEE NICHOLAS K ; STONE MARTIN W ; GOODWIN DIANNE M ; BROWN KARL W
Agent(s): SEAGER TUFTE AND WICKHEM LLP

Legal status (INPADOC)

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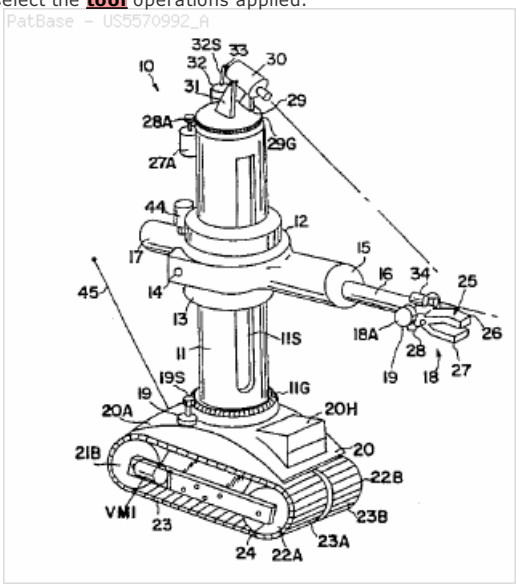
Patent	Date recorded	Event group	Code	Event	Details
US2015251322 AA	20150910	LSPB	+	published / reissued	
US2015251322 AA	20170125	LSES	NFA1	Non Final Action Mailed	
US2015251322 AA	20170814	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015251322 AA	20171115	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2015251322 AA	20171116	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2015251322 AA	20171129	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015252940 AA	20150910	LSPB	+	published / reissued	

US2015252940 AA	20141108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BLUESKY DESIGNS, INC., MINNESOTA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GOODWIN, DIANNE M.; STONE, MARTIN W.; LEE, NICHOLAS K.; AND OTHERS; SIGNING DATES FROM 20141029 TO 20141030; REEL/FRAME:034131/0562
US2015252940 AA	20170601	LSES	NFA1	Non Final Action Mailed	
US2015252940 AA	20171210	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US9844871 BB	20171219	LSGT	+	granted / extensions (spc, cpc, pte)	
US9844871 BB	20171129	LSGT	PAT1	Patented Case	
US9844871 BB	20350829	PEXP		Calculated Patent Term Expiry (PTA 242 days)	

73) Family number: 33533377 (US5570992A)

Title: FREE-TRAVELING MANIPULATOR WITH OPTICAL FEEDBACK CONTROL AND METHODS

Abstract: An automatic, controlled manipulator includes a moveable **tool** head on an arm and a **tool** supported at the end of the arm. The manipulator may be moveable in multiple or all directions. A storage for remotely generated control signals can be accessed to control motors causing 3D motion of the **tool** head, attachment of the **tool**, and (if applicable) motion of the manipulator, and also to control power to operate the **tool**. Video signals generated at the manipulator are used to identify the workpiece, to select one of a plurality of stored control programs, and to select the **tool** operations applied.



Classifications:
International (IPC 8-9): B23Q11/10 B23Q41/00 B25J15/04 B25J19/02 B25J5/00 B25J9/00 B25J9/04 B25J9/10 B25J9/16 B66C23/00 G05B19/14 G05B19/418 G05B19/425 G06K13/26 G06K7/04 G11B15/18 G11B15/58 G11B27/10 G11B27/28 H03D13/00 H04L27/16 (Advanced/Invention)
International (IPC 1-7): B66C23/00
CPC: B23Q11/10 B23Q41/00 B25J5/005 B25J9/0084 B25J9/0093 B25J9/041 B25J9/1015 B25J9/161 B25J15/0491 B25J19/021 B25J19/023 G05B19/14 G05B19/41815 G05B19/425 G05B2219/33192 G05B2219/33207 G05B2219/36395 G05B2219/36511 G05B2219/36513 G05B2219/37553 G05B2219/37572 G05B2219/40283 G05B2219/40284 G05B2219/40298 G05B2219/41249 G05B2219/45045 G05B2219/45051 G05B2219/45083 G05B2219/45213 G05B2219/49395 G06K7/04 G06K13/26 G11B15/1883 G11B15/58 G11B27/102 G11B27/28 H03D13/005 H04L27/16 Y02P90/08
European: B23Q11/10 B23Q41/00 B25J15/04R B25J19/02B B25J19/02B4 B25J5/00T B25J9/00P B25J9/00T B25J9/04B B25J9/10A3 B25J9/16C3 G05B19/14 G05B19/418C G05B19/425 G06K13/26 G06K7/04 G11B15/18C G11B15/58 G11B27/10A G11B27/28 H03D13/00C H04L27/16 S05B219/33192 S05B219/33207 S05B219/36395 S05B219/36511 S05B219/36513 S05B219/37553 S05B219/37572 S05B219/40283 S05B219/40284 S05B219/40298 S05B219/41249 S05B219/45045 S05B219/45051 S05B219/45083 S05B219/45213 S05B219/49395
US: 414/744.3 901/1 901/32 901/41 901/9

Family:

Publication number	Publication date	Application number	Application date
US5570992 A	19961105	US19950480114	19950607

Priority:

US19540449874 19540728
US19610152702 19611017
US19650465812 19650408
US19680717065 19680312
US19740436073 19740124
US19780910998 19780530
US19810251656 19810406
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US19640387954 19640806
US19680712443 19680312
US19710107357 19710118
US19760753321 19761220
US19800200347 19801024
US19880249404 19880923
US19950480114 19950607

Probable Assignee: LEMELSON JEROME H
Assignee(s): LEMELSON JEROME H
Inventor(s): (std): LEMELSON JEROME H

Legal status (INPADOC)

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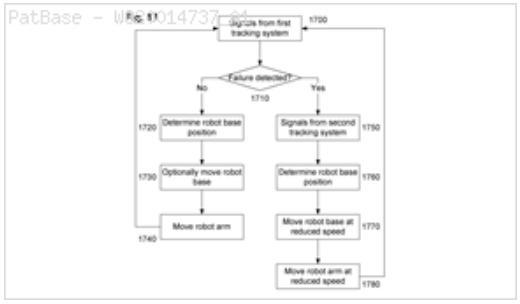
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US5570992 A	19960930	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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US5570992 A	20040414	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5570992 A	20080505	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5570992 A	20150607	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	

74) Family number: 77409390 (WO20014737A1)

Title: BACKUP TRACKING FOR AN INTERACTION SYSTEM

Abstract: A system for performing interactions within a physical environment including: a robot base that undergoes movement relative to the environment; a robot arm mounted to the robot base, the robot arm including an end effector mounted thereon; a first tracking system that measures a robot base position; a second tracking system that measures movement of the robot base; and, a control system that uses a robot base position to at least partially control the robot arm to move the end effector along an end effector path, wherein the control system: determines the robot base position at least in part using signals from the first tracking system; and, in the event of failure of the first tracking system: determines a robot base position using signals from the second tracking system; and, controls the robot arm to move the end effector along the end effector path at a reduced end effector speed.

Classifications:
International (IPC 8-9): B25J13/08 B25J5/00 B25J9/16 B66C13/22 B66C13/48 E04G21/22 G01S17/66 G05B19/19 G05D1/02 (Advanced/Invention)
CPC: B25J5/007 B25J9/162 B25J9/1635 B25J9/1638 B25J9/1664 B25J9/1684 B25J9/1687 B25J9/1692 B25J9/1694 B25J13/089 B66C13/22 B66C13/48 E04G21/22 G01B11/002 G01S17/66 G05B19/19 G05B2219/33099 G05B2219/37275 G05B2219/40 G05B2219/40298 G05B2219/40513 G05B2219/40519 G05B2219/40629 G05B2219/45063 G05B2219/45086 G05D1/0231 G05D1/0248



Family:

Publication number	Publication date	Application number	Application date
WO20014737 A1	20200123	WO2019AU50743	20190716

Priority:

AU20180902557 20180716

Probable Assignee: FASTBRICK IP PTY LTD

Assignee(s): (std): FASTBRICK IP PTY LTD

Inventor(s): (std): PIVAC MARK JOSEPH

Agent(s): DAVIES COLLISON CAVE PTY LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE 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)

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Patent	Date recorded	Event group	Code	Event	Details
WO20014737 A1	20200123	LSPB	+	published / reissued	

75) Family number: 65565391 (US2017120332A)

Title: ADDITIVE MANUFACTURING SYSTEM AND METHOD

Abstract: An additive manufacturing system including a two-dimensional energy patterning system for imaging a powder bed is disclosed. Improved chamber designs, multiple chambers, powder **handling** and re-use systems, and powder characterization methods are disclosed.

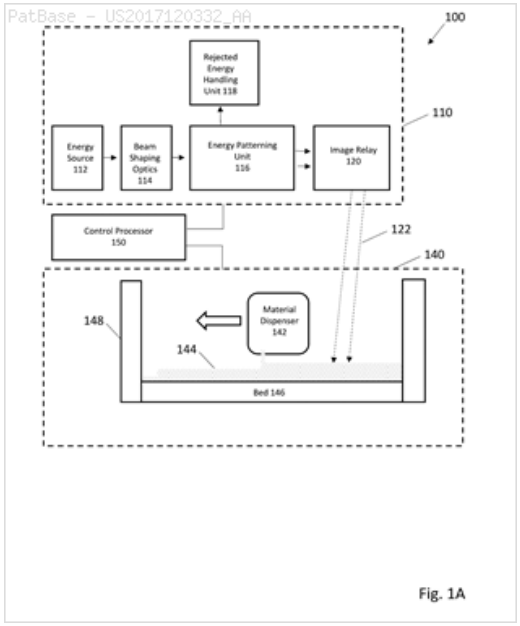


Fig. 1A

Classifications:

International (IPC 8-9): B05D1/36 B22F B22F3/105 B22F3/16 B22F3/24 B23K15/00 B23K15/06 B23K26/00 B23K26/03 B23K26/04 B23K26/06 B23K26/064 B23K26/08 B23K26/082 B23K26/12 B23K26/14 B23K26/142 B23K26/144 B23K26/16 B23K26/342 B23K26/36 B23K26/70 B23K37/04 B25J11/00 B28B1/00 B28B1/30 B29C64/10 B29C64/141 B29C64/153 B29C64/188 B29C64/20 B29C64/205 B29C64/227 B29C64/232 B29C64/236 B29C64/245 B29C64/264 B29C64/268 B29C64/277 B29C64/286 B29C64/295 B29C64/357 B29C64/364 B29C64/379 B29C64/386 B29C64/393 B29C67/00 B29C67/02 B29C67/04 B33Y10/00 B33Y30/00 B33Y40/00 B33Y50/00 B33Y50/02 B33Y70/00 B33Y80/00 B33Y99/00 B41J3/407 B5D1/36 G02B15/04 G02B15/10 G02B19/00 G02B26/08 G02B27/00 G02B27/09 G02B27/10 G02B27/14 G02B27/28 G02B6/293 G02B7/04 G02B7/14 G02B7/16 G02B7/182 G02F1/01 G02F1/1333 G02F1/135 G05B17/02 G05B19/18 G2B19/00 G2B6/293 G2B7/04 G5B19/18 H01S3/23 H01S5/00 H01S5/40 (Advanced/Invention);
B23K101/00 B23K101/02 B23K101/24 B23K103/00 B29K105/00 G02B27/09 G02B27/28 G07C3/14 (Advanced/Non-invention);
B22F (Subclass/Invention)

CPC: B29C64/245 B29C64/264 B29C64/268 B29C64/286 B29C64/295 B29C64/357 B29C64/393 B22F2999/00 B23K15/0006 B23K15/0013 B23K15/002 B23K15/0026 B23K15/0086 B23K15/0093 B23K15/06 B23K26/0006 B23K26/03 B23K26/032 B23K26/082 B23K26/083 B23K26/1224 B23K26/123 B23K26/127 B23K26/342 B23K26/703 B23K26/704 B23K37/0408 B23K2101/008 B23K2103/00 B23K2103/42 B23K2103/50 B28B1/001 B29C64/386 B29K2105/251 B33Y40/00 B33Y50/02 G02B27/0905 G02B27/283 G02B27/286 G02F1/0136 G05B2219/49023 G07C3/146 Y02P80/40 B22F2003/247 B22F2003/248 G02B19/0047 H01S5/005 B22F3/24 B22F2003/1058 B22F2003/1059 B22F2998/10 B23K26/0846 B23K26/142 B23K26/144 B23K26/16 B23K26/36 B23K26/702 B23K37/0426 B23K2101/001 B23K2101/02 B23K2101/24 B25J11/00 B33Y70/00 B33Y80/00 B33Y99/00 G02B7/14 G02B7/16 G02B7/1827 G02B15/04 G02B15/10 G02B19/0028 G02B26/0816 G02B27/0068 G02B27/141 G02F1/133362 G02F1/135 G05B17/02 H01S5/4012 B22F2203/03 B22F3/1055 B22F2003/1056 B22F2003/1057 B33Y10/00 Y02P10/295 B29C64/153 B33Y30/00

US: 1/1 264/308 264/400 264/497 359/240 419/28 419/53 419/55 425/162 428/546

JP F-Term: 4F213 4F213/AC04 4F213/AR07 4F213/AR12 4F213/WA25 4F213/WB01 4F213/WL02 4F213/WL12 4F213/WL32 4F213/WL43 4F213/WL67 4F213/WL74 4F213/WL79 4F213/WL87 4F213/WL96 4K018 4K018/CA44 4K018/EA51 4K018/EA60 4F213/AG28 4F213/AM26 4F213/AR20 4F213/WA67 4F213/WA86 4K018/DA31 4K018/DA32 4K018/DA33 4E168 4E168/BA35 4E168/BA81 4E168/CA06 4E168/DA02 4E168/DA13 4E168/DA23 4E168/DA24 4E168/DA25 4E168/DA26 4E168/DA27 4E168/DA28 4E168/EA02 4E168/EA11 4E168/FB03 4E168/FB05 4E168/FB06 4E168/GA03 4F213/WL03 4F213/WL13 4F213/WL76 4G052 4G052/DA02 4G052/DB12 4G052/DC06 4K018/CA33 4K018/FA05

JP F-Index: B22F3/105 B22F3/16 B29C64/153 B29C64/277 B33Y10/00 B33Y30/00 B29C64/364 B29C64/379 B33Y80/00 B23K26/064/Z B23K26/34 B28B1/30 B29C64/286

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Priority:

US20150248758P 20151030	US20150248759P 20151030	US20150248765P 20151030
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Inventor(s): KOUROSH ; ERIK ; HEINER ; FRANCIS ; EUGENE ; JAMES

Agent(s): SMART AND BIGGAR; BETTEN AND RESCH; OSUGA YOSHIYUKI; OSUGA AND ASSOCIATES; STEVENS DAVID R; STEVENS LAW GROUP

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

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Patent	Date recorded	Event group	Code	Event	Details
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CN108290180 A	20180717	LSPB	+	published / reissued	

CN108290180 A	20180717	LSPB	PB01	PUBLICATION	
CN109874321 A	20190611	LSPB	+	published / reissued	
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US2017120336 AA	20161028	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SEURAT TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEMUTH, JAMES A; TOOMRE, ERIK; LEARD, FRANCIS L; AND OTHERS; SIGNING DATES FROM 20161026 TO 20161027; REEL/FRAME:040159/0410
US2017120336 AA	20181218	LSES	NFA1	Non Final Action Mailed	
US2017120336 AA	20190313	LSES	NFA1	Non Final Action Mailed	
US2017120336 AA	20190923	LSES	ADV1	Advisory Action Mailed	
US2017120336 AA	20191105	LSES	NFA1	Non Final Action Mailed	
US2017120387 AA	20170504	LSPB	+	published / reissued	
US2017120387 AA	20161027	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SEURAT TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEMUTH, JAMES A; TOOMRE, ERIK; LEARD, FRANCIS L; AND OTHERS; SIGNING DATES FROM 20161026 TO 20161027; REEL/FRAME:040155/0470
US2017120387 AA	20191107	LSES	ADV1	Advisory Action Mailed	
US2017120518 AA	20170504	LSPB	+	published / reissued	
US2017120518 AA	20181228	LSES	NFA1	Non Final Action Mailed	
US2017120518 AA	20190415	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017120518 AA	20190507	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017120518 AA	20190819	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017120518 AA	20191120	LSFE	+PPV1	Publications -- Issue Fee	

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US2017120518 AA	20191211	LSGT	PAT1	Patented Case	
US2017120518 AA	20191211	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017120529 AA	20170504	LSPB	+	published / reissued	
US2017120529 AA	20161027	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SEURAT TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEMUTH, JAMES A; TOOMRE, ERIK; LEARD, FRANCIS L; AND OTHERS; REEL/FRAME:040153/0554 EFFECTIVE DATE : 20161026
US2017120529 AA	20190304	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017120529 AA	20191030	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017120530 AA	20170504	LSPB	+	published / reissued	
US2017120530 AA	20161028	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SEURAT TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEMUTH, JAMES A; TOOMRE, ERIK; LEARD, FRANCIS L; AND OTHERS; SIGNING DATES FROM 20161026 TO 20161027; REEL/FRAME:040161/0285
US2017120530 AA	20190521	LSES	NFA1	Non Final Action Mailed	
US2017120537 AA	20170504	LSPB	+	published / reissued	
US2017120537 AA	20161027	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SEURAT TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEMUTH, JAMES A.; TOOMRE, ERIK; LEARD, FRANCIS L.; AND OTHERS; SIGNING DATES FROM 20161026 TO 20161027; REEL/FRAME:040155/0654
US2017120537 AA	20181016	LSES	NFA1	Non Final Action Mailed	
US2017120537 AA	20191202	LSES	NFA1	Non Final Action Mailed	
US2017120538 AA	20170504	LSPB	+	published / reissued	
US2017120538 AA	20161028	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SEURAT TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEMUTH, JAMES A.; TOOMRE, ERIK; LEARD, FRANCIS L.; AND OTHERS; SIGNING DATES FROM 20161026 TO 20161027; REEL/FRAME:040162/0200
US2017120538 AA	20181129	LSES	NFA1	Non Final Action Mailed	
US2017120538 AA	20190220	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2017120538 AA	20190222	LSES	NFA1	Non Final Action Mailed	

US2017120538 AA	20191211	LSES	ADV1	Advisory Action Mailed	
US2017123222 AA	20170504	LSPB	+	published / reissued	
US2017123222 AA	20161028	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SEURAT TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEMUTH, JAMES A.; TOOMRE, ERIK; LEARD, FRANCIS L.; AND OTHERS; SIGNING DATES FROM 20161026 TO 20161027; REEL/FRAME:040160/0832
US2017123222 AA	20180108	LSES	-NFA2	Non Final Action Counted, Not Yet Mailed	
US2017123222 AA	20180517	LSES	NFA1	Non Final Action Mailed	
US2017123222 AA	20190221	LSES	NFA1	Non Final Action Mailed	
US2017123222 AA	20190724	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017123222 AA	20191028	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017123222 AA	20200103	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017123237 AA	20170504	LSPB	+	published / reissued	
US2017123237 AA	20161028	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SEURAT TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEMUTH, JAMES A.; TOOMRE, ERIK; LEARD, FRANCIS L.; AND OTHERS; SIGNING DATES FROM 20161026 TO 20161027; REEL/FRAME:040159/0437
US2017123237 AA	20190503	LSES	ADV1	Advisory Action Mailed	
US2017123237 AA	20190920	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017144224 AA	20170525	LSPB	+	published / reissued	
US2017144224 AA	20161027	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : SEURAT TECHNOLOGIES, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DEMUTH, JAMES A.; TOOMRE, ERIK; LEARD, FRANCIS L.; AND OTHERS; SIGNING DATES FROM 20161026 TO 20161027; REEL/FRAME:040154/0957
US2017144224 AA	20190514	LSES	NFA1	Non Final Action Mailed	
US2017144224 AA	20191108	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in	

				Office of Publications	
US2017144224 AA	20200128	LSFE	-AWA4	Awaiting TC Resp., Issue Fee Not Paid	
WO17075231 A2	20170504	LSPB	+	published / reissued	
WO17075231 A4	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17075231 A4	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860796 COUNTRY OF REF DOCUMENT : EP
WO17075234 A1	20170504	LSPB	+	published / reissued	
WO17075234 A1	20180413	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 258692 COUNTRY OF REF DOCUMENT : IL
WO17075234 A1	20180417	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 3002392 COUNTRY OF REF DOCUMENT : CA
WO17075234 A1	20180425	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018521392 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17075234 A1	20180425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2018521392 COUNTRY OF REF DOCUMENT : JP
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WO17075234 A1	20180524	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20187014668 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17075234 A1	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860797 COUNTRY OF REF DOCUMENT : EP
WO17075244 A1	20170504	LSPB	+	published / reissued	
WO17075244 A1	20180425	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018521400 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17075244 A1	20180425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2018521400 COUNTRY OF REF DOCUMENT : JP
WO17075244 A1	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17075244 A1	20180524	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20187014673 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17075244 A1	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860806 COUNTRY OF REF DOCUMENT : EP
WO17075258 A1	20170504	LSPB	+	published / reissued	
WO17075258 A1	20180425	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2018521401 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :

WO17075258 A1	20180425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2018521401 COUNTRY OF REF DOCUMENT : JP
WO17075258 A1	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17075258 A1	20180524	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20187014677 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO17075258 A1	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860817 COUNTRY OF REF DOCUMENT : EP
WO17075277 A1	20170504	LSPB	+	published / reissued	
WO17075277 A1	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17075277 A1	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860831 COUNTRY OF REF DOCUMENT : EP
WO17075285 A1	20170504	LSPB	+	published / reissued	
WO17075285 A1	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17075285 A1	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860837 COUNTRY OF REF DOCUMENT : EP
WO17075353 A1	20170504	LSPB	+	published / reissued	
WO17075353 A1	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17075353 A1	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860878 COUNTRY OF REF DOCUMENT : EP
WO17075356 A1	20170504	LSPB	+	published / reissued	
WO17075356 A1	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17075356 A1	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860880 COUNTRY OF REF DOCUMENT : EP
WO17075408 A1	20170504	LSPB	+	published / reissued	
WO17075408 A1	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17075408 A1	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860916 COUNTRY OF REF DOCUMENT : EP
WO17075423 A1	20170504	LSPB	+	published / reissued	
WO17075423 A1	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

WO17075423 A1	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860926 COUNTRY OF REF DOCUMENT : EP
WO17075449 A1	20170504	LSPB	+	published / reissued	
WO17075449 A1	20180501	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17075449 A1	20180530	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2016860940 COUNTRY OF REF DOCUMENT : EP

76) Family number: 54514396 (US2013204430A)

Title: PHARMACY AUTOMATION USING AUTONOMOUS ROBOT

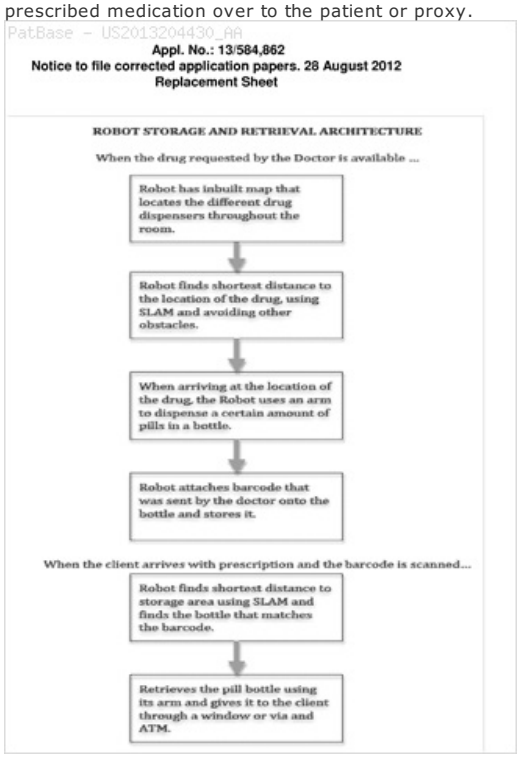
Abstract: A pharmacy automation system having a robot having a hardware **device** and a software for internal mapping is configured to carry out at least the following different interactions: the robot communicates autonomously with a physician or an assistant directly or via an intermediary; the robot interacts with an inventory of goods and browses the inventory of goods to determine if a prescribed medication is available in the pharmacy; if the prescribed medication is available in the pharmacy, the robot interacts with a medication dispenser, using the internal mapping to fill a container with the prescribed medication, and store the container; when a patient or a proxy arrives to pick up the prescribed medication, the robot checks and approves an identification of the patient or the proxy; and hands the container with the prescribed medication over to the patient or proxy.

Classifications:

International (IPC 8-9)**:** B25J11/00 B65G1/137 G06F17/00 G06F17/50 G06F19/00 G06F7/00 G06Q40/02 G06Q40/08 G16H20/10 (Advanced/Invention)

CPC: B25J11/0005 G06Q40/02 G06Q40/08 G16Z99/00 G06F19/00 G06F19/3456 Y10S901/01 B25J11/008 B25J11/009 B65G1/1373 G06F17/00 G06F30/13 G16H20/10

US: 1/1 700/213 700/214 700/215 700/216 700/228 700/245 705/4 901/1



Family:

Publication number	Publication date	Application number	Application date
US2013204430 AA	20130808	US20120584862	20120814
US2013238121 AA	20130912	US20120400726	20120221
US2015242591 AA	20150827	US20150706982	20150508
US2015283705 AA	20151008	US20150737517	20150612
US2016253761 AA	20160901	US20160044027	20160215
US2017266813 AA	20170921	US20170589489	20170508
US2018079083 AA	20180322	US20170824471	20171128
US2019080414 AA	20190314	US20180057555	20180807
US9043012 BB	20150526	US20120584862	20120814
US9079315 BB	20150714	US20120400726	20120221
US9259843 BB	20160216	US20150737517	20150612
US9643320 BB	20170509	US20150706982	20150508
US9827680 BB	20171128	US20170589489	20170508
US10043219 BB	20180807	US20160044027	20160215
US10335953 BB	20190702	US20170824471	20171128

Priority:

US20110528566P 20110829 US20120400726 20120221 US20120584862 20120814
US20150706982 20150508 US20150737517 20150612 US20160044027 20160215
US20170589489 20170508 US20170824471 20171128 US20180057555 20180807

Probable Assignee: DAVEY NEIL

Assignee(s): (std)**:** DAVEY NEIL ; DAVEY NEIL S ; DAVEY NEIL SHIVRAJ ; DAVEY NEL S ; MURPHY BRENDAN BOYCE ; DAVEY SONYA R ; GODIL HARIS ; SWAIN SUJAY ; GODIL HARS

Assignee(s): DAVEY SONYA R DAVE

Inventor(s): (std)**:** MURPHY BRENDAN BOYCE ; DAVEY NEIL S ; DAVEY SONYA R ; GODIL HARIS ; DAVEY NEIL ; SWAIN SUJAY ; DAVEY NEIL SHIVRAJ ; DAVEY NEL S ; GODIL HARS

Agent(s): RAJ; DAVE LAW GROUP LLC; DAVE RAJ S; DAVE RAJU S

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US10043219 BB	20180807	LSGT	+	granted / extensions (spc, cpc, pte)	
US10043219 BB	20180718	LSGT	PAT1	Patented Case	
US10043219 BB	20360215	PEXP		Calculated Patent Term Expiry	
US10335953 BB	20190702	LSGT	+	granted / extensions (spc, cpc, pte)	
US10335953 BB	20171128	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10335953 BB	20171211	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10335953 BB	20371128	PEXP		Calculated Patent Term Expiry	
US2013204430 AA	20130808	LSPB	+	published / reissued	
US2013204430 AA	20150506	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013238121 AA	20130912	LSPB	+	published / reissued	
US2013238121 AA	20150624	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015242591 AA	20150827	LSPB	+	published / reissued	
US2015242591 AA	20170419	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015283705 AA	20151008	LSPB	+	published / reissued	
US2015283705 AA	20160127	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016253761 AA	20160901	LSPB	+	published / reissued	
US2016253761 AA	20170413	LSWD	-ABD7	Abandonment for Failure to Correct Drawings/Oath/NonPub Request	
US2016253761 AA	20170727	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DAVEY, SONYA R., MARYLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SWAIN, SUJAY; REEL/FRAME:043115/0862 EFFECTIVE DATE : 20170724
US2016253761 AA	20170727	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DAVEY, NEIL SHIVRAJ, MARYLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SWAIN, SUJAY; REEL/FRAME:043115/0862 EFFECTIVE DATE : 20170724
US2016253761 AA	20180110	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016253761 AA	20180402	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016253761 AA	20180718	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017266813 AA	20170921	LSPB	+	published / reissued	
US2017266813 AA	20170726	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017266813 AA	20171026	LSFE	+PPR1	Publications -- Issue Fee Payment Received	

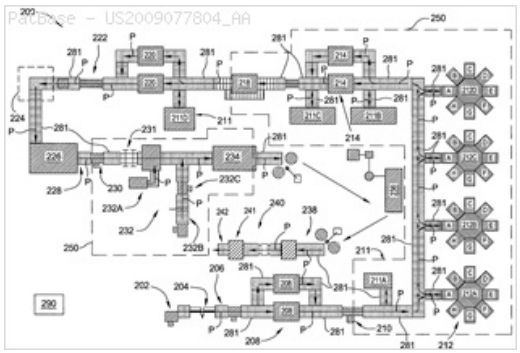
US2017266813 AA	20171027	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
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US2018079083 AA	20180322	LSPB	+	published / reissued	
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US2018079083 AA	20190213	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018079083 AA	20190516	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2018079083 AA	20190612	LSGT	PAT1	Patented Case	
US2018079083 AA	20190612	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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US2019080414 AA	20180807	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DAVEY, NEIL SHIVRAJ, MARYLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SWAIN, SUJAY; REEL/FRAME:046576/0571 EFFECTIVE DATE : 20170724
US2019080414 AA	20180807	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DAVEY, SONYA R., DAVE, MARYLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SWAIN, SUJAY; REEL/FRAME:046576/0571 EFFECTIVE DATE : 20170724
US2019080414 AA	20190926	LSES	NFA1	Non Final Action Mailed	
US2019080414 AA	20200121	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9043012 BB	20150526	LSGT	+	granted / extensions (spc, cpc, pte)	
US9043012 BB	20150506	LSGT	PAT1	Patented Case	
US9043012 BB	20181123	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9043012 BB	20331018	PEXP		Calculated Patent Term Expiry (PTA 430 days)	
US9079315 BB	20150714	LSGT	+	granted / extensions (spc, cpc, pte)	
US9079315 BB	20150624	LSGT	PAT1	Patented Case	
US9079315 BB	20190113	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9079315 BB	20190504	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DAVEY, NEIL, MARYLAND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GODIL, HARIS; REEL/FRAME:049085/0705 EFFECTIVE DATE : 20181230
US9079315 BB	20330204	PEXP		Calculated Patent Term Expiry (PTA 349 days)	
US9259843 BB	20160216	LSGT	+	granted / extensions (spc, cpc, pte)	
US9259843 BB	20150925	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9259843 BB	20160127	LSGT	PAT1	Patented Case	
US9259843 BB	20190504	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : DAVEY, NEIL, MARYLAND

					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GODIL, HARIS; REEL/FRAME:049085/0705 EFFECTIVE DATE : 20181230
US9259843 BB	20190825	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
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US9259843 BB	20350612	PEXP		Calculated Patent Term Expiry	
US9643320 BB	20170509	LSGT	+	granted / extensions (spc, cpc, pte)	
US9643320 BB	20170419	LSGT	PAT1	Patented Case	
US9643320 BB	20350731	PEXP		Calculated Patent Term Expiry (PTA 84 days)	
US9827680 BB	20171128	LSGT	+	granted / extensions (spc, cpc, pte)	
US9827680 BB	20171108	LSGT	PAT1	Patented Case	
US9827680 BB	20370508	PEXP		Calculated Patent Term Expiry	

77) Family number: 42981399 (US2009077804A)

Title: PRODUCTION LINE MODULE FOR FORMING MULTIPLE SIZED PHOTOVOLTAIC **DEVICES**

Abstract: The present invention generally relates to a sectioning module positioned within an automated solar cell **device** fabrication system. The solar cell **device** fabrication system is adapted to receive a single large substrate and form multiple silicon thin film solar cell **devices** from the single large substrate.



Classifications:

International (IPC 8-9): B05C9/12 B05D5/12 B23D1/26 B23K26/00 B23P15/26 B23P17/00 B23P19/00 B23P21/00 B23P23/00 B23Q15/00 B23Q17/00 B23Q41/00 B23Q7/14 B24B1/00 B24B19/02 B24B41/02 B24B49/00 B24B53/007 B24B53/21 B24B55/06 B24B7/06 B24D9/00 B26D3/06 B26F3/00 B32B37/02 B32B37/10 B65G47/00 E04D13/18 F24J2/52 G01R1/00 G01R27/08 G01R31/00 G01R31/26 G06F7/10 H01L21/00 H01L21/301 H01L21/304 H01L21/4763 H01L21/66 H01L21/677 H01L21/68 H01L21/683 H01L21/768 H01L31/00 H01L31/04 H01L31/042 H01L31/048 H01L31/06 H01L31/075 H01L31/18 H01L51/44 H01L51/48 H01R43/02 H05K13/00 H05K3/10 H05K3/36 (Advanced/Invention); B25J15/00 H01L21/768 H01L31/04 H01L31/042 H01L31/072 H01L31/18 (Advanced/Non-invention); B05C9/08 B05D5/12 B23P15/26 B23P17/00 B23P19/00 B24B1/00 B24B19/02 B24B41/00 B24B53/007 B24B55/00 B24D9/00 B32B37/02 B32B37/10 B65G47/00 F24J2/00 G01R1/00 G01R27/08 G01R31/00 G01R31/26 H01L21/66 H01L21/67 H01L31/00 H01L31/04 H01L31/042 H01L31/048 H01L31/18 H05K3/10 (Core/Invention); B25J15/00 E04D13/18 F24J2/52 G01R31/26 H01L21/66 H01L21/768 H01L31/048 H01L31/18 (Core/Non-invention)

International (IPC 1-7): B26D3/06 H01L21/4763

CPC: Y10S136/29 B32B17/10036 B32B17/10761 H01L31/1876 B65G49/068 C03B33/0222 H01L21/67115 H01L21/67259 H01L21/67276 H01L21/67706 H01L21/67748 H01L31/02008 H01L31/076 H01L31/0201 H01L31/0512 H05K3/321 H01L21/67138 H01L21/67754 H05K2203/0278 B25J11/00 G01J1/08 Y02E10/47 H01L21/681 H01L21/67253 Y10T29/49208 Y10T29/49213 Y10T29/49224 Y10T29/49769 Y10T29/4978 Y10T29/4998 Y10T29/5136 Y10T29/5137 Y10T29/52 Y10T29/5303 Y10T29/53052 Y10T29/53174 Y10T29/49117 Y10T29/49126 Y10T29/4913 Y10T29/49155 H01L31/188 H01L31/046 B23K26/0622 B23K26/082 B23K26/36 B23K26/40 Y02P70/521 B24B9/10 B24B49/045 B24B55/02 H01L21/67092 H01L31/186 Y02P80/24 H01L31/1804 B32B39/00 B32B37/02 B32B38/0036 B32B2309/02 B32B2309/12 B32B2309/70 B32B2457/12 Y02B10/12 H01L31/048 Y02E10/547 Y02E10/50 F24S25/30 F24S25/40 F24S25/632 F24S2025/016 F24S2025/601 F24S2025/805 H02S20/23 B23K2101/40 B23K2103/50 B23K2103/172 B23K26/364 B26F3/002 B26F3/004 B65G49/064 B65G2249/02 B65G2249/04 C03B33/03 C03B33/033 H01L21/67132 H01L21/67236 H01L21/67712 H01L21/67715 H01L21/67721 H01L21/67727 H01L21/6776 H01L31/022425 H01L31/03921 H01L31/0504 H01L31/075 H02S50/00 H02S50/10 Y02E10/548 Y02P40/57 Y10T29/49002 Y10T29/49355 Y10T29/5196 Y10T29/53113 Y10T29/5313 Y10T29/5317 Y10T29/53187 Y10T29/53365 Y10T29/53417 Y10T225/10 Y10T225/325 Y10T225/329

European: B23K26/06B4 B23K26/08B B23K26/36 B23K26/36E2 B23K26/40B11B B23K26/40J2 B24B49/04B B24B55/02 B24B9/10 B25J11/00 B26F3/00B B32B17/10C4 B32B17/10G28 B32B37/02 B32B39/00 B65G49/06D2 B65G49/06H C03B33/02L C03B33/03 C03B33/033 F24J2/52A20C2 F24J2/52A4 F24J2/52A6 G01J1/08 G01R31/40B H01L21/677A1 H01L21/677A3 H01L21/677A4 H01L21/677A6 H01L21/677A8 H01L21/677B10 H01L21/677B14 H01L21/677B6 H01L21/67S2F H01L21/67S2H6 H01L21/67S2P H01L21/67S2R H01L21/67S2Z12 H01L21/67S8B H01L21/67S8C H01L21/67S8E H01L21/68L H01L31/0224B2 H01L31/02E2B H01L31/0392B H01L31/042B H01L31/048 H01L31/05 H01L31/05B H01L31/075 H01L31/076 H01L31/18 H01L31/18G H01L31/18H H01L31/18H2 H05K3/32B L23K201/40 L26F3/00C L32B309/02 L32B309/12 L32B309/70 L32B38/00E L32B457/12 L65G249/02 L65G249/04 R24J2/46P34 R24J2/52A4P12 S01R31/26A3 S01R31/40B T01L31/18 T05K203/02K Y02E10/47 Y02E10/50 Y02E10/54N

US: 118/620 118/620S 126/704 126/704S 136/250 136/251 136/256 136/258 136/290 156/295 156/359 156/64 198/339.1 198/339.100S 225/1 225/1S 225/96.5 225/96.500S 225/97 225/97S 250/200 257/E31.001 257/E31.001S 29/25.01 29/25.010P 29/33.00P 29/33P 29/407.04 29/407.040S 29/407.1 29/407.100S 29/527.1 29/527.100P 29/564 29/564.1 29/592.1 29/592.100S 29/650 29/650S 29/707 29/712 29/712S 29/726 29/729 29/729S 29/738 29/738S 29/739 29/739S 29/742 29/742S 29/783 29/795 29/825 29/830 29/832 29/846 29/846P 29/876 29/876S 29/879 29/879P 29/885 29/885S 29/890.033 29/890.033P 29/890.033S 324/501 324/501P 324/691 324/715 324/715P 324/750.3 324/750.300S 324/757.01 324/757.010S 324/759.02 324/759.020S 324/761.01 324/762.07 324/764.01 324/764.010S 324/765 414/217 414/217S 414/225.01 414/225.010S 414/783 414/783S 427/74 427/74S 427/8 427/8P 438/462 438/462S 438/57 438/57S 438/61 438/61P 438/66 438/66S 451/184 451/184S 451/194 451/21 451/213 451/443 451/443S 451/54 451/54S 451/57 451/57S 451/58 451/58P 451/8 73/865.6 73/865.600S 901/30 901/30S

JP F-Term: 5F051 5F051/AA04 5F051/AA05 5F051/AA10 5F051/BA14 5F051/CB30 5F051/FA02 5F051/FA03 5F051/KA09 5F051/KA10 5F151 5F151/AA04 5F151/AA05 5F151/AA10 5F151/BA14 5F151/CB30 5F151/FA02 5F151/FA03 5F151/KA09 5F151/KA10 5F051/AA03 5F051/BA11 5F051/DA04 5F051/EA09 5F051/EA10 5F051/EA11 5F051/EA16 5F051/FA06 5F051/FA13 5F051/FA15 5F051/GA03 5F151/AA03 5F151/BA11 5F151/DA04 5F151/EA09 5F151/EA10 5F151/EA11 5F151/EA16 5F151/FA06 5F151/FA13 5F151/FA15 5F151/GA03 4E068 4E068/AD00 4E068/AE01 4E068/DA09 4E168 4E168/AD02 4E168/AD04 4E168/DA02 4E168/DA03 4E168/DA43 4E168/JA11 4E168/JA12 4E168/JA14 4E168/JA27 4E168/JA28 4E168/JB02 5F063 5F063/BA34 5F063/CB06 5F063/CB10 5F063/CB28 5F063/DD34 5F063/DD82 5F063/FF42 5F151/CA02 5F151/CA03 5F151/CA04 5F151/CB28 5F151/DA17 5F151/FA04 5F151/CA15 5F151/GA14 5F151/GA15 5F151/JA06 5F151/JA27 2E145 5F151/BA03 5F151/JA13 5F151/JA15

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CN101425550 A	20090506	LSPB	+	published / reissued	
CN101425550 A	20090506	LSPB	+C06	PUBLICATION	
CN101425550 A	20120215	LSRE	C53	CORRECTION OF PATENT FOR INVENTION OR PATENT APPLICATION	
CN101425550 A	20121114	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
CN101494250 A	20090729	LSPB	+	published / reissued	
CN101494250 A	20090729	LSPB	+C06	PUBLICATION	
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CN101494250 A	20130703	LSDW	-C20	PATENT RIGHT OR UTILITY MODEL DEEMED TO BE ABANDONED OR IS ABANDONED	

CN101541486 A	20090923	LSPB	+	published / reissued
CN101541486 A	20090923	LSPB	+C06	PUBLICATION
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CN101796481 A	20100804	LSPB	+	published / reissued
CN101796481 A	20100804	LSPB	+C06	PUBLICATION
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CN101796481 B	20120704	LSGT	+	granted / extensions (spc, cpc, pte)
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CN101796481 B	20141022	LSLE	-C17	CESSATION OF PATENT RIGHT
CN101796481 B	20280829	PEXP		Calculated Patent Term Expiry
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CN101861653 A	20120222	LSRE	C53	CORRECTION OF PATENT FOR INVENTION OR PATENT APPLICATION
CN101861653 B	20120718	LSGT	+	granted / extensions (spc, cpc, pte)
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CN101926009 A	20101222	LSPB	+	published / reissued
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CN102089892 B	20160413	LSWD	-EXPY	TERMINATION OF PATENT RIGHT OR UTILITY MODEL	
CN102089892 B	20290227	PEXP		Calculated Patent Term Expiry	
CN102405535 A	20120404	LSPB	+	published / reissued	
CN102405535 A	20120404	LSPB	+C06	PUBLICATION	
CN102405535 A	20141015	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
EP2053664 A2	20090429	LSPB	+	published / reissued	
EP2053664 A2	20111102	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20110501
EP2053665 A2	20090429	LSPB	+	published / reissued	
EP2053665 A2	20111109	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20110501
EP2198367 A1	20100623	LSPB	+	published / reissued	
EP2198367 A1	20100623	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100331
EP2198367 A1	20130911	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20130301
EP2200790 A1	20100630	LSPB	+	published / reissued	
EP2200790 A1	20100630	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20081023
EP2200790 A1	20111123	LSWD	-18W	APPLICATION WITHDRAWN	EFFECTIVE DATE : 20111013
EP2243168 A2	20101027	LSPB	+	published / reissued	
EP2243168 A2	20101027	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100824
EP2243168 A2	20140122	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20130801
EP2250677 A2	20101117	LSPB	+	published / reissued	
EP2250677 A2	20101117	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20100831
EP2250677 A2	20140205	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20130903

IN00564CN2010 A	20100723	LSPB	+	published / reissued	
IN05719CN2008 A	20090821	LSPB	+	published / reissued	
JP2009105401 A2	20090514	LSPB	+	published / reissued	
JP2009105401 A2	20120110	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A300 EFFECTIVE DATE : 20120110
JP2009105402 A2	20090514	LSPB	+	published / reissued	
JP2009105402 A2	20120110	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A300 EFFECTIVE DATE : 20120110
JP2010538475 T2	20101209	LSPB	+	published / reissued	
JP2010538475 T2	20111101	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A300 EFFECTIVE DATE : 20111101
JP2010538476 T2	20101209	LSPB	+	published / reissued	
JP2010538476 T2	20111101	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A300 EFFECTIVE DATE : 20111101
JP2011512680 T2	20110421	LSPB	+	published / reissued	
JP2011512680 T2	20111214	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111213
JP2011512680 T2	20111214	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20111213
JP2011512680 T2	20130123	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130122
JP2011512680 T2	20130626	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20130625
KR20090040846 A	20090427	LSPB	+	published / reissued	
KR20090040846 A	20081015	LSES	A201	REQUEST FOR EXAMINATION	
KR20090040846 A	20100728	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090040846 A	20101011	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20090040848 A	20090427	LSPB	+	published / reissued	
KR20090040848 A	20081016	LSES	A201	REQUEST FOR EXAMINATION	
KR20090040848 A	20100830	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20090040848 A	20110217	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20090047388 A	20090512	LSPB	+	published / reissued	
KR20090047388 A	20081024	LSES	A201	REQUEST FOR EXAMINATION	
KR20090047388 A	20101019	LSES	-E902	NOTIFICATION OF	

				REASON FOR REFUSAL	
KR20090047388 A	20110705	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR20100051738 A	20100517	LSPB	+	published / reissued	
KR20100051738 A	20130930	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
KR20100124759 A	20101129	LSPB	+	published / reissued	
KR20100124759 A	20140312	LSDW	-WITN	WITHDRAWAL DUE TO NO REQUEST FOR EXAMINATION	
TW200919761 A	20090501	LSPB	+	published / reissued	
TW200919762 A	20090501	LSPB	+	published / reissued	
TW200929413 A	20090701	LSPB	+	published / reissued	
TW200933916 A	20090801	LSPB	+	published / reissued	
TW200946847 A	20091116	LSPB	+	published / reissued	
TW201000923 A	20100101	LSPB	+	published / reissued	
TW201101426 A	20110101	LSPB	+	published / reissued	
US2009077804 AA	20090326	LSPB	+	published / reissued	
US2009077804 AA	20081208	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BACHRACH, ROBERT Z.; CHAE, YONG-KEE; CHOI, SOO YOUNG; AND OTHERS; REEL/FRAME:021940/0001; SIGNING DATES FROM 20081006 TO 20081202
US2009077804 AA	20120716	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009077805 AA	20090326	LSPB	+	published / reissued	
US2009102502 AA	20090423	LSPB	+	published / reissued	
US2009102502 AA	20080314	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:FREI, MICHEL RANJIT; SU, TZAY-FA; REEL/FRAME:020653/0650; SIGNING DATES FROM 20071109 TO 20071113
US2009102502 AA	20100802	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009104342 AA	20090423	LSPB	+	published / reissued	
US2009104342 AA	20081202	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WANG, DAPENG; FREI, MICHEL R.; SU, TZAY-FA (JEFF); AND OTHERS; REEL/FRAME:021914/0967; SIGNING DATES FROM 20081016 TO 20081025
US2009104342 AA	20130419	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009179651 AA	20090716	LSPB	+	published /	

				reissued	
US2009188102 AA	20090730	LSPB	+	published / reissued	
US2009188603 AA	20090730	LSPB	+	published / reissued	
US2009188603 AA	20090309	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HALLER, UWE P.; ELGAR, YACOV; KLUG, THOMAS; REEL/FRAME:022366/0727; SIGNING DATES FROM 20090129 TO 20090203
US2009188603 AA	20110328	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009205703 AA	20090820	LSPB	+	published / reissued	
US2009205703 AA	20090408	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:UMOTOY, SALVADOR P.; SULLIVAN, JEFFREY S.; BRENNAN, MIKE; AND OTHERS; REEL/FRAME:022519/0881; SIGNING DATES FROM 20090224 TO 20090406
US2009205703 AA	20110126	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009211071 AA	20090827	LSPB	+	published / reissued	
US2009221217 AA	20090903	LSPB	+	published / reissued	
US2009256581 AA	20091015	LSPB	+	published / reissued	
US2009277006 AA	20091112	LSPB	+	published / reissued	
US2010047954 AA	20100225	LSPB	+	published / reissued	
US2010047954 AA	20091112	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC.,CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SU, TZAY-FA (JEFF); LE, HIEN-MINH; MEI, FANG; AND OTHERS; SIGNING DATES FROM 20090922 TO 20091005; REEL/FRAME:023512/0285
US2010047954 AA	20130529	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011314672 AA	20111229	LSPB	+	published / reissued	
US2011314672 AA	20110830	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LU, DANNY CAM TOAN; SULLIVAN, JEFFREY S.; TANNER, DAVID; AND OTHERS; SIGNING DATES FROM 20090203 TO 20090209; REEL/FRAME:026831/0386
US2011314672 AA	20130612	LSWD	-ABD3	Abandoned -- Failure to Respond to an Office Action	
US7908743 BB	20110322	LSGT	+	granted / extensions (spc, cpc, pte)	
US7908743 BB	20090728	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LI, ZHIYONG; LUU, CHUCK; PRABHU, GOPALAKRISHNA

					B.; AND OTHERS; REEL/FRAME:023011/0766; SIGNING DATES FROM 20090508 TO 20090513
US7908743 BB	20090728	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LI, ZHIYONG; LUU, CHUCK; PRABHU, GOPALAKRISHNA B.; AND OTHERS; SIGNING DATES FROM 20090508 TO 20090513; REEL/FRAME:023011/0766
US7908743 BB	20150322	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7908743 BB	20150420	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7908743 BB	20150420	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7908743 BB	20150512	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20150322
US7908743 BB	20290610	PEXP		Calculated Patent Term Expiry (PTA 44 days)	
US8024854 BB	20110927	LSGT	+	granted / extensions (spc, cpc, pte)	
US8024854 BB	20090309	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LU, DANNY CAM TOAN; SULLIVAN, JEFFREY S.; TANNER, DAVID; AND OTHERS; REEL/FRAME:022366/0803; SIGNING DATES FROM 20090203 TO 20090209
US8024854 BB	20090309	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LU, DANNY CAM TOAN; SULLIVAN, JEFFREY S.; TANNER, DAVID; AND OTHERS; SIGNING DATES FROM 20090203 TO 20090209; REEL/FRAME:022366/0803
US8024854 BB	20150927	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8024854 BB	20151026	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8024854 BB	20151026	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8024854 BB	20151117	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20150927
US8024854 BB	20290911	PEXP		Calculated Patent Term Expiry (PTA 231 days)	
US8049521 BB	20111101	LSGT	+	granted / extensions (spc, cpc, pte)	
US8049521 BB	20090602	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LU, DANNY CAM TOAN; MARRIOTT, MICHAEL; SVIDENKO,

					VICKY; AND OTHERS; REEL/FRAME:022767/0266; SIGNING DATES FROM 20090408 TO 20090501
US8049521 BB	20090602	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LU, DANNY CAM TOAN; MARRIOTT, MICHAEL; SVIDENKO, VICKY; AND OTHERS; SIGNING DATES FROM 20090408 TO 20090501; REEL/FRAME:022767/0266
US8049521 BB	20151101	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8049521 BB	20151130	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8049521 BB	20151130	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8049521 BB	20151222	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20151101
US8049521 BB	20300113	PEXP		Calculated Patent Term Expiry (PTA 295 days)	
US8065784 BB	20111129	LSGT	+	granted / extensions (spc, cpc, pte)	
US8065784 BB	20090506	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LU, DANNY CAM TOAN; ELGAR, YACOV; SULLIVAN, JEFFREY S.; AND OTHERS; REEL/FRAME:022648/0786; SIGNING DATES FROM 20090311 TO 20090317
US8065784 BB	20090506	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:LU, DANNY CAM TOAN; ELGAR, YACOV; SULLIVAN, JEFFREY S.; AND OTHERS; SIGNING DATES FROM 20090311 TO 20090317; REEL/FRAME:022648/0786
US8065784 BB	20111109	LSGT	PAT1	Patented Case	
US8065784 BB	20120221	LSRE	CC	CERTIFICATE OF CORRECTION	
US8065784 BB	20151129	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8065784 BB	20151228	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8065784 BB	20151228	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8065784 BB	20160119	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20151129
US8065784 BB	20291118	PEXP		Calculated Patent Term Expiry (PTA 264 days)	
US8138782 BB	20120320	LSGT	+	granted / extensions (spc, cpc, pte)	
US8138782 BB	20090309	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC.,

					CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ELGAR, YACOV; LU, DANNY CAM TOAN; SU, TZAY-FA; AND OTHERS; REEL/FRAME:022366/0864; SIGNING DATES FROM 20090126 TO 20090209
US8138782 BB	20090309	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ELGAR, YACOV; LU, DANNY CAM TOAN; SU, TZAY-FA; AND OTHERS; SIGNING DATES FROM 20090126 TO 20090209; REEL/FRAME:022366/0864
US8138782 BB	20120229	LSGT	PAT1	Patented Case	
US8138782 BB	20160320	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8138782 BB	20160418	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8138782 BB	20160418	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8138782 BB	20160510	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160320
US8138782 BB	20300928	PEXP		Calculated Patent Term Expiry (PTA 627 days)	
US8225496 BB	20120724	LSGT	+	granted / extensions (spc, cpc, pte)	
US8225496 BB	20081208	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BACHRACH, ROBERT Z.; CHAE, YONG-KEE; CHOI, SOO YOUNG; AND OTHERS; REEL/FRAME:021939/0673; SIGNING DATES FROM 20081006 TO 20081208
US8225496 BB	20081208	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:BACHRACH, ROBERT Z.; CHAE, YONG-KEE; CHOI, SOO YOUNG; AND OTHERS; SIGNING DATES FROM 20081006 TO 20081208; REEL/FRAME:021939/0673
US8225496 BB	20120704	LSGT	PAT1	Patented Case	
US8225496 BB	20160724	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8225496 BB	20160822	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8225496 BB	20160822	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8225496 BB	20160913	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160724
US8225496 BB	20310525	PEXP		Calculated Patent Term Expiry (PTA 999 days)	
US8231431 BB	20120731	LSGT	+	granted / extensions (spc,	

				cpc, pte)	
US8231431 BB	20090512	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GAJARIA, DHRUV; LI, ZHIYONG; PRABHU, GOPALAKRISHNA B.; AND OTHERS; REEL/FRAME:022673/0862; SIGNING DATES FROM 20090204 TO 20090409
US8231431 BB	20090512	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : APPLIED MATERIALS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GAJARIA, DHRUV; LI, ZHIYONG; PRABHU, GOPALAKRISHNA B.; AND OTHERS; SIGNING DATES FROM 20090204 TO 20090409; REEL/FRAME:022673/0862
US8231431 BB	20120711	LSGT	PAT1	Patented Case	
US8231431 BB	20160731	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8231431 BB	20160829	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8231431 BB	20160829	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8231431 BB	20160920	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20160731
US8231431 BB	20310124	PEXP		Calculated Patent Term Expiry (PTA 731 days)	
WO09029901 A1	20090305	LSPB	+	published / reissued	
WO09029901 A1	20080829	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200880000176.X COUNTRY OF REF DOCUMENT : CN
WO09029901 A1	20081023	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008799778 COUNTRY OF REF DOCUMENT : EP
WO09029901 A1	20081023	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 5719/CHENP/2008 COUNTRY OF REF DOCUMENT : IN
WO09029901 A1	20081024	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2010523183 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO09029901 A1	20081024	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1020087026168 COUNTRY OF REF DOCUMENT : KR
WO09029901 A1	20100302	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09029902 A1	20090305	LSPB	+	published / reissued	
WO09029902 A1	20080829	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200880105071.0 COUNTRY OF REF DOCUMENT : CN
WO09029902 A4	20100127	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2010523184 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO09029902 A4	20100129	LSNP	+WWE	WIPO INFORMATION:	REF DOCUMENT NUMBER : 564/CHENP/2010

				ENTRY INTO NATIONAL PHASE	COUNTRY OF REF DOCUMENT : IN
WO09029902 A4	20100227	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : PI 2010000279 COUNTRY OF REF DOCUMENT : MY
WO09029902 A4	20100302	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09029902 A4	20100331	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 20107007066 COUNTRY OF REF DOCUMENT : KR KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
WO09029902 A4	20100331	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2008799033 COUNTRY OF REF DOCUMENT : EP
WO09055208 A1	20090430	LSPB	+	published / reissued	
WO09055208 A1	20100423	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09055208 A1	20101208	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08842189 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO09055262 A1	20090430	LSPB	+	published / reissued	
WO09055262 A1	20100423	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09055262 A1	20101208	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 08843080 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO09094539 A1	20090730	LSPB	+	published / reissued	
WO09094539 A1	20090123	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200980101026.2 COUNTRY OF REF DOCUMENT : CN
WO09094539 A1	20100727	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO09094539 A1	20110223	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 09704307 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO09094545 A2	20090730	LSPB	+	published / reissued	
WO09094545 A2	20090123	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200980102932.4 COUNTRY OF REF DOCUMENT : CN
WO09094545 A3	20100727	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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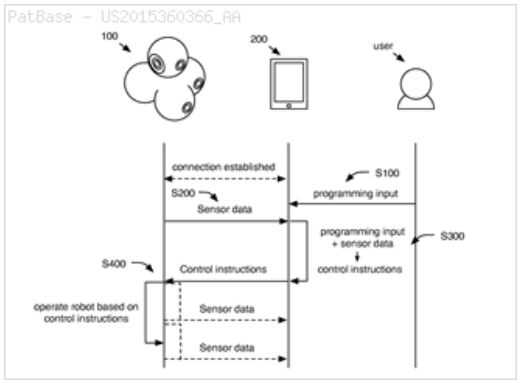
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WO09129030 A3	20101015	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO10110778 A2	20100930	LSPB	+	published / reissued	
WO10110778 A2	20090227	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200980106764.6 COUNTRY OF REF DOCUMENT : CN
WO10110778 A2	20100828	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO10110778 A3	20110420	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 09842413 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :
WO10129125 A2	20101111	LSPB	+	published / reissued	
WO10129125 A2	20100406	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 201080018150.5 COUNTRY OF REF DOCUMENT : CN
WO10129125 A3	20111027	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO10129125 A3	20120530	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 10772432 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :

78) Family number: 61122415 (US2015360366A)

Title: SYSTEM AND METHOD FOR REINFORCING PROGRAMMING EDUCATION THROUGH ROBOTIC FEEDBACK

Abstract: A method for toy robot programming, the toy robot including a set of sensors, the method including, at a user **device** remote from the toy robot: receiving sensor measurements from the toy robot during physical robot manipulation; in response to detecting a programming trigger event, automatically converting the sensor measurements into a series of puppeted programming inputs; and displaying graphical representations of the set of puppeted programming inputs on a programming interface application on the user **device**.

Classifications:
International (IPC 8-9): A63H30/04 B25J11/00 B25J13/06 B25J9/00 B25J9/16 G05B15/02 G05B19/00 G06F19/00 G09B19/00 G09B5/02 (Advanced/Invention)
CPC: G09B5/02 A63H30/04 G05B19/0426 G05B2219/2666 G05B2219/36017 G05B2219/40392 G05B2219/36025 G09B19/0053 Y10S901/04 B25J9/0081 B25J11/001 B25J13/06 G05B15/02 A63H3/28 A63H11/00 A63H2200/00
US: 1/1 434/118 700/257 700/264 901/4



Family:

Publication number	Publication date	Application number	Application date
CN106573378 A	20170419	CN201580041694	20150611
EP3154749 A1	20170419	EP20150806892	20150611
EP3154749 A4	20171206	EP20150806892	20150611
SG10201809399V A1	20181129	SG20181009399	20150611
SG11201610305V A1	20170127	SG20161110305	20150611
US2015360366 AA	20151217	US20150737347	20150611
US2015364060 AA	20151217	US20150737342	20150611
US2016379519 AA	20161229	US20160260865	20160909
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US2017236446 AA	20170817	US20170582924	20170501
US2017291295 AA	20171012	US20170456113	20170310
US2017297195 AA	20171019	US20170636439	20170628
US2019108771 AA	20190411	US20180212403	20181206
US2019210216 AA	20190711	US20190356983	20190318
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US9672756 BB	20170606	US20160260865	20160909
US9718185 BB	20170801	US20160299292	20161020
US10181268 BB	20190115	US20170582924	20170501
US10279470 BB	20190507	US20170456113	20170310
US10427295 BB	20191001	US20170636439	20170628
WO15191910 A1	20151217	WO2015US35412	20150611
WO17048598 A1	20170323	WO2016US50942	20160909

Priority:

US20140011478P 20140612
US20150737342 20150611
US20160305299P 20160308
US20170456113 20170310
US20180212403 20181206
US20140015969P 20140623
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US20190356983 20190318
US20150737347 20150611
US20150219325P 20150916
US20160299292 20161020
US20170636439 20170628
US20190545315 20190820

Probable Assignee: PLAY I INC
Assignee(s): (std): PLAY I INC
Assignee(s): WONDER WORKSHOP INC
Inventor(s): (std): GUPTA SAURABH ; GUPTA VIKAS ; GREAVES MIKAL ; LIANG KEVIN ; HUANG LEISEN ; ELENZIL ORION
Agent(s): STANNERS DAVID RALPH; ONE LEGAL LLC; JEFFREY; DIANA; SCHOX JEFFREY; LIN DIANA
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 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

CN106573378 A	20170419	LSPB	+	published / reissued	
CN106573378 A	20170419	LSPB	PB01	PUBLICATION	
EP3154749 A1	20170419	LSPB	+	published / reissued	
EP3154749 A1	20170419	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20161205
EP3154749 A4	20171206	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20171106
EP3154749 A4	20191211	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20191111
SG10201809399V A1	20181129	LSPB	+	published / reissued	
SG11201610305V A1	20170127	LSPB	+	published / reissued	
US10181268 BB	20190115	LSGT	+	granted / extensions (spc, cpc, pte)	
US10181268 BB	20170501	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PLAY-I, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GUPTA, SAURABH; GUPTA, VIKAS; ELENZIL, ORION; AND OTHERS; SIGNING DATES FROM 20160914 TO 20160916; REEL/FRAME:042191/0928
US10181268 BB	20181222	LSGT	PAT1	Patented Case	
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US10181268 BB	20370725	PEXP		Calculated Patent Term Expiry (PTA 85 days)	
US10279470 BB	20190507	LSGT	+	granted / extensions (spc, cpc, pte)	
US10279470 BB	20190417	LSGT	PAT1	Patented Case	
US10279470 BB	20191105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WONDER WORKSHOP, INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:PLAY-I, INC.; REEL/FRAME:050936/0110 EFFECTIVE DATE : 20141028
US10279470 BB	20370310	PEXP		Calculated Patent Term Expiry	
US10427295 BB	20191001	LSGT	+	granted / extensions (spc, cpc, pte)	
US10427295 BB	20170628	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PLAY-I, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GUPTA, SAURABH; GUPTA, VIKAS; REEL/FRAME:042854/0571 EFFECTIVE DATE : 20150622
US10427295 BB	20191105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WONDER WORKSHOP, INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:PLAY-I, INC.; REEL/FRAME:050936/0110 EFFECTIVE DATE : 20141028

US10427295 BB	20370718	PEXP		Calculated Patent Term Expiry (PTA 20 days)	
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US2015364060 AA	20151217	LSPB	+	published / reissued	
US2015364060 AA	20160601	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2016379519 AA	20161229	LSPB	+	published / reissued	
US2016379519 AA	20170130	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016379519 AA	20170504	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016379519 AA	20170517	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017036344 AA	20170209	LSPB	+	published / reissued	
US2017036344 AA	20170403	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017036344 AA	20170628	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2017036344 AA	20170629	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017036344 AA	20170712	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017236446 AA	20170817	LSPB	+	published / reissued	
US2017236446 AA	20181222	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2017291295 AA	20171012	LSPB	+	published / reissued	
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US2017291295 AA	20190111	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PLAY-I, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GUPTA, SAURABH; GUPTA, VIKAS; LIANG, KEVIN; SIGNING DATES FROM 20170418 TO 20190109; REEL/FRAME:047977/0818
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US2017291295 AA	20190208	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of	

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US2017291295 AA	20190319	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017291295 AA	20190417	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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US2017297195 AA	20180927	LSES	NFA1	Non Final Action Mailed	
US2017297195 AA	20190516	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017297195 AA	20190822	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2017297195 AA	20190911	LSGT	PAT1	Patented Case	
US2017297195 AA	20190911	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
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US2019108771 AA	20181206	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PLAY-I, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GUPTA, SAURABH; GUPTA, VIKAS; ELENZIL, ORION; AND OTHERS; SIGNING DATES FROM 20160914 TO 20180916; REEL/FRAME:047698/0421
US2019108771 AA	20191105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WONDER WORKSHOP, INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:PLAY-I, INC.; REEL/FRAME:050938/0684 EFFECTIVE DATE : 20141028
US2019210216 AA	20190711	LSPB	+	published / reissued	
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US2019375096 AA	20190820	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PLAY-I, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GUPTA, SAURABH; GUPTA, VIKAS; REEL/FRAME:050102/0741 EFFECTIVE DATE : 20150622
US2019375096 AA	20191105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WONDER WORKSHOP, INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:PLAY-I, INC.; REEL/FRAME:050938/0684 EFFECTIVE DATE : 20141028
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				extensions (spc, cpc, pte)	
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US9370862 BB	20160321	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9370862 BB	20160406	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9370862 BB	20160601	LSGT	PAT1	Patented Case	
US9370862 BB	20191105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WONDER WORKSHOP, INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:PLAY-I, INC.; REEL/FRAME:050936/0110 EFFECTIVE DATE : 20141028
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US9498882 BB	20150623	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PLAY-I, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GUPTA, SAURABH; GUPTA, VIKAS; REEL/FRAME:035883/0588 EFFECTIVE DATE : 20150622
US9498882 BB	20161102	LSGT	PAT1	Patented Case	
US9498882 BB	20191105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WONDER WORKSHOP, INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:PLAY-I, INC.; REEL/FRAME:050936/0110 EFFECTIVE DATE : 20141028
US9498882 BB	20350611	PEXP		Calculated Patent Term Expiry	
US9672756 BB	20170606	LSGT	+	granted / extensions (spc, cpc, pte)	
US9672756 BB	20160916	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : PLAY-I, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GUPTA, SAURABH; GUPTA, VIKAS; ELENZIL, ORION; AND OTHERS; SIGNING DATES FROM 20160914 TO 20160916; REEL/FRAME:039765/0838
US9672756 BB	20170517	LSGT	PAT1	Patented Case	
US9672756 BB	20191105	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : WONDER WORKSHOP, INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:PLAY-I, INC.; REEL/FRAME:050936/0110 EFFECTIVE DATE : 20141028
US9672756 BB	20360909	PEXP		Calculated Patent Term	

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US9718185 BB	20170712	LSGT	PAT1	Patented Case	
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WO15191910 A1	20161212	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17048598 A1	20170323	LSPB	+	published / reissued	
WO17048598 A1	20180317	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO17048598 A1	20181024	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 16847093 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A1 DESIGNATED STATE(S) :

79) Family number: 62182419 (US2016114488A)

Title: CUSTOMER SERVICE ROBOT AND RELATED SYSTEMS AND METHODS

Abstract: A robot for providing customer service within a facility includes a locomotion platform, an upper sensor for detecting objects within an upper field of view of the robot, a lower sensor for detecting objects within a lower field of view of the robot, a display and a robot computer in communication with the locomotion platform, the upper sensor and the lower sensor. The robot computer is configured to detect the presence of a customer within the facility based on information received from at least one of the upper sensor and lower sensor, and the robot computer is further configured to access one or more databases storing information associated with products available to customers within the facility and to provide customer service to the customer based on the accessed information.

Classifications:

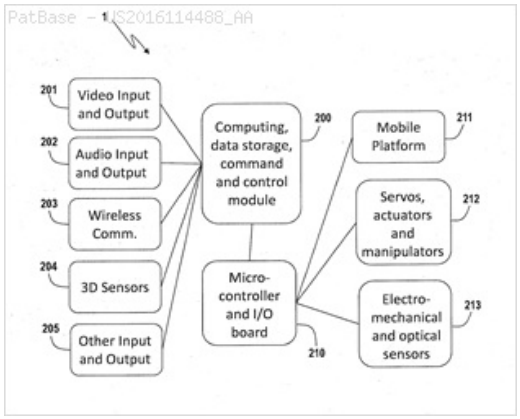
International (IPC 8-9): A47L11/40 B25J11/00 B25J13/00 B25J19/02 B25J5/00 B25J9/00 B25J9/16 B64C39/02 G05B19/12 G05D1/00 G05D1/02 G05D1/10 G06F19/00 G06K19/06 G06K9/00 G06N20/00 G06Q10/08 G06Q30/00 G06Q30/06 G06Q50/28 G06Q90/00 G6Q30/06 H04W4/38 (Advanced/Invention)

CPC: B25J13/003 B25J19/02 B25J9/1664 B25J9/1679 G06K7/10 G06K7/10009 G06K7/10722 B25J11/0005 G05D1/0038 G05D1/0248 G05D2201/0207 G06Q50/28 G06K9/00671 A47L2201/04 G05D1/0088 A47L11/4061 G05D2201/0203 G05D1/0242 B25J11/008 B64C2201/12 G05D1/0246 G06Q10/087 G06Q30/016 Y10S901/01 Y10S901/47 B25J9/1697 B64C39/024 B64C2201/127 B64C2201/141 G05D1/101 G06K9/00805 G06K2209/19 H04L67/10 G06N20/00 H04W4/38 G06N3/08 H04W4/35 H04W4/80

US: 1/1 700/259 705/28 901/1 901/47

JP F-Term: 3C707 3C707/AS34 3C707/KS11 3C707/KS12 3C707/KS16 3C707/KS39 3C707/KT01 3C707/KT04 3C707/KV09 3C707/KV11 3C707/KX02 3C707/KX03 3C707/MT15 3C707/WA16 3C707/WL04 3C707/WL06

JP F-Index: B25J13/00/Z



Family:

Publication number	Publication date	Application number	Application date
CA2965672 AA	20170424	CA20152965672	20151026
CN107206601 A	20170926	CN201580069534	20151026
CN110352116 A	20191018	CN201780075073	20171205
EP3209468 A1	20170830	EP20150852996	20151026
EP3209468 A4	20180418	EP20150852996	20151026
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JP2020502649 T2	20200123	JP20190530044T	20171205
JP6502491 B2	20190417	JP20170522057T	20151026
KR20170097017 A	20170825	KR20177014081	20151026
US2016114488 AA	20160428	US20150921899	20151023
US2018043542 AA	20180215	US20170791269	20171023
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US2019087772 AA	20190321	US20180138758	20180921
US2019325379 AA	20191024	US20190457647	20190628
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WO16065362 A1	20160428	WO2015US57392	20151026
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WO19060767 A1	20190328	WO2018US52279	20180921

Priority:

US20140068474P 20141024 US20150921899 20151023 WO2015US57392 20151026
US20160369812 20161205 US20170561588P 20170921 US20170791269 20171023
WO2017US64753 20171205 US20180622000P 20180125 US20180138758 20180921
US20180740793P 20181003 US20190795152P 20190122 US20190457647 20190628
US20190546150 20190820

Probable Assignee: FELLOW ROBOTS INC

Assignee(s): (std): FELLOW INC ; FELLOW ROBOTS INC

Assignee(s): KAZA SIVAPRIYA ; MASCORRO MEDINA MARCO O ; SINHA UTKARSH ; KRISHNA VARUN ; RANATUNGA THAVIDU ; BARRY DANIEL T ; FAN ZHENGQIN

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CA2965672 AA	20170424	LSPB	+	published / reissued	
CN107206601 A	20170926	LSPB	+	published / reissued	
CN107206601 A	20170926	LSPB	PB01	PUBLICATION	
CN110352116 A	20191018	LSPB	+	published / reissued	
CN110352116 A	20191018	LSPB	PB01	PUBLICATION	
EP3209468 A1	20170830	LSPB	+	published / reissued	
EP3209468 A1	20170830	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20170515
EP3209468 A4	20180418	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	EFFECTIVE DATE : 20180316
EP3209468 A4	20190828	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : FELLOW, INC.
EP3549045 A1	20191009	LSPB	+	published / reissued	
EP3549045 A1	20191009	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190703
JP2017533106 T2	20171109	LSPB	+	published / reissued	
JP2017533106 T2	20170803	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20170713
JP2017533106 T2	20180703	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20180703
JP2017533106 T2	20181002	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20181002
JP2017533106 T2	20190213	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2017533106 T2	20190219	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20190219
JP2017533106 T2	20190328	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20190320
JP2017533106 T2	20190329	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 6502491 COUNTRY OF REF DOCUMENT : JP
JP2020502649 T2	20200123	LSPB	+	published / reissued	
JP6502491 B2	20190417	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6502491 B2	20190221	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP6502491 B2	20190326	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP6502491 B2	20190329	LSGT	+R150	特許証 (Patent	

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JP6502491 B2	20351026	PEXP		Calculated Patent Term Expiry	
KR20170097017 A	20170825	LSPB	+	published / reissued	
US10311400 BB	20190604	LSGT	+	granted / extensions (spc, cpc, pte)	
US10311400 BB	20170329	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FELLOW ROBOTS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MASCORRO MEDINA, MARCO O.; FAN, ZHENGQIN; RANATUNGA, THAVIDU; AND OTHERS; SIGNING DATES FROM 20170110 TO 20170121; REEL/FRAME:041782/0608
US10311400 BB	20170330	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FELLOW, INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:FELLOW ROBOTS, INC.; REEL/FRAME:042115/0216 EFFECTIVE DATE : 20170117
US10311400 BB	20370517	PEXP		Calculated Patent Term Expiry (PTA 163 days)	
US10373116 BB	20190806	LSGT	+	granted / extensions (spc, cpc, pte)	
US10373116 BB	20180921	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10373116 BB	20181015	LSFE	FEPP	FEE PAYMENT PROCEDURE	TEXT : ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
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US2016114488 AA	20170308	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FELLOW, INC., CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:FELLOW ROBOTS, INC.; REEL/FRAME:041913/0171 EFFECTIVE DATE : 20170109
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US2016114488 AA	20170828	LSES	+ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016114488 AA	20170829	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016114488 AA	20170921	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016114488 AA	20171004	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

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US2018075403 AA	20190423	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
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US2018075403 AA	20190515	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2019087772 AA	20190321	LSPB	+	published / reissued	
US2019087772 AA	20190116	LSES	NFA1	Non Final Action Mailed	
US2019087772 AA	20190510	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
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US2019087772 AA	20190607	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2019087772 AA	20190613	LSFE	+AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2019087772 AA	20190613	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2019087772 AA	20190717	LSGT	PAT1	Patented Case	
US2019087772 AA	20190717	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2019325379 AA	20191024	LSPB	+	published / reissued	
US2019325379 AA	20190708	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FELLOW, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MEDINA, MARCO OCTAVIO MASCORRO; RANATUNGA, THAVIDU; SINHA, UTKARSH; AND OTHERS; SIGNING DATES FROM 20190618 TO 20190627; REEL/FRAME:049688/0043
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US2019370738 AA	20190823	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : FELLOW, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MEDINA, MARCO

					OCTAVIO MASCORRO; RANATUNGA, THAVIDU; SINHA, UTKARSH; AND OTHERS; SIGNING DATES FROM 20190813 TO 20190815; REEL/FRAME:050148/0108
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US9796093 BB	20171024	LSGT	+	granted / extensions (spc, cpc, pte)	
US9796093 BB	20170918	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US9796093 BB	20171004	LSGT	PAT1	Patented Case	
US9796093 BB	20360215	PEXP		Calculated Patent Term Expiry (PTA 115 days)	
WO16065362 A1	20160428	LSPB	+	published / reissued	
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WO16065362 A1	20170424	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2965672 COUNTRY OF REF DOCUMENT : CA
WO16065362 A1	20170424	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
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WO18106719 A1	20180614	LSPB	+	published / reissued	
WO18106719 A1	20190604	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2019530044 COUNTRY OF REF DOCUMENT : JP KIND CODE OF REF DOCUMENT : A DESIGNATED STATE(S) :
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WO18106719 A1	20190712	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF DOCUMENT NUMBER : 2017878094 COUNTRY OF REF DOCUMENT : EP EFFECTIVE DATE : 20190705
WO19060767 A1	20190328	LSPB	+	published / reissued	

80) Family number: 29478420 (US4949277A)

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Title: DIFFERENTIAL BUDDING: METHOD AND APPARATUS FOR PATH PLANNING WITH MOVING OBSTACLES AND GOALS

Abstract: A method is presented for path planning after changes in task space. In one embodiment, the method is applied to planning a path for a robot arm. The method identifies areas in the configuration space which are affected by the changes in task space. Cost waves can then be repropagated in these affected areas to allow for planning in N dimensions and using space variant metrics. The method is also adapted to use in the presence of phantom obstacles.

PatBase – US4949277_A

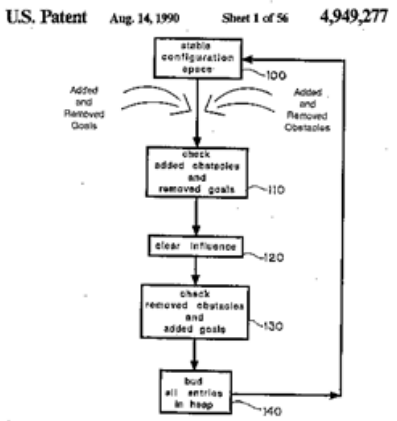


FIG.1

Classifications:

International (IPC 8-9): A01B69/00 B25J19/06 B25J9/16 B25J9/18 B25J9/22 B60W30/00 B62D15/00 B65G61/00 G05B13/00 G05B13/02 G05B19/4061 G05B19/4155 G05D1/00 G05D1/02 G06F17/50 G06F19/00 G06F9/44 G06N5/04 G06Q10/00 G06Q10/04 G08G1/0968 G08G1/16 G08G3/00 G08G3/02 G08G9/00 G09B29/10
H04Q9/00 (Advanced/Invention);
B63B49/00 B63G8/14 B63H25/04 (Advanced/Non-invention);
B25J9/16 B62D15/00 G05B19/406 G05D1/00 G05D1/02 G06F17/50 G06Q10/00 G08G1/16 G08G9/00 (Core/Invention);
B63B49/00 B63G8/00 B63H25/00 (Core/Non-invention)
International (IPC 1-7): A01B69/00 B25J19/06 B25J9/00 B25J9/22 B60K41/00 G05B13/00 G05B13/02 G05B13/04 G05B19/00 G05B19/403 G05B19/405 G05B19/407 G05B19/4155 G05B19/416 G05D1/00 G05D1/02 G06F15/18 G06F15/20 G06F15/46 G06F15/48 G06F15/50 G06F15/60 G06F15/70 G06F17/00 G06F17/50 G06F17/60 G06F19/00 G06G7/78 G06T17/00 G08G1/0968 G08G3/00 G08G3/02 G09B29/10 H04Q9/00
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Family:

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KR0133294 B1	19980424	KR19880015241	19881119
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KR19900010515 A	19900707	KR19890019212	19891222
KR19900700969 A	19900817	KR19890702076	19891108
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KR19920007856 A	19920527	KR19910018789	19911025
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KR970004104 B1	19970325	KR19890072076	19891108
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US5808887 A	19980915	US19950487621	19950607
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Priority:

US19870123502 19871120 US19880166599 19880309 US19880290130 19881223
WO1989NL00007 19890309 US19890422930 19891017 US19890442476 19891122
US19900508024 19900411 US19900605057 19901029 US19900617303 19901116
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US19940187370 19940127 US19940323189 19941014 US19940360186 19941220
US19950453424 19950530 US19950487619 19950607 US19950487621 19950607

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Inventor(s): (std)**:** DORST LEENDERT ; TROVATO KAREN IRENE ; MEHTA SANDEEP ; CAMERON ALEXANDER ; TROVATO KAREN

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Inventor(s):	TROVATO KAREN C O INT OCTROOIBUREAU BV ; TROVATO KAREN C O INT OCTROOIBUREAU B V ; TROVATO KAREN IRENE C O INT OCTROOIBUREAU BV ; DORST LEENDERT C O INT OCTROOIBUREAU BV ; TROVATO KAREN IRENE NL 5656 AA EINDHOVEN NL ; DORST LEENDERT NL 5656 AA EINDHOVEN NL ; TROVATO KAREN IRENE PUTNAM VALLEY NY 10579 US ; DORST LEENDERT YORKTOWN HEIGHTS NY 10598 US ; MEHTA SANDEEP NL 5656 AA EINDHOVEN NL ; DORST LEENDERT C O INT OCTROOIBUREAU BV 5656 AA EI ; TROVATO KAREN IRENE C O INT OCTROOIBUREAU BV 5656 ; DORST LEENDERT C O INT OCTROOIBUREAU BV 5656... ; TROVATO KAREN IRENE C O INT OCTROOIBUREAU 5656 AA EINDHOVEN NL BV ; DORST LEENDERT C O INT OCTROOIBUREAU 5656 AA EINDHOVEN NL BV
Designated states:	AT BE CH DE FR GB IT JP KR LI LU NL SE

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE3853616 D1	19960515	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3853616 D1	19991216	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : KONINKLIJKE PHILIPS ELECTRONICS N.V., EINDHOVEN, N
DE3853616 D1	20050908	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE3853616 T2	19951130	LSGT	+	granted / extensions (spc, cpc, pte)	
DE68913260 D1	19950323	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE68913260 D1	19950622	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : PHILIPS ELECTRONICS N.V., EINDHOVEN, NL
DE68913260 D1	19991216	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : KONINKLIJKE PHILIPS ELECTRONICS N.V., EINDHOVEN, N
DE68913260 D1	20030327	LSLI	8320	WILLINGNESS TO GRANT LICENCES DECLARED (PARAGRAPH 23)	
DE68913260 D1	20051027	LSLI	8321	WILLINGNESS TO GRANT LICENCES PARAGRAPH 23 WITHDRAWN	
DE68913260 D1	20090309	LSLE	-R071	EXPIRY OF RIGHT	
DE68913260 T2	19940901	LSGT	+	granted / extensions (spc, cpc, pte)	
DE68921857 D1	19960418	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE68921857 D1	19991216	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	PARTYTYPE : OWNER OWNER : KONINKLIJKE PHILIPS ELECTRONICS N.V., EINDHOVEN, N
DE68921857 D1	20021219	LSLI	8320	WILLINGNESS TO GRANT LICENCES DECLARED (PARAGRAPH 23)	
DE68921857 D1	20051013	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
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DE69124918 D1	19980402	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
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DE69124918 T2	19970828	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69124918 T2	20111021	PEXP		Calculated Patent Term Expiry	
DE69317623 D1	19990422	LSGT	+8364	NO OPPOSITION	

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DE69317623 D1	20030403	LSLI	8320	WILLINGNESS TO GRANT LICENCES DECLARED (PARAGRAPH 23)	
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DE69317623 T2	20131021	PEXP		Calculated Patent Term Expiry	
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DE69425595 D1	20030403	LSLI	8320	WILLINGNESS TO GRANT LICENCES DECLARED (PARAGRAPH 23)	
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DE69425595 T2	20140114	PEXP		Calculated Patent Term Expiry	
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EP0317020 A2	19900620	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19900423
EP0317020 A2	19921202	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19921015
EP0317020 A2	19950419	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 : 19950419
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EP0317020 A2	19950719	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE LAPSED DATE : 19950719
EP0317020 A2	19951002	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
EP0317020 A2	19960410	LSGT	+26N	NO OPPOSITION FILED	
EP0317020 A2	19980918	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : CD
EP0317020 A2	20040121	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20040121 YEAR OF FEE PAYMENT : 16
EP0317020 A2	20050601	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 : 20050601

EP0317020 A2	20080430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20071128 YEAR OF FEE PAYMENT : 20
EP0317020 A2	20080430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20071218 YEAR OF FEE PAYMENT : 20
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EP0317020 A2	20090630	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 EXPIRATION OF PROTECTION LAPSED DATE : 20081114
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EP0317020 B1	20081115	PEXP		Calculated Patent Term Expiry	
EP0365626 A1	19900502	LSPB	+	published / reissued	
EP0365626 A1	19900502	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19891031
EP0365626 A1	19920902	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19920717
EP0365626 A1	19931001	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : LU PAYMENT DATE : 19931001 YEAR OF FEE PAYMENT : 6
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EP0365626 A1	19950131	LSGT	+EAL	SE: EUROPEAN PATENT IN FORCE IN SWEDEN	REF COUNTRY CODE : EP TEXT : 89903814.5
EP0365626 A1	19950215	LSGT	+26N	NO OPPOSITION FILED	
EP0365626 A1	19950419	LSAS	ITPR	IT: CHANGES IN OWNERSHIP OF A EUROPEAN PATENT	PARTYTYPE : OWNER REF COUNTRY CODE : EP OWNER : CAMBIO RAGIONE SOCIALE; PHILIPS ELECTRONICS N.V.
EP0365626 A1	19950609	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : CD
EP0365626 A1	19980918	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : CD
EP0365626 A1	20021113	LSLI	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : 746 EFFECTIVE DATE : 20021017
EP0365626 A1	20021122	LSLI	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : D6
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EP0365626 B1	20090308	PEXP		Calculated Patent Term Expiry	
EP0365626 B1	20090309	PEXP		Calculated Patent Term Expiry	
EP0375055 A2	19900627	LSPB	+	published / reissued	
EP0375055 A3	19910508	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19910308
EP0375055 A3	19930602	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19930416
EP0375055 B1	19950322	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP0375055 B1	19950622	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SE LAPSED DATE : 19950622
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EP0375055 B1	20021009	LSLI	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : 746 EFFECTIVE DATE : 20020918
EP0375055 B1	20021122	LSLI	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : D6
EP0375055 B1	20031224	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20031224 YEAR OF FEE PAYMENT : 15
EP0375055 B1	20031229	LSFE	+PGFP	ANNUAL FEE PAID TO	COUNTRY OF REF DOCUMENT :

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EP0483905 A3	19941207	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19941025
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EP0546633 A3	19960424	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19960312
EP0546633 A3	19970312	LSRE	RHK1	MAIN CLASSIFICATION (CORRECTION)	CLASSIFICATIONSCHEME : IPC CLASSIFICATIONSYMBOL : G05B 13/04
EP0546633 A3	19980610	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 19971129
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EP0595416 A1	19940824	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : N.V. PHILIPS' GLOEILAMPENFABRIEKEN
EP0595416 A1	19941221	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19941019
EP0595416 A1	19951227	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19951114
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EP0595416 B1	19980826	LSAS	RAP4	PATENT OWNER DATA CHANGED	PARTYTYPE : OWNER OWNER : KONINKLIJKE PHILIPS ELECTRONICS N.V.
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EP0595416 B1	20021122	LSLI	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : D6
EP0595416 B1	20031027	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20031027 YEAR OF FEE PAYMENT : 11
EP0595416 B1	20031215	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20031215 YEAR OF FEE PAYMENT : 11
EP0595416 B1	20041028	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20041028 YEAR OF FEE PAYMENT : 12
EP0595416 B1	20050503	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	COUNTRY OF REF DOCUMENT : DE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				NATIONAL OFFICE TO EPO]	LAPSED DATE : 20050503
EP0595416 B1	20050630	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 : 20050630
EP0595416 B1	20050805	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0595416 B1	20051021	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 : 20051021
EP0595416 B1	20060628	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20051021
EP0595416 B1	20131021	PEXP		Calculated Patent Term Expiry	
EP0609928 A2	19940810	LSPB	+	published / reissued	
EP0609928 A2	19940824	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : N.V. PHILIPS' GLOEILAMPENFABRIEKEN
EP0609928 A3	19971008	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19970812
EP0609928 A3	19980826	LSAS	RAP3	APPLICANT DATA CHANGED	PARTYTYPE : OWNER OWNER : KONINKLIJKE PHILIPS ELECTRONICS N.V.
EP0609928 A3	19990317	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 19990128
EP0609928 B1	20000823	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0609928 B1	20010808	LSGT	+26N	NO OPPOSITION FILED	
EP0609928 B1	20021016	LSLI	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : 746 EFFECTIVE DATE : 20020923
EP0609928 B1	20021122	LSLI	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : D6
EP0609928 B1	20040128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20040128 YEAR OF FEE PAYMENT : 11
EP0609928 B1	20040129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20040129 YEAR OF FEE PAYMENT : 11
EP0609928 B1	20040316	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20040316 YEAR OF FEE PAYMENT : 11
EP0609928 B1	20050114	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 : 20050114
EP0609928 B1	20050802	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 : 20050802
EP0609928 B1	20050831	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	REF COUNTRY CODE : EP EFFECTIVE DATE : 20050114
EP0609928 B1	20050930	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT :

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20050930
EP0609928 B1	20051104	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0609928 B1	20140114	PEXP		Calculated Patent Term Expiry	
JP1205205 A2	19890817	LSPB	+	published / reissued	
JP2238506 A2	19900920	LSPB	+	published / reissued	
JP2503723 T2	19901101	LSPB	+	published / reissued	
JP2503723 T2	20040226	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20040223
JP2503723 T2	20040227	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2840608 B2	19981224	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2840608 B2	20071004	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 9
JP2840608 B2	20071009	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 10
JP2840608 B2	20081007	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 11
JP2840608 B2	20081121	LSLE	-EXPY	CANCELLATION BECAUSE OF COMPLETION OF TERM	
JP2840608 B2	20090210	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 11
JP2840608 B2	20081121	PEXP		Calculated Patent Term Expiry	
JP3527739 B2	20040517	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3527739 B2	20080212	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP3527739 B2	20090205	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP3527739 B2	20090210	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP3527739 B2	20090309	LSLE	-EXPY	CANCELLATION BECAUSE OF COMPLETION OF TERM	
JP3527739 B2	20090603	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 6
JP3527739 B2	20090309	PEXP		Calculated Patent Term Expiry	
JP4315300 A2	19921106	LSPB	+	published / reissued	
JP5257507 A2	19931008	LSPB	+	published / reissued	
JP6230823 A2	19940819	LSPB	+	published / reissued	
JP6230823 A2	20041222	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20041221

JP6230823 A2	20050608	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20050607
JP6259410 A2	19940916	LSPB	+	published / reissued	
JP6259410 A2	20040721	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20040720
KR0133294 B1	19980424	LSGT	+	granted / extensions (spc, cpc, pte)	
KR0133294 B1	19931118	LSES	A201	REQUEST FOR EXAMINATION	
KR0133294 B1	19970307	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR0133294 B1	19970930	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR0133294 B1	19971219	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR0133294 B1	20031205	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20031208 YEAR OF FEE PAYMENT : 7
KR0133294 B1	20041220	LSLE	-LAPS	LAPSE DUE TO UNPAID ANNUAL FEE	
KR0133294 B1	20130424	PEXP		Calculated Patent Term Expiry	
KR19890007854 A	19890706	LSPB	+	published / reissued	
KR19900010515 A	19900707	LSPB	+	published / reissued	
KR19900010515 A	19941221	LSES	A201	REQUEST FOR EXAMINATION	
KR19900010515 A	19971124	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR19900010515 A	19980214	LSRV	-E601	DECISION TO REFUSE APPLICATION	
KR19900700969 A	19900817	LSPB	+	published / reissued	
KR19900700969 A	19940309	LSES	A201	REQUEST FOR EXAMINATION	
KR19900700969 A	19970225	LSPB	G160	DECISION TO PUBLISH PATENT APPLICATION	
KR19900700969 A	19970530	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR19900700969 A	19970701	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
KR19900700969 A	20110324	LSFE	FPAY	ANNUAL FEE PAYMENT	PAYMENT DATE : 20110324 YEAR OF FEE PAYMENT : 15
KR19900700969 A	20120326	LSLE	-EXPY	EXPIRATION OF TERM	
KR19907000969 A	19900817	LSPB	+	published / reissued	
KR19920007856 A	19920527	LSPB	+	published / reissued	
KR19920007856 A	19961022	LSES	A201	REQUEST FOR EXAMINATION	
KR19920007856 A	19990226	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR970004104 B1	19970325	LSGT	+	granted / extensions (spc, cpc, pte)	
KR970004104 B1	19970325	LSGT	+	granted / extensions (spc, cpc, pte)	
KR970004104 B1	20120325	PEXP		Calculated Patent Term Expiry	
KR970004104 B1	20120325	PEXP		Calculated Patent Term Expiry	
US4949277 A	19900814	LSGT	+	granted / extensions (spc, cpc, pte)	
US4949277 A	19880309	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NORTH AMERICAN PHILIPS CORPORATION, 100

					EAST 42ND OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:TROVATO, KAREN I.; DORST, LEENDERT; REEL/FRAME:004872/0610 EFFECTIVE DATE : 19880309
US4949277 A	19880309	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NORTH AMERICAN PHILIPS CORPORATION, A DE CORP.,NEW OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:TROVATO, KAREN I.; DORST, LEENDERT; REEL/FRAME:004872/0610 EFFECTIVE DATE : 19880309
US4949277 A	19900619	LSGT	PAT1	Patented Case	
US4949277 A	19900619	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US4949277 A	19940204	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4949277 A	19980128	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4949277 A	20020129	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US4949277 A	20080309	PEXP		Calculated Patent Term Expiry	
US5083256 A	19920121	LSGT	+	granted / extensions (spc, cpc, pte)	
US5083256 A	19910724	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NORTH AMERICAN PHILIPS CORPORATION A DE CORPORATI OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:TROVATO, KAREN I.; DORST, LEENDERT; REEL/FRAME:005775/0505; SIGNING DATES FROM 19891113 TO 19891116
US5083256 A	19920108	LSGT	PAT1	Patented Case	
US5083256 A	19920108	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5083256 A	19950630	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5083256 A	19990625	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5083256 A	20030616	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5083256 A	20091017	PEXP		Calculated Patent Term Expiry	
US5220497 A	19930615	LSGT	+	granted / extensions (spc, cpc, pte)	
US5220497 A	19901029	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NORTH AMERICAN PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:TROVATO, KAREN I.; MEHTA, SANDEEP; REEL/FRAME:005508/0780 EFFECTIVE DATE : 19901025
US5220497 A	19961125	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5220497 A	20001127	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5220497 A	20050615	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5220497 A	20050713	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	

US5220497 A	20050713	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5220497 A	20050809	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20050615
US5220497 A	20101029	PEXP		Calculated Patent Term Expiry	
US5663879 A	19970902	LSGT	+	granted / extensions (spc, cpc, pte)	
US5663879 A	19930119	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NORTH AMERICAN PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:TROVATO, KAREN I.; REEL/FRAME:006394/0142 EFFECTIVE DATE : 19921221
US5663879 A	19930119	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NORTH AMERICAN PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:DORST, LEENDERT; REEL/FRAME:006394/0146 EFFECTIVE DATE : 19930105
US5663879 A	19970825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : U.S. PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PHILIPS ELECTRONICS NORTH AMERICA CORPORATION; REEL/FRAME:008698/0171 EFFECTIVE DATE : 19970821
US5663879 A	20010228	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5663879 A	20050902	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5663879 A	20051005	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5663879 A	20051005	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5663879 A	20051101	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20050902
US5663879 A	20140902	PEXP		Calculated Patent Term Expiry	
US5696674 A	19971209	LSGT	+	granted / extensions (spc, cpc, pte)	
US5696674 A	19970825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : U.S. PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PHILIPS ELECTRONICS NORTH AMERICA CORPORATION; REEL/FRAME:008698/0171 EFFECTIVE DATE : 19970821
US5696674 A	19971201	LSGT	PAT1	Patented Case	
US5696674 A	19971201	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5696674 A	20010514	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5696674 A	20050527	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5696674 A	20090527	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5696674 A	20150607	PEXP		Calculated Patent Term	

				Expiry	
US5751573 A	19980512	LSGT	+	granted / extensions (spc, cpc, pte)	
US5751573 A	19970825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : U.S. PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PHILIPS ELECTRONICS NORTH AMERICA CORPORATION; REEL/FRAME:008698/0171 EFFECTIVE DATE : 19970821
US5751573 A	20011029	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5751573 A	20060512	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5751573 A	20060614	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5751573 A	20060614	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5751573 A	20060711	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20060512
US5751573 A	20150512	PEXP		Calculated Patent Term Expiry	
US5764510 A	19980609	LSGT	+	granted / extensions (spc, cpc, pte)	
US5764510 A	19970825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : U.S. PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PHILIPS ELECTRONICS NORTH AMERICA CORPORATION; REEL/FRAME:008698/0171 EFFECTIVE DATE : 19970821
US5764510 A	20011121	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5764510 A	20060609	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5764510 A	20060712	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5764510 A	20060712	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5764510 A	20060808	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20060609
US5764510 A	20150609	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US5808887 A	19980915	LSGT	+	granted / extensions (spc, cpc, pte)	
US5808887 A	19970825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : U.S. PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PHILIPS ELECTRONICS NORTH AMERICA CORPORATION; REEL/FRAME:008698/0171 EFFECTIVE DATE : 19970821
US5808887 A	19981001	LSGT	PAT1	Patented Case	
US5808887 A	19981001	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US5808887 A	20020226	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5808887 A	20060228	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8

US5808887 A	20100309	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5808887 A	20150915	PEXP		Calculated Patent Term Expiry	
US5870303 A	19990209	LSGT	+	granted / extensions (spc, cpc, pte)	
US5870303 A	19970825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : U.S. PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PHILIPS ELECTRONICS NORTH AMERICA CORPORATION; REEL/FRAME:008698/0171 EFFECTIVE DATE : 19970821
US5870303 A	20020724	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5870303 A	20070209	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US5870303 A	20070314	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US5870303 A	20070314	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US5870303 A	20070410	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20070209
US5870303 A	20160209	PEXP		Calculated Patent Term Expiry	
US6324476 BA	20011127	LSGT	+	granted / extensions (spc, cpc, pte)	
US6324476 BA	19970825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : U.S. PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PHILIPS ELECTRONICS NORTH AMERICA CORPORATION; REEL/FRAME:008698/0171 EFFECTIVE DATE : 19970821
US6324476 BA	20051128	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6324476 BA	20051228	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6324476 BA	20051228	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6324476 BA	20060124	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20051127
US6324476 BA	20181127	PEXP		Calculated Patent Term Expiry	
US6604005 BA	20030805	LSGT	+	granted / extensions (spc, cpc, pte)	
US6604005 BA	19970825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : U.S. PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PHILIPS ELECTRONICS NORTH AMERICA CORPORATION; REEL/FRAME:008698/0171 EFFECTIVE DATE : 19970821
US6604005 BA	20030106	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : KONINKLIJKE PHILIPS ELECTRONICS N.V., NETHERLANDS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PHILIPS ELECTRONICS NORTH AMERICA CORPORATION; REEL/FRAME:013640/0823 EFFECTIVE DATE : 20021220

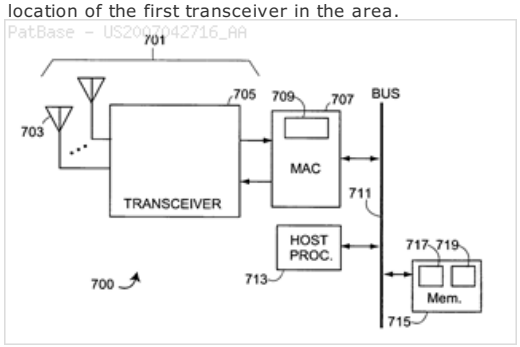
US6604005 BA	20030717	LSGT	PAT1	Patented Case	
US6604005 BA	20030717	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US6604005 BA	20070125	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6604005 BA	20110328	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6604005 BA	20150202	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6604005 BA	20200805	PEXP		Calculated Patent Term Expiry	
US6728581 BA	20040427	LSGT	+	granted / extensions (spc, cpc, pte)	
US6728581 BA	19970825	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : U.S. PHILIPS CORPORATION, NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:PHILIPS ELECTRONICS NORTH AMERICA CORPORATION; REEL/FRAME:008698/0171 EFFECTIVE DATE : 19970821
US6728581 BA	20070925	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6728581 BA	20120427	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6728581 BA	20120528	LSLE	-PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6728581 BA	20120528	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	TEXT : PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6728581 BA	20120619	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20120427
US6728581 BA	20210427	PEXP		Calculated Patent Term Expiry	
WO8908890 A1	19890921	LSPB	+	published / reissued	
WO8908890 A1	19891031	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1989903814 COUNTRY OF REF DOCUMENT : EP
WO8908890 A1	19900502	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1989903814 COUNTRY OF REF DOCUMENT : EP
WO8908890 A1	19940223	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1989903814 COUNTRY OF REF DOCUMENT : EP

81) Family number: 34233429 (US2007042716A)

Title: AUTOMATIC RADIO SITE SURVEY USING A ROBOT

Abstract: A method, apparatus, and carrier medium carrying computer readable code. The apparatus includes a mobile robot arranged in operation to traverse an area, a first transceiver for a wireless network mounted on the robot and arranged in operation to communicate with a second transceiver to effect radio measurement operations including determining a measure indicative of the path loss between the first and second transceivers, and a location determining system at least a component of which is mounted on the robot and arranged in operation to determine the location of the first transceiver in the area.

Classifications:
International (IPC 8-9)**:** B25J5/00 G05D1/02 H04B17/00 H04W16/18 H04W16/20 (Advanced/Invention);
G05D1/02 H04B17/00 H04W16/00 (Core/Invention)
CPC: G05D1/0227 G05D1/024 G05D1/0242 G05D1/0255 G05D1/0274 G05D1/028 G05D2201/0207 H04W16/18
European: H04W216/18 H04W8/04 S05D1/02E16D S05D1/02E5 S05D1/02E6D2 S05D1/02E6N S05D1/02E8 S05D201/0207
US: 318/568.11 318/568.12 455/67.11 455/67.110P



Family:

Publication number	Publication date	Application number	Application date
AT528704 E	20111015	AT20060789532T	20060807
DE602006025071 D1	20111208	DE200660025071T	20060807
EP1915881 A1	20080430	EP20060789532	20060807
EP1915881 B1	20111012	EP20060789532	20060807
US2007042716 AA	20070222	US20050208091	20050819
US7456596 BB	20081125	US20050208091	20050819
WO07024460 A1	20070301	WO2006US30750	20060807

Priority:
US20050208091 20050819 EP20060789532 20060807 WO2006US30750 20060807

Probable Assignee: CISCO SYSTEMS INC

Assignee(s): (std)**:** CISCO TECH INC ; GOODALL DAVID S ; HART BRIAN ; HART BRIAN D

Assignee(s): CISCO TECHNOLOGY INC ; CISCO TECHNOLOGY INC SAN JOSE ; CISCO SYSTEMS INC

Inventor(s): (std)**:** HART BRIAN ; GOODALL DAVID S ; HART BRIAN D ; GOODALL DAVID

Inventor(s): GOODALL DAVID S RANDWICK ; HART BRIAN D SUNNYVALE

Agent(s): BOSCH JEHLE PATENTANWALTSGESELLSCHAFT MBH; MATHYS AND SQUIRE; MATHYS AND SQUIRE LLP; DOV ROSENFELD; ROSENFELD DOV; INVENTEK; DOV

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT528704 E	20111015	LSGT	+	granted / extensions (spc, cpc, pte)	
AT528704 E	20120415	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT528704 E	20260807	PEXP		Calculated Patent Term Expiry	
EP1915881 A1	20080430	LSPB	+	published / reissued	
EP1915881 A1	20080430	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20071213
EP1915881 A1	20100623	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20100520
EP1915881 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160826 YEAR OF FEE PAYMENT : 11
EP1915881 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160830

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EP1915881 B1	20111012	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1915881 B1	20111012	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1915881 B1	20111014	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1915881 B1	20111109	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1915881 B1	20111208	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602006025071 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20111208
EP1915881 B1	20120201	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : VDEP EFFECTIVE DATE : 20111012
EP1915881 B1	20120326	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	REF COUNTRY CODE : EP EFFECTIVE DATE : 20111012
EP1915881 B1	20120415	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 528704 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20111012
EP1915881 B1	20120430	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 : 20111012
EP1915881 B1	20120430	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 : 20120212
EP1915881 B1	20120430	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 : 20111012
EP1915881 B1	20120531	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 : 20120213
EP1915881 B1	20120531	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 : 20111012
EP1915881 B1	20120531	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT : LV

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EP1915881 B1	20120531	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 : 20111012
EP1915881 B1	20120531	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 : 20111012
EP1915881 B1	20120531	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 : 20120113
EP1915881 B1	20120629	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 : 20111012
EP1915881 B1	20120731	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 : 20111012
EP1915881 B1	20120731	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 : 20111012
EP1915881 B1	20120731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20111012
EP1915881 B1	20120731	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 : 20111012
EP1915881 B1	20120731	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 : 20120112
EP1915881 B1	20120831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	COUNTRY OF REF DOCUMENT : IT NOTIFICATIONOFLAPSE : LAPSE

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EP1915881 B1	20120831	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 : 20111012
EP1915881 B1	20120831	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 : 20111012
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EP1915881 B1	20121108	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602006025071 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20120713
EP1915881 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : AT NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20111012
EP1915881 B1	20130328	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1915881 B1	20130329	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 : 20120831
EP1915881 B1	20130430	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 : 20120123
EP1915881 B1	20130430	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 : 20120831
EP1915881 B1	20130430	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 : 20120831
EP1915881 B1	20130522	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1915881 B1	20130628	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 : 20111012

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EP1915881 B1	20140430	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 : 20111012
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EP1915881 B1	20150817	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
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EP1915881 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170829 YEAR OF FEE PAYMENT : 12
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EP1915881 B1	20180827	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 13
EP1915881 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180829 YEAR OF FEE PAYMENT : 13
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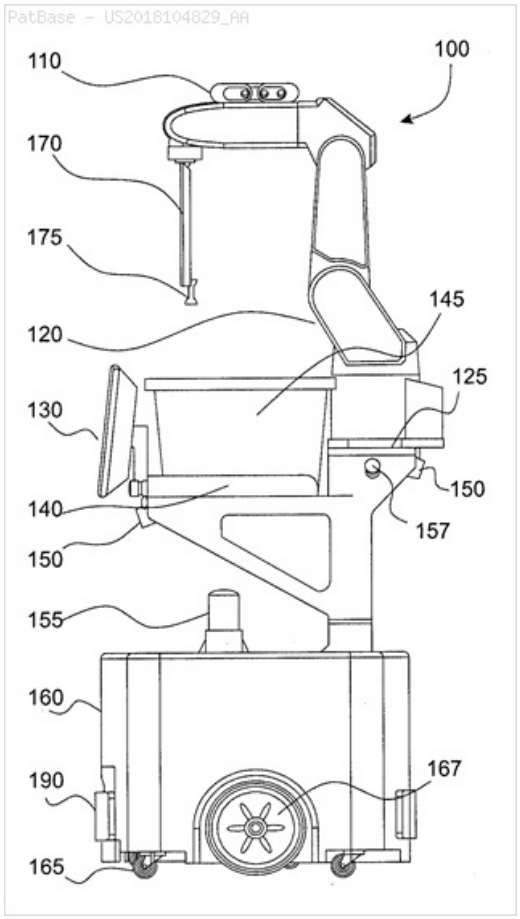
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EP1915881 B1	20260807	PEXP		Calculated Patent Term Expiry	
US2007042716 AA	20070222	LSPB	+	published / reissued	
US2007042716 AA	20081105	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US7456596 BB	20081125	LSGT	+	granted / extensions (spc, cpc, pte)	
US7456596 BB	20050819	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CISCO TECHNOLOGY, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:GOODALL, DAVID S.; HART, BRIAN; REEL/FRAME:016909/0949 EFFECTIVE DATE : 20050818
US7456596 BB	20081105	LSGT	PAT1	Patented Case	
US7456596 BB	20090331	LSRE	CC	CERTIFICATE OF CORRECTION	
US7456596 BB	20120525	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7456596 BB	20160525	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7456596 BB	20261202	PEXP		Calculated Patent Term Expiry (PTA 470 days)	
WO07024460 A1	20070301	LSPB	+	published / reissued	
WO07024460 A1	20071213	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2006789532 COUNTRY OF REF DOCUMENT : EP
WO07024460 A1	20080220	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

82) Family number: 69332430 (US2018104829A)

Title: FIELD REPLACEABLE BATTERY PACK AND LIFT COUNTERBALANCE FOR A MOBILE MANIPULATION ROBOT

Abstract: Systems and methods for improved power supply and use in a battery powered **device**, such as a mobile manipulation robot, are disclosed. These systems include field replaceable batteries that may be hot-swapped with no robot downtime, methods for automating battery replacement messaging and robot operation when battery power is low, and improved mechanical systems having lower energy requirements, and thus extending the lifetime of the battery operated mobile manipulation robot.

Classifications:
International (IPC 8-9): B25J19/00 B25J5/00 B25J9/16 B60L11/18 H01M10/46 H01M2/10 H02J7/00 (Advanced/Invention)
CPC: B25J5/007 B25J9/162 B25J19/005 B60L50/64 B60L53/14 B60L53/31 B60L53/80 G05B2219/40298 H01M2/1072 H01M10/48 H01M2220/20 H02J7/0045 Y10S901/01 Y10S901/09 B25J9/16 H01M10/46 H02J7/0047 H02J7/025 H02J9/061
US: 1/1 701/22



Family:

Publication number	Publication date	Application number	Application date
US2018104829 AA	20180419	US20170785207	20171016

Priority:
US20160408187P 20161014 US20170785207 20171016

Probable Assignee: IAM ROBOTICS LLC

Assignee(s): (std): ALTMAN VLADIMIR ; BROWN STEVE C ; GALLUZZO THOMAS ; IAM ROBOTICS LLC

Inventor(s): (std): ALTMAN VLADIMIR ; GALLUZZO THOMAS ; BROWN STEVE C

Legal status (INPADOC)

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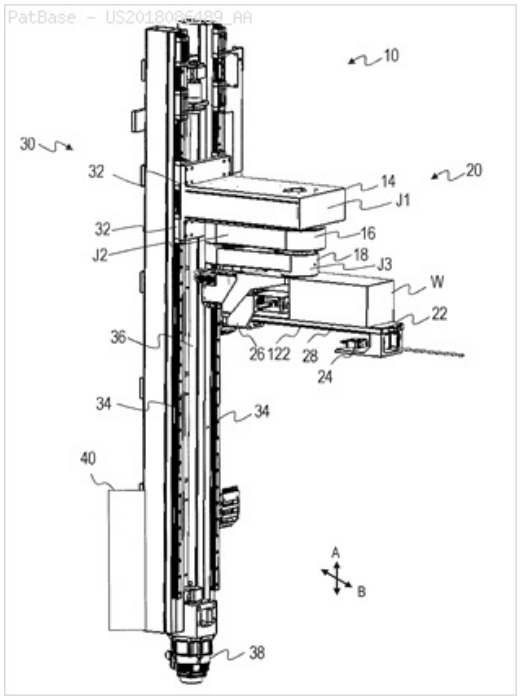
Patent	Date recorded	Event group	Code	Event	Details
US2018104829 AA	20180419	LSPB	+	published / reissued	

83) Family number: 69019432 (US2018086489A)

Title: METHOD, APPARATUS, AND SYSTEM FOR ROBOTIC ARTICLE **HANDLING**

Abstract: A robotic **handling** apparatus includes a vertical motion mechanism and a first arm member connected to the vertical motion mechanism. The first arm member is movable in a vertical direction by the vertical motion mechanism. The robotic **handling** apparatus includes a second arm member connected to the vertical motion mechanism via the first arm member, and a first drive unit configured to drive the second arm member to pivot about a first axis. An end effector is connected to the second arm to transfer an article from a first position to a second position by the motion of the vertical motion mechanism, first arm member, and second arm member, the first arm member being mounted to a side of the vertical motion mechanism relative to the vertical direction.

Classifications:
International (IPC 8-9): B25J15/02 B25J18/02 B25J9/16 B65B35/36 (Advanced/Invention)
CPC: B65B35/36 B25J18/02 B25J9/1602 B25J15/02 B65G1/0435 B25J9/042 B25J15/0014 B25J15/0616
US: 1/1 414/744.5



Family:

Publication number	Publication date	Application number	Application date
US2018086489 AA	20180329	US20170703942	20170913

Priority:
US20160399493P 20160926 US20170703942 20170913

Probable Assignee: YASKAWA ELECTRIC CORP
Assignee(s): (std): YASKAWA AMERICA INC ; YASKAWA ELECTRIC CORP
Inventor(s): (std): TRAYNOR CARL MICHAEL ; ROGERS JOHN CHARLES

Legal status (INPADOC)

View legal status timeline

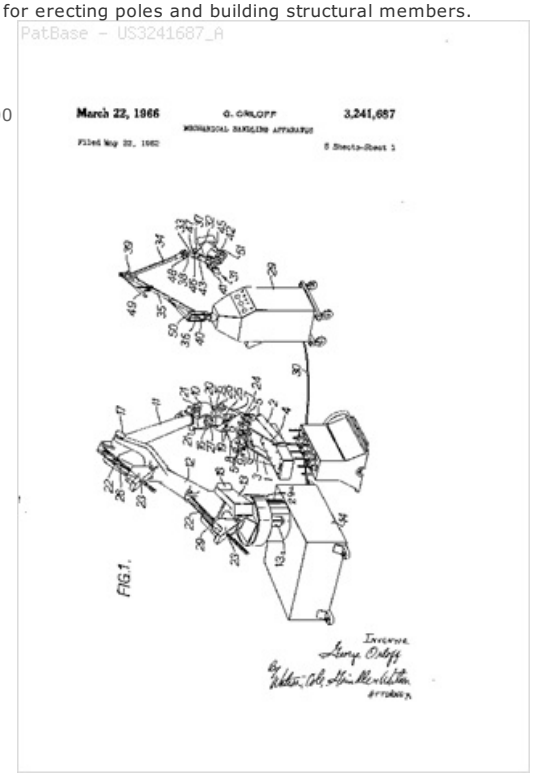
Patent	Date recorded	Event group	Code	Event	Details
US2018086489 AA	20180329	LSPB	+	published / reissued	
US2018086489 AA	20181001	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : YASKAWA AMERICA, INC., ILLINOIS OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ROGERS, JOHN CHARLES; HANDA, HIROYUKI; PAYNE, JOHN D.; AND OTHERS; SIGNING DATES FROM 20180522 TO 20180814; REEL/FRAME:047014/0565
US2018086489 AA	20190617	LSES	NFA1	Non Final Action Mailed	
US2018086489 AA	20190906	LSES	NFA1	Non Final Action Mailed	

84) Family number: 30961437 (US3241687A)

Title: Mechanical **handling** apparatus

Abstract: 1,138,983. Load **handling** **vehicles**. MOLINS **MACHINE** CO. Ltd. 8 March, 1966 [10 March, 1965], No. 10190/65. Addition to 966,609. Headings B8B and B8H. [Also in Division E1] The mechanical **handling** apparatus of the parent Specification 966,609 is modified in that two of the remotely controlled grippers 23, 24 are mounted on a **vehicle**, which may be of the **wheeled**, water or hovering type, each gripping apparatus is mounted for independent swivelling about a vertical axis and the movement relationship between the main and secondary members may be other than the one-to-one relationship of the parent Specification. Each gripping apparatus 23, 24 is pivoted about a horizontal axis to a yoke 22 which is slewable on a bracket 20 extending from a rotatable turret on the **vehicle**, in which the operator is housed. The operator has hand and foot controls for the independent and simultaneous operation of the grippers and operation of the **vehicle**. Stabilizers (13), Fig. 1 (not shown), on the **vehicle** can be lowered to the ground for increased stability. A bracket 61 secured to the front of the **vehicle** pivotally receives a bulldozer blade, the ends of which have extensions to be gripped by the jaws 23a, 24a for pivotal control thereof. A variety of **tools** may be gripped by the jaws 23a, 24a including a fork lift platform, crane hooks, trenching scoop, hole borer and ground grading blade, see Fig. 7 (not shown). The grippers may further be used for erecting poles and building structural members.

Classifications:
International (IPC 8-9): B25J13/08 B25J19/00 B25J5/00 B25J9/04 B60P3/00 B60P3/14 B62D49/02 B62D49/04 B66F9/065 G05G9/047 (Advanced/Invention);
B25J13/08 B25J19/00 B25J5/00 B25J9/02 B60P3/00 B60P3/14 B62D49/00 B66F9/065 G05G9/00 (Core/Invention)
International (IPC 1-7): B25J19/00 B25J3/04 B25J5/00 B25J5/04 B66C1/00 B66F9/00
CPC: B25J5/00 B25J5/007 B25J9/046 B25J9/047 B25J19/0012 B60P3/00 B60P3/14 B62D49/02 B62D49/04 B66F9/065 G05G9/047 B25J13/082
European: B25J13/08B2 B25J19/00D2 B25J5/00 B25J5/00W B25J9/04D B25J9/04D1 B60P3/00 B60P3/14 B62D49/02 B62D49/04 B66F9/065 G05G9/047
US: 212/278 212/280 414/5 901/15 901/34 901/37 901/9



Family:

Publication number	Publication date	Application number	Application date
FR1324012 A	19630412	FR19620898620	19620524
GB1138983 A	19690101	GB19650010190	19650310
GB966609 A	00000000		00000000
US3241687 A	19660322	US19620196810	19620522

Priority:
FR19620898620 19620524 GB19650010190 19650310

Probable Assignee: MOLINS MACHINE CO LTD
Assignee(s): (std): MOLINE ORGANISATION LTD ; MOLINS MACHINE CO LTD
Assignee(s): MOLINS MACHINE COMPANY LIMITED ; THE MOLINE ORGANISATION LIMITED
Inventor(s): (std): GEORGE ORLOFF ; ORLOFF GEORGE

Legal status (INPADOC)

View legal status timeline

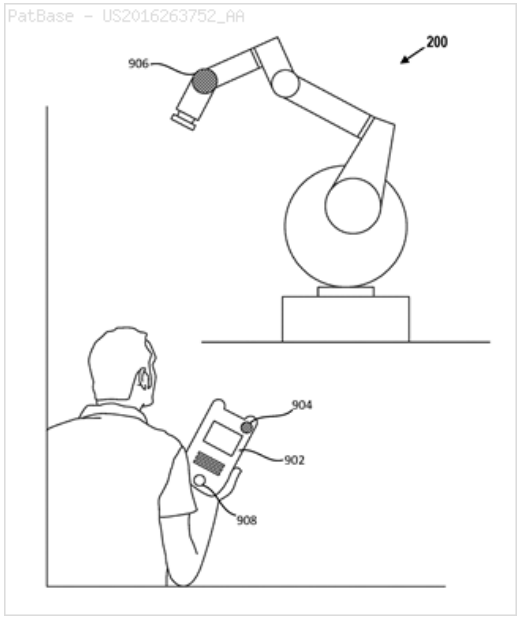
Patent	Date recorded	Event group	Code	Event	Details
FR1324012 A	19630412	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1324012 A	19820524	PEXP		Calculated Patent Term Expiry	
GB1138983 A	19690101	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1138983 A	19850310	PEXP		Calculated Patent Term Expiry	
GB966609 A	00000000	LSGT	+	granted / extensions (spc, cpc, pte)	
US3241687 A	19660322	LSGT	+	granted / extensions (spc, cpc, pte)	

85) Family number: 62743441 (US2016263752A)

Title: METHODS AND SYSTEMS TO PROVIDE FEEDBACK BASED ON A MOTION PER PATH METRIC INDICATIVE OF AN EFFECT OF MOTION ASSOCIATED WITH COMPONENTS OF A ROBOTIC **DEVICE**

Abstract: Examples are provided that describe a motion based light display for a robotic arm. In one example, a robotic **device** comprising one or more components configured to be actuated for movement. The robotic **device** also includes one or more processors are configured to determine a motion per path metric of the one or more components based on a motion plan associated with the robotic **device**. The one or more processors are configured to determine one or more feedback characteristics based on the motion per path metric. The one or more feedback characteristics include information indicative of an effect of motion associated with the one or more components. The robotic **device** also includes an indicator coupled to the one or more components and configured to provide feedback about the one or more components based on the feedback characteristics indicative of the effect of motion.

Classifications:
International (IPC 8-9): B25J13/08 B25J19/00 B25J19/06 (Advanced/Invention)
CPC: B25J19/06 Y10S901/02 B25J13/08
US: 1/1 700/245



Family:

Publication number	Publication date	Application number	Application date
US2016263752 AA	20160915	US20160165160	20160526
US9375853 BA	20160628	US20140559134	20141203
US9744678 BB	20170829	US20160165160	20160526

Priority:
US20140559134 20141203 US20160165160 20160526

Probable Assignee: GOOGLE INC
Assignee(s) (std): GOOGLE INC ; X DEV LLC
Assignee(s): X DEVELOPMENT LLC ; GOOGLE LLC
Inventor(s) (std): EDSINGER AARON
Agent(s): MCDONNELL BOEHNEN HULBERT AND BERGHOFF LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2016263752 AA	20160915	LSPB	+	published / reissued	
US2016263752 AA	20170206	LSES	NFA1	Non Final Action Mailed	
US2016263752 AA	20170523	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016263752 AA	20170726	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2016263752 AA	20170728	LSFE	+PPV1	Publications -- Issue Fee	

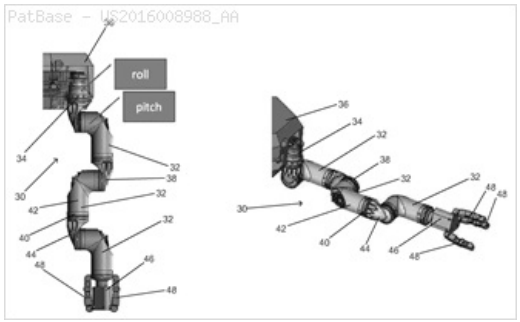
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US2016263752 AA	20170809	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9375853 BA	20160628	LSGT	+	granted / extensions (spc, cpc, pte)	
US9375853 BA	20141203	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:EDSINGER, AARON; REEL/FRAME:034360/0570 EFFECTIVE DATE : 20141128
US9375853 BA	20160608	LSGT	PAT1	Patented Case	
US9375853 BA	20160608	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9375853 BA	20160901	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE INC.; REEL/FRAME:039900/0610 EFFECTIVE DATE : 20160901
US9375853 BA	20171006	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:GOOGLE INC.; REEL/FRAME:044144/0001 EFFECTIVE DATE : 20170929
US9375853 BA	20180625	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE CORRECTIVE BY NULLIFICATION TO CORRECT INCORRECTLY RECORDED APPLICATION NUMBERS PREVIOUSLY RECORDED ON REEL 044144 FRAME 0001. ASSIGNOR(S) HEREBY CONFIRMS THE CHANGE OF NAME; ASSIGNOR:GOOGLE INC.; REEL/FRAME:047894/0508 EFFECTIVE DATE : 20170929
US9375853 BA	20191224	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9375853 BA	20341203	PEXP		Calculated Patent Term Expiry	
US9744678 BB	20170829	LSGT	+	granted / extensions (spc, cpc, pte)	
US9744678 BB	20160526	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:EDSINGER, AARON; REEL/FRAME:038727/0861 EFFECTIVE DATE : 20141128
US9744678 BB	20160901	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : X DEVELOPMENT LLC, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:GOOGLE INC.; REEL/FRAME:039900/0610 EFFECTIVE DATE : 20160901
US9744678 BB	20170809	LSGT	PAT1	Patented Case	
US9744678 BB	20171006	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : GOOGLE LLC, CALIFORNIA OLDPARTY : CHANGE OF NAME; ASSIGNOR:GOOGLE INC.; REEL/FRAME:044144/0001 EFFECTIVE DATE : 20170929
US9744678 BB	20360526	PEXP		Calculated Patent Term Expiry	

86) Family number: 61380445 (US2016008988A)

Title: ROBOTICS PLATFORMS INCORPORATING MANIPULATORS HAVING COMMON JOINT DESIGNS

Abstract: Manipulators in accordance with various embodiments of the invention can be utilized to implement statically stable robots capable of both dexterous manipulation and versatile mobility. Manipulators in accordance with one embodiment of the invention include: an azimuth actuator; three elbow joints that each include two actuators that are offset to allow greater than 360 degree rotation of each joint; a first connecting structure that connects the azimuth actuator and a first of the three elbow joints; a second connecting structure that connects the first elbow joint and a second of the three elbow joints; a third connecting structure that connects the second elbow joint to a third of the three elbow joints; and an end-effector interface connected to the third of the three elbow joints.

Classifications:
International (IPC 8-9)**:** B25J15/08 B25J17/00 B25J18/00 B25J9/06 B62D57/032 (Advanced/Invention)
CPC: Y10S901/28 Y10S901/31 B25J15/08 B25J9/06 B62D57/032
US: 414/738 901/28 901/31



Family:

Publication number	Publication date	Application number	Application date
US2016008988 AA	20160114	US20150637278	20150303
US9981389 BB	20180529	US20150637278	20150303

Priority:

US20140947220P 20140303 US20140060158P 20141006 US20140080040P 20141114 US20150637278 20150303

Probable Assignee: CALIFORNIA INST OF TECHN

Assignee(s): (std)**:** CALIFORNIA INST OF TECHN

Assignee(s): CALIFORNIA INST OF TECHNOLOGY ; NASA

Inventor(s): (std)**:** HAGMAN MICHAEL J ; KENNEDY BRETT A ; LEICHTY JOHN M ; BORDERS JAMES W ; SIROTA ALLEN R ; FROST MATTHEW A ; BERGH CHARLES F ; CARPENTER KALIND C ; PIACENTINE JAMIE S

Agent(s): KPPB LLP

Legal status (INPADOC)

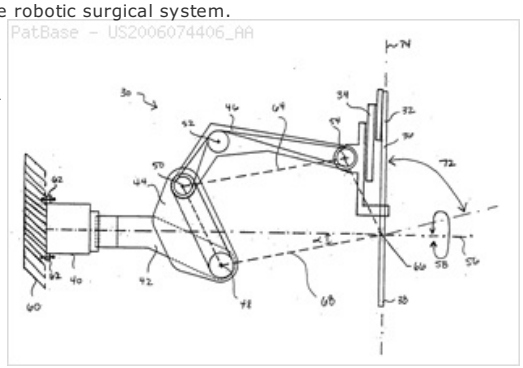
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Patent	Date recorded	Event group	Code	Event	Details
US2016008988 AA	20160114	LSPB	+	published / reissued	
US2016008988 AA	20170405	LSES	NFA1	Non Final Action Mailed	
US2016008988 AA	20180122	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016008988 AA	20180425	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2016008988 AA	20180509	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US9981389 BB	20180529	LSGT	+	granted / extensions (spc, cpc, pte)	
US9981389 BB	20150409	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : NASA, DISTRICT OF COLUMBIA OLDPARTY : CONFIRMATORY LICENSE; ASSIGNOR:CALIFORNIA INSTITUTE OF TECHNOLOGY; REEL/FRAME:035653/0887 EFFECTIVE DATE : 20150304
US9981389 BB	20180509	LSGT	PAT1	Patented Case	
US9981389 BB	20350303	PEXP		Calculated Patent Term Expiry	

87) Family number: 32803468 (US2006074406A)

Title: OFFSET REMOTE CENTER MANIPULATOR FOR ROBOTIC SURGERY

Abstract: Medical, surgical, and/or robotic **devices** and systems often including offset remote center parallelogram manipulator linkage assemblies which constrains a position of a surgical instrument during minimally invasive robotic surgery are disclosed. The improved remote center manipulator linkage assembly advantageously enhances the range of instrument motion while at the same time reduces the overall complexity, size, and physical weight of the robotic surgical system.



Classifications:
International (IPC 8-9): A61B17/00 A61B17/28 A61B19/00 A61B34/00 A61B34/30 A61B34/35 A61B34/37 A61B90/00 A61B90/50 A61L27/24 B25J17/00 B25J18/00 B25J3/00 B25J9/06 B25J9/10 C12N5/00 C12N5/071 C12N5/0735 F16H7/20 (Advanced/Invention);
A61B17/00 A61B34/37 A61B90/00 A61B90/50 (Advanced/Non-invention);
A61B17/00 A61B19/00 A61L27/00 B25J17/00 B25J18/00 C12N5/00 C12N5/071 C12N5/0735 (Core/Invention)
CPC: B25J18/00 Y10S901/21 Y10T29/49455 Y10T29/49826 Y10T74/20323 B25J9/1045 A61B2019/2242 A61B2017/00845 A61B2034/715 F16H7/20 B25J18/005 B25J18/007 C12N5/0606 C12N5/0677 C12N2506/02 C12N2533/40 C12N2533/54 A61B17/00234 A61B2017/00477 A61B34/30 A61B34/37 A61B34/71 A61B90/361 A61B2034/305 A61B2090/506 Y10S901/15 Y10T74/20305
European: A61B19/22B B25J9/10C2 C12N5/06B22A C12N5/06B2P K61B19/22B10 K61B19/22B16 K61B19/22D K61B19/22D2 K61B19/26H K61B19/52D M12N506/02 M12N533/40 M12N533/54
US: 1/1 29/428 29/892.1 474/198 474/58 600/102 606/1 606/130 606/130P 606/1P 74/490.01 74/490.010P 74/490.04 901/15 901/21 901/41
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JP F-Index: A61B17/00/320 A61B17/94 A61B19/00/502 A61B34/35 B25J9/06/B A61B34/30 B25J3/00/Z

Family:

Publication number	Publication date	Application number	Application date
CN101027010 A	20070829	CN200580032152	20050909
CN101027010 B	20110907	CN200580032152	20050909
CN101912307 A	20101215	CN201010108479	20050909
CN101912307 B	20150624	CN201010108479	20050909
CN102327152 A	20120125	CN201110197855	20050909
CN102327152 B	20180223	CN201110197855	20050909
CN105852974 A	20160817	CN201610206136	20050909
CN105852974 B	20190108	CN201610206136	20050909
CN108309458 A	20180724	CN201810051355	20050909
DE602005039398 D1	20130704	DE200560039398T	20050909
DE602005056079 D1	20190814	DE200560056079T	20050909
EP1793761 A2	20070613	EP20050795948	20050909
EP1793761 B1	20130501	EP20050795948	20050909
EP2253288 A2	20101124	EP20100175702	20050909
EP2253288 A3	20130717	EP20100175702	20050909
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EP2253289 A3	20120627	EP20100175715	20050909
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EP3199120 A1	20170802	EP20160179332	20050909
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EP3372184 A1	20180912	EP20180156122	20050909
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JP2011156407 A2	20110818	JP20110115139	20110523
JP2011183186 A2	20110922	JP20110115140	20110523
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JP5213993 B2	20130619	JP20110115139	20110523
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US2006074406 AA	20060406	US20040957077	20040930
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US2008021440 AA	20080124	US20060611850	20061215
US2009292299 AA	20091126	US20090499392	20090708
US2012083802 AA	20120405	US20110251881	20111003
US2013030448 AA	20130131	US20120562547	20120731
US2013239392 AA	20130919	US20130890234	20130508
US2013239735 AA	20130919	US20130890233	20130508
US2013244820 AA	20130919	US20130890228	20130508
US2014094824 AA	20140403	US20130035014	20130924

US2015250549 AA	20150910	US20150722101	20150526
US2017143425 A9	20170525	US20150722101	20150526
US2020015919 AA	20200116	US20190577349	20190920
US7594912 BB	20090929	US20040957077	20040930
US8062288 BB	20111122	US20090499392	20090708
US8256319 BB	20120904	US20110251881	20111003
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US9803727 BB	20171031	US20130890228	20130508
US10449011 BB	20191022	US20130035014	20130924
WO06039092 A2	20060413	WO2005US32488	20050909
WO06039092 A3	20060720	WO2005US32488	20050909
WO07075807 A2	20070705	WO2006US48641	20061220
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WO07120350 A2	20071025	WO2006US62377	20061220
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Priority:

US20040957077	20040930	CN200580032152	20050909	EP20050795948	20050909
EP20100175715	20050909	EP20100175702	20050909	JP20070534622	20050909
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Probable Assignee: INTUITIVE SURGICAL OPERATIONS INC

Assignee(s): (std): COLMAN ALAN ; COOPER THOMAS G ; DUNN NORRIS RAY ; ES CELL INT PTE LTD ; INTUITIVE SURGICAL INC ; INTUITIVE SURGICAL OPERATIONS ; SOLOMON TODD R ; SUN WILLIAM ; RUST WILLIAM LATHROP ; MARTIN HENTZE HANNES ; PHILLIPS BLAINE

Assignee(s): INTUITIVE SURGICAL OPERATIONS INC ; INTUITIVE SURGICAL OPERATIONS INC SUNNYVALE ; ES CELL INTERNATIONAL PTE LTD

Inventor(s): (std): COOPER THOMAS G ; SOLOMON TODD R ; COOPER THOMAS ; SOLOMON TODD ; TODD COOPER THOMAS SOLOMON ; THOMAS COOPER ; TODD SOLOMON ; SUN WILLIAM ; RUST WILLIAM LATHROP ; PHILLIPS BLAINE ; MARTIN HENTZE HANNES ; DUNN NORRIS RAY ; COLMAN ALAN ; COOOPER THOMAS G

Inventor(s): COOPER THOMAS MENLO PARK ; SOLOMON TODD SAN JOSE ; COOPER THOMAS SOLOMON TODD

Agent(s): HOFSTETTER SCHURACK AND PARTNER PATENT U RECHTSANWALTSKANZLEI PARTG MBB; WALKER ROSS THOMSON; WOMBWELL FRANCIS; INTUITIVE SURGICAL; INTELLECTUAL PROPERTY DEPT INTUTIVE SURGICAL INC; PATENT DEPT INTUITIVE SURGICAL INC

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN101027010 A	20070829	LSPB	+	published / reissued	
CN101027010 A	20070829	LSPB	+C06	PUBLICATION	
CN101027010 A	20110119	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATING COMPANY OLDPARTY : FORMER OWNER: INTUITIVE SURGICAL INC. EFFECTIVE DATE : 20101214
CN101027010 A	20110119	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN101027010 B	20110907	LSGT	+	granted / extensions (spc, cpc, pte)	
CN101027010 B	20110907	LSGT	+C14	GRANT OF PATENT OR UTILITY MODEL	
CN101027010 B	20250909	PEXP		Calculated Patent Term Expiry	
CN101912307 A	20101215	LSPB	+	published / reissued	
CN101912307 A	20101215	LSPB	+C06	PUBLICATION	
CN101912307 A	20110330	LSAS	ASS	SUCCESSION OR	PARTYTYPE : OWNER

				ASSIGNMENT OF PATENT RIGHT	OWNER : INTUITIVE SURGICAL OPERATING COMPANY OLDPARTY : FORMER OWNER: INTUITIVE SURGICAL INC. EFFECTIVE DATE : 20110217
CN101912307 A	20110330	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN101912307 B	20150624	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN101912307 B	20250909	PEXP		Calculated Patent Term Expiry	
CN102327152 A	20120125	LSPB	+	published / reissued	
CN102327152 A	20120125	LSPB	+C06	PUBLICATION	
CN102327152 B	20180223	LSGT	+	granted / extensions (spc, cpc, pte)	
CN102327152 B	20180223	LSGT	+GR01	PATENT GRANT	
CN102327152 B	20250909	PEXP		Calculated Patent Term Expiry	
CN105852974 A	20160817	LSPB	+	published / reissued	
CN105852974 A	20160817	LSPB	+C06	PUBLICATION	
CN105852974 A	20160817	LSPB	PB01	公开 (The publication of application)	TEXT : 公开 (DISCLOSURE)
CN105852974 B	20190108	LSGT	+	granted / extensions (spc, cpc, pte)	
CN105852974 B	20190108	LSGT	+GR01	PATENT GRANT	
CN105852974 B	20250909	PEXP		Calculated Patent Term Expiry	
CN108309458 A	20180724	LSPB	+	published / reissued	
CN108309458 A	20180724	LSPB	PB01	PUBLICATION	
DE602005039398 D1	20130510	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PARTYTYPE : OWNER OLDPARTY : INTUITIVE SURGICAL, INC., SUNNYVALE, CALIF., US
EP1793761 A2	20070613	LSPB	+	published / reissued	
EP1793761 A2	20070613	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20070417
EP1793761 A2	20080130	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20080104
EP1793761 A2	20110330	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC.
EP1793761 A2	20131129	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 : 20130501
EP1793761 A2	20131129	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 : 20130501
EP1793761 A2	20131129	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 : 20130802

EP1793761 A2	20131129	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 : 20130501
EP1793761 A2	20140228	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 : 20130501
EP1793761 A2	20151130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20150918 YEAR OF FEE PAYMENT : 11
EP1793761 A2	20151231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20150924 YEAR OF FEE PAYMENT : 11
EP1793761 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160921 YEAR OF FEE PAYMENT : 12
EP1793761 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160920 YEAR OF FEE PAYMENT : 12
EP1793761 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160921 YEAR OF FEE PAYMENT : 12
EP1793761 A2	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20160922 YEAR OF FEE PAYMENT : 12
EP1793761 B1	20130501	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1793761 B1	20130501	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1793761 B1	20130515	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP1793761 B1	20130515	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 609395 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20130515
EP1793761 B1	20130522	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1793761 B1	20130704	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602005039398 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20130704
EP1793761 B1	20130717	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : T3
EP1793761 B1	20130915	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 609395 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) :

					EFFECTIVE DATE : 20130501
EP1793761 B1	20131025	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP1793761 B1	20131031	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 : 20130501
EP1793761 B1	20131031	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 : 20130501
EP1793761 B1	20131031	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 : 20130501
EP1793761 B1	20131031	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 : 20130501
EP1793761 B1	20131031	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 : 20130902
EP1793761 B1	20131031	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 : 20130501
EP1793761 B1	20131031	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 : 20130812
EP1793761 B1	20131031	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 : 20130901
EP1793761 B1	20131031	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 : 20130802
EP1793761 B1	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : CY 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 : 20130501
EP1793761 B1	20131129	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 : 20130801
EP1793761 B1	20131129	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 : 20130501
EP1793761 B1	20131231	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 : 20130501
EP1793761 B1	20140131	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 : 20130501
EP1793761 B1	20140131	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 : 20130501
EP1793761 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20130501
EP1793761 B1	20140131	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 : 20130501
EP1793761 B1	20140228	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 : 20130501
EP1793761 B1	20140409	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20140204
EP1793761 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 : 20130501
EP1793761 B1	20140430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP1793761 B1	20140515	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602005039398 COUNTRY OF REF DOCUMENT : DE EFFECTIVE DATE : 20140204
EP1793761 B1	20140702	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP1793761 B1	20140731	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 : 20130909
EP1793761 B1	20140731	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 : 20130930
EP1793761 B1	20140731	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 : 20130930
EP1793761 B1	20150630	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 : 20130501
EP1793761 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 : 20050909
EP1793761 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 : 20130909
EP1793761 B1	20160921	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 : 12
EP1793761 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160920 YEAR OF FEE PAYMENT : 12
EP1793761 B1	20161230	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20160920 YEAR OF FEE PAYMENT : 12
EP1793761 B1	20170928	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 13
EP1793761 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170921 YEAR OF FEE PAYMENT : 13

EP1793761 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20170926 YEAR OF FEE PAYMENT : 13
EP1793761 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170928 YEAR OF FEE PAYMENT : 13
EP1793761 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170928 YEAR OF FEE PAYMENT : 13
EP1793761 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20170921 YEAR OF FEE PAYMENT : 13
EP1793761 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20170921 YEAR OF FEE PAYMENT : 13
EP1793761 B1	20180925	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 14
EP1793761 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180920 YEAR OF FEE PAYMENT : 14
EP1793761 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 14
EP1793761 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 14
EP1793761 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180919 YEAR OF FEE PAYMENT : 14
EP1793761 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20180919 YEAR OF FEE PAYMENT : 14
EP1793761 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20180919 YEAR OF FEE PAYMENT : 14
EP1793761 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20190923 YEAR OF FEE PAYMENT : 15
EP1793761 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190925 YEAR OF FEE PAYMENT : 15
EP1793761 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20190926 YEAR OF FEE PAYMENT : 15
EP1793761 B1	20191129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE PAYMENT DATE : 20190926 YEAR OF FEE PAYMENT : 15
EP1793761 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190930 YEAR OF FEE PAYMENT : 15

EP1793761 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190930 YEAR OF FEE PAYMENT : 15
EP1793761 B1	20250909	PEXP		Calculated Patent Term Expiry	
EP2253288 A2	20101124	LSPB	+	published / reissued	
EP2253288 A2	20110615	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC.
EP2253288 A3	20140305	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20140117
EP2253288 A3	20170614	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20170519
EP2253288 A3	20181031	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20181001
EP2253288 A3	20190320	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190214
EP2253288 B1	20190327	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2253288 B1	20190327	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2253288 B1	20190329	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2253288 B1	20190415	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1112096 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190415
EP2253288 B1	20190417	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2253288 B1	20190418	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602005055573 COUNTRY OF REF DOCUMENT : DE
EP2253288 B1	20190731	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 : 20190327
EP2253288 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 : 20190327
EP2253288 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 : 20190327
EP2253288 B1	20190830	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 : 20190628

EP2253288 B1	20190830	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 : 20190627
EP2253288 B1	20190830	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 : 20190327
EP2253288 B1	20190830	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 : 20190327
EP2253288 B1	20190915	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1112096 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190327
EP2253288 B1	20191031	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 : 20190327
EP2253288 B1	20191031	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 : 20190327
EP2253288 B1	20191031	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 : 20190327
EP2253288 B1	20191031	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 : 20190727
EP2253288 B1	20191031	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 : 20190327
EP2253288 B1	20191031	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 THE FEE WITHIN THE PRESCRIBED TIME-

				EPO]	LIMIT LAPSED DATE : 20190327
EP2253288 B1	20191031	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 : 20190327
EP2253288 B1	20191129	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 : 20190327
EP2253288 B1	20191231	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 : 20190727
EP2253288 B1	20191231	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 : 20190327
EP2253288 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190327
EP2253288 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191031 YEAR OF FEE PAYMENT : 15
EP2253288 B1	20250909	PEXP		Calculated Patent Term Expiry	
EP2253289 A2	20101124	LSPB	+	published / reissued	
EP2253289 A2	20110615	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC.
EP2253289 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20160920 YEAR OF FEE PAYMENT : 12
EP2253289 A2	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20160921 YEAR OF FEE PAYMENT : 12
EP2253289 A2	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20160921 YEAR OF FEE PAYMENT : 12
EP2253289 A3	20130213	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20121219
EP2253289 A3	20130724	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20130620
EP2253289 A3	20160406	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160310
EP2253289 B1	20160824	LSGT	+	granted / extensions (spc, cpc, pte)	

EP2253289 B1	20160824	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2253289 B1	20160831	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2253289 B1	20160915	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 822345 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160915
EP2253289 B1	20160921	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP2253289 B1	20160921	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 : 12
EP2253289 B1	20161006	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602005050094 COUNTRY OF REF DOCUMENT : DE
EP2253289 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20160920 YEAR OF FEE PAYMENT : 12
EP2253289 B1	20161227	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP2253289 B1	20170115	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 822345 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20160824
EP2253289 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 : 20160824
EP2253289 B1	20170131	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 : 20160824
EP2253289 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 : 20160824
EP2253289 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
EP2253289 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 : 20161125
EP2253289 B1	20170228	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 : 20160824
EP2253289 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160824
EP2253289 B1	20170228	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 : 20160824
EP2253289 B1	20170228	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 : 20161226
EP2253289 B1	20170228	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 : 20160824
EP2253289 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : RO NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160824
EP2253289 B1	20170428	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 : 20160824
EP2253289 B1	20170428	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2253289 B1	20170526	LSRE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R097 REF DOCUMENT NUMBER : 602005050094 COUNTRY OF REF DOCUMENT : DE
EP2253289 B1	20170531	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 : 20160824
EP2253289 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : SK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-

				EPO]	LIMIT LAPSED DATE : 20160824
EP2253289 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : CZ NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160824
EP2253289 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 FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160824
EP2253289 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BG NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161124
EP2253289 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : BE NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20160824
EP2253289 B1	20170628	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP2253289 B1	20170630	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 : 20160824
EP2253289 B1	20170731	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 : 20160930
EP2253289 B1	20170731	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 : 20160930
EP2253289 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 : 20160909
EP2253289 B1	20170802	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20170526
EP2253289 B1	20170831	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 : 20160824
EP2253289 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	COUNTRY OF REF DOCUMENT : LU NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	DUE FEES LAPSED DATE : 20160909
EP2253289 B1	20170928	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 13
EP2253289 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20170928 YEAR OF FEE PAYMENT : 13
EP2253289 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20170928 YEAR OF FEE PAYMENT : 13
EP2253289 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20170921 YEAR OF FEE PAYMENT : 13
EP2253289 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20170921 YEAR OF FEE PAYMENT : 13
EP2253289 B1	20180531	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 : 20160824
EP2253289 B1	20180531	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 : 20050909
EP2253289 B1	20180629	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 : 20160824
EP2253289 B1	20180629	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 : 20160824
EP2253289 B1	20180925	LSFE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 14
EP2253289 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20180920 YEAR OF FEE PAYMENT : 14
EP2253289 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20180925 YEAR OF FEE PAYMENT : 14
EP2253289 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20180919 YEAR OF FEE PAYMENT : 14
EP2253289 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20180919

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	YEAR OF FEE PAYMENT : 14
EP2253289 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : NL PAYMENT DATE : 20190926 YEAR OF FEE PAYMENT : 15
EP2253289 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20190925 YEAR OF FEE PAYMENT : 15
EP2253289 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20190930 YEAR OF FEE PAYMENT : 15
EP2253289 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20190930 YEAR OF FEE PAYMENT : 15
EP2253289 B1	20250909	PEXP		Calculated Patent Term Expiry	
EP3199120 A1	20170802	LSPB	+	published / reissued	
EP3199120 A1	20180314	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20180202
EP3199120 A1	20180620	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20180522
EP3199120 A1	20190313	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20190211
EP3199120 B1	20190724	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3199120 B1	20190724	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP3199120 B1	20190731	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP3199120 B1	20190814	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602005056079 COUNTRY OF REF DOCUMENT : DE
EP3199120 B1	20190815	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 1157265 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190815
EP3199120 B1	20190821	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP3199120 B1	20191210	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : LT REF LEGAL EVENT CODE : MG4D
EP3199120 B1	20200115	LSRV	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : MK05 REF DOCUMENT NUMBER : 1157265 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20190724
EP3199120 B1	20200131	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 : 20190724
EP3199120 B1	20200131	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT : NL

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20190724
EP3199120 B1	20200131	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 : 20191024
EP3199120 B1	20200131	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 : 20191125
EP3199120 B1	20200131	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 : 20190724
EP3199120 B1	20200131	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 : 20190724
EP3199120 B1	20200131	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 : 20190724
EP3199120 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191031 YEAR OF FEE PAYMENT : 15
EP3199120 B1	20250909	PEXP		Calculated Patent Term Expiry	
EP3372184 A1	20180912	LSPB	+	published / reissued	
EP3372184 A1	20190417	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20190312
EP3372184 A1	20190619	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	EFFECTIVE DATE : 20190520
JP2008514357 T2	20080508	LSPB	+	published / reissued	
JP2008514357 T2	20080806	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20080805
JP2008514357 T2	20080806	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080805
JP2008514357 T2	20110224	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110223
JP2008514357 T2	20110524	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110523
JP2008514357 T2	20111006	LSES	-A131	NOTIFICATION OF REASONS FOR	TEXT : JAPANESE INTERMEDIATE CODE: A131

				REFUSAL	EFFECTIVE DATE : 20111005
JP2008514357 T2	20120204	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120203
JP2008514357 T2	20120222	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2008514357 T2	20120228	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20120227
JP2008514357 T2	20120301	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01
JP2008514357 T2	20120308	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20120229
JP2008514357 T2	20120309	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2008514357 T2	20120312	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2011156407 A2	20110818	LSPB	+	published / reissued	
JP2011156407 A2	20120511	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120510
JP2011156407 A2	20121106	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20121105
JP2011156407 A2	20130206	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130205
JP2011156407 A2	20130220	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2011156407 A2	20130226	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130225
JP2011156407 A2	20130307	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130226
JP2011156407 A2	20130308	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2011156407 A2	20130311	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2011183186 A2	20110922	LSPB	+	published / reissued	
JP2011183186 A2	20120511	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120510
JP2011183186 A2	20121107	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20121106
JP2011183186 A2	20130207	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130206
JP2011183186 A2	20130226	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	

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JP2011183186 A2	20130314	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130301
JP2011183186 A2	20130315	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2011183186 A2	20130315	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2011183187 A2	20110922	LSPB	+	published / reissued	
JP2011183187 A2	20120511	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20120510
JP2011183187 A2	20121107	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20121106
JP2011183187 A2	20130206	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130205
JP2011183187 A2	20130402	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2011183187 A2	20130408	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20130405
JP2011183187 A2	20130425	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20130419
JP2011183187 A2	20130426	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2011183187 A2	20130502	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP2012115690 A2	20120621	LSPB	+	published / reissued	
JP2012115690 A2	20130111	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130110
JP2012115690 A2	20130524	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20130523
JP2012115690 A2	20130830	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20130829
JP2012115690 A2	20131226	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012115690 A2	20140107	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20140106
JP2012115690 A2	20140116	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20140110
JP2012115690 A2	20140117	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP2012115690 A2	20140117	LSGT	+R150	CERTIFICATE OF	TEXT : JAPANESE INTERMEDIATE

				PATENT OR REGISTRATION OF UTILITY MODEL	CODE: R150 REF DOCUMENT NUMBER : 5458122 COUNTRY OF REF DOCUMENT : JP
JP2013135859 A2	20130711	LSPB	+	published / reissued	
JP2013135859 A2	20140212	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20140210
JP2013135859 A2	20140530	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20140529
JP2013135859 A2	20141030	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2013135859 A2	20141106	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20141105
JP2013135859 A2	20141120	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20141106
JP2013135859 A2	20141121	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150 REF DOCUMENT NUMBER : 5649143 COUNTRY OF REF DOCUMENT : JP
JP4943338 B2	20120530	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4943338 B2	20120306	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP4943338 B2	20150305	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4943338 B2	20150310	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4943338 B2	20160303	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4943338 B2	20160308	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4943338 B2	20170302	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4943338 B2	20170307	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4943338 B2	20180301	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4943338 B2	20180306	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4943338 B2	20190228	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP4943338 B2	20190305	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4943338 B2	20250909	PEXP		Calculated Patent Term Expiry	
JP5213993 B2	20130619	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5213993 B2	20110525	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20110523
JP5213993 B2	20130228	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5213993 B2	20130305	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5213993 B2	20160303	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5213993 B2	20160308	LSFE	+R250	RECEIPT OF ANNUAL	TEXT : JAPANESE INTERMEDIATE

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JP5213993 B2	20170302	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP5213993 B2	20180301	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5213993 B2	20180306	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5213993 B2	20190228	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5213993 B2	20190305	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
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JP5219226 B2	20130626	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5219226 B2	20130307	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5219226 B2	20130312	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5219226 B2	20160310	LSFE	R20	特許料納付書 (Patent fee payment form)	
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JP5219226 B2	20170309	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5219226 B2	20170314	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5219226 B2	20180308	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5219226 B2	20180313	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5219226 B2	20190307	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5219226 B2	20190312	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5219226 B2	20310523	PEXP		Calculated Patent Term Expiry	
JP5255670 B2	20130807	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5255670 B2	20130411	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5255670 B2	20130423	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5255670 B2	20160421	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5255670 B2	20160426	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5255670 B2	20170420	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5255670 B2	20170425	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5255670 B2	20180419	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5255670 B2	20180424	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5255670 B2	20190418	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5255670 B2	20190423	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250

JP5255670 B2	20310523	PEXP		Calculated Patent Term Expiry	
JP5458122 B2	20140402	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5458122 B2	20140109	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5458122 B2	20140114	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5458122 B2	20140117	LSGT	+R150	特許証 (Patent certificate)	
JP5458122 B2	20170112	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5458122 B2	20170117	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5458122 B2	20180111	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5458122 B2	20180116	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5458122 B2	20190110	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5458122 B2	20190115	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5458122 B2	20200114	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20200110
JP5458122 B2	20200115	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5458122 B2	20320203	PEXP		Calculated Patent Term Expiry	
JP5649143 B2	20150107	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5649143 B2	20141113	LSGT	+A01	特許査定書 (Decision of patent grant)	
JP5649143 B2	20141118	LSFE	R100	特許料納付書 (Patent fee payment form)	
JP5649143 B2	20141121	LSGT	+R150	特許証 (Patent certificate)	
JP5649143 B2	20171116	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5649143 B2	20171121	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5649143 B2	20181115	LSFE	R20	特許料納付書 (Patent fee payment form)	
JP5649143 B2	20181120	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5649143 B2	20191121	LSFE	R20	特許料納付書 (Patent fee payment form)	EFFECTIVE DATE : 20191120
JP5649143 B2	20191126	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP5649143 B2	20330205	PEXP		Calculated Patent Term Expiry	
US10449011 BB	20191022	LSGT	+	granted / extensions (spc, cpc, pte)	
US10449011 BB	20380205	PEXP		Calculated Patent Term Expiry (PTA 1595 days and a terminal disclaimer has been filed)	
US2006074406 AA	20060406	LSPB	+	published / reissued	
US2006074406 AA	20090909	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2007089557 AA	20070426	LSPB	+	published / reissued	

US2007089557 AA	20130510	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTUITIVE SURGICAL, INC.; REEL/FRAME:030397/0337 EFFECTIVE DATE : 20100219
US2007089557 AA	20160127	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2008021440 AA	20080124	LSPB	+	published / reissued	
US2008021440 AA	20061216	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SOLOMON, TODD R.; REEL/FRAME:018644/0763 EFFECTIVE DATE : 20061215
US2008021440 AA	20170606	LSES	NFA1	Non Final Action Mailed	
US2008021440 AA	20170627	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTUITIVE SURGICAL, INC.; REEL/FRAME:042831/0156 EFFECTIVE DATE : 20100219
US2008021440 AA	20180320	LSES	NFA1	Non Final Action Mailed	
US2008021440 AA	20190110	LSES	NFA1	Non Final Action Mailed	
US2008021440 AA	20191030	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2009292299 AA	20091126	LSPB	+	published / reissued	
US2009292299 AA	20111102	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2012083802 AA	20120405	LSPB	+	published / reissued	
US2012083802 AA	20120815	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013030448 AA	20130131	LSPB	+	published / reissued	
US2013030448 AA	20131002	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013239392 AA	20130919	LSPB	+	published / reissued	
US2013239392 AA	20170619	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2013239392 AA	20170921	LSFE	+PPV1	Publications -- Issue Fee Payment Verified	
US2013239392 AA	20171004	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013239735 AA	20130919	LSPB	+	published / reissued	
US2013239735 AA	20150610	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2013244820 AA	20130919	LSPB	+	published / reissued	
US2013244820 AA	20170623	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2013244820 AA	20170926	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2013244820 AA	20170927	LSFE	+PPV1	Publications -- Issue	

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US2013244820 AA	20171011	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2014094824 AA	20140403	LSPB	+	published / reissued	
US2014094824 AA	20170807	LSES	NFA1	Non Final Action Mailed	
US2014094824 AA	20180702	LSES	ADV2	Advisory Action Counted, Not Yet Mailed	
US2014094824 AA	20180706	LSES	ADV1	Advisory Action Mailed	
US2014094824 AA	20190607	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014094824 AA	20190911	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US2014094824 AA	20190927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:COOPER, THOMAS G.; SOLOMON, TODD R.; REEL/FRAME:050520/0449 EFFECTIVE DATE : 20041206
US2014094824 AA	20190927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTUITIVE SURGICAL, INC.; REEL/FRAME:050521/0133 EFFECTIVE DATE : 20100219
US2014094824 AA	20191002	LSGT	PAT1	Patented Case	
US2014094824 AA	20191002	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE
US2015250549 AA	20150910	LSPB	+	published / reissued	
US2015250549 AA	20171003	LSES	NFA1	Non Final Action Mailed	
US2015250549 AA	20180510	LSES	NFA1	Non Final Action Mailed	
US2015250549 AA	20190628	LSES	NFA1	Non Final Action Mailed	
US2015250549 AA	20191113	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017143425 A9	20200122	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:SOLOMON, TODD R.; REEL/FRAME:051584/0346 EFFECTIVE DATE : 20061215
US2017143425 A9	20200122	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:INTUITIVE SURGICAL, INC.; COOPER, THOMAS G.; SIGNING DATES FROM 20100219 TO 20200114; REEL/FRAME:051666/0104
US2020015919 AA	20200116	LSPB	+	published / reissued	
US2020015919 AA	20190927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:COOPER, THOMAS G.; SOLOMON, TODD R.;

					REEL/FRAME:050520/0449 EFFECTIVE DATE : 20041206
US2020015919 AA	20190927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTUITIVE SURGICAL, INC.; REEL/FRAME:050521/0133 EFFECTIVE DATE : 20100219
US7594912 BB	20090929	LSGT	+	granted / extensions (spc, cpc, pte)	
US7594912 BB	20050113	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:COOPER, THOMAS G.; SOLOMON, TODD R.; REEL/FRAME:015569/0292 EFFECTIVE DATE : 20041206
US7594912 BB	20090909	LSGT	PAT1	Patented Case	
US7594912 BB	20120419	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTUITIVE SURGICAL INC.; REEL/FRAME:028074/0369 EFFECTIVE DATE : 20100217
US7594912 BB	20130314	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7594912 BB	20170320	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7594912 BB	20170630	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA OLDPARTY : CORRECTIVE ASSIGNMENT TO CORRECT THE EXECUTION DATE OF THE INVENTOR. PREVIOUSLY RECORDED AT REEL: 028074 FRAME: 0369. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT; ASSIGNOR:INTUITIVE SURGICAL, INC.; REEL/FRAME:043070/0757 EFFECTIVE DATE : 20100219
US7594912 BB	20270801	PEXP		Calculated Patent Term Expiry (PTA 1035 days)	
US8062288 BB	20111122	LSGT	+	granted / extensions (spc, cpc, pte)	
US8062288 BB	20111102	LSGT	PAT1	Patented Case	
US8062288 BB	20120117	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTUITIVE SURGICAL CORPORATION; REEL/FRAME:027542/0561 EFFECTIVE DATE : 20100219
US8062288 BB	20150513	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8062288 BB	20190513	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8062288 BB	20190927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:COOPER, THOMAS G.; SOLOMON, TODD R.; REEL/FRAME:050520/0449 EFFECTIVE DATE : 20041206
US8062288 BB	20190927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA

					OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTUITIVE SURGICAL, INC.; REEL/FRAME:050521/0133 EFFECTIVE DATE : 20100219
US8062288 BB	20300202	PEXP		Calculated Patent Term Expiry (PTA 209 days and a terminal disclaimer has been filed)	
US8256319 BB	20120904	LSGT	+	granted / extensions (spc, cpc, pte)	
US8256319 BB	20120815	LSGT	PAT1	Patented Case	
US8256319 BB	20160222	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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US8256319 BB	20190927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTUITIVE SURGICAL, INC.; REEL/FRAME:050521/0133 EFFECTIVE DATE : 20100219
US8256319 BB	20311003	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8562594 BB	20131022	LSGT	+	granted / extensions (spc, cpc, pte)	
US8562594 BB	20131002	LSGT	PAT1	Patented Case	
US8562594 BB	20170411	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8562594 BB	20190927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:COOPER, THOMAS G.; SOLOMON, TODD R.; REEL/FRAME:050520/0449 EFFECTIVE DATE : 20041206
US8562594 BB	20190927	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL OPERATIONS, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:INTUITIVE SURGICAL, INC.; REEL/FRAME:050521/0133 EFFECTIVE DATE : 20100219
US8562594 BB	20320731	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9068628 BB	20150630	LSGT	+	granted / extensions (spc, cpc, pte)	
US9068628 BB	20150610	LSGT	PAT1	Patented Case	
US9068628 BB	20181218	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9068628 BB	20330508	PEXP		Calculated Patent Term Expiry	
US9261172 BB	20160216	LSGT	+	granted / extensions (spc, cpc, pte)	
US9261172 BB	20061216	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SOLOMON, TODD R.; COOPER, THOMAS G.;

					REEL/FRAME:018644/0758; SIGNING DATES FROM 20061213 TO 20061215
US9261172 BB	20061216	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : INTUITIVE SURGICAL, INC., CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SOLOMON, TODD R.; COOPER, THOMAS G.; SIGNING DATES FROM 20061213 TO 20061215; REEL/FRAME:018644/0758
US9261172 BB	20151008	LSES	+NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9261172 BB	20160127	LSGT	PAT1	Patented Case	
US9261172 BB	20190806	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US9261172 BB	20300505	PEXP		Calculated Patent Term Expiry (PTA 1237 days)	
US9797484 BB	20171024	LSGT	+	granted / extensions (spc, cpc, pte)	
US9797484 BB	20170920	LSFE	+PPR1	Publications -- Issue Fee Payment Received	
US9797484 BB	20171004	LSGT	PAT1	Patented Case	
US9797484 BB	20330929	PEXP		Calculated Patent Term Expiry (PTA 144 days)	
US9803727 BB	20171031	LSGT	+	granted / extensions (spc, cpc, pte)	
US9803727 BB	20171011	LSGT	PAT1	Patented Case	
US9803727 BB	20350505	PEXP		Calculated Patent Term Expiry (PTA 727 days)	
WO06039092 A2	20060413	LSPB	+	published / reissued	
WO06039092 A3	20070220	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2005795948 COUNTRY OF REF DOCUMENT : EP
WO06039092 A3	20070306	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2007534622 COUNTRY OF REF DOCUMENT : JP
WO06039092 A3	20070323	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 200580032152.9 COUNTRY OF REF DOCUMENT : CN
WO06039092 A3	20070331	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO06039092 A3	20070613	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2005795948 COUNTRY OF REF DOCUMENT : EP
WO07075807 A2	20070705	LSPB	+	published / reissued	
WO07075807 A3	20080621	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO07075807 A3	20090114	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	REF DOCUMENT NUMBER : 06847845 COUNTRY OF REF DOCUMENT : EP KIND CODE OF REF DOCUMENT : A2 DESIGNATED STATE(S) :
WO07120350 A2	20071025	LSPB	+	published / reissued	
WO07120350 A2	20080621	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE
WO07120350 A3	20090225	LSNE	-122	EP: PCT APPLICATION NON-	REF DOCUMENT NUMBER : 06851011

ENTRY IN EUROPEAN PHASE

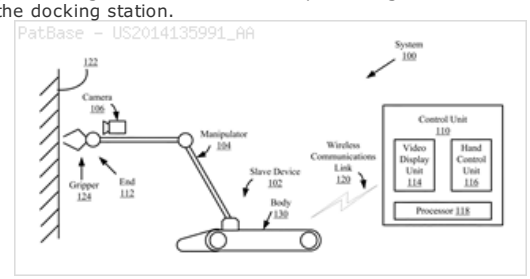
COUNTRY OF REF DOCUMENT : EP
KIND CODE OF REF DOCUMENT : A2
DESIGNATED STATE(S) :

88) Family number: 56436476 (US2014135991A)

Title: HYBRID GESTURE CONTROL HAPTIC SYSTEM

Abstract: System (100) and methods (500) for remotely controlling a slave **device** (102). The methods involve: using a Hybrid Hand Controller ("HHC") as a full haptic controller to control the slave **device** when the HHC (406) is coupled to a docking station (460); detecting when the HHC is or is being physically de-coupled from the docking station; automatically and seamlessly transitioning an operational mode of at least the HHC from a full haptic control mode to a gestural control mode, in response to a detection that the HHC is or is being de-coupled from the docking station; and using at least the HHC as a portable gestural controller to control the slave **device** when the HHC is de-coupled from the docking station.

Classifications:
International (IPC 8-9): B25J13/02 B25J13/08 B25J9/16 G05B15/00 (Advanced/Invention)
CPC: B25J13/025 B25J13/02 B25J13/081 B25J13/084
US: 700/245 700/247 700/257 700/258 700/260 700/264



Family:

Publication number	Publication date	Application number	Application date
DE602013013628 D1	20161215	DE201360013628T	20131108
EP2917001 A2	20150916	EP20130795123	20131108
EP2917001 B1	20161102	EP20130795123	20131108
US2014135991 AA	20140515	US20120672774	20121109
US8954195 BB	20150210	US20120672774	20121109
WO14074781 A2	20140515	WO2013US69071	20131108
WO14074781 A3	20140703	WO2013US69071	20131108

Priority:
US20120672774 20121109 EP20130795123 20131108 WO2013US69071 20131108

Probable Assignee: HARRIS CORP
Assignee(s): (std): HARRIS CORP
Assignee(s): HARRIS MELBOURNE CORP
Inventor(s): (std): BOSSCHER PAUL M ; SUMMER MATTHEW D
Inventor(s): SUMMER MATTHEW D MELBOURNE ; BOSSCHER PAUL M WEST MELBOURNE
Agent(s): WUESTHOFF AND WUESTHOFF PATENTANWAELTE PARTG MBB; SCHMIDT STEFFEN J; ROBERT J; FOX ROTHSCHILD LLP; EVANDER G MITCHELL 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
EP2917001 A2	20150916	LSPB	+	published / reissued	
EP2917001 A2	20150916	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20150423
EP2917001 A2	20160615	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	EFFECTIVE DATE : 20160517
EP2917001 B1	20161102	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2917001 B1	20161102	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP2917001 B1	20161115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP2917001 B1	20161115	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : AT REF LEGAL EVENT CODE : REF REF DOCUMENT NUMBER : 841355 COUNTRY OF REF DOCUMENT : AT KIND CODE OF REF DOCUMENT : T DESIGNATED STATE(S) : EFFECTIVE DATE : 20161115
EP2917001 B1	20161130	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D

EP2917001 B1	20161215	LSPB	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R096 REF DOCUMENT NUMBER : 602013013628 COUNTRY OF REF DOCUMENT : DE
EP2917001 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161123 YEAR OF FEE PAYMENT : 4
EP2917001 B1	20170228	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 : 20161102
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EP2917001 B1	20170428	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 : 20161102
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EP2917001 B1	20170531	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 : 20161102
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				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161102
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EP2917001 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : IS NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20170302
EP2917001 B1	20170531	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 : 20161102
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EP2917001 B1	20170630	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP2917001 B1	20170731	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 : 20161102
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EP2917001 B1	20170731	LSLE	-PG25	LAPSED IN A	COUNTRY OF REF DOCUMENT : EE

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EP2917001 B1	20171006	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20170904
EP2917001 B1	20171011	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20170803
EP2917001 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	COUNTRY OF REF DOCUMENT : FR NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20170102

				EPO]	
EP2917001 B1	20171130	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 : 20161102
EP2917001 B1	20171130	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 : 20161108
EP2917001 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20171129 YEAR OF FEE PAYMENT : 5
EP2917001 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20171127 YEAR OF FEE PAYMENT : 5
EP2917001 B1	20180531	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 : 20131108
EP2917001 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : MK NOTIFICATIONOFLAPSE : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT LAPSED DATE : 20161102
EP2917001 B1	20180629	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 : 20161102
EP2917001 B1	20180928	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 NON-PAYMENT OF DUE FEES LAPSED DATE : 20161108
EP2917001 B1	20181031	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 : 20161102
EP2917001 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20181128 YEAR OF FEE PAYMENT : 6
EP2917001 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20181127 YEAR OF FEE PAYMENT : 6
EP2917001 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20191127 YEAR OF FEE PAYMENT : 7
EP2917001 B1	20331108	PEXP		Calculated Patent Term Expiry	
US2014135991 AA	20140515	LSPB	+	published / reissued	
US2014135991 AA	20150121	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	TEXT : PATENTED CASE

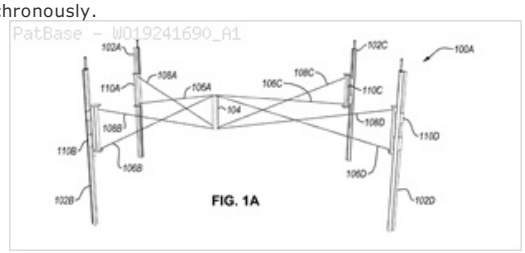
US8954195 BB	20150210	LSGT	+	granted / extensions (spc, cpc, pte)	
US8954195 BB	20121109	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : HARRIS CORPORATION, FLORIDA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SUMMER, MATTHEW D.; BOSSCHER, PAUL M.; REEL/FRAME:029269/0337 EFFECTIVE DATE : 20121107
US8954195 BB	20150121	LSGT	PAT1	Patented Case	
US8954195 BB	20180810	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8954195 BB	20330417	PEXP		Calculated Patent Term Expiry (PTA 159 days)	
WO14074781 A2	20140515	LSPB	+	published / reissued	
WO14074781 A3	20150423	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2013795123 COUNTRY OF REF DOCUMENT : EP

89) Family number: 76966481 (WO19241690A1)

Title: APPARATUS AND METHOD FOR CABLE-DRIVEN ROBOTICS

Abstract: A cable-driven parallel robot (CDPR) includes at least two sets of rotors each coupled to a respective one of at least two supports, the sets of the rotors positioned above a surface; an effector positioned at a horizontal planar location between the sets of the rotors and at a vertical location above the surface; and at least two sets of cables each coupled to a respective one of the sets of the rotors at first ends of the respective set of the cables and to the effector at second ends of the respective set of the cables. Each set of the sets of the rotors controls tension to the respective one set of the sets of the cables for moving the horizontal planar location. Each set of the sets of the rotors is vertically movable on the respective one of the supports for moving the vertical location when the sets of the rotors are vertically moved synchronously.

Classifications:
International (IPC 8-9): B25J9/12 B29C64/227 B29C64/245 (Advanced/Invention)
CPC: B25J9/0078 B29C64/227 B29C64/106 B29C64/393 B33Y30/00 B33Y40/00 B33Y50/02



Family:

Publication number	Publication date	Application number	Application date
WO19241690 A1	20191219	WO2019US37282	20190614

Priority:

US20180684751P 20180614

Probable Assignee: MCROBERTS CAMERON REED

Assignee(s): (std): MCROBERTS CAMERON REED

Inventor(s): (std): MCROBERTS CAMERON

Inventor(s): MCROBERTS CAMERON REED

Agent(s): AU YIU F

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)

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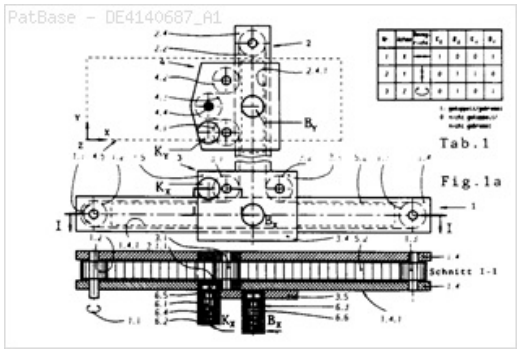
Patent	Date recorded	Event group	Code	Event	Details
WO19241690 A1	20191219	LSPB	+	published / reissued	

90) Family number: 17947482 (DE4140687C2)

Title: Robot drive **device** with numerically controlled linear axes - comprises two linear axes units at right angles for two carriages and drive motor connected with couplers and brake elements

Abstract: The first linear unit (1) comprises an endless ribbed belt (5.2) running around two sprockets (1.2, 1.3) carrying a first carriage (3). The second unit (2) includes a continuation of the first ribbed belt running around a number of sprockets (2.2, 3.1, 3.2, 4.1, 4.2, 4.3) driving another carriage (4). This carriage is interlinked with the first unit by couplers (Kx, Ky) and controlled by brake elements (Bx, By). The sprockets are connected to the drive motor by a shaft. USE - Can be used for various different operations such as welding, rivetting or spraying.

Classifications:
International (IPC 8-9): B25J9/02 B25J9/10 G05B19/418 (Advanced/Invention); B25J9/02 B25J9/10 G05B19/418 (Core/Invention)
International (IPC 1-7): B25J9/02 B25J9/16
CPC: Y02P90/08 G05B19/41815 B25J9/023 B25J9/104
European: B25J9/02B B25J9/10C G05B19/418C



Family:

Publication number	Publication date	Application number	Application date
DE4140687 A1	19930617	DE19914140687	19911211
DE4140687 C2	19950105	DE19914140687	19911211
DE9115369 U1	19920507	DE19910015369U	19911211

Priority:
DE19910015369U 19911211 DE19914140687 19911211

Probable Assignee: WEINERT WERNER PROF DR ING
Assignee(s): (std): WEINERT WERNER PROF DR ING
Assignee(s): WEINERT WERNER PROF DR ING 6101 MODAUTAL DE ; WEINERT WERNER PROF DR ING 64397 MODAUTAL DE
Inventor(s): (std): WEINERT WERNER PROF DR ING
Inventor(s): WEINERT WERNER PROF DR ING 6101 MODAUTAL DE ; WEINERT WERNER PROF DR ING 64397 MODAUTAL DE

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
DE4140687 A1	19930617	LSPB	+	published / reissued	
DE4140687 A1	19930617	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE4140687 C2	19950105	LSGT	+	granted / extensions (spc, cpc, pte)	
DE4140687 C2	19950105	LSGT	+D2	GRANT AFTER EXAMINATION	
DE4140687 C2	19950629	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE4140687 C2	19980115	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE4140687 C2	20111211	PEXP		Calculated Patent Term Expiry	
DE9115369 U1	19920507	LSGT	+	granted / extensions (spc, cpc, pte)	
DE9115369 U1	20011211	PEXP		Calculated Patent Term Expiry	