PatBase - Search results 18 September 2020
Search query (3): FT=(clot~ and system~ or method~ and retrieval~ or removing~ and occlusive~) and IC =(A61B) and catheter
Results: 3306

Search history

Search 1: FT=(clot~ and system~ or method~ and retrieval~ or removing~ and occlusive~) (Results 14239)

Search 2: FT=(clot~ and system~ or method~ and retrieval~ or removing~ and occlusive~) and IC =(A61B) (Results 4006)

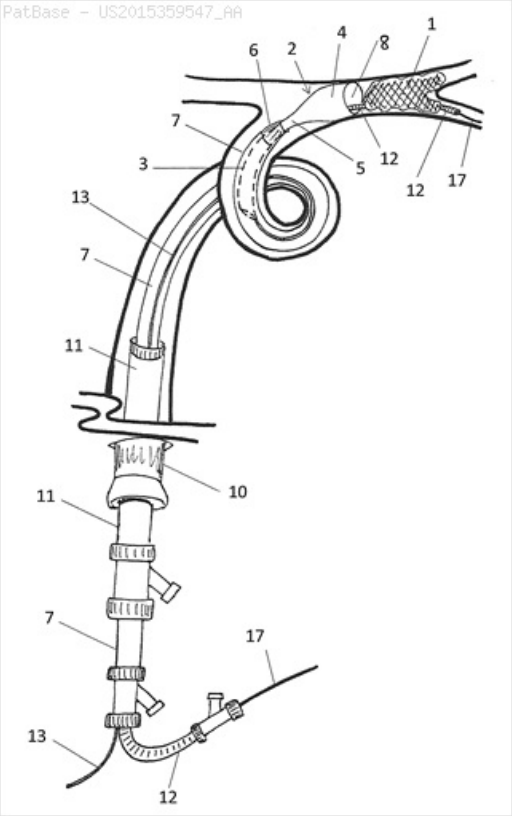
Search 3: FT=(clot~ and system~ or method~ and retrieval~ or removing~ and occlusive~) and IC =(A61B) and catheter (Results 3306)

1) Family number: 61122133 (US2015359547 AA)

Title: DEVICES AND **METHODS** FOR **REMOVAL** OF ACUTE BLOCKAGES FROM BLOOD VESSELS

Abstract: A rapid exchange (RX) **catheter** may provide a proximal seal against a guide **catheter** inner lumen so that aspiration may be applied through a guide **catheter**. The **catheter** may include an exit port that defines a transfer port for aspiration and may enable minimal frictional engagement with the guide **catheter** proximal of the exit port. Aspiration can be applied to the lumen of the guide **catheter** and may be directed to and effective at the tip of the RX aspiration **catheter**. A tip of the RX **catheter** may facilitate aspiration and **retrieval** of the **clot** by expanding under load and can also partially or fully occlude the vessel.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/22032 A61B17/221 A61B17/34 A61M1/00 A61M1/008 A61M25/00 A61M25/06 A61M25/10 A61M29/00
International (IPC 1-7): A61B17/22 A61M1/00 A61M25/10
CPC: A61B17/22 A61B17/22032 A61B17/221 A61B2017/00349 A61B2017/00358 A61B2017/00845 A61B2017/22072 A61B2017/22079 A61B2017/22082 A61B2017/2212 A61B2017/2215 A61B2017/320064 A61B2217/005 A61M1/008 A61M25/0052 A61M25/0074 A61M25/0662 A61M25/10 A61B2017/00778 A61B2017/22051 A61B2017/22067 A61B2017/3435 A61M1/0031 A61M2210/12 A61M25/0082 A61B2017/00831 A61B2017/22038 A61M1/0023 A61M2025/0024 A61M2025/0096 A61M25/008 A61M25/0108 A61M29/00 A61M2205/32 A61M25/0119 A61B17/22031 A61B17/29 A61B17/3421 A61B2017/22034
US: 1/1 606/115 606/200



Family:

Publication number	Publication date	Application number	Application date
AU2017254847 AA	20180614	AU20170254847	20171031
BR102017025346 A2	20181030	BR20171025346	20171127
CA2986623 AA	20180528	CA20172986623	20171124
CN108113734 A	20180605	CN201711215349	20171128
EP3154452 A1	20170419	EP20150728524	20150611
EP3335647 A2	20180620	EP20170204015	20171128
EP3335647 A3	20181003	EP20170204015	20171128
IN201714039503 A	20180601	IN201714039503	20171106
JP2017517338 T2	20170629	JP20160572436T	20150611
JP2018086267 A2	20180607	JP20170226601	20171127
JP2020014873 A2	20200130	JP20190174318	20190925
JP2020014874 A2	20200130	JP20190174334	20150611
JP6595513 B2	20191023	JP20160572436T	20150611
KR20180061015 A	20180607	KR20170157382	20171123
US10441301 BB	20191015	US20150737249	20150611
US10682152 BB	20200616	US20160158384	20160518
US2015359547 AA	20151217	US20150737249	20150611
US2016256180 AA	20160908	US20160158384	20160518
US2017105743 AA	20170420	US20160362377	20161128
US2019328411 AA	20191031	US20190505808	20190709
WO15189354 A1	20151217	WO2015EP63104	20150611
WO17097616 A1	20170615	WO2016EP78973	20161128

Priority:

US20140011934P 20140613
JP20160572436T 20150611
US20160158384 20160518
US20190505808 20190709
US20140080724P 20141117
US20150737249 20150611
US20160362377 20161128
JP20190174318 20190925
WO2015EP63104 20150611
US20150266344P 20151211
KR20170157382 20171123
JP20190174334 20190925

Probable Assignee: NEURAVI LTD

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Agent(s):	CARPMAELS AND RANSFORD LLP; FISHER ADAMS KELLY CALLINANS; KATO MASANOBU; KOBAYASHI YASUSHI; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; O BRIEN JOHN AUGUSTINE; OBRIEN JOHN ET AL; ONO SHINJIRO; SPRUSON AND FERGUSON; TAKEUCHI SHIGEO; TROUTMAN SANDERS LLP; YAMAMOTO OSAMU; 中国专利代理(香港)有限公司 72001; 中西 基晴; 傅永霄; 加藤 公延; 大島 孝文; 宮前 徹; 小林 泰; 小野 新次郎; 山本 修; 杨忠; 渡邊 誠; 竹内 茂雄; 장훈
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)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2017254847 AA	20180614	LSPB	+	published / reissued	
BR102017025346 A2	20181030	LSPB	B03A	PUBLICATION OF AN APPLICATION: PUBLICATION OF A PATENT APPLICATION OR OF A CERTIFICATE OF ADDITION OF INVENTION	
CA2986623 AA	20180528	LSPB	+	published / reissued	
CN108113734 A	20180605	LSPB	+	published / reissued	
CN108113734 A	20180605	LSPB	PB01	PUBLICATION	
CN108113734 A	20180605	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN108113734 A	20191224		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN108113734 A	20191224		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
EP3154452 A1	20170419	LSPB	+	published / reissued	
EP3154452 A1	20170419	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20161128
EP3154452 A1	20170419		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3154452 A1	20170419		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA
EP3154452 A1	20170419		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3154452 A1	20170823		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3154452 A1	20170823		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3335647 A2	20180620	LSPB	+	published / reissued	
EP3335647 A2	20180620		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3335647 A2	20180620		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3335647 A2	20180620		+AX	REQUEST FOR EXTENSION OF THE	Country of Ref document: BA ME

				EUROPEAN PATENT	
EP3335647 A3	20181003		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3335647 A3	20181003		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3335647 A3	20181003		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3335647 A3	20181003		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101AFI20180827BHEP ClassificationScheme: IPC
EP3335647 A3	20190515	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20190403
EP3335647 A3	20190515		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3335647 A3	20200513	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20200414
IN201714039503 A	20180601	LSPB	+	published / reissued	
JP2017517338 T2	20170629	LSPB	+	published / reissued	
JP2017517338 T2	20180510	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20180510 Text: JAPANESE INTERMEDIATE CODE: A621
JP2017517338 T2	20190222		A977	REPORT ON RETRIEVAL	Effective date: 20190220 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2017517338 T2	20190311	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20190311
JP2017517338 T2	20190611		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20190611 Text: JAPANESE INTERMEDIATE CODE: A601
JP2017517338 T2	20190809	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20190809
JP2017517338 T2	20190822	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2017517338 T2	20190827	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20190827 Text: JAPANESE INTERMEDIATE CODE: A01
JP2017517338 T2	20191003	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20190926 Text: JAPANESE INTERMEDIATE CODE: A61
JP2018086267 A2	20180607	LSPB	+	published / reissued	
JP2020014873 A2	20191001	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20191001 Text: JAPANESE INTERMEDIATE CODE: A523
JP2020014873 A2	20191001	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20191001 Text: JAPANESE INTERMEDIATE CODE: A621
JP2020014873 A2	20200130	LSPB	+	published / reissued	
JP2020014874 A2	20190925	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20190925
JP2020014874 A2	20190925	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20190925 Text: JAPANESE INTERMEDIATE CODE: A621
JP2020014874 A2	20200130	LSPB	+	published / reissued	
JP6595513 B2	20190829	LSGT	+A01	特許査定書	Effective date: 20190827
JP6595513 B2	20191001	LSFE	R100	特許料納付書	Effective date: 20190926
JP6595513 B2	20191004	LSGT	+R150	特許証	Effective date: 20191015

JP6595513 B2	20191023	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6595513 B2	20350611	PEXP		Calculated Patent Term Expiry	
KR20180061015 A	20180607	LSPB	+	published / reissued	
US10441301 BB	20150709	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150618 TO 20150626;REEL/FRAME:036048/0483 PartyType: owner Owner: NEURAVI LIMITED, IRELAND
US10441301 BB	20191015	LSGT	+	granted / extensions (spc, cpc, pte)	
US10441301 BB	20360425	PEXP		Calculated Patent Term Expiry (PTA 319 days)	
US10682152 BB	20200616	LSGT	+	granted / extensions (spc, cpc, pte)	
US10682152 BB	20360428	PEXP		Calculated Patent Term Expiry (PTA 322 days)	
US2015359547 AA	20150925		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2015359547 AA	20151217	LSPB	+	published / reissued	
US2015359547 AA	20170420	LSES	NFA1	Non Final Action Mailed	
US2015359547 AA	20170922		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015359547 AA	20170925	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2015359547 AA	20171012	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2015359547 AA	20171016	LSES	NFA1	Non Final Action Mailed	
US2015359547 AA	20180212		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015359547 AA	20180404		FRM2	Final Rejection Counted, Not Yet Mailed	
US2015359547 AA	20180406		FRM1	Final Rejection Mailed	
US2015359547 AA	20180801	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2015359547 AA	20180807	LSES	NFA1	Non Final Action Mailed	
US2015359547 AA	20181128		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015359547 AA	20190131	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015359547 AA	20190209		RFE1	Docketed New Case - Ready for Examination	
US2015359547 AA	20190209		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2015359547 AA	20190606	LSES	NAM1	Notice of Allowance	

				Mailed -- Application Received in Office of Publications	
US2015359547 AA	20190606		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2015359547 AA	20190709	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015359547 AA	20190709		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2015359547 AA	20190910	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015359547 AA	20190910		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2015359547 AA	20190925	LSGT	PAT1	Patented Case	
US2015359547 AA	20190925	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016256180 AA	20160819		RFE1	Docketed New Case - Ready for Examination	
US2016256180 AA	20160908	LSPB	+	published / reissued	
US2016256180 AA	20170210	LSAS	AS	ASSIGNMENT	Owner: NEURAVI LIMITED, IRELAND PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150618 TO 20150626;REEL/FRAME:041227/0607
US2016256180 AA	20180404	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016256180 AA	20180406	LSES	NFA1	Non Final Action Mailed	
US2016256180 AA	20180717	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016256180 AA	20180718	LSES	NFA1	Non Final Action Mailed	
US2016256180 AA	20180912	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2016256180 AA	20190102		FRM1	Final Rejection Mailed	
US2016256180 AA	20190102		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2016256180 AA	20190409		RFE1	Docketed New Case - Ready for Examination	
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US2016256180 AA	20190610	LSES	NFA1	Non Final Action Mailed	
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US2016256180 AA	20191025	LSES	NAM1	Notice of Allowance Mailed --	

				Application Received in Office of Publications	
US2016256180 AA	20191025		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
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US2016256180 AA	20200428	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
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US2016256180 AA	20200527	LSGT	PAT1	Patented Case	
US2017105743 AA	20170314		RFE1	Docketed New Case - Ready for Examination	
US2017105743 AA	20170420	LSPB	+	published / reissued	
US2017105743 AA	20170526	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NEURAVI LIMITED, IRELAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20170217 TO 20170504;REEL/FRAME:042513/0427
US2017105743 AA	20180726	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2017105743 AA	20180730	LSES	NFA1	Non Final Action Mailed	
US2017105743 AA	20190104		FRM1	Final Rejection Mailed	
US2017105743 AA	20190104		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017105743 AA	20190410		RFE1	Docketed New Case - Ready for Examination	
US2017105743 AA	20190410		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017105743 AA	20191101	LSES	NFA1	Non Final Action Mailed	
US2017105743 AA	20191101		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017105743 AA	20200109		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017105743 AA	20200109		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017105743 AA	20200305		FRM1	Final Rejection Mailed	
US2017105743 AA	20200514	LSES	ADV1	Advisory Action Mailed	

US2017105743 AA	20200514		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: ADVISORY ACTION MAILED
US2017105743 AA	20200602	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017105743 AA	20200602		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2019328411 AA	20190709	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150618 TO 20150626;REEL/FRAME:049696/0125 PartyType: owner Owner: NEURAVI LIMITED, IRELAND
US2019328411 AA	20191028		RFE1	Docketed New Case - Ready for Examination	
US2019328411 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019328411 AA	20191031	LSPB	+	published / reissued	
WO15189354 A1	20151217	LSPB	+	published / reissued	
WO15189354 A1	20160127		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 15728524 Kind code of Ref document: A1 Country of Ref document: EP
WO15189354 A1	20161128		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2015728524 Country of Ref document: EP
WO15189354 A1	20161128	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2015728524 Country of Ref document: EP
WO15189354 A1	20161209	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2016572436 Kind code of Ref document: A Country of Ref document: JP
WO15189354 A1	20161213	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17097616 A1	20170615	LSPB	+	published / reissued	
WO17097616 A1	20170809		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 16801783 Kind code of Ref document: A1 Country of Ref document: EP
WO17097616 A1	20180612	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17097616 A1	20190102	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 16801783 Country of Ref document: EP

2) Family number: 52997167 (US2013035628 AA)

Title: **METHODS** AND **SYSTEMS** FOR TREATMENT OF ACUTE ISCHEMIC STROKE

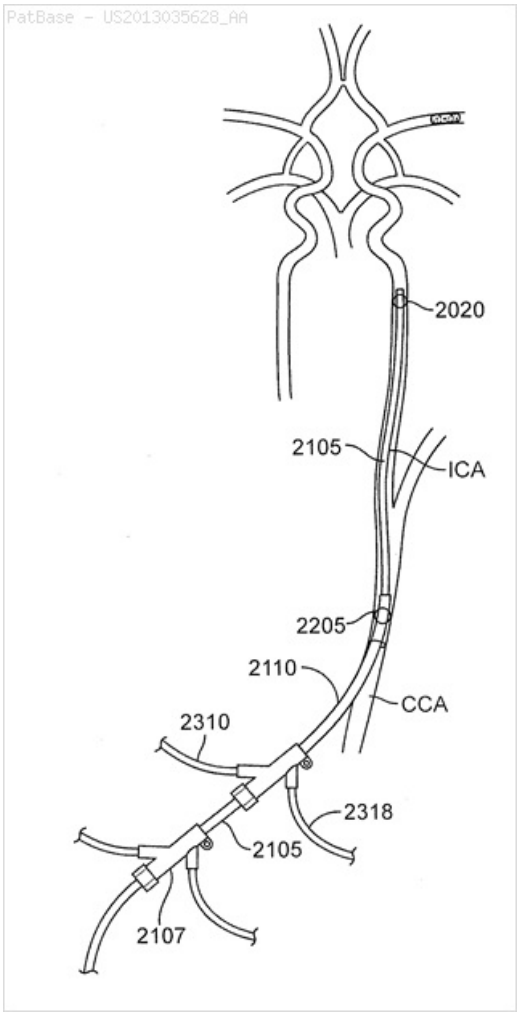
Abstract: Described are **methods** and **systems** for transcervical access of the cerebral arterial vasculature and treatment of cerebral **occlusions**, including ischemic stroke. The **methods** and devices may include **methods** and devices which may provide aspiration and passive flow reversal, those which protect the cerebral penumbra during the procedure to minimize injury to brain, as well as distal catheters and devices to **remove** an **occlusion**. The **methods** and devices that provide passive flow reversal may also offer to the user a degree of flow control. Devices and **methods** which provide a way to securely close the access site in the carotid artery to avoid the potentially devastating consequences of a transcervical hematoma are also described.

Classifications:

International (IPC 8-9): A61B17/00 A61B17/02 A61B17/22 A61B17/221 A61B17/3203 A61B17/3205 A61B17/3207 A61B17/34 A61F2/01 A61M1/00 A61M1/10 A61M1/36 A61M25/00 A61M25/01 A61M25/06 A61M25/088 A61M25/09 A61M25/098 A61M25/10 A61M25/14 A61M31/00 A61M5/00

CPC: A61B17/22 A61B17/221 A61B17/32037 A61B2017/22034 A61B2017/22038 A61B2017/22039 A61B2017/22044 A61B2017/22054 A61B2017/22084 A61B2017/22094 A61B2017/2212 A61B2017/2217 A61F2/013 A61M1/0072 A61M1/1037 A61M1/1062 A61M1/3621 A61M2025/0681 A61M25/0068 A61M25/0169 A61M25/0662 A61M1/00 A61M25/10 A61B17/0218 A61B17/3415 A61B17/3417 A61B2017/22067 A61B2017/320733 A61B17/3203 A61B2017/00991

US: 1/1 600/208 604/508 604/509 604/523 604/8 604/9 606/127 606/159



Family:

Publication number	Publication date	Application number	Application date
EP2739217 A2	20140611	EP20120821423	20120803
EP2739217 A4	20150506	EP20120821423	20120803
JP2014521462 T2	20140828	JP20140524141T	20120803
JP2018183609 A2	20181122	JP20180120675	20180626
US10327790 BB	20190625	US20120566451	20120803
US10646239 BB	20200512	US20180117753	20180830
US10722251 BB	20200728	US20180117741	20180830
US10743893 BB	20200818	US20200796139	20200220
US2013035628 AA	20130207	US20120566451	20120803
US2013281788 AA	20131024	US20130921165	20130618
US2019008534 AA	20190110	US20180117741	20180830
US2019046218 AA	20190214	US20180117753	20180830
US2020187965 AA	20200618	US20200796139	20200220
WO13022796 A2	20130214	WO2012US49643	20120803
WO13022796 A3	20130425	WO2012US49643	20120803
WO14204860 A1	20141224	WO2014US42566	20140616

Priority:

US20110515736P 20110805
US20110543019P 20111004
US20110547597P 20111014
US20110579581P 20111222
WO2012US49643 20120803
JP20140524141T 20120803
US20120566451 20120803
US20130921165 20130618
JP20180120675 20180626
US20180117753 20180830
US20180117741 20180830
US20200796139 20200220

Probable Assignee: SILK ROAD MEDICAL INC

Assignee(s): (std): CHOU TONY M ; GARRISON MICHI E ; HYDE GREGORY M ; ROUTE 92 MEDICAL INC ; SCHAER ALAN K ; SILK ROAD MEDICAL INC ; SLIK ROAD MEDICAL INC

Assignee(s): NEUROCO INC ; シルク ロード メディカル インコーポレイテッド ; ルート92メディカル インコーポレイテッド ; ルート92メディカル･インコーポレイテッドROUTE 92 MEDICAL, INC.

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Inventor(s): アラン ケイ シャー ; アラン・ケイ・シャー ; グレゴリー エム ハイド ; グレゴリー・エム・ハイド ; トニー エム チョウ ; トニー・エム・チョウ ; ミチ イー ギャリソン ; ミチ・イー・ギャリソン

Agent(s): GONJOU KEIICHI; HERNANDEZ FRED C; HERNANDEZ FRED C ET AL; MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO LLP; MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC; SAMEJIMA MUTSUMI; TAMURA YASUO; 大釜 典子; 山尾 憲人; 田村 恭生; 言上 惠一; 鮫島 睦

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
EP2739217 A2	20140611	LSPB	+	published / reissued	
EP2739217 A2	20140611	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20140225
EP2739217 A2	20140611		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2739217 A2	20141112		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2739217 A2	20150218		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/3207 20060101ALI20150113BHEP ClassificationScheme: IPC
EP2739217 A2	20150218		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101AFI20150113BHEP ClassificationScheme: IPC
EP2739217 A2	20150218		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/088 20060101ALI20150113BHEP
EP2739217 A2	20150218		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/09 20060101ALI20150113BHEP
EP2739217 A2	20150218		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/01 20060101ALN20150113BHEP ClassificationScheme: IPC
EP2739217 A2	20150218		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/098 20060101ALI20150113BHEP
EP2739217 A4	20150506	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20150408
EP2739217 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101AFI20150331BHEP ClassificationScheme: IPC
EP2739217 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/01 20060101ALN20150331BHEP ClassificationScheme: IPC
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EP2739217 A4	20150506		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/098 20060101ALI20150331BHEP ClassificationScheme: IPC
EP2739217 A4	20161116	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: ROUTE 92 MEDICAL, INC.

JP2014521462 T2	20140828	LSPB	+	published / reissued	
JP2014521462 T2	20150723	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20150723 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014521462 T2	20150723	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20150723
JP2014521462 T2	20160216		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Text: JAPANESE INTERMEDIATE CODE: A7424 Effective date: 20160216
JP2014521462 T2	20160621	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20160621
JP2014521462 T2	20160623		A977	REPORT ON RETRIEVAL	Effective date: 20160622 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2014521462 T2	20160805	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Text: JAPANESE INTERMEDIATE CODE: A711 Effective date: 20160805
JP2014521462 T2	20160824	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A821 Effective date: 20160805
JP2014521462 T2	20160909		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20160909 Text: JAPANESE INTERMEDIATE CODE: A601
JP2014521462 T2	20161114	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20161114
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JP2014521462 T2	20170711		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20170711
JP2014521462 T2	20171025	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20171025 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014521462 T2	20180227	LSRV	-A02	DECISION OF REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A02 Effective date: 20180227
JP2018183609 A2	20180626		A63	特許願	Effective date: 20180626
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JP2018183609 A2	20180720	LSES	+A621	出願審査請求書	Effective date: 20180720
JP2018183609 A2	20180720		A631	翻訳文提出書	Effective date: 20180720
JP2018183609 A2	20181009		A972001	要約不備職権訂正	Effective date: 20181009
JP2018183609 A2	20181122	LSPB	+	published / reissued	
JP2018183609 A2	20191001	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20191001 Text: JAPANESE INTERMEDIATE CODE: A131
JP2018183609 A2	20191001	LSES	-A131	拒絶理由通知書	Effective date: 20191001
JP2018183609 A2	20191220		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20191220 Text: JAPANESE INTERMEDIATE CODE: A601
JP2018183609 A2	20191220		A601	期間延長請求書	Effective date: 20191220
JP2018183609 A2	20200228		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20200228
JP2018183609 A2	20200228		A601	期間延長請求書	Effective date: 20200228
JP2018183609 A2	20200331	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20200331 Text: JAPANESE INTERMEDIATE CODE: A523
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JP2018183609 A2	20200331		A53	意見書	Effective date: 20200331
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JP2018183609 A2	20200722	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20200722
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JP2018183609 A2	20200722		A53	意見書	Effective date: 20200722
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JP2018183609 A2	20200811	LSGT	+A01	特許査定	Effective date: 20200811
JP2018183609 A2	20200911	LSFE	+A61	登録料納付	Effective date: 20200909
US10327790 BB	20121106	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;HYDE, GREGORY M.;AND OTHERS;SIGNING DATES FROM 20120920 TO 20120924;REEL/FRAME:029252/0082 Owner: SILK ROAD MEDICAL, INC., CALIFORNIA
US10327790 BB	20121109	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE APPLICATION NO. FROM: 13/556451 TO: 13/566451 PREVIOUSLY RECORDED ON REEL 029252 FRAME 0082. ASSIGNOR(S) HEREBY CONFIRMS THE CORRECT APPLICATION NUMBER IS 13/566451;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;HYDE, GREGORY M.;AND OTHERS;SIGNING DATES FROM 20120920 TO 20120924;REEL/FRAME:029275/0893 Owner: SILK ROAD MEDICAL, INC., CALIFORNIA
US10327790 BB	20190625	LSGT	+	granted / extensions (spc, cpc, pte)	
US10327790 BB	20321010	PEXP		Calculated Patent Term Expiry (PTA 68 days)	
US10646239 BB	20180830	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10646239 BB	20181029	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10646239 BB	20190109		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US10646239 BB	20200512	LSGT	+	granted / extensions (spc, cpc, pte)	
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US10722251 BB	20180830	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
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US10722251 BB	20200728	LSGT	+	granted / extensions (spc, cpc, pte)	
US10722251 BB	20320803	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10743893 BB	20200220	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF

					ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;SIGNING DATES FROM 20190625 TO 20190626;REEL/FRAME:051879/0369 Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA
US10743893 BB	20200220	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
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US10743893 BB	20200729	LSGT	PAT1	Patented Case	
US10743893 BB	20200818	LSGT	+	granted / extensions (spc, cpc, pte)	
US10743893 BB	20320803	PEXP		Calculated Patent Term Expiry	
US2013035628 AA	20130207	LSPB	+	published / reissued	
US2013035628 AA	20151112	LSES	NFA1	Non Final Action Mailed	
US2013035628 AA	20160513	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20141231 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SILK ROAD MEDICAL, INC.;REEL/FRAME:038587/0955 Owner: NEUROCO, INC., CALIFORNIA
US2013035628 AA	20160513	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEUROCO, INC.;REEL/FRAME:038592/0916 Effective date: 20160512 Owner: ROUTE 92 MEDICAL, INC., NEW JERSEY PartyType: owner
US2013035628 AA	20170227		RFE1	Docketed New Case - Ready for Examination	
US2013035628 AA	20170728	LSES	NFA1	Non Final Action Mailed	
US2013035628 AA	20180307		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2013035628 AA	20180611		FRM2	Final Rejection Counted, Not Yet Mailed	
US2013035628 AA	20180612		FRM1	Final Rejection Mailed	
US2013035628 AA	20181215		RFE1	Docketed New Case - Ready for Examination	
US2013035628 AA	20190206	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2013035628 AA	20190206		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2013035628 AA	20190508	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2013035628 AA	20190508		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2013035628 AA	20190605	LSGT	PAT1	Patented Case	
US2013035628 AA	20190605	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013281788 AA	20130911	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GARRISON, MICHI E.;REEL/FRAME:031184/0966

					Owner: SILK ROAD MEDICAL, INC., CALIFORNIA PartyType: owner Effective date: 20130829
US2013281788 AA	20131024	LSPB	+	published / reissued	
US2013281788 AA	20140121		RFE1	Docketed New Case - Ready for Examination	
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US2013281788 AA	20161120		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2013281788 AA	20170302		FRM1	Final Rejection Mailed	
US2013281788 AA	20170908		RFE1	Docketed New Case - Ready for Examination	
US2013281788 AA	20180108	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2013281788 AA	20180111	LSES	NFA1	Non Final Action Mailed	
US2013281788 AA	20181127		FRM1	Final Rejection Mailed	
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US2013281788 AA	20200514	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
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US2019008534 AA	20181228	LSES	NFA1	Non Final Action Mailed	
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US2019008534 AA	20190713		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
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US2019008534 AA	20191017		FRM1	Final Rejection Mailed	
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US2019008534 AA	20200221		RFE1	Docketed New Case - Ready for Examination	
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US2019008534 AA	20200417		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019008534 AA	20200417		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019008534 AA	20200429	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2019008534 AA	20200623	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2019008534 AA	20200623		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2019046218 AA	20190109	LSES	NFA1	Non Final Action Mailed	
US2019046218 AA	20190214	LSPB	+	published /	

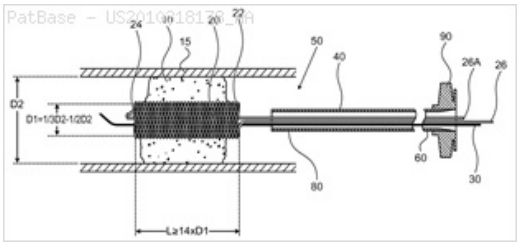
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US2019046218 AA	20190621		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019046218 AA	20190621		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019046218 AA	20190726	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;SIGNING DATES FROM 20190625 TO 20190626;REEL/FRAME:049870/0345 Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA
US2019046218 AA	20190917		FRM1	Final Rejection Mailed	
US2019046218 AA	20190917		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2019046218 AA	20191223		RFE1	Docketed New Case - Ready for Examination	
US2019046218 AA	20191223		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019046218 AA	20200109	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2019046218 AA	20200109		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2019046218 AA	20200422	LSGT	PAT1	Patented Case	
US2019046218 AA	20200422	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2020187965 AA	20200618	LSPB	+	published / reissued	
US2020187965 AA	20200622	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2020187965 AA	20200622		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2020187965 AA	20200717	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2020187965 AA	20200717		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
WO13022796 A2	20130214	LSPB	+	published / reissued	
WO13022796 A2	20130403		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 12821423 Kind code of Ref document: A2 Country of Ref document: EP
WO13022796 A3	20140204	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2014524141 Kind code of Ref document: A Country of Ref document: JP
WO13022796 A3	20140205	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO14204860 A1	20141224	LSPB	+	published /	

				reissued	
WO14204860 A1	20150218		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 14737116 Country of Ref document: EP
WO14204860 A1	20151218	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO14204860 A1	20160713	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref document number: 14737116 Kind code of Ref document: A1 Country of Ref document: EP

3) Family number: 47851963 (US2010318178 AA)

Title: **METHOD** AND APPARATUS FOR ALLOWING BLOOD FLOW THROUGH AN OCCLUDED VESSEL

Abstract: A device arranged to sustain and/or provide at least partial patency of a small blood vessel exhibiting an **occlusion**, the device constituted of a tubular body expandable from a first small diameter state for manipulation to, and through, the **occlusion** of the small blood vessel and a second large diameter state, the inner dimensions of the second large diameter state being no more than 50 percent of the diameter of the small blood vessel at the **occlusion** location, the device presenting a conduit for blood flow through the **occlusion** when in the large diameter state. In one embodiment the small blood vessel is an intracranial blood vessel.



Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B17/3207 A61B90/00 A61F2/01 A61F2/06 A61F2/82 A61F2/84 A61F2/844 A61F2/86 A61F2/88 A61M29/00 A61M29/02
CPC: A61B17/221 A61B17/320725 A61B2017/00893 A61B2017/22034 A61B2017/2215 A61B2090/3966 A61B90/39 A61F2/01 A61F2/844 A61F2/86 A61F2/88 A61F2220/005 A61F2220/0058 A61F2220/0075 A61F2230/0078 A61F2250/0059 A61F2250/0098 A61M29/02
US: 1/1 606/200 623/1.11 623/1.110P 623/1.15 623/1.150P 623/1.150S 623/1.2

Family:

Publication number	Publication date	Application number	Application date
DK2442860 T3	20190624	DK20100737635T	20100615
EP2442860 A1	20120425	EP20100737635	20100615
EP2442860 B1	20190327	EP20100737635	20100615
ES2728418 T3	20191024	ES20100737635T	20100615
PL2442860 T3	20190930	PL20100737635T	20100615
TR201907891 T4	20190621	TR20190007891T	20100615
US2010318178 AA	20101216	US20100815428	20100615
US2012089216 AA	20120412	US20100378053	20100615
US2017035446 AA	20170209	US20160297214	20161019
US2017246014 AA	20170831	US20170459019	20170315
US9248265 BB	20160202	US20100815428	20100615
US9278201 BB	20160308	US20100815428	20100615
US9510855 BB	20161206	US20100378053	20100615
WO10146581 A1	20101223	WO2010IL00470	20100615

Priority:

US20090186942P 20090615 WO2010IL00470 20100615 EP20100737635 20100615
US20100815428 20100615 US20100378053 20100615 US20110378053 20111214
US20160297214 20161019 US20170459019 20170315

Probable Assignee: PERFLOW MEDICAL LTD

Assignee(s): (std): CIBULSKI GILAD ; PERFLOW MEDICAL LTD ; RAPAPORT AVRAHAM

Inventor(s): (std): AVRAHAM RAPAPORT ; CIBULSKI GILAD ; GILAD CIBULSKI ; RAPAPORT AVRAHAM

Agent(s): AHMET AYDOGAN; CLARK JANE ANNE; GREENWOOD JOHN DAVID; KAHN SIMON; PONS ARINO ANGEL; SIMON KAHN PYI TECH LTD C O LANDONIP INC

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
DK2442860 T3	20190624	LSGT	+	granted / extensions (spc, cpc, pte)	
DK2442860 T3	20300615	PEXP		Calculated Patent Term Expiry	
EP2442860 A1	20120425	LSPB	+	published / reissued	
EP2442860 A1	20120425	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20111219
EP2442860 A1	20120425		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
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EP2442860 A1	20130612	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20130513
EP2442860 A1	20181017	LSGT	+INTG	INTENTION TO	Effective date: 20180920

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EP2442860 A1	20190320	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20190214
EP2442860 B1	20190327	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP2442860 B1	20190329	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
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EP2442860 B1	20190418	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Ref document number: 602010057826 Ref country code: DE Country of Ref document: DE
EP2442860 B1	20190531		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: NV Representative: DENNEMEYER AG, CH PartyType: representative Ref country code: CH
EP2442860 B1	20190624		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190621 Ref legal event code: T3 Ref country code: DK
EP2442860 B1	20190703		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FP Ref country code: NL
EP2442860 B1	20190709		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: TRGR Ref country code: SE
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EP2442860 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	Year of fee payment: 10 Payment date: 20190621 Country of Ref document: IE

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	
EP2442860 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190626 Country of Ref document: IT
EP2442860 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2442860 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190627 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
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EP2442860 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190327 Country of Ref document: EE
EP2442860 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190327 Country of Ref document: SK
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EP2442860 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190727 Country of Ref document: PT
EP2442860 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190619 Country of Ref document: GB
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EP2442860 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190702 Year of fee payment: 10 Country of Ref document: ES
EP2442860 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190527 Country of Ref document: CZ
EP2442860 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2442860 B1	20191129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190611 Country of Ref document: PL
EP2442860 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190727 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2442860 B1	20200103	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602010057826 Ref country code: DE Ref legal event code: R097 Country of Ref document: DE
EP2442860 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2442860 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
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EP2442860 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20200615 Country of Ref document: TR
EP2442860 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200618 Year of fee payment: 11 Country of Ref document: CH
EP2442860 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20200622 Country of Ref document: DK
EP2442860 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200624 Year of fee payment: 11 Country of Ref document: IE
EP2442860 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200619 Year of fee payment: 11 Country of Ref document: FR
EP2442860 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200615 Year of fee payment: 11 Country of Ref document: CZ
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ES2728418 T3	20300615	PEXP		Calculated Patent Term Expiry	
PL2442860 T3	20190930	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201907891 T4	20190621	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201907891 T4	20300615	PEXP		Calculated Patent Term Expiry	
US2010318178 AA	20101216	LSPB	+	published / reissued	
US2010318178 AA	20160217	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012089216 AA	20120412	LSPB	+	published / reissued	
US2012089216 AA	20140915	LSAS	AS	ASSIGNMENT	Owner: PERFLOW MEDICAL LTD., ISRAEL OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:RAPAPORT, AVRAHAM;CIBULSKI, GILAD;REEL/FRAME:033736/0510 PartyType: owner Effective date: 20100704
US2012089216 AA	20161116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017035446 AA	20161213		RFE1	Docketed New Case - Ready for Examination	
US2017035446 AA	20170205	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:RAPAPORT, AVRAHAM;CIBULSKI, GILAD;REEL/FRAME:041174/0359

					Owner: PERFLOW MEDICAL LTD., ISRAEL PartyType: owner Effective date: 20100704
US2017035446 AA	20170209	LSPB	+	published / reissued	
US2017035446 AA	20190104		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017035446 AA	20190228		FRM1	Final Rejection Mailed	
US2017035446 AA	20190228		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017035446 AA	20190905		RFE1	Docketed New Case - Ready for Examination	
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US2017035446 AA	20191001	LSES	NFA1	Non Final Action Mailed	
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US2017035446 AA	20200313		FRM1	Final Rejection Mailed	
US2017246014 AA	20170323	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:RAPAPORT, AVRAHAM;CIBULSKI, GILAD;REEL/FRAME:041689/0867 PartyType: owner Owner: PERFLOW MEDICAL LTD., ISRAEL Effective date: 20100704
US2017246014 AA	20170818		RFE1	Docketed New Case - Ready for Examination	
US2017246014 AA	20170831	LSPB	+	published / reissued	
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US2017246014 AA	20190814		FRM1	Final Rejection Mailed	
US2017246014 AA	20190814		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017246014 AA	20191219		RFE1	Docketed New Case - Ready for Examination	
US2017246014 AA	20191219		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017246014 AA	20200410	LSES	NFA1	Non Final Action	

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US2017246014 AA	20200410		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US9248265 BB	20151124	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9248265 BB	20160202	LSGT	+	granted / extensions (spc, cpc, pte)	
US9248265 BB	20160217	LSGT	PAT1	Patented Case	
US9248265 BB	20300615	PEXP		Calculated Patent Term Expiry	
US9278201 BB	20100714	LSAS	AS	ASSIGNMENT	Owner: PERFLOW MEDICAL LTD., ISRAEL PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:RAPAPORT, AVRAHAM;CIBULSKI, GILAD;REEL/FRAME:024679/0676 Effective date: 20100704
US9278201 BB	20160308	LSGT	+	granted / extensions (spc, cpc, pte)	
US9278201 BB	20190821	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9278201 BB	20300615	PEXP		Calculated Patent Term Expiry	
US9510855 BB	20100714	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: PERFLOW MEDICAL LTD., ISRAEL Effective date: 20100704 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:RAPAPORT, AVRAHAM;CIBULSKI, GILAD;REEL/FRAME:024679/0749
US9510855 BB	20151205		RFE1	Docketed New Case - Ready for Examination	
US9510855 BB	20161116	LSGT	PAT1	Patented Case	
US9510855 BB	20161206	LSGT	+	granted / extensions (spc, cpc, pte)	
US9510855 BB	20200527	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9510855 BB	20310107	PEXP		Calculated Patent Term Expiry (PTA 206 days)	
WO10146581 A1	20101223	LSPB	+	published / reissued	
WO10146581 A1	20110216		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 10737635 Country of Ref document: EP
WO10146581 A1	20111214	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13378053 Country of Ref document: US
WO10146581 A1	20111215	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10146581 A1	20111219	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010737635 Country of Ref document: EP

4) Family number: 77824613 (WO20039082 A1)

Title: APPARATUS FOR MANAGING ACUTE ISCHEMIC EVENTS

Abstract: A **method** for managing one or more acute ischemic events. The **method** can include determining criteria of a **clot**; classifying the **clot** based on the criteria and generating a classification; determining an individualized treatment protocol for the **clot** based on the classification, the individualized treatment protocol comprising one or more techniques selected from using aspiration, restoring perfusion using a first reperfusion device, and/or restoring perfusion using a second reperfusion device; and treating the **clot** based on the individualized treatment protocol.

Classifications:

International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B17/3207 A61B34/00 A61B34/10 A61B5/00 A61B5/02 A61B5/053 A61B5/055 A61B6/00 A61B6/03 A61B8/14 A61F2/95 A61M25/00 A61M25/01 A61M25/09 G01T1/161 G06K9/62 G16H30/40 G16H40/20 G16H40/40 G16H40/60 G16H50/20 G16H70/20 G16H70/60

CPC: A61B17/221 A61B2017/22038 A61B2017/22079 A61B2017/22082 A61B2017/2212 A61B2090/3966 A61B2217/005 A61B34/10 A61B5/0075 A61B5/0086 A61B5/02007 A61B5/055 A61B5/4064 A61B5/48 A61B5/4869 A61B5/7264 A61B6/03 A61F2/95 G06K9/6267 G16H50/20 G16H70/60 A61B17/22 A61B2017/00022 A61B2017/00084 A61B2017/22034 A61B2017/22042 A61B2017/2215 A61B5/6851 A61B2017/00026 A61B2090/306 A61B2090/3614 A61B2090/3618 A61B5/0215 A61B5/14546 A61M2025/0042 A61M2025/09108 A61M2025/09175 A61B6/504 G16H30/40 G16H40/20 G16H40/40 G16H40/60 G16H70/20 A61B2017/00526 A61B2017/22035 A61B5/0538 A61M25/0009 A61B2034/105 A61M25/09 A61B2090/061 A61M2205/50 A61M2205/502

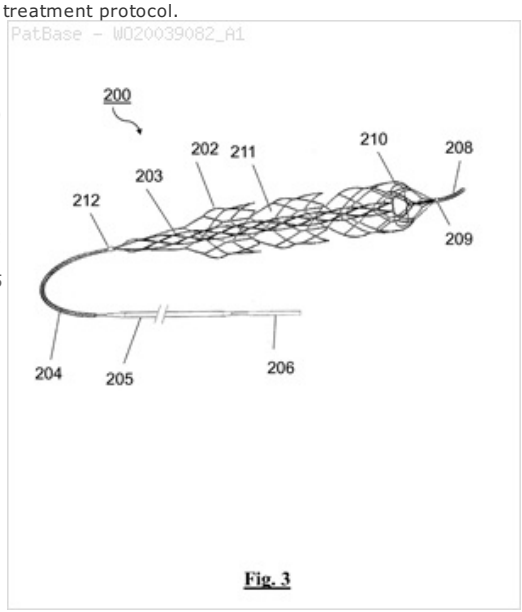


Fig. 3

Family:

Publication number	Publication date	Application number	Application date
CN111341436 A	20200626	CN201911317945	20191219
CN111374648 A	20200707	CN201911377736	20191227
CN111374734 A	20200707	CN201911377873	20191227
EP3669802 A1	20200624	EP20190217675	20191218
EP3673840 A1	20200701	EP20190217869	20191219
EP3673841 A1	20200701	EP20190218143	20191219
JP2020099688 A2	20200702	JP20190227935	20191218
JP2020103899 A2	20200709	JP20190233917	20191225
JP2020103900 A2	20200709	JP20190233921	20191225
KR20200078365 A	20200701	KR20190169427	20191218
KR20200083910 A	20200709	KR20190172721	20191223
KR20200083911 A	20200709	KR20190172731	20191223
WO20039082 A1	20200227	WO2019EP72613	20190823
WO20039258 A1	20200227	WO2019IB00942	20190823

Priority:

US20180722648P 20180824 US20180782217P 20181219 US20180785543P 20181227 US20180785566P 20181227 US20190844559P 20190507

Probable Assignee: NEURAVI LTD

Assignee(s): (std): NEURAVI LTD

Assignee(s): ニューラヴィ リミテッド ; ニューラヴィ·リミテッド ; 尼尔拉维有限公司 ; 뉴라비 리미티드

Inventor(s): (std): CASEY BRENDAN ; CONNOLLY PATRICK ; MCCARTHY RAY ; MIRZA MAHMOOD ; VALE DAVID

Inventor(s): B 凯西 ; D 瓦勒 ; D 维尔 ; M 米尔扎 ; P 康诺利 ; R 麦卡锡 ; デビッド ベイル ; デビッド·ベイル ; パトリック コノリー ; パトリック·コノリー ; ブレンダン ケーシー ; ブレンダン·ケーシー ; マームード ミルザ ; マームード·ミルザ ; レイ マッカーシー ; レイ·マッカーシー ; 매카시 레이 ; 미르자 메흐무드 ; 베일 데이비드 ; 케이시 브렌단 ; 코널리 패트릭

Agent(s): SMALL GARY JAMES; SMALL GARY JAMES ET AL; 中国专利代理 香港 有限公司 72001; 初明明; 加藤 公延; 大島 孝文; 姜冰; 张金金; 徐予红; 黄登高; 장훈

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
CN111341436 A	20200626	LSPB	+	published / reissued	
CN111341436 A	20200626	LSPB	PB01	PUBLICATION	
CN111341436 A	20200626	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN111374648 A	20200707	LSPB	+	published / reissued	

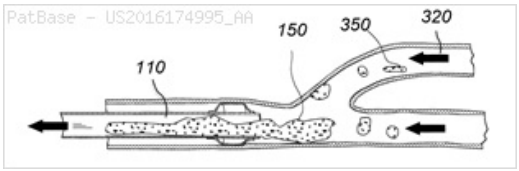
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CN111374648 A	20200707	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN111374734 A	20200707	LSPB	+	published / reissued	
CN111374734 A	20200707	LSPB	PB01	PUBLICATION	
CN111374734 A	20200707	LSPB	PB01	公开	Text: 公开 (Disclosure)
EP3669802 A1	20200624	LSPB	+	published / reissued	
EP3669802 A1	20200624		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3669802 A1	20200624		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: KH MA MD TN
EP3669802 A1	20200624		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3673840 A1	20200701	LSPB	+	published / reissued	
EP3673840 A1	20200701		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3673840 A1	20200701		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: KH MA MD TN
EP3673840 A1	20200701		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3673841 A1	20200701	LSPB	+	published / reissued	
EP3673841 A1	20200701		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3673841 A1	20200701		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: KH MA MD TN
EP3673841 A1	20200701		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
JP2020099688 A2	20200702	LSPB	+	published / reissued	
JP2020103899 A2	20200709	LSPB	+	published / reissued	
JP2020103900 A2	20200709	LSPB	+	published / reissued	
KR20200078365 A	20200701	LSPB	+	published / reissued	
KR20200083910 A	20200709	LSPB	+	published / reissued	
KR20200083911 A	20200709	LSPB	+	published / reissued	
WO20039082 A1	20200227	LSPB	+	published / reissued	
WO20039082 A1	20200408		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 19759544 Country of Ref document: EP
WO20039258 A1	20200227	LSPB	+	published / reissued	
WO20039258 A1	20200408		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 19805728 Country of Ref document: EP

5) Family number: 62727752 (US2016174995 AA)

Title: POST-CONDITIONING SUCTION **CATHETER** APPARATUS AND **METHODS**

Abstract: A balloon suction **catheter** may be used to **remove** **clots** and increase blood flow to obstructed vessels such as a cerebral artery in a stroke patient. The **catheter** may be used to apply suction on the **clot** while providing flow arrest, embolic protection, and optionally flow reversal. The same **catheter** may also be used to provide for a flow modulation procedure known as post-conditioning to potentially reduce any damage from the sudden reintroduction of blood flow reperfusion injury.

Classifications:
International (IPC 8-9): A61B17/12 A61B17/22 A61B17/221
CPC: A61B17/22 A61B2017/22062 A61B2017/22067 A61B2017/22069 A61B2017/22079 A61B2217/005 A61B17/12031 A61B17/1204 A61B17/12109 A61B17/12136 A61B17/221 A61B2017/1205 A61B2017/22034 A61B2017/22044 A61B2017/22054 A61B2017/2215
US: 1/1 606/115 606/127



Family:

Publication number	Publication date	Application number	Application date
US10258354 BB	20190416	US20150979310	20151222
US10485551 BB	20191126	US20170486718	20170413
US2016174995 AA	20160623	US20150979310	20151222
US2017215890 AA	20170803	US20170486718	20170413

Priority:
US20140095364P 20141222 US20150979310 20151222 US20170486718 20170413

Probable Assignee: COGNITION MEDICAL CORP
Assignee(s): (std): COGNITION MEDICAL CORP
Inventor(s): (std): BERNSTEIN JONAH G ; LEVY ELAD I ; TURJMAN ALEXIS S
Agent(s): LEVINE BAGADE HAN LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10258354 BB	20160219	LSAS	AS	ASSIGNMENT	Effective date: 20151221 PartyType: owner Owner: COGNITION MEDICAL CORP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:TURJMAN, ALEXIS S.;LEVY, ELAD I.;REEL/FRAME:037780/0662
US10258354 BB	20190327	LSGT	PAT1	Patented Case	
US10258354 BB	20190416	LSGT	+	granted / extensions (spc, cpc, pte)	
US10258354 BB	20370630	PEXP		Calculated Patent Term Expiry (PTA 556 days)	
US10485551 BB	20170413	LSAS	AS	ASSIGNMENT	Effective date: 20151221 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TURJMAN, ALEXIS S.;REEL/FRAME:042000/0719 Owner: COGNITION MEDICAL CORP, MASSACHUSETTS PartyType: owner
US10485551 BB	20191126	LSGT	+	granted / extensions (spc, cpc, pte)	
US10485551 BB	20370213	PEXP		Calculated Patent Term Expiry (PTA 419 days)	
US2016174995 AA	20160523		RFE1	Docketed New Case - Ready for Examination	
US2016174995 AA	20160623	LSPB	+	published / reissued	
US2016174995 AA	20171109	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BERNSTEIN, JONAH G.;REEL/FRAME:044780/0229 Owner: COGNITION MEDICAL CORP, MASSACHUSETTS Effective date: 20120531 PartyType: owner
US2016174995 AA	20180124	LSES	NFA1	Non Final Action	

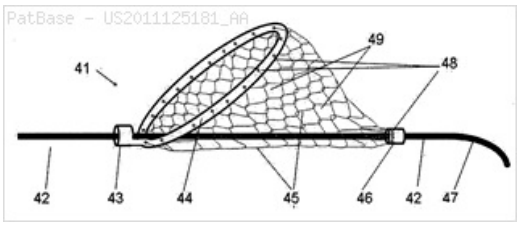
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US2016174995 AA	20181207	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016174995 AA	20190227	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016174995 AA	20190327	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017215890 AA	20170803	LSPB	+	published / reissued	
US2017215890 AA	20170818		RFE1	Docketed New Case - Ready for Examination	
US2017215890 AA	20170818		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017215890 AA	20171109	LSAS	AS	ASSIGNMENT	Owner: COGNITION MEDICAL CORP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LEVY, ELAD I.;BERNSTEIN, JONAH G.;SIGNING DATES FROM 20151221 TO 20171030;REEL/FRAME:044081/0679 PartyType: owner
US2017215890 AA	20190806	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017215890 AA	20190806		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017215890 AA	20191018	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017215890 AA	20191018		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017215890 AA	20191106	LSGT	PAT1	Patented Case	
US2017215890 AA	20191106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

6) Family number: 44280463 (US2011125181 AA)

Title: **CLOT** CAPTURE **SYSTEMS** AND ASSOCIATED **METHODS**

Abstract: A **clot** capture **system** for disengaging a **clot** 2001 from a vessel wall 2002 and **removing** the **clot** 2001 from the vessel 202, comprises a **clot** capture device 2140 for placement on a distal side of a **clot** 2001. The **clot** capture device 2140 has a retracted delivery configuration and an expanded deployed configuration. The **clot removal** device has a proximal support frame 2012, and a distal fibre net 2130. The support frame 2012 has a retracted delivery configuration and an expanded deployed configuration. The proximal support frame 2012 in the expanded configuration defines a proximal inlet mouth for engaging a **clot** 2001 and a net 2130 for confining the **clot** 2001. An elongate member facilitates capture and/or withdrawal of a **clot** 2001 from a vessel 2002. The **system** also comprises a **clot** debonding device 2091 for placement on a proximal side of a **clot** 2001. The **clot** debonding device 2091 has a retracted delivery configuration and an expanded deployed configuration and comprises a **clot** engagement element 2112 which defines a distal abutment in the deployed configuration for urging a **clot** 2001 into the **clot** cap 2140.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61F2/01 A61M29/00
CPC: A61B17/22031 A61B17/221 A61B2017/00867 A61B2017/22035 A61B2017/22038 A61B2017/22051 A61B2017/22094 A61B2017/2212 A61B2017/2215 A61B2017/2217 A61F2/01 A61F2230/0008 A61F2230/001 A61F2230/005 A61F2230/0058 A61F2/013 A61F2230/0006 A61B17/32056 A61B2017/00287
US: 1/1 606/127 606/159 606/200 606/200P



Family:

Publication number	Publication date	Application number	Application date
DE602009035670 D1	20160225	DE200960035670T	20090722
EP2341845 A1	20110713	EP20090787407	20090722
EP2341845 B1	20160106	EP20090787407	20090722
US10582939 BB	20200310	US20160204537	20160707
US2011125181 AA	20110526	US20090737527	20090722
US2013144326 AA	20130606	US20120662299	20121026
US2013184739 AA	20130718	US20110643970	20110428
US2014379023 AA	20141225	US20140318300	20140627
US2016317168 AA	20161103	US20160204537	20160707
US2020121339 AA	20200423	US20190664671	20191025
US8777976 BB	20140715	US20090737527	20090722
US9402707 BB	20160802	US20120662299	20121026
WO10010545 A1	20100128	WO2009IE00051	20090722
WO11135556 A1	20111103	WO2011IE00026	20110428

Priority:

US20080129823P 20080722
WO2009IE00051 20090722
US20110737527 20110121
US20120662299 20121026
US20190664671 20191025
US20090202612P 20090318
US20090737527 20090722
WO2011IE00026 20110428
US20140318300 20140627
EP20090787407 20090722
US20100282950P 20100428
US20110643970 20110428
US20160204537 20160707

Probable Assignee: NEURAVI LTD

Assignee(s): (std): BRADY EAMON ; GILVARRY MICHAEL ; MAHMOOD RAZAVI ; NEURAVI LTD ; O SHAUGHNESSY JOHN ; RAZAVI MAHMOOD ; VALE DAVID

Assignee(s): NEURAVI LIMITED

Inventor(s): (std): BRADY EAMON ; GILVARRY MICHAEL ; MAHMOOD RAZAVI ; O SHAUGHNESSY JOHN ; RAZAVI MAHMOOD ; VALE DAVID

Inventor(s): O'SHAUGHNESSY JOHN ; RAZAVI MAHMOOD IRVINE

Agent(s): BOOKOFF MANDREWS PLLC; BOOKOFF MCANDREWS PLLC; MITSCHERLICH PATENT U RECHTSANWAELTE PARTMBB; O BRIEN JOHN A ET AL; O BRIEN JOHN AUGUSTINE; OBRIEN JOHN AUGUSTINE; TROUTMAN SANDERS LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC 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
EP2341845 A1	20110713	LSPB	+	published / reissued	
EP2341845 A1	20110713	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20110215
EP2341845 A1	20110713		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP2341845 A1	20110713		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA RS
EP2341845 A1	20110727		RIN1	INFORMATION ON INVENTOR	Inventor: BRADY, EAMON PartyType: inventor

				PROVIDED BEFORE GRANT (CORRECTED)	
EP2341845 A1	20110727		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: RAZAVI, MAHMOOD PartyType: inventor
EP2341845 A1	20110727		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: VALE, DAVID PartyType: inventor
EP2341845 A1	20110727		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: O'SHAUGHNESSY, JOHN PartyType: inventor
EP2341845 A1	20110907		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BRADY, EAMON PartyType: inventor
EP2341845 A1	20110907		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: RAZAVI, MAHMOOD PartyType: inventor
EP2341845 A1	20110907		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: VALE, DAVID PartyType: inventor
EP2341845 A1	20110907		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: O'SHAUGHNESSY, JOHN PartyType: inventor
EP2341845 A1	20111026		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2341845 A1	20151118	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20151023
EP2341845 A1	20151118		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: VALE, DAVID PartyType: inventor
EP2341845 A1	20151118		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: O'SHAUGHNESSY, JOHN PartyType: inventor
EP2341845 A1	20151118		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: RAZAVI, MAHMOOD PartyType: inventor
EP2341845 A1	20151118		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BRADY, EAMON PartyType: inventor
EP2341845 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160601 Year of fee payment: 8 Country of Ref document: GB
EP2341845 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160527 Year of fee payment: 8 Country of Ref document: IE
EP2341845 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160617 Year of fee payment: 8 Country of Ref document: FR
EP2341845 A1	20160930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160727 Year of fee payment: 8 Country of Ref document: NL
EP2341845 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL	Payment date: 20160606 Year of fee payment: 8

				OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: DE
EP2341845 B1	20160106	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2341845 B1	20160106		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP2341845 B1	20160106	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2341845 B1	20160113	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	Owner: NEURAVI LIMITED PartyType: owner
EP2341845 B1	20160115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP2341845 B1	20160210	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP2341845 B1	20160215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160215 Ref document number: 768150 Ref country code: AT Ref legal event code: REF Kind code of Ref document: T Country of Ref document: AT
EP2341845 B1	20160225	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602009035670 Ref country code: DE Ref legal event code: R096 Country of Ref document: DE
EP2341845 B1	20160316		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FP Ref country code: NL
EP2341845 B1	20160510	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP2341845 B1	20160515	LSRV	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Ref document number: 768150 Ref legal event code: MK05 Ref country code: AT Effective date: 20160106 Country of Ref document: AT
EP2341845 B1	20160617	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 8 Country of Ref document: FR
EP2341845 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160406 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2341845 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160106 Country of Ref document: ES
EP2341845 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2341845 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2341845 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2341845 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160407 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2341845 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2341845 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2341845 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160506 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2341845 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160506 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2341845 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2341845 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160106 Country of Ref document: AT
EP2341845 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2341845 B1	20161007	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602009035670 Ref legal event code: R097 Country of Ref document: DE
EP2341845 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2341845 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2341845 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160106 Country of Ref document: CZ
EP2341845 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2341845 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2341845 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2341845 B1	20161214	LSGT	+26N	NO OPPOSITION	Effective date: 20161007

				FILED	
EP2341845 B1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2341845 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2341845 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160406 Country of Ref document: BG
EP2341845 B1	20170228	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2341845 B1	20170331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2341845 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2341845 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20160731 Country of Ref document: CH
EP2341845 B1	20170619	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Year of fee payment: 9 Ref legal event code: PLFP
EP2341845 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170619 Year of fee payment: 9 Country of Ref document: GB
EP2341845 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170619 Year of fee payment: 9 Country of Ref document: FR
EP2341845 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20170612 Country of Ref document: IE
EP2341845 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160722 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2341845 B1	20170929	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20170731 Country of Ref document: NL
EP2341845 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170704 Year of fee payment: 9 Country of Ref document: DE
EP2341845 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2341845 B1	20180531	LSLE	-PG25	LAPSED IN A	Lapsed date: 20090722

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2341845 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160106 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2341845 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160106 Country of Ref document: MK
EP2341845 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2341845 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190130 Year of fee payment: 10 Country of Ref document: GB
EP2341845 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190131 Year of fee payment: 10 Country of Ref document: FR
EP2341845 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190131 Year of fee payment: 10 Country of Ref document: IE
EP2341845 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190131 Country of Ref document: DE
EP2341845 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190130 Country of Ref document: NL
EP2341845 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190619 Year of fee payment: 11 Country of Ref document: FR
EP2341845 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190712 Year of fee payment: 11 Country of Ref document: NL
EP2341845 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20190710 Country of Ref document: IE
EP2341845 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190710 Year of fee payment: 11 Country of Ref document: DE
EP2341845 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20190717 Country of Ref document: GB
EP2341845 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200611 Year of fee payment: 12 Country of Ref document: FR

EP2341845 B1	20290722	PEXP		Calculated Patent Term Expiry	
US10582939 BB	20200310	LSGT	+	granted / extensions (spc, cpc, pte)	
US10582939 BB	20360707	PEXP		Calculated Patent Term Expiry	
US2011125181 AA	20110526	LSPB	+	published / reissued	
US2011125181 AA	20140625	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013144326 AA	20130606	LSPB	+	published / reissued	
US2013144326 AA	20160713	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013184739 AA	20130718	LSPB	+	published / reissued	
US2013184739 AA	20141202	LSAS	AS	ASSIGNMENT	Owner: NEURAVI LIMITED, IRELAND PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;VALE, DAVID;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20121228 TO 20130111;REEL/FRAME:034300/0111
US2013184739 AA	20150908	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2013184739 AA	20150908		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2014379023 AA	20140916	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;RAZAVI, MAHMOOD;VALE, DAVID;AND OTHERS;SIGNING DATES FROM 20140731 TO 20140818;REEL/FRAME:033750/0683 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US2014379023 AA	20141225	LSPB	+	published / reissued	
US2014379023 AA	20151117	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014379023 AA	20151117		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2016317168 AA	20161103	LSPB	+	published / reissued	
US2016317168 AA	20170202	LSES	NFA1	Non Final Action Mailed	
US2016317168 AA	20170210	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;VALE, DAVID;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20121228 TO 20130114;REEL/FRAME:041222/0618 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US2016317168 AA	20170512		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016317168 AA	20170803		FRM1	Final Rejection Mailed	
US2016317168 AA	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2016317168 AA	20180131	LSES	NFA1	Non Final Action Mailed	
US2016317168 AA	20190117		RFE1	Docketed New Case - Ready for Examination	
US2016317168 AA	20190205	LSES	NFA1	Non Final Action Mailed	

US2016317168 AA	20190205		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2016317168 AA	20190516		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016317168 AA	20190516		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2016317168 AA	20190822	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016317168 AA	20190822		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016317168 AA	20191022	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016317168 AA	20191022		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016317168 AA	20200123	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016317168 AA	20200123		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2016317168 AA	20200219	LSGT	PAT1	Patented Case	
US2016317168 AA	20200219	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2020121339 AA	20191029	LSAS	AS	ASSIGNMENT	Owner: NEURAVI LIMITED, IRELAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;VALE, DAVID;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20121228 TO 20130114;REEL/FRAME:050850/0472 PartyType: owner
US2020121339 AA	20200123		RFE1	Docketed New Case - Ready for Examination	
US2020121339 AA	20200423	LSPB	+	published / reissued	
US8777976 BB	20110518	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;RAZAVI, MAHMOOD;VALE, DAVID;AND OTHERS;SIGNING DATES FROM 20110107 TO 20110118;REEL/FRAME:026300/0995 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US8777976 BB	20140625	LSGT	PAT1	Patented Case	
US8777976 BB	20140715	LSGT	+	granted / extensions (spc, cpc, pte)	
US8777976 BB	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US8777976 BB	20180104	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8777976 BB	20290722	PEXP		Calculated Patent Term Expiry	
US9402707 BB	20130214	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NEURAVI LIMITED, IRELAND

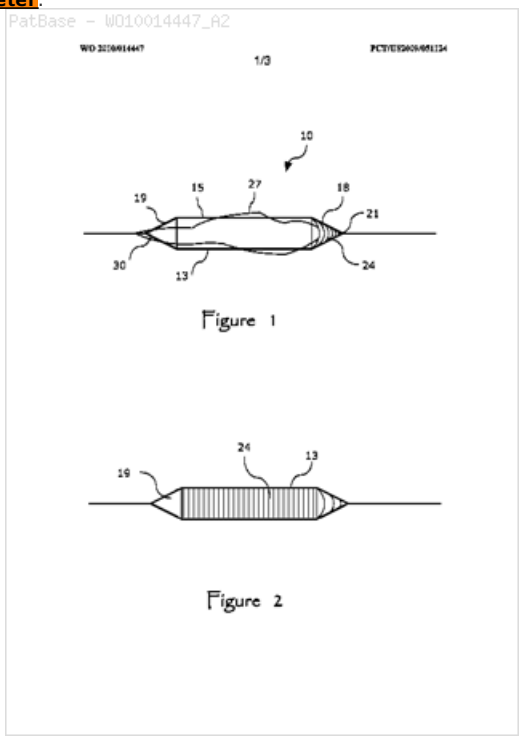
					OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;O'SHAUGHNESSY, JOHN;AND OTHERS;SIGNING DATES FROM 20121228 TO 20130114;REEL/FRAME:029814/0341
US9402707 BB	20150709		RFE1	Docketed New Case - Ready for Examination	
US9402707 BB	20160713	LSGT	PAT1	Patented Case	
US9402707 BB	20160802	LSGT	+	granted / extensions (spc, cpc, pte)	
US9402707 BB	20180208	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US9402707 BB	20200116	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9402707 BB	20290722	PEXP		Calculated Patent Term Expiry	
WO10010545 A1	20100128	LSPB	+	published / reissued	
WO10010545 A1	20100317		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 09787407 Kind code of Ref document: A1 Country of Ref document: EP
WO10010545 A1	20110121	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 12737527 Country of Ref document: US
WO10010545 A1	20110125	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10010545 A1	20110215	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009787407 Country of Ref document: EP
WO11135556 A1	20111103	LSPB	+	published / reissued	
WO11135556 A1	20111228		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 11719890 Country of Ref document: EP
WO11135556 A1	20121029	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO11135556 A1	20130402	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13643970 Country of Ref document: US
WO11135556 A1	20130626	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 11719890 Country of Ref document: EP

7) Family number: 44322420 (WO10014447 A2)

Title: EMBOLECTOMY STROKE DEVICE

Abstract: Devices and **methods** for **removing** an obstruction from a blood vessel are described. The devices are deployed in a collapsed condition and are then expanded within the body. The devices are then manipulated to engage and **remove** the obstruction. A **system** for **removing** an obstruction from a blood vessel includes an obstruction engaging element and an expandable capture element. The capture element preferably has a flexible cover and an expandable support structure. The engaging element engages the obstruction and moves the obstruction into the capture element. The capture element protects the obstruction when the obstruction is moved into the **catheter**.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/50 A61F2/82 A61F2/92 A61M29/00
CPC: A61B17/12022 A61B17/12036 A61B17/12118 A61F2/82 A61F2002/823



Family:

Publication number	Publication date	Application number	Application date
WO10014447 A2	20100204	WO2009US51124	20090720
WO10014447 A3	20110224	WO2009US51124	20090720

Priority:
US20080084426P 20080729

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

Legal status (INPADOC)

View legal status timeline

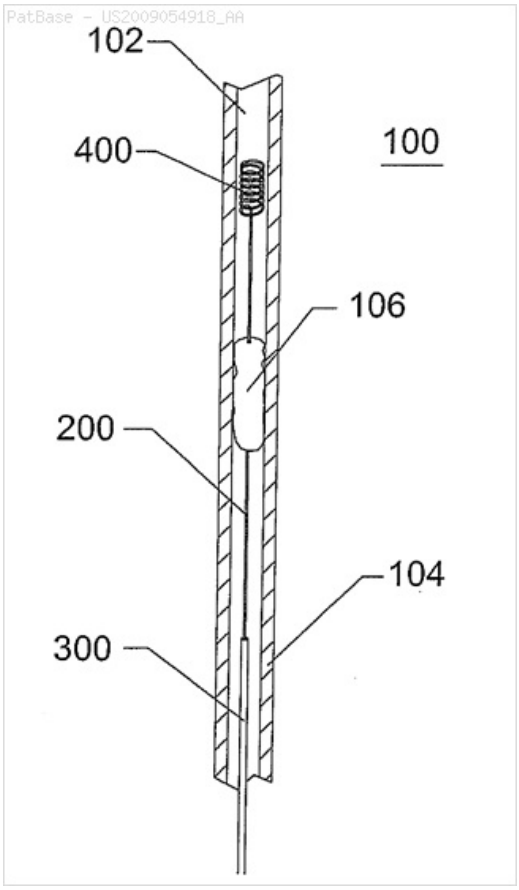
Patent	Date recorded	Event group	Code	Event	Details
WO10014447 A2	20100204	LSPB	+	published / reissued	
WO10014447 A2	20110201	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10014447 A3	20110914	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 09803383 Country of Ref document: EP

8) Family number: 42918202 (US2009054918 AA)

Title: THROMBECTOMY **SYSTEM** AND **METHOD**

Abstract: Disclosed is a **clot** and foreign body **removal** **system**, including a **catheter** with at least one lumen. Located within the **catheter** is a **clot** capture wire that is connected to a hub at the proximal end. In one embodiment, the **clot** capture wire includes a coil made out of an elastic or superelastic material, preferably nitinol. The elasticity or superelasticity of the coil allows it to be deformed within the **catheter** and to then reform its original coil configuration when the coil is moved outside of the **catheter** lumen. In another embodiment the coil is a biphasic, shape memory coil, which changes shape upon heating, energy application, or passing an electric current. Once the coil configuration has been established, the coil can be used to ensnare and corkscrew a **clot** or blockage in a vessel. A **clot** is extracted from the vessel by moving the **clot** capture coil and **catheter** proximally until the **clot** can be **removed** completely or released into a different vessel that does not perfuse a critical organ. Foreign bodies are similarly captured by deploying the coil distal to the foreign body and moving the **clot** capture coil proximally until the foreign body is trapped within the coil. By **removing** the device from the body, the foreign material is also **removed**.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221
CPC: A61B17/221 A61B2017/00867 A61B2017/22034 A61B2017/2217
US: 606/108 606/159 606/159P



Family:

Publication number	Publication date	Application number	Application date
EP2180839 A2	20100505	EP20080782653	20080806
EP2180839 A4	20130828	EP20080782653	20080806
US2009054918 AA	20090226	US20080187227	20080806
US8343167 BB	20130101	US20080187227	20080806
WO09021071 A2	20090212	WO2008US72382	20080806
WO09021071 A3	20100107	WO2008US72382	20080806

Priority:
US20070963637P 20070806 WO2008US72382 20080806 US20080187227 20080806

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
EP2180839 A2	20100505	LSPB	+	published / reissued	

EP2180839 A2	20100505	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100303
EP2180839 A2	20100505		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2180839 A2	20100505		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2180839 A2	20101215		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2180839 A4	20130828	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20130726
EP2180839 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101ALI20130722BHEP
EP2180839 A4	20130828		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101AFI20130722BHEP ClassificationScheme: IPC
EP2180839 A4	20140730	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20140301
US2009054918 AA	20090226	LSPB	+	published / reissued	
US2009054918 AA	20121212	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8343167 BB	20081022	LSAS	AS	ASSIGNMENT	Owner: REVERSE MEDICAL CORPORATION, CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HENSON, MICHAEL R.;REEL/FRAME:021722/0362 PartyType: owner Effective date: 20081021
US8343167 BB	20121212	LSGT	PAT1	Patented Case	
US8343167 BB	20130101	LSGT	+	granted / extensions (spc, cpc, pte)	
US8343167 BB	20150311	LSAS	AS	ASSIGNMENT	Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20140927 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:REVERSE MEDICAL LLC;REEL/FRAME:035143/0782 PartyType: owner
US8343167 BB	20150311	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: REVERSE MEDICAL LLC, CALIFORNIA Effective date: 20140926 OldParty: CHANGE OF NAME;ASSIGNOR:REVERSE MEDICAL CORPORATION;REEL/FRAME:035188/0429
US8343167 BB	20160624	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8343167 BB	20200116	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8343167 BB	20290916	PEXP		Calculated Patent Term Expiry (PTA 406 days)	
WO09021071 A2	20090212	LSPB	+	published / reissued	
WO09021071 A2	20090408		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 08782653 Country of Ref document: EP
WO09021071 A3	20100209	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09021071 A3	20100303	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO	Ref document number: 2008782653 Country of Ref document: EP

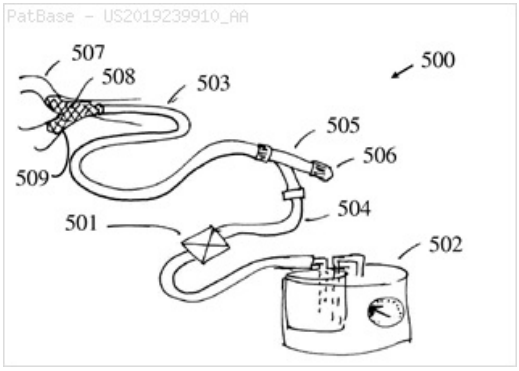
	NATIONAL PHASE

9) Family number: 68421405 (US2019239910 AA)

Title: A **CLOT** **RETRIEVAL** **SYSTEM** FOR **REMOVING** **OCCLUSIVE** **CLOT** FROM A BLOOD VESSEL

Abstract: A **system** for **removing** **occlusive** **clot** from a blood vessel comprises a **catheter** and an apparatus for generating a pulsatile vacuum force to pulse the pressure gradient at a distal end of the **catheter**. The pulse generator may be integral with or separate from the vacuum pump. The pulse generator may be applied to a flexible tubing between the vacuum pump and the proximal end of the **catheter**.

Classifications:
International (IPC 8-9): A61B17/22 A61M1/00
International (IPC 1-7): A61B17/22 A61M1/00
CPC: A61B17/22 A61B17/22004 A61B17/22012 A61B2017/00141 A61B2017/00146 A61B2017/00154 A61B2017/22079 A61B2217/005 A61M1/0035 A61M1/0037



Family:

Publication number	Publication date	Application number	Application date
BR112019001481 A2	20190430	BR20191101481	20170725
CN109788964 A	20190521	CN201780059366	20170725
JP2019527110 T2	20190926	JP20190504107T	20170725
KR20190035792 A	20190403	KR20197005605	20170725
US2019239910 AA	20190808	US20170320082	20170725
WO18019829 A1	20180201	WO2017EP68759	20170725

Priority:

EP20160181338 20160726 US20170474383P 20170321 WO2017EP68759 20170725 US20170320082 20170725

Probable Assignee: NEURAVI LTD

Assignee(s): (std): NEURAVI LTD

Assignee(s): ニューラヴィ リミテッド；ニューラヴィ·リミテッド；尼尔拉维有限公司；뉴라비 리미티드

Inventor(s): (std): ADNAN SIDDIQUI；BRADY EAMON；BRENDAN CASEY；CASEY BRENDAN；DAVID VALE；EAMON BRADY；GILVARRY MICHAEL；HOARY MARTO；MARTO HOARY；MICHAEL GILVARRY；SIDDIQUI ADNAN；VALE DAVID

Inventor(s): A 西迪奇；B 卡西；D 瓦勒；E 布拉迪；M 吉尔瓦里；M 霍里；ギルバリー マイケル；ギルバリー·マイケル；ケーシー ブレンダン；ケーシー·ブレンダン；シディキ アドナン；シディキ·アドナン；ブレディー エイモン；ブレディー·エイモン；ベイル デビッド；ベイル·デビッド；ホーリー マルト；ホーリー·マルト；길버리 미첼；베일 데이비드；브레이드 에몽；시디퀴 아드난；케세이 브렌단；호리 마토

Agent(s): SMALL GARY JAMES ET AL; 中国专利代理 香港 有限公司 72001; 傅永霄; 加藤 公延; 吴俊; 大島 孝文; 장훈

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
CN109788964 A	20190521	LSPB	+	published / reissued	
CN109788964 A	20190521	LSPB	PB01	PUBLICATION	
CN109788964 A	20190521	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN109788964 A	20190816		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN109788964 A	20190816		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
JP2019527110 T2	20190926	LSPB	+	published / reissued	
JP2019527110 T2	20200630	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20200630 Text: JAPANESE INTERMEDIATE CODE: A523
JP2019527110 T2	20200630		A523	手続補正書	Effective date: 20200630
JP2019527110 T2	20200630	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20200630

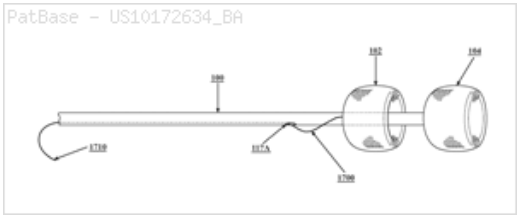
JP2019527110 T2	20200630	LSES	+A621	出願審査請求書	Effective date: 20200630
KR20190035792 A	20190403	LSPB	+	published / reissued	
US2019239910 AA	20190313	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;VALE, DAVID;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20170421 TO 20170519;REEL/FRAME:048580/0901 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US2019239910 AA	20190613		RFE1	Docketed New Case - Ready for Examination	
US2019239910 AA	20190613		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019239910 AA	20190808	LSPB	+	published / reissued	
WO18019829 A1	20180201	LSPB	+	published / reissued	
WO18019829 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 17742756 Kind code of Ref document: A1 Country of Ref document: EP
WO18019829 A1	20190125	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2019504107 Kind code of Ref document: A Country of Ref document: JP
WO18019829 A1	20190129	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18019829 A1	20190205		REG	REFERENCE TO NATIONAL CODE	Ref document number: 112019001481 Ref country code: BR Ref legal event code: B01A Country of Ref document: BR
WO18019829 A1	20190225	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 20197005605 Kind code of Ref document: A Country of Ref document: KR
WO18019829 A1	20190430	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 112019001481 Effective date: 20190124 Kind code of Ref document: A2 Country of Ref document: BR
WO18019829 A1	20190904	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref document number: 17742756 Kind code of Ref document: A1 Country of Ref document: EP

10) Family number: 72727688 (US10172634 BA)

Title: **CATHETER** BASED **RETRIEVAL** DEVICE WITH PROXIMAL BODY HAVING AXIAL FREEDOM OF MOVEMENT

Abstract: Provided herein are **methods** and **systems** for the **removal** of anatomical **occlusions**, and an **occlusion removal** device comprising a first body adapted to be mounted to a delivery wire and releasably engaged to the delivery wire, wherein while engaged the first body remains fixed on the delivery wire and upon release moves axially along the delivery wire, and a second body adapted to be mounted to the delivery wire. A first proximal body may be oriented proximally to a second distal body. The proximal body and the distal body may be adapted to expand upon exiting a delivery **catheter**. The proximal body may be releasably engaged by a mechanically breakable connection or an electrolytically or heat disconnectable connection, the electrolytically disconnectable connection being broken upon an application of electric current to the electrolytically disconnectable connection.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221
CPC: A61B17/22032 A61B17/221 A61B2017/00867 A61B2017/22038 A61B2017/22051 A61B2017/22054 A61B2017/22072 A61B2017/22079 A61B2017/22094 A61M2025/1013 A61M2025/1015
US: 1/1 606/159



Family:

Publication number	Publication date	Application number	Application date
AU2018352118 AA	20190425	AU20180352118	20181012
EP3697325 A1	20200826	EP20180867404	20181012
US10172634 BA	20190108	US20180953151	20180413
US10258357 BA	20190416	US20180953173	20180413
US2019110803 AA	20190418	US20180953173	20180413
US2019110804 AA	20190418	US20180953186	20180413
US2019142444 AA	20190516	US20180205632	20181130
WO19079121 A1	20190425	WO2018US55606	20181012

Priority:

US20170606993P 20171016 US20170573006P 20171016 US20170589613P 20171122
US20180653247P 20180405 US20180953151 20180413 US20180953173 20180413
US20180953186 20180413 WO2018US55606 20181012 US20180205632 20181130

Probable Assignee: RETRIEVER MEDICAL INC

Assignee(s): (std): HOROWITZ MICHAEL BRUCE

Assignee(s): RETRIEVER MEDICAL INC

Inventor(s): (std): HOROWITZ MICHAEL ; HOROWITZ MICHAEL BRUCE

Agent(s): AMBROZIAK JEFFREY R ET AL; GTC LAW GROUP PC AND AFFILIATES; MURGITROYD AND CO; WRAYS 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 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
AU2018352118 AA	20190425	LSPB	+	published / reissued	
EP3697325 A1	20200826	LSPB	+	published / reissued	
EP3697325 A1	20200826	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20200601
EP3697325 A1	20200826		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3697325 A1	20200826		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
US10172634 BA	20180413	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10172634 BA	20180508	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10172634 BA	20181219	LSGT	PAT1	Patented Case	
US10172634 BA	20181219	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

US10172634 BA	20190108	LSGT	+	granted / extensions (spc, cpc, pte)	
US10172634 BA	20380413	PEXP		Calculated Patent Term Expiry	
US10258357 BA	20180413	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10258357 BA	20180508	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10258357 BA	20190327	LSGT	PAT1	Patented Case	
US10258357 BA	20190327	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US10258357 BA	20190416	LSGT	+	granted / extensions (spc, cpc, pte)	
US10258357 BA	20380413	PEXP		Calculated Patent Term Expiry	
US2019110803 AA	20190418	LSPB	+	published / reissued	
US2019110803 AA	20200623	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20200608 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HOROWITZ, MICHAEL BRUCE;REEL/FRAME:053013/0562 Owner: RETRIEVER MEDICAL, INC., CALIFORNIA
US2019110804 AA	20180728		RFE1	Docketed New Case - Ready for Examination	
US2019110804 AA	20180728		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019110804 AA	20190418	LSPB	+	published / reissued	
US2019110804 AA	20190930	LSES	NFA1	Non Final Action Mailed	
US2019110804 AA	20190930		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019110804 AA	20200708	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2019142444 AA	20190306		RFE1	Docketed New Case - Ready for Examination	
US2019142444 AA	20190306		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019142444 AA	20190516	LSPB	+	published / reissued	
US2019142444 AA	20200527	LSES	NFA1	Non Final Action Mailed	
US2019142444 AA	20200724	LSAS	AS	ASSIGNMENT	Effective date: 20200608 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HOROWITZ, MICHAEL BRUCE;REEL/FRAME:053311/0022 Owner: RETRIEVER MEDICAL, INC., CALIFORNIA PartyType: owner
WO19079121 A1	20190425	LSPB	+	published / reissued	
WO19079121 A1	20190605		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 18867404 Kind code of Ref document: A1 Country of Ref document: EP

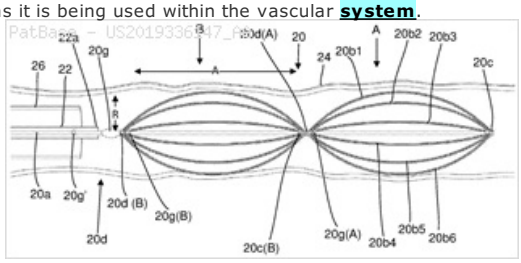
WO19079121 A1	20200417	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19079121 A1	20200612	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20200518 Ref document number: 2018867404 Country of Ref document: EP
WO19079121 A1	20200618	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20181012 Ref document number: 2018352118 Kind code of Ref document: A Country of Ref document: AU

11) Family number: 70643723 (US2019336147 AA)

Title: THROMBUS **RETRIEVAL** STENTS AND **METHODS** OF USING FOR TREATMENT OF ISCHEMIC STROKE

Abstract: **Methods** and apparatus for **retrieving** a blood **clot** are disclosed. The apparatus comprises an expandable wire frame for deployment using a push wire within a microcatheter. When deployed in the vicinity of a blood **clot**, the wire frame is configured to expand and trap the blood **clot** allowing the blood **clot** to be **removed**. The expandable wire frame is connected to the push wire at distal and proximal ends. One or more expansion stops define a minimum distance between the distal and proximal ends of the expandable wire frame and a point of maximum extension of the expandable wire frame. This may help the user to control the configuration of the apparatus as it is being used within the vascular **system**.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61M25/01 A61M25/09
CPC: A61B17/221 A61B2017/2212 A61B2090/034



Family:

Publication number	Publication date	Application number	Application date
US2019336147 AA	20191107	US20180071103	20180124
WO18137029 A1	20180802	WO2018CA50082	20180124

Priority:

US20170450835P 20170126 WO2018CA50082 20180124 US20180071103 20180124

Probable Assignee: GOYAL MAYANK
Assignee(s): (std): GOYAL MAYANK
Assignee(s): MG STROKE ANALYTICS INC
Inventor(s): (std): GOYAL MAYANK
Agent(s): HICKS ANDREW
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
US2019336147 AA	20181205	LSAS	AS	ASSIGNMENT	Effective date: 20181021 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GOYAL, MAYANK;REEL/FRAME:047678/0712 Owner: MG STROKE ANALYTICS INC., CANADA PartyType: owner
US2019336147 AA	20190821		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2019336147 AA	20191107	LSPB	+	published / reissued	
US2019336147 AA	20191210		RFE1	Docketed New Case - Ready for Examination	
US2019336147 AA	20191210		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019336147 AA	20200218	LSES	NFA1	Non Final Action Mailed	
US2019336147 AA	20200218		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019336147 AA	20200721		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019336147 AA	20200721		STPP	INFORMATION ON STATUS: PATENT APPLICATION	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER

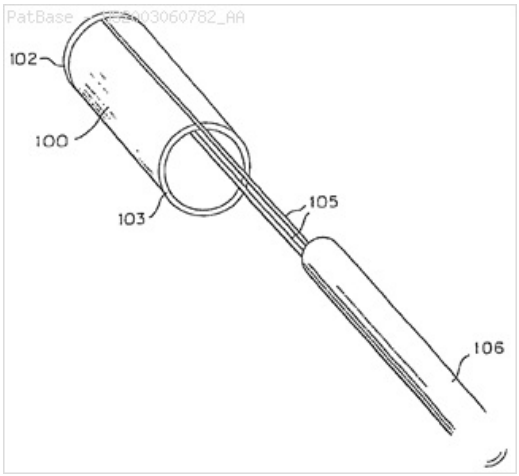
				AND GRANTING PROCEDURE IN GENERAL	
WO18137029 A1	20180802	LSPB	+	published / reissued	
WO18137029 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 18743960 Country of Ref document: EP
WO18137029 A1	20190727	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18137029 A1	20200129	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 18743960 Country of Ref document: EP

12) Family number: 29370843 (US2003060782 AA)

Title: ENDOVASCULAR THIN FILM DEVICES AND **METHODS** FOR TREATING AND PREVENTING STROKE

Abstract: Devices for excluding aneurysms and treating atherosclerotic disease, for intra-aneurysmal **occlusion**; and devices for preventing distal emboli. The devices are generally pliable and collapsible thin film devices which can be delivered via a microcatheter into the desired location where they are deployed and undergo either a shape memory phase transformation or in situ polymerization to assume the stable configuration of a permanent endoluminal prosthesis. Prior to being caused to assume their final shape, the devices remain soft, collapsible and pliable to ensure atraumatic delivery through the vascular **system**. Upon reaching the endoluminal defect in the vessel, the device is extruded from the microcatheter. Devices are also provided for **retrieving** **clots**.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/12 A61F A61F2/01 A61F2/02 A61F2/06 A61F2/82 A61F2/88 A61L31/02
International (IPC 1-7): A61B17/08 A61F A61F2/01 A61F2/06 A61M25/00 A61M5/32
CPC: A61B17/12022 A61B17/12113 A61B17/12118 A61B17/1214 A61B17/12172 A61B17/12186 A61B17/1219 A61B2017/00831 A61B2017/00995 A61F2/06 A61F2/82 A61F2/88 A61F2002/30062 A61F2002/823 A61F2210/0004 A61F2230/005 A61F2230/0071 A61F2230/0095
US: 604/265 604/265P 606/1.19 606/1.2 606/119 606/12 606/153 623/1.15 623/1.17 623/1.18 623/1.19 623/1.2



Family:

Publication number	Publication date	Application number	Application date
AU199943320 A1	19991220	AU19990043320	19990604
AU2003203537 AA	20030612	AU20030203537	20030331
AU2003203537 BB	20060601	AU20030203537	20030331
AU756080 B2	20030102	AU19990043320	19990604
CA2334223 AA	20001204	CA19992334223	19990604
CA2334223 C	20081118	CA19992334223	19990604
DE69944907 D1	20131212	DE19996044907	19990604
EP1082072 A1	20010314	EP19990955205	19990604
EP1082072 B1	20131016	EP19990955205	19990604
EP1082072 B8	20140305	EP19990955205	19990604
JP2002516706 T2	20020611	JP20000551694T	19990604
JP4741728 B2	20110810	JP20000551694T	19990604
US2003060782 AA	20030327	US20010789531	20010222
US6605111 BB	20030812	US20010789531	20010222
US6666882 BA	20031223	US20010789530	20010222
US6669721 BA	20031230	US20010789535	20010222
WO9962432 A1	19991209	WO1999US12444	19990604
ZA200007149 A	20020104	ZA20000007149	20001204

Priority:

US19980087968P 19980604 US19980103575P 19981009 WO1999US12444 19990604
AU19990043320 19990604 EP19990955205 19990604 US20010789531 20010222
US20010789530 20010222 US20010789535 20010222 AU20030203537 20030331

Probable Assignee: NEW YORK UNIV

Assignee(s): (std): BOSE ARANI ; NEW YORK UNIVERSITY ; UNIV NEW YORK

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Inventor(s): (std): BOSE ARANI ; KIM NELSON PETER ; NELSON PETER KIM

Inventor(s): ARANI BOSE ; BOSE ARANI NEW YORK ; NELSON PETER KIM NEW YORK ; PETER KIM NELSON ; ネルソン ピーター キム ; ネルソン, ピーター キム ; ボセ アラニ ; ボセ, アラニ

Agent(s): BORDEN LADNER GERVAIS LLP; FB RICE; FB RICE PTY LTD; HOEIBERG A S

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU199943320 A1	19991220	LSPB	+	published / reissued	
AU2003203537 AA	20030612	LSPB	+	published / reissued	
AU2003203537 BB	20060601	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2003203537 BB	20060928	LSGT	+FGA	LETTERS PATENT	

				SEALED OR GRANTED (STANDARD PATENT)	
AU2003203537 BB	20150122	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2003203537 BB	20230331	PEXP		Calculated Patent Term Expiry	
AU756080 B2	20030102	LSGT	+	granted / extensions (spc, cpc, pte)	
AU756080 B2	20030522	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU756080 B2	20190604	PEXP		Calculated Patent Term Expiry	
CA2334223 AA	20001204	LSPB	+	published / reissued	
CA2334223 AA	20031223	LSES	+EEER	EXAMINATION REQUEST	
CA2334223 C	20081118	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2334223 C	20120604	LSLE	-MKLA	LAPSED	
CA2334223 C	20190604	PEXP		Calculated Patent Term Expiry	
DE69944907 D1	20131017	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OldParty: New York University, New York, N.Y., US PartyType: Owner
DE69944907 D1	20190101	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
EP1082072 A1	20010314	LSPB	+	published / reissued	
EP1082072 A1	20010314	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20010103
EP1082072 A1	20010314		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT CH DE ES FR GB IE IT LI SE
EP1082072 A1	20130522	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20130423
EP1082072 B1	20131016	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1082072 B1	20131016		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT CH DE ES FR GB IE IT LI SE
EP1082072 B1	20131016	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP1082072 B1	20131031	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP1082072 B1	20131106	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP1082072 B1	20131115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 636081 Effective date: 20131115 Kind code of Ref document: T Ref country code: AT Ref legal event code: REF Country of Ref document: AT
EP1082072 B1	20131204		RIN2	INFORMATION ON INVENTOR PROVIDED AFTER GRANT (CORRECTED)	Inventor: NELSON, PETER KIM PartyType: inventor
EP1082072 B1	20131204		RIN2	INFORMATION ON INVENTOR PROVIDED AFTER GRANT (CORRECTED)	Inventor: BOSE, ARANI PartyType: inventor
EP1082072 B1	20131212	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Ref country code: DE Ref document number: 69944907 Effective date: 20131212 Country of Ref document: DE
EP1082072 B1	20190604	PEXP		Calculated Patent Term Expiry	
EP1082072 B8	20140315	LSRV	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Ref legal event code: MK05 Ref document number: 636081 Effective date: 20131016 Ref country code: AT Country of Ref document: AT

EP1082072 B8	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131016 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1082072 B8	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131016 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1082072 B8	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20131016 Country of Ref document: AT
EP1082072 B8	20140717	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 69944907 Ref country code: DE Ref legal event code: R097 Country of Ref document: DE
EP1082072 B8	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20131016 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP1082072 B8	20140829	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20140612 Year of fee payment: 16 Country of Ref document: CH
EP1082072 B8	20140924	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20140717
EP1082072 B8	20141023	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 69944907 Effective date: 20140717 Ref legal event code: R097 Country of Ref document: DE
EP1082072 B8	20141128	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 16 Payment date: 20140609 Country of Ref document: FR
EP1082072 B8	20160129	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP1082072 B8	20160401	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160229 Ref country code: FR Ref legal event code: ST
EP1082072 B8	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150630 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1082072 B8	20160429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150630 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1082072 B8	20160531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150630 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1082072 B8	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170531 Year of fee payment: 19 Country of Ref document: GB
EP1082072 B8	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 19 Payment date: 20170530 Country of Ref document: DE
EP1082072 B8	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO	Year of fee payment: 19

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EP1082072 B8	20190101	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 69944907 Ref legal event code: R119 Country of Ref document: DE
EP1082072 B8	20190227	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20180604
EP1082072 B8	20190320	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM4A Ref country code: IE
EP1082072 B8	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190101 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP1082072 B8	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180604 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1082072 B8	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20180604 Country of Ref document: GB
JP2002516706 T2	20020611	LSPB	+	published / reissued	
JP2002516706 T2	20060527	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20060526 Text: JAPANESE INTERMEDIATE CODE: A621
JP2002516706 T2	20060622	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20060621 Text: JAPANESE INTERMEDIATE CODE: A523
JP2002516706 T2	20081202	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20081202 Text: JAPANESE INTERMEDIATE CODE: A131
JP2002516706 T2	20090303		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20090302 Text: JAPANESE INTERMEDIATE CODE: A601
JP2002516706 T2	20090310		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20090309 Text: JAPANESE INTERMEDIATE CODE: A602
JP2002516706 T2	20090325	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20090324 Text: JAPANESE INTERMEDIATE CODE: A523
JP2002516706 T2	20091027	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20091027 Text: JAPANESE INTERMEDIATE CODE: A131
JP2002516706 T2	20100128		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20100127 Text: JAPANESE INTERMEDIATE CODE: A601
JP2002516706 T2	20100204		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20100203 Text: JAPANESE INTERMEDIATE CODE: A602
JP2002516706 T2	20100330		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20100327 Text: JAPANESE INTERMEDIATE CODE: A601
JP2002516706 T2	20100406		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20100405 Text: JAPANESE INTERMEDIATE CODE: A602
JP2002516706 T2	20100520	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20100427 Text: JAPANESE INTERMEDIATE CODE: A523
JP2002516706 T2	20100824	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20100824 Text: JAPANESE INTERMEDIATE CODE: A131
JP2002516706 T2	20101117		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20101116 Text: JAPANESE INTERMEDIATE CODE: A601
JP2002516706 T2	20101125		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20101124 Text: JAPANESE INTERMEDIATE CODE: A602
JP2002516706 T2	20110222	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20110221 Text: JAPANESE INTERMEDIATE

					CODE: A523
JP2002516706 T2	20110419	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20110419 Text: JAPANESE INTERMEDIATE CODE: A01
JP2002516706 T2	20110421	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2002516706 T2	20110512	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20110509 Text: JAPANESE INTERMEDIATE CODE: A61
JP2002516706 T2	20110516	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4741728 B2	20110421	LSGT	+A01	特許査定書	
JP4741728 B2	20110510	LSFE	R100	特許料納付書	
JP4741728 B2	20110513	LSGT	+R150	特許証	
JP4741728 B2	20110810	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4741728 B2	20140612	LSFE	R20	特許料納付書	
JP4741728 B2	20140617	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
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JP4741728 B2	20150430	LSFE	R20	特許料納付書	
JP4741728 B2	20150512	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4741728 B2	20150512	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4741728 B2	20160428	LSFE	R20	特許料納付書	
JP4741728 B2	20160510	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
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JP4741728 B2	20170511	LSFE	R20	特許料納付書	
JP4741728 B2	20170516	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4741728 B2	20170516	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4741728 B2	20180513	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4741728 B2	20190604	PEXP		Calculated Patent Term Expiry	
US2003060782 AA	20030327	LSPB	+	published / reissued	
US2003060782 AA	20030724	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6605111 BB	20020507	LSAS	AS	ASSIGNMENT	Owner: NEW YORK UNIVERSITY, NEW YORK PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BOSE, ARANI;NELSON, PETER KIM;REEL/FRAME:012870/0634 Effective date: 20010223
US6605111 BB	20030724	LSGT	PAT1	Patented Case	
US6605111 BB	20030812	LSGT	+	granted / extensions (spc, cpc, pte)	
US6605111 BB	20070206	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6605111 BB	20110114	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6605111 BB	20150121	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6605111 BB	20210222	PEXP		Calculated Patent Term Expiry	
US6666882 BA	20020507	LSAS	AS	ASSIGNMENT	Owner: NEW YORK UNIVERSITY, NEW YORK Effective date: 20010223 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BOSE,

					ARANI;NELSON, PETER KIM;REEL/FRAME:012866/0227 PartyType: owner
US6666882 BA	20031204	LSGT	PAT1	Patented Case	
US6666882 BA	20031204	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6666882 BA	20031223	LSGT	+	granted / extensions (spc, cpc, pte)	
US6666882 BA	20070531	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6666882 BA	20110525	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6666882 BA	20150610	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6666882 BA	20150714	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6666882 BA	20150714		+SULP	SURCHARGE FOR LATE PAYMENT	Year of fee payment: 11
US6666882 BA	20210808	PEXP		Calculated Patent Term Expiry (PTA 167 days and a terminal disclaimer has been filed)	
US6669721 BA	20020507	LSAS	AS	ASSIGNMENT	Effective date: 20010223 Owner: NEW YORK UNIVERSITY, NEW YORK OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BOSE, ARANI;NELSON, PETER KIM;REEL/FRAME:012866/0162 PartyType: owner
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US6669721 BA	20070531	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
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US6669721 BA	20150617	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
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WO9962432 A1	20001204	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2000 551694 Kind code of Ref document: A Country of Ref document: JP
WO9962432 A1	20001204	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200007149 Country of Ref document: ZA
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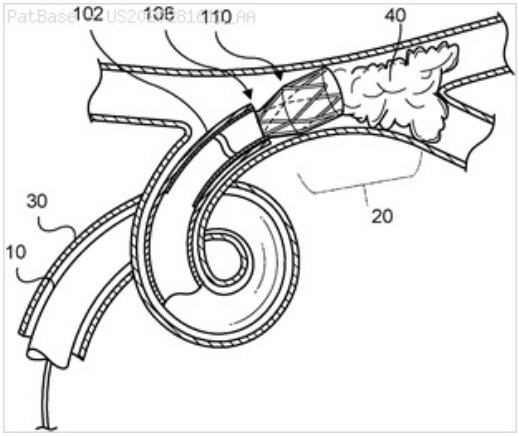
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WO9962432 A1	20010222	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 09789535 Country of Ref document: US
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WO9962432 A1	20030508	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 43320/99 Country of Ref document: AU
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ZA200007149 A	20201203	PEXP		Calculated Patent Term Expiry	

13) Family number: 80905271 (US2020281611 AA)

Title: ACTUATED **CLOT** **RETRIEVAL** **CATHETER**

Abstract: Devices described herein include an actuated **clot** **retrieval** **catheter** **system**. The **system** includes a **catheter** having a frame disposed proximate the distal end of the **catheter**. The frame expands to form a seal with the inner wall of a vessel. In some examples, the frame also captures a **clot** for **removal** from the vessel. The frame is manufactured from a shape memory material that can be heat set into a predetermined shape. An electrical connection to an electronic circuit causes a current to run through the frame. The electrical resistance of the shape memory material causes the frame to heat and transition from a martensite to an austenite phase. When the frame is heat set into an expanded configuration, the current causes the frame heat and expand. When the frame is heat set into a closed configuration, the current causes the frame heat and collapse upon a **clot**.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61M25/00 A61M25/01
CPC: A61B17/22 A61B17/221 A61B2017/00526 A61B2017/00867 A61B2017/22079 A61B2017/2212 A61B2017/2215 A61B2217/005 A61B2017/00084 A61B2017/2217 A61M2025/0024 A61M2025/0063 A61M2205/0266 A61M25/0023 A61M25/0074 A61M25/0158



Family:

Publication number	Publication date	Application number	Application date
CN111643155 A	20200911	CN202010143059	20200304
EP3705066 A1	20200909	EP20200160592	20200303
JP2020142074 A2	20200910	JP20200035529	20200303
KR20200106851 A	20200915	KR20200027206	20200304
US2020281611 AA	20200910	US20200809085	20200304

Priority:
US20190813723P 20190304

Probable Assignee: NEURAVI LTD
Assignee(s): (std): NEURAVI LTD
Assignee(s): ニューラヴィ リミテッド ; 尼尔拉维有限公司 ; 뉴라비 리미티드
Inventor(s): (std): KEATING KARL ; KELLY RONALD
Inventor(s): K 基廷 ; R 凯莉 ; カール キーティング ; ロナルド ケリー ; 켈리 로날드 ; 키팅 칼
Agent(s): SMALL GARY JAMES; 万欣; 中国专利代理 香港 有限公司 72001; 加藤 公延; 大島 孝文; 金飞; 장훈
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Legal status (INPADOC)

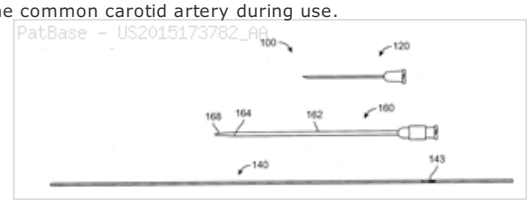
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Patent	Date recorded	Event group	Code	Event	Details
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CN111643155 A	20200911	LSPB	PB01	公开	Text: 公开 (Disclosure)
EP3705066 A1	20200909	LSPB	+	published / reissued	
EP3705066 A1	20200909		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3705066 A1	20200909		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
JP2020142074 A2	20200910	LSPB	+	published / reissued	
KR20200106851 A	20200915	LSPB	+	published / reissued	
US2020281611 AA	20200910	LSPB	+	published / reissued	

14) Family number: 59580097 (US2015173782 AA)

Title: **METHODS** AND **SYSTEMS** FOR TREATMENT OF ACUTE ISCHEMIC STROKE

Abstract: A **system** of devices for treating an artery includes an arterial access sheath adapted to introduce an interventional **catheter** into an artery and an elongated dilator positionable within the internal lumen of the sheath body. The **system** also includes a **catheter** formed of an elongated **catheter** body sized and shaped to be introduced via a carotid artery access site into a common carotid artery through the internal lumen of the arterial access sheath. The **catheter** has an overall length and a distal most section length such that the distal most section can be positioned in an intracranial artery and at least a portion of the proximal most section is positioned in the common carotid artery during use.



Classifications:
International (IPC 8-9): A61B17/00 A61B17/02 A61B17/22 A61B17/221 A61B17/3207 A61B17/34 A61B90/00 A61F2/01 A61M A61M25/00 A61M25/01 A61M25/06 A61M25/088 A61M25/09 A61M25/098 A61M25/10 A61M29/00 A61M29/02 A61M39/10 A61M39/24
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US: 1/1 600/204 604/164.01 604/500 604/510 604/525 606/108 606/127

Family:

Publication number	Publication date	Application number	Application date
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Priority:

US20130919945P 20131223
US20140075101P 20141104
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WO2018US40264 20180629
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Probable Assignee: SILK ROAD MEDICAL INC

Assignee(s): (std): NEUROCO INC ; ROUTE 92 MEDICAL INC ; SILK ROAD MEDICAL INC

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Inventor(s): M E 加里森 ; M P 华莱士 ; M 昌 ; M·E·加里森 ; M·P·华莱士 ; M·昌 ; S M 久米 ; S·M·久米 ; トニー エム チョウ ; トニー・エム・チョウ ; ミチ イー ギャリソン ; ミチ・イー・ギャリソン

Agent(s): FRED C; HERNANDEZ FRED C ET AL; MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC; PHILLIPS ORMONDE FITZPATRICK; SAMEJIMA MUTSUMI; SANYOU INT INTELLECTUAL PROPERTY AGENCY HONG KONG LTD; SLINGSBY PARTNERS LLP; SMART AND BIGGAR LLP; 北京世峰知识产权代理有限公司 11713; 北京市中咨律师事务所 11247; 卓霖; 吴鹏; 大釜 典子; 山尾 憲人; 许向彤; 马江立; 鮫島 睦

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Legal status (INPADOC)

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CA3068925 AA	20200103	LSPB	+	published / reissued	
CN106573126 A	20170419	LSPB	+	published / reissued	
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EP3086835 A4	20200826		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: GARRISON, MICHI E.
EP3086835 B1	20200902	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP3188787 A4	20180523	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20180424
EP3188787 A4	20180523		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALI20180419BHEP
EP3188787 A4	20180523		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/088 20060101AFI20180419BHEP
EP3188787 A4	20180601		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref legal event code: DE Ref document number: 1240869 Country of Ref document: HK
EP3188787 A4	20191211		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 29/00 20060101ALI20191104BHEP ClassificationScheme: IPC
EP3188787 A4	20191211		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/06 20060101AFI20191104BHEP
EP3188787 A4	20200115	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20191219
EP3188787 B1	20200513	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3188787 B1	20200513		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3188787 B1	20200513	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: SILK ROAD MEDICAL, INC.
EP3188787 B1	20200513	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP3188787 B1	20200515	LSNP	REG	REFERENCE TO A	Ref legal event code: EP

				NATIONAL CODE	Ref country code: CH
EP3188787 B1	20200604	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602015052861 Ref legal event code: R096 Ref country code: DE Country of Ref document: DE
EP3188787 B1	20200615	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: REF Effective date: 20200615 Ref country code: AT Kind code of Ref document: T Ref document number: 1269435 Country of Ref document: AT
EP3188787 B1	20350831	PEXP		Calculated Patent Term Expiry	
EP3648828 A1	20200513	LSPB	+	published / reissued	
EP3648828 A1	20200513	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20200204
EP3648828 A1	20200513		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3648828 A1	20200513		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: KH MA MD TN
EP3648828 A1	20200513		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
HK1240869 A1	20180601	LSPB	+	published / reissued	
JP2017500153 T2	20161011		A632	国内書面	Effective date: 20160623
JP2017500153 T2	20161012		A634	国際出願翻訳文提出書	Effective date: 20160822
JP2017500153 T2	20161017	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Text: JAPANESE INTERMEDIATE CODE: A711 Effective date: 20161017
JP2017500153 T2	20161017	LSAS	A711	出願人名義変更届	Effective date: 20161017
JP2017500153 T2	20161102	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20161017 Text: JAPANESE INTERMEDIATE CODE: A821
JP2017500153 T2	20161102		A821	手続補足書	Effective date: 20161017
JP2017500153 T2	20170105	LSPB	+	published / reissued	
JP2017500153 T2	20171207	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20171207
JP2017500153 T2	20171207		A523	手続補正書	Effective date: 20171207
JP2017500153 T2	20171207	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20171207 Text: JAPANESE INTERMEDIATE CODE: A621
JP2017500153 T2	20171207	LSES	+A621	出願審査請求書	Effective date: 20171207
JP2017500153 T2	20180926		A971007	検索報告書	Effective date: 20180921
JP2017500153 T2	20180926		A977	REPORT ON RETRIEVAL	Text: JAPANESE INTERMEDIATE CODE: A971007 Effective date: 20180921
JP2017500153 T2	20181009	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20181009
JP2017500153 T2	20181009	LSES	-A131	拒絶理由通知書	Effective date: 20181009
JP2017500153 T2	20181211		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20181211 Text: JAPANESE INTERMEDIATE CODE: A601
JP2017500153 T2	20181211		A601	期間延長請求書	Effective date: 20181211
JP2017500153 T2	20190405	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20190405
JP2017500153 T2	20190405		A523	手続補正書	Effective date: 20190405
JP2017500153 T2	20190405		A53	意見書	Effective date: 20190405
JP2017500153 T2	20190820	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20190820 Text: JAPANESE INTERMEDIATE CODE: A02
JP2017500153 T2	20190820	LSRV	-A02	拒絶査定	Effective date: 20190820
JP2017500153 T2	20191220	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20191220 Text: JAPANESE INTERMEDIATE CODE: A523

JP2017500153 T2	20191220		A523	手続補正書	Effective date: 20191220
JP2017500153 T2	20191220		C60	審判請求書(その他の請求書･申立書を含む)	Effective date: 20191220
JP2017500153 T2	20200114		C11	手続補正指令書(請求)(長官)	Effective date: 20200114
JP2017500153 T2	20200213	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20200212 Text: JAPANESE INTERMEDIATE CODE: A911
JP2017500153 T2	20200213	LSAL	A911	審査前置移管	Effective date: 20200212
JP2017500153 T2	20200218		C21	審査前置移管通知	Effective date: 20200218
JP2017500153 T2	20200421		A913	前置報告書	Effective date: 20200420
JP2017500153 T2	20200427	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20200424 Text: JAPANESE INTERMEDIATE CODE: A912
JP2017500153 T2	20200427	LSAL	-A912	審査前置解除	Effective date: 20200424
JP2017500153 T2	20200428		C211	審査前置解除通知	Effective date: 20200428
JP2017500153 T2	20200610		A781	上申書	Effective date: 20200610
JP2017500153 T2	20200818		C22	審判官指定(変更)通知	Effective date: 20200818
JP2017523020 T2	20170515		A632	国内書面	Effective date: 20170127
JP2017523020 T2	20170515		A634	国際出願翻訳文提出書	Effective date: 20170324
JP2017523020 T2	20170704		A231	出願番号特定通知書	Effective date: 20170704
JP2017523020 T2	20170817	LSPB	+	published / reissued	
JP2017523020 T2	20180725	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20180725 Text: JAPANESE INTERMEDIATE CODE: A621
JP2017523020 T2	20180725	LSES	+A621	出願審査請求書	Effective date: 20180725
JP2017523020 T2	20190417		A971007	検索報告書	Effective date: 20190412
JP2017523020 T2	20190417		A977	REPORT ON RETRIEVAL	Effective date: 20190412 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2017523020 T2	20190514	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20190514 Text: JAPANESE INTERMEDIATE CODE: A131
JP2017523020 T2	20190514	LSES	-A131	拒絶理由通知書	Effective date: 20190514
JP2017523020 T2	20190729		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20190729
JP2017523020 T2	20190729		A601	期間延長請求書	Effective date: 20190729
JP2017523020 T2	20191007	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20191007 Text: JAPANESE INTERMEDIATE CODE: A523
JP2017523020 T2	20191007		A523	手続補正書	Effective date: 20191007
JP2017523020 T2	20191007		A53	意見書	Effective date: 20191007
JP2017523020 T2	20200303	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20200303 Text: JAPANESE INTERMEDIATE CODE: A131
JP2017523020 T2	20200303	LSES	-A131	拒絶理由通知書	Effective date: 20200303
JP2017523020 T2	20200518		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20200518 Text: JAPANESE INTERMEDIATE CODE: A601
JP2017523020 T2	20200518		A601	期間延長請求書	Effective date: 20200518
JP2017523020 T2	20200727		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20200727
JP2017523020 T2	20200727		A601	期間延長請求書	Effective date: 20200727
JP2017523020 T2	20200901	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20200901
JP2017523020 T2	20200901		A523	手続補正書	Effective date: 20200901
JP2017523020 T2	20200901		A53	意見書	Effective date: 20200901
JP2017525519 T2	20170907	LSPB	+	published / reissued	
JP2017525519 T2	20180824	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20180824
JP2017525519 T2	20180824	LSES	+A621	出願審査請求書	Effective date: 20180824

JP2017525519 T2	20190612		A971007	検索報告書	Effective date: 20190612
JP2017525519 T2	20190612		A977	REPORT ON RETRIEVAL	Text: JAPANESE INTERMEDIATE CODE: A971007 Effective date: 20190612
JP2017525519 T2	20190625	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20190625 Text: JAPANESE INTERMEDIATE CODE: A131
JP2017525519 T2	20190625	LSES	-A131	拒絶理由通知書	Effective date: 20190625
JP2017525519 T2	20190917	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190917 Text: JAPANESE INTERMEDIATE CODE: A523
JP2017525519 T2	20190917		A523	手続補正書	Effective date: 20190917
JP2017525519 T2	20190917		A53	意見書	Effective date: 20190917
JP2017525519 T2	20200219	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2017525519 T2	20200225	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20200225
JP2017525519 T2	20200225	LSGT	+A01	特許査定	Effective date: 20200225
JP2017525519 T2	20200327	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20200325
JP2017525519 T2	20200327	LSFE	+A61	登録料納付	Effective date: 20200325
JP2020049277 A2	20200117	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20200117
JP2020049277 A2	20200207	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20200207 Text: JAPANESE INTERMEDIATE CODE: A523
JP2020049277 A2	20200402	LSPB	+	published / reissued	
JP2020114421 A2	20200423	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20200423
JP2020114421 A2	20200423	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20200423
JP2020114421 A2	20200730	LSPB	+	published / reissued	
JP6682510 B2	20200227	LSGT	+A01	特許査定書	Effective date: 20200225
JP6682510 B2	20200326	LSFE	R100	特許料納付書	Effective date: 20200325
JP6682510 B2	20200327	LSGT	+R150	特許証	Effective date: 20200410
JP6682510 B2	20200415	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6682510 B2	20350831	PEXP		Calculated Patent Term Expiry	
US10039906 BB	20170919	LSAS	AS	ASSIGNMENT	Owner: SILK ROAD MEDICAL, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KUME, STEWART M.;GARRISON, MICHI E.;WALLANCE, MICHAEL P.;AND OTHERS;SIGNING DATES FROM 20141214 TO 20150108;REEL/FRAME:043622/0139
US10039906 BB	20180718	LSGT	PAT1	Patented Case	
US10039906 BB	20180807	LSGT	+	granted / extensions (spc, cpc, pte)	
US10039906 BB	20341110	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10213582 BB	20171219	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10213582 BB	20180201	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY

US10213582 BB	20190206	LSGT	PAT1	Patented Case	
US10213582 BB	20190226	LSGT	+	granted / extensions (spc, cpc, pte)	
US10213582 BB	20341219	PEXP		Calculated Patent Term Expiry	
US10384034 BB	20171010	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: SILK ROAD MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;WILSON, SCOTT D.;SIGNING DATES FROM 20141202 TO 20141208;REEL/FRAME:043825/0083
US10384034 BB	20171010	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10384034 BB	20171025	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10384034 BB	20180507		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10384034 BB	20190820	LSGT	+	granted / extensions (spc, cpc, pte)	
US10384034 BB	20350219	PEXP		Calculated Patent Term Expiry (PTA 69 days and a terminal disclaimer has been filed)	
US10471233 BB	20191112	LSGT	+	granted / extensions (spc, cpc, pte)	
US10471233 BB	20350207	PEXP		Calculated Patent Term Expiry (PTA 50 days)	
US10569049 BB	20200225	LSGT	+	granted / extensions (spc, cpc, pte)	
US10569049 BB	20350701	PEXP		Calculated Patent Term Expiry (PTA 194 days and a terminal disclaimer has been filed)	
US2015173782 AA	20150625	LSPB	+	published / reissued	
US2015173782 AA	20160513	LSAS	AS	ASSIGNMENT	Owner: NEUROCO, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SILK ROAD MEDICAL, INC.;REEL/FRAME:038587/0955 PartyType: owner Effective date: 20141231
US2015173782 AA	20160513	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEUROCO, INC.;REEL/FRAME:038592/0916 Owner: ROUTE 92 MEDICAL, INC., NEW JERSEY Effective date: 20160512
US2015173782 AA	20170118	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015174368 AA	20150625	LSPB	+	published / reissued	
US2015174368 AA	20160203	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016158502 AA	20160609	LSPB	+	published / reissued	
US2016158502 AA	20160705	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016166804 AA	20160616	LSPB	+	published / reissued	
US2016166804 AA	20161026	LSGT	STCF	INFORMATION ON	Text: PATENTED CASE

				STATUS: PATENT GRANT	
US2017043141 AA	20170216	LSPB	+	published / reissued	
US2017043141 AA	20170216	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017043141 AA	20170510	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017136212 AA	20170215	LSES	NFA1	Non Final Action Mailed	
US2017136212 AA	20170518	LSPB	+	published / reissued	
US2017136212 AA	20170626		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017136212 AA	20170630	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017136212 AA	20170725	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017136212 AA	20170905	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017136212 AA	20170916	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017136212 AA	20170919	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017136212 AA	20171005	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017136212 AA	20171025	LSFE	AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2017136212 AA	20171201	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017136212 AA	20171220	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017274180 AA	20170822		RFE1	Docketed New Case - Ready for Examination	
US2017274180 AA	20170928	LSPB	+	published / reissued	
US2017274180 AA	20180410	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;SIGNING DATES FROM 20180328 TO 20180329;REEL/FRAME:045497/0968 Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA
US2017274180 AA	20181025	LSES	NFA1	Non Final Action Mailed	
US2017274180 AA	20181025		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017274180 AA	20190510		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017274180 AA	20190510		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017274180 AA	20190617	LSES	NAM1	Notice of Allowance	

				Mailed -- Application Received in Office of Publications	
US2017274180 AA	20190617		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017274180 AA	20191005	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017274180 AA	20191005		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017274180 AA	20191023	LSGT	PAT1	Patented Case	
US2017274180 AA	20191023	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017281204 AA	20170724		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2017281204 AA	20171005	LSPB	+	published / reissued	
US2017281204 AA	20180316		RFE1	Docketed New Case - Ready for Examination	
US2017281204 AA	20180316		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017281204 AA	20180410	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;SIGNING DATES FROM 20180328 TO 20180329;REEL/FRAME:045497/0968 Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA
US2017281204 AA	20190419	LSES	NFA1	Non Final Action Mailed	
US2017281204 AA	20190419		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017281204 AA	20190925		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017281204 AA	20190925		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017281204 AA	20191018	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017281204 AA	20191018		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017281204 AA	20200127	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017281204 AA	20200127		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017281204 AA	20200205	LSGT	PAT1	Patented Case	
US2017281204 AA	20200205	LSGT	STCF	INFORMATION ON STATUS: PATENT	Text: PATENTED CASE

				GRANT	
US2017296798 AA	20170817	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KUME, STEWART M.;CHANG, MICHAEL;WALLACE, MICHAEL P.;SIGNING DATES FROM 20170814 TO 20170817;REEL/FRAME:043323/0575 PartyType: owner Owner: SILK ROAD MEDICAL, INC., CALIFORNIA
US2017296798 AA	20171019	LSPB	+	published / reissued	
US2017296798 AA	20171227		RFE1	Docketed New Case - Ready for Examination	
US2017296798 AA	20171227		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017296798 AA	20190703	LSES	NFA1	Non Final Action Mailed	
US2017296798 AA	20190703		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017296798 AA	20191001		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017296798 AA	20191001		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017296798 AA	20191120		FRM1	Final Rejection Mailed	
US2017296798 AA	20191120		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017296798 AA	20200222		RFE1	Docketed New Case - Ready for Examination	
US2017296798 AA	20200222		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017296798 AA	20200313	LSES	NFA1	Non Final Action Mailed	
US2017296798 AA	20200721		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017296798 AA	20200721		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017354803 AA	20171214	LSPB	+	published / reissued	
US2017354803 AA	20180221		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017354803 AA	20180417	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017354803 AA	20180425	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017354803 AA	20180426	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	

US2017354803 AA	20180706	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2017354803 AA	20180718	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017368309 AA	20171127	LSES	NFA1	Non Final Action Mailed	
US2017368309 AA	20171228	LSPB	+	published / reissued	
US2017368309 AA	20180406	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;SIGNING DATES FROM 20180328 TO 20180329;REEL/FRAME:045460/0768
US2017368309 AA	20180914		FRM1	Final Rejection Mailed	
US2017368309 AA	20180914		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017368309 AA	20190403		RFE1	Docketed New Case - Ready for Examination	
US2017368309 AA	20190403		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017368309 AA	20190716	LSES	NFA1	Non Final Action Mailed	
US2017368309 AA	20190716		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017368309 AA	20200122		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017368309 AA	20200122		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017368309 AA	20200303		FRM1	Final Rejection Mailed	
US2017368309 AA	20200701		RFE1	Docketed New Case - Ready for Examination	
US2017368309 AA	20200701		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018133436 AA	20180517	LSPB	+	published / reissued	
US2018133436 AA	20181114	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;SIGNING DATES FROM 20180328 TO 20180329;REEL/FRAME:047497/0027 Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA
US2018133436 AA	20190114	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018133436 AA	20190123	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018133436 AA	20190206	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018185614 AA	20180507		RFE1	Docketed New Case - Ready for Examination	

US2018185614 AA	20180705	LSPB	+	published / reissued	
US2018185614 AA	20180814	LSAS	AS	ASSIGNMENT	Owner: NEUROCO, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SILK ROAD MEDICAL, INC.;REEL/FRAME:046633/0244 Effective date: 20141231 PartyType: owner
US2018185614 AA	20190116	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEUROCO, INC.;REEL/FRAME:048037/0823 Owner: SILK ROAD MEDICAL, INC., CALIFORNIA Effective date: 20181217
US2018185614 AA	20190408	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018185614 AA	20190408		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018185614 AA	20190717	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018185614 AA	20190717		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018185614 AA	20190731	LSGT	PAT1	Patented Case	
US2018185614 AA	20190731	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019175885 AA	20180823	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KUME, STEWART M.;GARRISON, MICHI E.;WALLACE, MICHAEL P.;AND OTHERS;SIGNING DATES FROM 20141217 TO 20161214;REEL/FRAME:046688/0153 PartyType: owner Owner: SILK ROAD MEDICAL, INC., CALIFORNIA
US2019175885 AA	20190320		RFE1	Docketed New Case - Ready for Examination	
US2019175885 AA	20190320		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019175885 AA	20190613	LSPB	+	published / reissued	
US2019175885 AA	20200414	LSES	NFA1	Non Final Action Mailed	
US2019175885 AA	20200414		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019175885 AA	20200722		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019175885 AA	20200722		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019175885 AA	20200810	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2019175885 AA	20200810		STPP	INFORMATION ON STATUS: PATENT	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE

				APPLICATION AND GRANTING PROCEDURE IN GENERAL	OF PUBLICATIONS
US2020171277 AA	20200227		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020171277 AA	20200604	LSPB	+	published / reissued	
US9126018 BA	20150323	LSAS	AS	ASSIGNMENT	Owner: SILK ROAD MEDICAL, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GARRISON, MICHI E.;REEL/FRAME:035234/0471 Effective date: 20141219
US9126018 BA	20150819	LSGT	PAT1	Patented Case	
US9126018 BA	20150819	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9126018 BA	20150908	LSGT	+	granted / extensions (spc, cpc, pte)	
US9126018 BA	20190308	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9126018 BA	20341218	PEXP		Calculated Patent Term Expiry	
US9241699 BA	20150227	LSAS	AS	ASSIGNMENT	Owner: SILK ROAD MEDICAL, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KUME, STEWART M.;GARRISON, MICHI E.;WALLACE, MICHAEL P.;AND OTHERS;SIGNING DATES FROM 20141216 TO 20150108;REEL/FRAME:035052/0742
US9241699 BA	20151218	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US9241699 BA	20160106	LSGT	PAT1	Patented Case	
US9241699 BA	20160106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9241699 BA	20160126	LSGT	+	granted / extensions (spc, cpc, pte)	
US9241699 BA	20190719	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9241699 BA	20341110	PEXP		Calculated Patent Term Expiry	
US9265512 BB	20150228	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: SILK ROAD MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;WILSON, SCOTT D.;SIGNING DATES FROM 20141202 TO 20141208;REEL/FRAME:035059/0481
US9265512 BB	20151118	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9265512 BB	20160107	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US9265512 BB	20160203	LSGT	PAT1	Patented Case	
US9265512 BB	20160223	LSGT	+	granted / extensions (spc, cpc, pte)	
US9265512 BB	20160513	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SILK ROAD MEDICAL, INC.;REEL/FRAME:038587/0955 Owner: NEUROCO, INC., CALIFORNIA PartyType: owner Effective date: 20141231
US9265512 BB	20190116	LSAS	AS	ASSIGNMENT	Effective date: 20181217 PartyType: owner Owner: SILK ROAD MEDICAL, INC.,

					CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEUROCO, INC.;REEL/FRAME:048037/0823
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US9265512 BB	20341212	PEXP		Calculated Patent Term Expiry	
US9399118 BB	20160224	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KUME, STEWART M.;GARRISON, MICHI E.;WALLACE, MICHAEL P.;AND OTHERS;SIGNING DATES FROM 20141214 TO 20150108;REEL/FRAME:037811/0801 PartyType: owner Owner: SILK ROAD MEDICAL, INC., CALIFORNIA
US9399118 BB	20160705	LSGT	PAT1	Patented Case	
US9399118 BB	20160726	LSGT	+	granted / extensions (spc, cpc, pte)	
US9399118 BB	20200124	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9399118 BB	20341110	PEXP		Calculated Patent Term Expiry	
US9492637 BB	20160222	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;WILSON, SCOTT D.;SIGNING DATES FROM 20141202 TO 20141208;REEL/FRAME:037790/0610 PartyType: owner Owner: SILK ROAD MEDICAL, INC., CALIFORNIA
US9492637 BB	20160513	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SILK ROAD MEDICAL, INC.;REEL/FRAME:038587/0955 PartyType: owner Owner: NEUROCO, INC., CALIFORNIA Effective date: 20141231
US9492637 BB	20161026	LSGT	PAT1	Patented Case	
US9492637 BB	20161115	LSGT	+	granted / extensions (spc, cpc, pte)	
US9492637 BB	20190116	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEUROCO, INC.;REEL/FRAME:048037/0823 Owner: SILK ROAD MEDICAL, INC., CALIFORNIA Effective date: 20181217
US9492637 BB	20200514	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9492637 BB	20341212	PEXP		Calculated Patent Term Expiry	
US9561345 BB	20150323	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: SILK ROAD MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;SIGNING DATES FROM 20150219 TO 20150223;REEL/FRAME:035227/0395
US9561345 BB	20151202		FRM1	Final Rejection Mailed	
US9561345 BB	20170118	LSGT	PAT1	Patented Case	
US9561345 BB	20170207	LSGT	+	granted / extensions (spc, cpc, pte)	
US9561345 BB	20200804	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9561345 BB	20341219	PEXP		Calculated Patent Term Expiry	
US9662480 BB	20160818	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KUME, STEWART M.;GARRISON, MICHI E.;WALLACE, MICHAEL P.;AND OTHERS;SIGNING DATES FROM 20141214 TO

					20150108;REEL/FRAME:039474/0085 PartyType: owner Owner: SILK ROAD MEDICAL, INC., CALIFORNIA
US9662480 BB	20170510	LSGT	PAT1	Patented Case	
US9662480 BB	20170530	LSGT	+	granted / extensions (spc, cpc, pte)	
US9662480 BB	20341110	PEXP		Calculated Patent Term Expiry	
US9861783 BB	20161020	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: SILK ROAD MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;WILSON, SCOTT D.;SIGNING DATES FROM 20141202 TO 20141208;REEL/FRAME:040081/0046
US9861783 BB	20171220	LSGT	PAT1	Patented Case	
US9861783 BB	20180109	LSGT	+	granted / extensions (spc, cpc, pte)	
US9861783 BB	20180814	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SILK ROAD MEDICAL, INC.;REEL/FRAME:046633/0244 Owner: NEUROCO, INC., CALIFORNIA PartyType: owner Effective date: 20141231
US9861783 BB	20190116	LSAS	AS	ASSIGNMENT	Owner: SILK ROAD MEDICAL, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEUROCO, INC.;REEL/FRAME:048037/0823 Effective date: 20181217
US9861783 BB	20341212	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO15100178 A1	20150702	LSPB	+	published / reissued	
WO15100178 A1	20150819		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 14874492 Country of Ref document: EP
WO15100178 A1	20160623	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2016542701 Kind code of Ref document: A Country of Ref document: JP
WO15100178 A1	20160623	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO15100178 A1	20160721		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2014874492 Country of Ref document: EP
WO15100178 A1	20160721	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2014874492 Country of Ref document: EP
WO16018781 A1	20160204	LSPB	+	published / reissued	
WO16018781 A1	20160323		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 15827400 Kind code of Ref document: A1 Country of Ref document: EP
WO16018781 A1	20170127	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2017526039 Country of Ref document: JP
WO16018781 A1	20170130	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO16018781 A1	20170221		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2015827400 Country of Ref document: EP
WO16018781 A1	20170221	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2015827400 Country of Ref document: EP
WO16036660 A1	20160310	LSPB	+	published /	

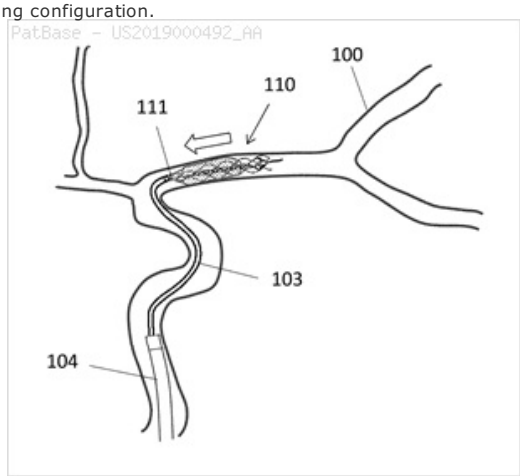
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WO16036660 A1	20160420		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 15837476 Country of Ref document: EP
WO16036660 A1	20170303	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2017512782 Kind code of Ref document: A Country of Ref document: JP
WO16036660 A1	20170306	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO16036660 A1	20170331		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2015837476 Country of Ref document: EP
WO16036660 A1	20170331	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2015837476 Country of Ref document: EP
WO19010077 A1	20190110	LSPB	+	published / reissued	
WO19010077 A1	20190220		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 18829034 Country of Ref document: EP
WO19010077 A1	20190516		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO19010077 A1	20200103	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 3068925 Country of Ref document: CA
WO19010077 A1	20200106	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2020500085 Country of Ref document: JP
WO19010077 A1	20200108	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19010077 A1	20200130	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20180629 Kind code of Ref document: A Ref document number: 2018297217 Country of Ref document: AU
WO19010077 A1	20200207	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2018829034 Effective date: 20200205 Country of Ref document: EP

15) Family number: 70679495 (US2019000492 AA)

Title: CLOT RETRIEVAL SYSTEM FOR REMOVING OCCLUSIVE CLOT FROM A BLOOD VESSEL

Abstract: A clot removal device for removing clot from a body vessel comprising an expandable structure and an elongate member. The elongate member can have a proximal end and a distal end, the elongate member being connected to the expandable structure at its distal end. The expandable structure can have a constrained delivery configuration, an expanded clot engaging deployed configuration, and an at least partially constrained clot pinching configuration. At least a portion of the expandable structure can be configured to engage clot in the expanded deployed configuration and to pinch clot on movement from the deployed configuration to the clot pinching configuration.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/12 A61B17/12109 A61B17/22 A61B17/22031 A61B17/221 A61B17/29 A61B18/14 A61B2017/00477 A61B90/00 A61F2/01
International (IPC 1-7): A61B17/00 A61B17/12 A61B17/22
CPC: A61B17/12109 A61B17/22 A61B17/22031 A61B17/221 A61B2017/00477 A61B2017/00526 A61B2017/00778 A61B2017/22034 A61B2017/22038 A61B2017/22067 A61B2017/22094 A61B2017/2212 A61B2017/2215 A61B2090/3966 A61B2017/22072
US: 1/1 606/200



Family:

Publication number	Publication date	Application number	Application date
AU2018204059 AA	20190117	AU20180204059	20180607
BR102018013204 A2	20190312	BR20181013204	20180627
CA3008899 AA	20181228	CA20183008899	20180620
CN109124725 A	20190104	CN201810687217	20180628
CO20180006688 A1	20191231	CO20180006688	20180627
EP3420978 A1	20190102	EP20180180030	20180627
EP3593742 A1	20200115	EP20190183629	20180627
IL259946 A0	20180731	IL20180259946	20180611
JP2019005587 A2	20190117	JP20180121664	20180627
KR20190001935 A	20190107	KR20180073230	20180626
MX2018008159 A1	20190131	MX20180008159	20180628
RU2018123183 A	20200110	RU20180123183	20180626
TW201918228 A	20190516	TW20180121801	20180626
US2019000492 AA	20190103	US20180021505	20180628

Priority:

US20170526005P 20170628 KR20180073230 20180626 EP20180180030 20180627
JP20180121664 20180627 US20180021505 20180628

Probable Assignee: NEURAVI LTD

Assignee(s): (std): NEURAVI LTD

Assignee(s): CASEY BRENDAN ; HARDIMAN DAVID ; HOLIAN MAEVE ; NEURAVI LIMITED ; O CONNOR GRAINNE ; VALE DAVID ; НЬЮРАВИ ЛИМИТЕД ; ニューラヴィ リミテッド ; ニューラヴィ･リミテッド ; 尼尔拉维有限公司 ; 愛爾蘭商紐愛維有限公司 ; 뉴라비 리미티드

Inventor(s): (std): BRENDAN CASEY ; CASEY BRENDAN ; DAVID HARDIMAN ; DAVID VALE ; GRAINNE O CONNOR ; HARDIMAN DAVID ; HOLIAN MAEVE ; MAEVE HOLIAN ; O CONNOR GRAINNE ; VALE DAVID

Inventor(s): B.卡西 ; D.哈迪曼 ; D.威尔 ; G.奥康纳 ; M.赫利安 ; O 8242 CONNOR GRAINNE ; ВЭЙЛ ДЭВИД ; КЕЙСИ БРЕНДАН ; О КОННОР ГРЕЙНН ; О`КОННОР ГРЕЙНН ; ХАРДИМАН ДЭВИД ; ХОЛИАН МАЕВЕ ; グレイン オコナー ; グレイン･オコナー ; デビッド ハーディマン ; デビッド ベイル ; デビッド･ハーディマン ; デビッド･ベイル ; ブレンダン ケーシー ; ブレンダン･ケーシー ; メーブ ホリアン ; メーブ･ホリアン ; 卡西 布蘭登 ; 哈迪曼 大衛 ; 奥康納 格蘭妮 ; 維拉 大衛 ; 霍利安 梅芙 ; 베일 데이비드 ; 오코노 그레인 ; 캐세이 브렌단 ; 하디만 데이비드 ; 홀리안 매브

Agent(s): KATO MASANOBU; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; SMALL GARY JAMES; SPRUSON AND FERGUSON; ЮРИДИЧЕСКАЯ ФИРМА ГОРОДИССКИЙ И ПАРТНЕРЫ ООО; 中国专利代理(香港)有限公司 72001; 何愛文; 傅永霄; 加藤 公延; 大島 孝文; 杨忠; 王仁君; 장훈

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
AU2018204059 AA	20190117	LSPB	+	published / reissued	
BR102018013204 A2	20190312	LSPB	B03A	PUBLICATION OF AN APPLICATION: PUBLICATION OF A PATENT APPLICATION OR OF A	

				CERTIFICATE OF ADDITION OF INVENTION	
CA3008899 AA	20181228	LSPB	+	published / reissued	
CN109124725 A	20190104	LSPB	+	published / reissued	
CN109124725 A	20190104	LSPB	PB01	PUBLICATION	
CN109124725 A	20190104	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN109124725 A	20200728		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN109124725 A	20200728		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CO20180006688 A1	20191231	LSPB	+	published / reissued	
EP3420978 A1	20190102	LSPB	+	published / reissued	
EP3420978 A1	20190102		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3420978 A1	20190102		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: KH MA MD TN
EP3420978 A1	20190102		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3420978 A1	20191211	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20190703
EP3593742 A1	20200115	LSPB	+	published / reissued	
EP3593742 A1	20200115		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 3420978 Country of Ref document: EP
EP3593742 A1	20200115		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
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JP2019005587 A2	20190117	LSPB	+	published / reissued	
KR20190001935 A	20190107	LSPB	+	published / reissued	
MX2018008159 A1	20190131	LSPB	+	published / reissued	
RU2018123183 A	20200110	LSPB	+	published / reissued	
TW201918228 A	20190516	LSPB	+	published / reissued	
US2019000492 AA	20190102		RFE1	Docketed New Case - Ready for Examination	
US2019000492 AA	20190102		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019000492 AA	20190103	LSPB	+	published / reissued	
US2019000492 AA	20190802	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS

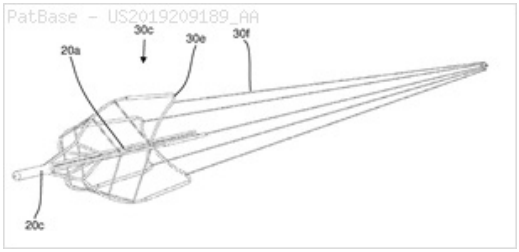
					INTEREST;ASSIGNORS:CASEY, BRENDAN;VALE, DAVID;HOLIAN, MAEVE;AND OTHERS;SIGNING DATES FROM 20180912 TO 20181020;REEL/FRAME:049942/0764 Owner: NEURAVI LIMITED, IRELAND
US2019000492 AA	20191211	LSES	NFA1	Non Final Action Mailed	
US2019000492 AA	20191211		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019000492 AA	20200130		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019000492 AA	20200130		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER

16) Family number: 70643724 (US2019209189 AA)

Title: THROMBUS **RETRIEVAL** STENTS AND **METHODS** OF USING FOR TREATMENT OF ISCHEMIC STROKE

Abstract: The invention describes **systems** and **methods** for **retrieving** blood **clots** (thrombi) from patients undergoing endovascular/neurointervention procedures following ischemic stroke are described. More specifically, blood **clot** **retrieval** devices for deployment into a patient's vasculature from a **catheter** that are effective in ensnaring and **removing** fibrin rich thrombi are described as well as **methods** of utilizing these devices.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61M25/00 A61M25/09
CPC: A61B17/221 A61B2017/2212 A61M2025/0008 A61M2025/0042 A61M25/0074



Family:

Publication number	Publication date	Application number	Application date
US2019209189 AA	20190711	US20180071124	20180124
WO18137030 A1	20180802	WO2018CA50084	20180124

Priority:

US20170450842P 20170126 WO2018CA50084 20180124 US20180071124 20180124

Probable Assignee: GOYAL MAYANK
Assignee(s): (std): GOYAL MAYANK
Assignee(s): MG STROKE ANALYTICS INC
Inventor(s): (std): GOYAL MAYANK
Agent(s): HICKS ANDREW
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
US2019209189 AA	20181205	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GOYAL, MAYANK;REEL/FRAME:047678/0712 PartyType: owner Owner: MG STROKE ANALYTICS INC., CANADA Effective date: 20181021
US2019209189 AA	20190422		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2019209189 AA	20190710		RFE1	Docketed New Case - Ready for Examination	
US2019209189 AA	20190710		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019209189 AA	20190711	LSPB	+	published / reissued	
US2019209189 AA	20200219	LSES	NFA1	Non Final Action Mailed	
US2019209189 AA	20200219		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019209189 AA	20200823		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
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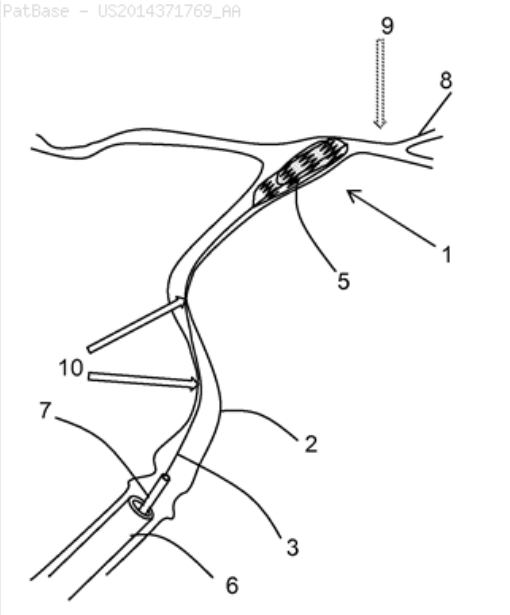
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WO18137030 A1	20180802	LSPB	+	published / reissued	
WO18137030 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 18744565 Kind code of Ref document: A1 Country of Ref document: EP
WO18137030 A1	20190727	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18137030 A1	20200129	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 18744565 Country of Ref document: EP

17) Family number: 57409244 (US2014371769 AA)

Title: CLOT REMOVAL DEVICE

Abstract: A system may comprise a clot engagement element having a collapsed delivery configuration and an expanded configuration for engaging with a clot and for dislodging the clot from a first vessel segment. An elongate member may be configured to apply a pull force to the clot engaging element to dislodge the clot from the first vessel segment. A clot removal catheter may include a lumen at its distal end sized to receive the clot and configured to maintain a stable position in a second blood vessel segment proximal of and larger in diameter than the first blood vessel segment. A distal end of the elongate member may be configured to protect a third blood vessel segment between the first and second blood vessel segments from tractive forces transmitted by the elongate member during clot dislodgement from the first vessel segment.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B90/00 A61M29/00
CPC: A61B17/22031 A61B17/221 A61B2017/00309 A61B2017/00336 A61B2017/00853 A61B2017/00858 A61B2017/22001 A61B2017/2215 A61B2090/08021
US: 1/1 606/114 606/159 606/200



Family:

Publication number	Publication date	Application number	Application date
US10080575 BB	20180925	US20140774078	20140312
US10517622 BB	20191231	US20170484815	20170411
US2014371769 AA	20141218	US20140205041	20140311
US2016022296 AA	20160128	US20140774078	20140312
US2017215903 AA	20170803	US20170484815	20170411
US2018360483 AA	20181220	US20180109491	20180822
US9642635 BB	20170509	US20140205041	20140311
WO14140090 A1	20140918	WO2014EP54826	20140312

Priority:

US20130780422P 20130313 US20140205041 20140311 US20140774078 20140312
WO2014EP54826 20140312 US20150774078 20150909 US20170484815 20170411
US20180109491 20180822

Probable Assignee: NEURAVI LTD

Assignee(s): (std): NEURAVI LTD

Inventor(s): (std): BRADY EAMON ; CASEY BRENDAN ; GILVARRY MICHAEL ; VALE DAVID

Agent(s): BOOKOFF MCANDREWS PLLC; OBRIEN JOHN ET AL; TROUTMAN SANDERS LLP

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

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US10080575 BB	20180925	LSGT	+	granted / extensions (spc, cpc, pte)	
US10080575 BB	20341224	PEXP		Calculated Patent Term	

				Expiry (PTA 287 days)	
US10517622 BB	20191231	LSGT	+	granted / extensions (spc, cpc, pte)	
US10517622 BB	20350113	PEXP		Calculated Patent Term Expiry (PTA 308 days and a terminal disclaimer has been filed)	
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US2014371769 AA	20170419	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016022296 AA	20160128	LSPB	+	published / reissued	
US2016022296 AA	20160330		RFE1	Docketed New Case - Ready for Examination	
US2016022296 AA	20170719	LSES	NFA1	Non Final Action Mailed	
US2016022296 AA	20170920		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016022296 AA	20171003	LSES	NFA1	Non Final Action Mailed	
US2016022296 AA	20180207		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
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US2016022296 AA	20180905	LSGT	PAT1	Patented Case	
US2016022296 AA	20180905	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017215903 AA	20170421		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2017215903 AA	20170803	LSPB	+	published / reissued	
US2017215903 AA	20170823		RFE1	Docketed New Case - Ready for Examination	
US2017215903 AA	20170823		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017215903 AA	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
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US2017215903 AA	20190823		RSP4	Response to Non-Final Office Action Entered and	

				Forwarded to Examiner	
US2017215903 AA	20190823		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017215903 AA	20190828	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017215903 AA	20190828		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017215903 AA	20190904	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;BRADY, EAMON;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20140324 TO 20140401;REEL/FRAME:050259/0235 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US2017215903 AA	20191122	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
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US2017215903 AA	20191211	LSGT	PAT1	Patented Case	
US2017215903 AA	20191211	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018360483 AA	20180822	LSAS	AS	ASSIGNMENT	Owner: NEURAVI LIMITED, IRELAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20151106 TO 20151112;REEL/FRAME:046668/0431 PartyType: owner
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US2018360483 AA	20181217		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018360483 AA	20181220	LSPB	+	published / reissued	
US2018360483 AA	20200602	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018360483 AA	20200602		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US9642635 BB	20140519	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NEURAVI LIMITED, IRELAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;BRADY, EAMON;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20140324 TO

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US9642635 BB	20170419	LSGT	PAT1	Patented Case	
US9642635 BB	20170509	LSGT	+	granted / extensions (spc, cpc, pte)	
US9642635 BB	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US9642635 BB	20341130	PEXP		Calculated Patent Term Expiry (PTA 264 days)	
WO14140090 A1	20140918	LSPB	+	published / reissued	
WO14140090 A1	20141105		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 14709935 Country of Ref document: EP
WO14140090 A1	20150909	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 14774078 Country of Ref document: US
WO14140090 A1	20150914	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO14140090 A1	20160406	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref document number: 14709935 Kind code of Ref document: A1 Country of Ref document: EP

18) Family number: 79077000 (WO20099386 A1)

Title: A THROMBECTOMY **SYSTEM** AND **METHODS** OF EXTRACTING A THROMBUS FROM A THROMBUS SITE IN A BLOOD VESSEL OF A PATIENT

Abstract: A thrombectomy **system** and **method** of extraction of thrombus are disclosed. The thrombectomy **system** comprises a delivery **catheter**; an aspiration **catheter**, comprising an aspiration funnel, configured to be movably disposed within the delivery **catheter** in a retracted position and at least partially outside the delivery **catheter** in an extended and expanded position, the funnel comprising a non-permeable covering, the funnel being configured to adapt its shape and length to a surrounding blood vessel such that the funnel reduces blood flow through the blood vessel and lengthens as it narrows to retain a thrombus within the funnel; a **clot** -capture element configured to capture the thrombus and to be at least partially withdrawn with the captured thrombus into the funnel; and a microcatheter adapted to carry the **clot** -capture element to the thrombus. The **clot** -capture element is movably disposed within the microcatheter in a retracted position. The microcatheter is movably disposed within the aspiration **catheter**.

Classifications:
International (IPC 8-9): A61B17/221
CPC: A61B17/221 A61B2017/22034 A61F2/013 A61F2002/016

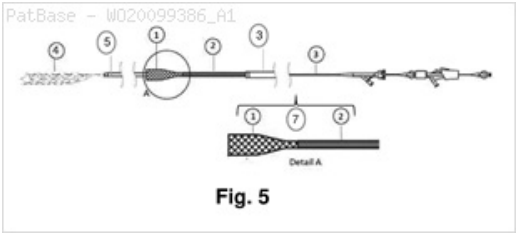


Fig. 5

Family:

Publication number	Publication date	Application number	Application date
WO20099386 A1	20200522	WO2019EP80993	20191112

Priority:

EP20180382800 20181113

Probable Assignee: ANACONDA BIOMED SL

Assignee(s): (std): ANACONDA BIOMED SL

Inventor(s): (std): ARAD HADAR OFIR ; GALVE MURILLO INAKI

Agent(s): JUNCOSA MIRO JAIME

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)

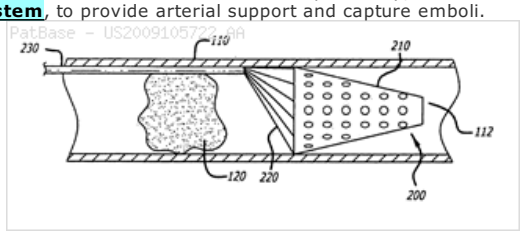
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Patent	Date recorded	Event group	Code	Event	Details
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WO20099386 A1	20200701		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 19805581 Kind code of Ref document: A1 Country of Ref document: EP

19) Family number: 43179026 (US2009105722 AA)

Title: DEVICES AND **METHODS** FOR EMBOLUS **REMOVAL** DURING ACUTE ISCHEMIC STROKE

Abstract: Devices, **methods**, and **systems** facilitate and enable treatment of ischemic stroke. More specifically, a tethered basket-like **system** operates in conjunction with a microcatheter **system**, to provide arterial support and capture emboli.



Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B17/24 A61B17/3207 A61B17/3209 A61D1/02 A61F2/01 A61F2/06 A61F2/82 A61F2/84 A61F2/89 A61F2/90 A61F2/91 A61F2/915 A61F2/95 A61F2/958 A61F2/966 A61L A61L27/54 A61L29/00 A61M25/00 A61M25/01 A61M25/06 A61M25/08 A61M25/088 A61M25/09 A61M25/098 A61M25/10 A61M25/16 A61M25/18 A61M29/00 A61M29/02 B23P17/00 B23P17/04
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US: 1/1 29/428 29/428S 604/103 604/103.02 604/103.020S 604/103.04 604/103.040P 604/103P 604/509 604/509P 604/523 604/523S 604/533 604/533S 604/96.01 604/96.010P 606/113 606/127 606/127P 606/159 606/159P 606/191 606/194 606/194P 606/194S 606/198 606/198P 606/198S 606/200 606/200P 606/200S 623/1.11 623/1.110S 623/1.12 623/1.15 623/1.2

Family:

Publication number	Publication date	Application number	Application date
AU2008345624 AA	20090709	AU20080345624	20081219
AU2008345624 BB	20140508	AU20080345624	20081219
AU2008352581 AA	20090917	AU20080352581	20081112
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AU2010339405 BB	20140116	AU20100339405	20101230
AU2013224666 AA	20131003	AU20130224666	20130904
AU2014201810 AA	20140417	AU20140201810	20140327
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AU2015218421 AA	20150910	AU20150218421	20150825
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CA2717790 AA	20100420	CA20082717790	20081112
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DE602010062299 D1	20200102	DE201060062299T	20101230
EP2217315 A2	20100818	EP20080873248	20081112
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EP2234548 A2	20101006	EP20080866763	20081219
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EP2234548 B1	20160504	EP20080866763	20081219
EP2237828 A2	20101013	EP20090701332	20090107
EP2237828 A4	20130605	EP20090701332	20090107
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EP2367482 A1	20110928	EP20100829315	20101230
EP2367482 A4	20111109	EP20100829315	20101230
EP2367482 B1	20161012	EP20100829315	20101230
EP2478930 A2	20120725	EP20120164489	20081112
EP2478930 A3	20121226	EP20120164489	20081112
EP3173037 A1	20170531	EP20160193128	20101230
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ES2385631 T3	20120727	ES20080873248T	20081112
ES2579527 T3	20160812	ES20080866763T	20081219
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GB201008683 A0	20100707	GB20100008683	20100525
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HK1162287 A1	20120831	HK20120103101	20120328
IL220522 A0	20120830	IL20100220522	20101230
IN06688DN2012 A	20151023	IN2012DN06688	20120730

JP2011502655 T2	20110127	JP20100533336T	20081112
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Priority:

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US20190561915	20190905				

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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
AU2008345624 AA	20090709	LSPB	+	published / reissued	
AU2008345624 AA	20130214	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	PartyType: owner Owner: COVIDIEN LP OldParty: FORMER APPLICANT(S): MINDFRAME, INC.
AU2008345624 AA	20140904	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2008345624 AA	20170713	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2008345624 BB	20140508	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2008345624 BB	20281219	PEXP		Calculated Patent Term Expiry	
AU2008352581 AA	20090917	LSPB	+	published / reissued	
AU2008352581 AA	20130214	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	Owner: COVIDIEN LP PartyType: owner OldParty: FORMER APPLICANT(S): MINDFRAME, INC.
AU2008352581 BB	20130620	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2008352581 BB	20131017	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2008352581 BB	20200604	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2008352581 BB	20281112	PEXP		Calculated Patent Term Expiry	
AU2009234268 AA	20091015	LSPB	+	published / reissued	
AU2009234268 AA	20130214	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	OldParty: FORMER APPLICANT(S): MINDFRAME, INC. PartyType: owner Owner: COVIDIEN LP

AU2009234268 AA	20141106	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
AU2010339405 AA	20110707	LSPB	+	published / reissued	
AU2010339405 AA	20130214	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	OldParty: FORMER APPLICANT(S): MINDFRAME, INC. Owner: COVIDIEN LP PartyType: owner
AU2010339405 BB	20140116	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2010339405 BB	20140515	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2010339405 BB	20301230	PEXP		Calculated Patent Term Expiry	
AU2013224666 AA	20131003	LSPB	+	published / reissued	
AU2013224666 AA	20150903	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
AU2014201810 AA	20140417	LSPB	+	published / reissued	
AU2014201810 BB	20151001	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2014201810 BB	20160128	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2014201810 BB	20340327	PEXP		Calculated Patent Term Expiry	
AU2014201810 BI	20160211	LSPB	SREP	SPECIFICATION REPUBLISHED	
AU2015218421 AA	20150910	LSPB	+	published / reissued	
AU2015218421 BB	20170803	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2015218421 BB	20171130	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2015218421 BB	20350825	PEXP		Calculated Patent Term Expiry	
AU2017251717 AA	20171109	LSPB	+	published / reissued	
AU2017251717 BB	20180726	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2017251717 BB	20181122	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2017251717 BB	20371024	PEXP		Calculated Patent Term Expiry	
BR112012015953 A2	20180522	LSFE	-B08F	APPLICATION FEES: DISMISSAL - ARTICLE 86 OF INDUSTRIAL PROPERTY LAW	
BR112012015953 A2	20180710	LSAS	B25D	REQUESTED CHANGE OF NAME OF APPLICANT APPROVED	Owner: MINDFRAME LLC (US) PartyType: owner
BR112012015953 A2	20180724	LSAS	B25C	REQUIREMENT RELATED TO REQUESTED TRANSFER OF RIGHTS	Owner: MINDFRAME LLC (US) PartyType: owner
BR112012015953 A2	20180724	LSAS	B25C	REQUIREMENT RELATED TO REQUESTED TRANSFER OF RIGHTS	OldParty: A FIM DE ATENDER A TRANSFERENCIA, REQUERIDA ATRAVES DA PETICAO NO 20130077477 DE 20/09/2013, E NECESSARIO APRESENTAR A TRADUCAO JURAMENTADA DO DOCUMENTO, ALEM DA GUIA DE CUMPRIMENTO DE EXIGENCIA. PartyType: owner Owner: MINDFRAME LLC (US)
BR112012015953 A2	20181016	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 2472 DE 22-05-2018 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.
BR112012015953 A2	20190604	LSAS	B25B	REQUESTED TRANSFER OF RIGHTS REJECTED	Owner: MINDFRAME LLC (US) PartyType: owner OldParty: INDEFERIDO O PEDIDO DE

					TRANSFERENCIA CONTIDO NA PETICAO 020130077477 DE 20/09/2013EM VIRTUDE DO DESPACHO PUBLICADO NA RPI NO 2493 DE 16/10/2018.
BR112012015953 A2	20190611	LSAS	B25E	REQUESTED CHANGE OF NAME OF APPLICANT REJECTED	OldParty: INDEFERIDO O PEDIDO DE ALTERACAO DE NOME CONTIDO NA PETICAO 020130077471 DE20/09/2013 EM VIRTUDE DO DESPACHO PUBLICADO NA RPI NO 2493 DE 16/10/2018. Owner: MINDFRAME LLC (US) PartyType: owner
CA2709999 AA	20100617	LSPB	+	published / reissued	
CA2709999 AA	20140114	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20131217
CA2709999 C	20151201	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2709999 C	20281219	PEXP		Calculated Patent Term Expiry	
CA2717790 AA	20100420	LSPB	+	published / reissued	
CA2717790 AA	20131106	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20131021
CA2717790 AA	20160921	LSLE	-FZDE	DEAD	Effective date: 20160810
CN101977650 A	20110216	LSPB	+	published / reissued	
CN101977650 A	20110216	LSPB	+C06	PUBLICATION	
CN101977650 A	20110601		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN101977650 A	20130814	LSAS	ASS	SUCCESSION OR ASSIGNMENT OF PATENT RIGHT	PartyType: owner Effective date: 20130724 OldParty: FORMER OWNER: MINDFRAME INC. Owner: COVIDIEN CORP.
CN101977650 A	20130814	LSAS	C41	TRANSFER OF PATENT APPLICATION OR PATENT RIGHT OR UTILITY MODEL	
CN101977650 A	20130814	LSRE	C53	CORRECTION OF PATENT FOR INVENTION OR PATENT APPLICATION	
CN101977650 A	20140604	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
DE602008015767 D1	20110823		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationSymbol: A61M0025090000 Text: PREVIOUS MAIN CLASS: A61M0025090000 ClassificationScheme: IPC
DE602008015767 D1	20130213	LSOP	-R026	OPPOSITION FILED AGAINST PATENT	
DE602008015767 D1	20130911	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OldParty: Mindframe, Inc., Irvine, US PartyType: Owner Owner: Covidien LP (n.d.Ges.d.Staates Delaware), Mansfield, Mass., US
DE602008015767 D1	20130911		R082	CHANGE OF REPRESENTATIVE	Representative: Patentanwaltskanzlei Meyer, 89077 Ulm, DE OldParty: Patentanwaltskanzlei Meyer, 89077 Ulm, DE PartyType: Representative
DE602008015767 D1	20170126	LSRV	-R064	EPO'S REVOCATION DECISION NOW FINAL	
DE602008015767 D1	20170126	LSRV	-R103	PATENT REVOKED BY EPO	
DE602008044111 D1	20151009		R079	AMENDMENT OF IPC MAIN CLASS	Text: PREVIOUS MAIN CLASS: A61B0017220000 ClassificationScheme: IPC ClassificationSymbol: A61F0002010000
DE602010037215 D1	20111006		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: A61B0017220000 Text: PREVIOUS MAIN CLASS: A61B0017220000
EP2217315 A2	20100818	LSPB	+	published / reissued	
EP2217315 A2	20100818	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100604
EP2217315 A2	20100818		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR

EP2217315 A2	20100818		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2217315 A2	20101208	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20101109
EP2217315 A2	20101208		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/09 20060101AFI20091217BHEP
EP2217315 A2	20101208		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/00 20060101ALI20101103BHEP ClassificationScheme: IPC
EP2217315 A2	20101208		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101ALI20101103BHEP ClassificationScheme: IPC
EP2217315 A2	20101208		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALN20101103BHEP
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EP2217315 A2	20110928		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/09 20060101AFI20110823BHEP
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EP2217315 A2	20110928		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALN20110823BHEP
EP2217315 A2	20120404	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: MINDFRAME, INC.
EP2217315 A2	20120516		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
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EP2217315 A2	20120531	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2217315 A2	20120615	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 557748 Ref country code: AT Ref legal event code: REF Effective date: 20120615 Kind code of Ref document: T Country of Ref document: AT
EP2217315 A2	20120620	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2217315 A2	20120712	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120712 Ref legal event code: R096 Ref country code: DE Ref document number: 602008015767 Country of Ref document: DE
EP2217315 A2	20120725	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: T3
EP2217315 A2	20120727	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2385631 Effective date: 20120727 Ref legal event code: FG2A Country of Ref document: ES
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EP2217315 A2	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
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EP2217315 A2	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120816 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
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EP2217315 A2	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120916 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2217315 A2	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120516 Country of Ref document: SE
EP2217315 A2	20121115	LSRV	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Effective date: 20120516 Ref document number: 557748 Ref country code: AT Ref legal event code: MK05 Country of Ref document: AT
EP2217315 A2	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120817 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2217315 A2	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120516 Country of Ref document: SI
EP2217315 A2	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120516 Country of Ref document: LV
EP2217315 A2	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120516 Country of Ref document: HR
EP2217315 A2	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120917 Country of Ref document: PT
EP2217315 A2	20121231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2217315 A2	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT

EP2217315 A2	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2217315 A2	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2217315 A2	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2217315 A2	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120516 Country of Ref document: SK
EP2217315 A2	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2217315 A2	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120516 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2217315 A2	20130320	LSOP	-26	OPPOSITION FILED	PartyType: opponent Opponent: ACANDIS GMBH & CO. KG Effective date: 20130213
EP2217315 A2	20130508	LSOP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R026 Effective date: 20130213 Ref document number: 602008015767 Country of Ref document: DE
EP2217315 A2	20130628	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP2217315 A2	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20121130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2217315 A2	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20121130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2217315 A2	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120816 Country of Ref document: BG
EP2217315 A2	20130830	LSAS	REG	REFERENCE TO A NATIONAL CODE	Owner: COVIDIEN LP, US Effective date: 20130716 Ref legal event code: CD PartyType: owner Ref country code: FR
EP2217315 A2	20130830	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: TP Ref country code: FR PartyType: owner Owner: COVIDIEN LP, US Effective date: 20130716
EP2217315 A2	20130911		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Representative: PATENTANWALTSKANZLEI MEYER, DE Ref legal event code: R082 Ref document number: 602008015767 Ref country code: DE Country of Ref document: DE
EP2217315 A2	20130918	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: TD Ref country code: NL Effective date: 20130916

EP2217315 A2	20131002	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	Owner: COVIDIEN LP PartyType: owner
EP2217315 A2	20131016		REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Text: REGISTERED BETWEEN 20130919 AND 20130925 Ref legal event code: 732E
EP2217315 A2	20131031		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Effective date: 20130911 Ref document number: 602008015767 Ref legal event code: R082 Representative: PATENTANWALTSKANZLEI MEYER, DE PartyType: representative Country of Ref document: DE
EP2217315 A2	20131031	LSAS	REG	REFERENCE TO A NATIONAL CODE	Owner: COVIDIEN LP (N.D.GES.D.STAATES DELAWARE), US OldParty: FORMER OWNER: MINDFRAME, INC., IRVINE, US Ref country code: DE PartyType: owner Effective date: 20130911 Ref document number: 602008015767 Ref legal event code: R081 Country of Ref document: DE
EP2217315 A2	20131031	LSAS	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130911 OldParty: FORMER OWNER: MINDFRAME, INC., IRVINE, US PartyType: owner Ref legal event code: R081 Ref country code: DE Owner: COVIDIEN LP (N.D.GES.D.STAATES DELAWARE), MANS, US Ref document number: 602008015767 Country of Ref document: DE
EP2217315 A2	20131105	LSAS	REG	REFERENCE TO A NATIONAL CODE	Owner: COVIDIEN LP Ref legal event code: PC2A Ref country code: ES PartyType: owner Effective date: 20131023
EP2217315 A2	20131106	LSAS	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20131025 Ref legal event code: SD Ref country code: NL
EP2217315 A2	20131129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120516 Country of Ref document: MT
EP2217315 A2	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20121130 Country of Ref document: MC
EP2217315 A2	20140530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20121112 Country of Ref document: LU
EP2217315 A2	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20081112 Country of Ref document: HU
EP2217315 A2	20151023	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 8 Country of Ref document: FR
EP2217315 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20151022 Year of fee payment: 8 Country of Ref document: DE
EP2217315 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20151023 Country of Ref document: IE
EP2217315 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20151027 Country of Ref document: GB
EP2217315 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20151104 Year of fee payment: 8 Country of Ref document: TR

EP2217315 A2	20160129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20151023 Year of fee payment: 8 Country of Ref document: IT
EP2217315 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20151021 Year of fee payment: 8 Country of Ref document: NL
EP2217315 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20151023 Year of fee payment: 8 Country of Ref document: FR
EP2217315 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20151106 Country of Ref document: ES
EP2217315 A2	20160229	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20151023 Year of fee payment: 8 Country of Ref document: CZ
EP2217315 A2	20160824	LSOP	-R26	OPPOSITION FILED (CORRECTED)	Effective date: 20130213 Opponent: ACANDIS GMBH & CO. KG PartyType: opponent
EP2217315 A2	20161123	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 9 Ref country code: FR Ref legal event code: PLFP Country of Ref document: FR
EP2217315 A2	20170126	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602008015767 Ref country code: DE Ref legal event code: R064 Country of Ref document: DE
EP2217315 A2	20170126	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R103 Ref document number: 602008015767 Ref country code: DE Country of Ref document: DE
EP2217315 A2	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161123 Year of fee payment: 9 Country of Ref document: IE
EP2217315 A2	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20161026 Country of Ref document: CZ
EP2217315 A2	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20161123 Country of Ref document: FR
EP2217315 A2	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161126 Year of fee payment: 9 Country of Ref document: NL
EP2217315 A2	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20161123 Country of Ref document: DE
EP2217315 A2	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20161128 Country of Ref document: GB
EP2217315 A2	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20161124 Country of Ref document: IT
EP2217315 A2	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161128 Year of fee payment: 9 Country of Ref document: ES
EP2217315 A2	20170329	LSRV	-27W	PATENT REVOKED	Effective date: 20170126
EP2217315 A2	20170329	LSRV	-GBPR	GB: PATENT REVOKED UNDER ART. 102 OF THE EP CONVENTION DESIGNATING THE UK AS CONTRACTING STATE	Effective date: 20170126 Ref country code: EP
EP2217315 A2	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	Year of fee payment: 9 Payment date: 20161027

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Country of Ref document: TR
EP2217315 B1	20120516	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2217315 B1	20281112	PEXP		Calculated Patent Term Expiry	
EP2234548 A2	20101006	LSPB	+	published / reissued	
EP2234548 A2	20101006	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100719
EP2234548 A2	20101006		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2234548 A2	20101006		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2234548 A2	20110330		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2234548 A2	20131002	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: COVIDIEN LP
EP2234548 A4	20131023	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20130924
EP2234548 A4	20131023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/088 20060101ALI20130918BHEP ClassificationScheme: IPC
EP2234548 A4	20131023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/01 20060101ALI20130918BHEP
EP2234548 A4	20131023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20130918BHEP
EP2234548 A4	20150603	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20150504
EP2234548 A4	20151009		REG	REFERENCE TO A NATIONAL CODE	Text: PREVIOUS MAIN CLASS: A61B0017220000 Ref country code: DE ClassificationSymbol: A61F0002010000 Ref document number: 602008044111 ClassificationScheme: IPC Ref legal event code: R079 Country of Ref document: DE
EP2234548 A4	20151118		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61F 2/01 20060101AFI20151009BHEP ClassificationScheme: IPC
EP2234548 A4	20151223	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20151125
EP2234548 B1	20160504	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2234548 B1	20160504		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2234548 B1	20160504	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP2234548 B1	20160513	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP2234548 B1	20160515	LSNP	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Ref legal event code: REF Ref country code: AT Ref document number: 796201 Effective date: 20160515 Country of Ref document: AT
EP2234548 B1	20160601	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2234548 B1	20160616	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602008044111 Ref country code: DE Ref legal event code: R096 Country of Ref document: DE
EP2234548 B1	20160812	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 2579527 Kind code of Ref document: T3 Ref country code: ES Ref legal event code: FG2A Effective date: 20160812 Country of Ref document: ES

EP2234548 B1	20160907		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MP Effective date: 20160504 Ref country code: NL
EP2234548 B1	20160912	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2234548 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160804 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2234548 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: FI
EP2234548 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: LT
EP2234548 B1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160504 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2234548 B1	20161115	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MK05 Kind code of Ref document: T Effective date: 20160504 Ref document number: 796201 Ref country code: AT Country of Ref document: AT
EP2234548 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160905 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2234548 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: HR
EP2234548 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160805 Country of Ref document: GR
EP2234548 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160504 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2234548 B1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160504 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2234548 B1	20161227	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 9 Country of Ref document: FR
EP2234548 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160504 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2234548 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160504 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2234548 B1	20170131	LSLE	-PG25	LAPSED IN A	NotificationOfLapse: LAPSE BECAUSE OF

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: RO
EP2234548 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160504 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2234548 B1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: CZ
EP2234548 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161228 Year of fee payment: 9 Country of Ref document: GB
EP2234548 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161229 Year of fee payment: 9 Country of Ref document: IE
EP2234548 B1	20170207	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602008044111 Ref country code: DE Ref legal event code: R097 Country of Ref document: DE
EP2234548 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160504 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2234548 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: PL
EP2234548 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: AT
EP2234548 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161227 Year of fee payment: 9 Country of Ref document: FR
EP2234548 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161227 Year of fee payment: 9 Country of Ref document: ES
EP2234548 B1	20170412	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20170207
EP2234548 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161229 Year of fee payment: 9 Country of Ref document: DE
EP2234548 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: SI
EP2234548 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161222 Year of fee payment: 9 Country of Ref document: IT
EP2234548 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: MC
EP2234548 B1	20170731	LSLE	REG	REFERENCE TO A	Ref country code: CH

				NATIONAL CODE	Ref legal event code: PL
EP2234548 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20161219 Country of Ref document: LU
EP2234548 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20161231 Country of Ref document: LI
EP2234548 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20161231 Country of Ref document: CH
EP2234548 B1	20171227	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Year of fee payment: 10 Ref legal event code: PLFP
EP2234548 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171227 Year of fee payment: 10 Country of Ref document: FR
EP2234548 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171228 Year of fee payment: 10 Country of Ref document: IE
EP2234548 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20171227 Country of Ref document: GB
EP2234548 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171229 Year of fee payment: 10 Country of Ref document: DE
EP2234548 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180102 Year of fee payment: 10 Country of Ref document: ES
EP2234548 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Lapsed date: 20081219 Country of Ref document: HU
EP2234548 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: CY
EP2234548 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20171221 Country of Ref document: IT
EP2234548 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160504 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2234548 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: IS
EP2234548 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20160504 Country of Ref document: BG
EP2234548 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	Lapsed date: 20161219 NotificationOfLapse: LAPSE BECAUSE OF

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2234548 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181121 Year of fee payment: 11 Country of Ref document: IE
EP2234548 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181126 Year of fee payment: 11 Country of Ref document: DE
EP2234548 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20181127 Country of Ref document: GB
EP2234548 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20181127 Country of Ref document: FR
EP2234548 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181122 Year of fee payment: 11 Country of Ref document: IT
EP2234548 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20190102 Country of Ref document: ES
EP2234548 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 12 Payment date: 20191119 Country of Ref document: DE
EP2234548 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191120 Year of fee payment: 12 Country of Ref document: FR
EP2234548 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191122 Year of fee payment: 12 Country of Ref document: GB
EP2234548 B1	20281219	PEXP		Calculated Patent Term Expiry	
EP2237828 A2	20101013	LSPB	+	published / reissued	
EP2237828 A2	20101013	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100729
EP2237828 A2	20101013		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR
EP2237828 A2	20101013		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA RS
EP2237828 A2	20110413		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2237828 A4	20130605	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20130506
EP2237828 A4	20130605		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/10 20130101AFI20130426BHEP ClassificationScheme: IPC
EP2237828 A4	20130605		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/09 20060101ALI20130426BHEP
EP2237828 A4	20140604	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20131204
EP2271390 A2	20110112	LSPB	+	published / reissued	
EP2271390 A2	20110112	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20101111
EP2271390 A2	20110112		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

EP2271390 A2	20110112		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA RS
EP2271390 A2	20110720		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2271390 A2	20131002	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: COVIDIEN LP PartyType: owner
EP2271390 A2	20160330		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/01 20060101ALI20160222BHEP ClassificationScheme: IPC
EP2271390 A2	20160330		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/088 20060101ALI20160222BHEP
EP2271390 A2	20160330		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101AFI20160222BHEP ClassificationScheme: IPC
EP2271390 A2	20160720	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20160622
EP2271390 A2	20160720		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20160616BHEP
EP2271390 A2	20160720		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/088 20060101ALI20160616BHEP
EP2271390 A2	20160720		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/01 20060101ALI20160616BHEP ClassificationScheme: IPC
EP2271390 A2	20170726	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20170119
EP2367482 A1	20110928	LSPB	+	published / reissued	
EP2367482 A1	20110928	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20110512
EP2367482 A1	20110928		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2367482 A4	20111109	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20111012
EP2367482 A4	20111109		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20111006BHEP
EP2367482 A4	20111109		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101ALI20111006BHEP ClassificationScheme: IPC
EP2367482 A4	20111109		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61L 27/54 20060101ALI20111006BHEP ClassificationScheme: IPC
EP2367482 A4	20120425	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20120326
EP2367482 A4	20120718		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CRAGG, ANDREW PartyType: inventor
EP2367482 A4	20120718		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: BENJAMIN, JOSHUA
EP2367482 A4	20120718		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: FULKERSON, JOHN
EP2367482 A4	20120718		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERRERA, DAVID PartyType: inventor
EP2367482 A4	20120829		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	

				(DELETED)	
EP2367482 A4	20120831		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref legal event code: DE Ref document number: 1162287 Country of Ref document: HK
EP2367482 A4	20130403		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2367482 A4	20131113	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: COVIDIEN LP
EP2367482 A4	20160525	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20160426
EP2367482 A4	20160525		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FERRERA, DAVID A. PartyType: inventor
EP2367482 A4	20160525		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: BENJAMIN, JOSHUA
EP2367482 A4	20160525		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: FULKERSON, JOHN PartyType: inventor
EP2367482 A4	20160525		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CRAGG, ANDREW H. PartyType: inventor
EP2367482 B1	20161012	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2367482 B1	20161012		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2367482 B1	20161012	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP2367482 B1	20161014	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2367482 B1	20161015	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Ref legal event code: REF Kind code of Ref document: T Ref document number: 835723 Effective date: 20161015 Country of Ref document: AT
EP2367482 B1	20161102	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2367482 B1	20161124	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Ref country code: DE Ref document number: 602010037215 Country of Ref document: DE
EP2367482 B1	20161227	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 7 Ref country code: FR Ref legal event code: PLFP Country of Ref document: FR
EP2367482 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161228 Year of fee payment: 7 Country of Ref document: GB
EP2367482 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161229 Year of fee payment: 7 Country of Ref document: IE
EP2367482 B1	20170210	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP2367482 B1	20170215		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: MP Effective date: 20161012
EP2367482 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: LV
EP2367482 B1	20170228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20161227 Country of Ref document: FR
EP2367482 B1	20170315	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20161012 Ref country code: AT Ref legal event code: MK05

					Kind code of Ref document: T Ref document number: 835723 Country of Ref document: AT
EP2367482 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: LT
EP2367482 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2367482 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170113 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2367482 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170112 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2367482 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20161229 Year of fee payment: 7 Country of Ref document: DE
EP2367482 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP2367482 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2367482 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2367482 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170213 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2367482 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: NL
EP2367482 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2367482 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2367482 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170212 Country of Ref document: IS
EP2367482 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2367482 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2367482 B1	20170713	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602010037215 Ref legal event code: R097 Country of Ref document: DE
EP2367482 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: SK
EP2367482 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: CZ
EP2367482 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2367482 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: EE
EP2367482 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: DK
EP2367482 B1	20170731	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP2367482 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: SM
EP2367482 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: IT
EP2367482 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170112 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2367482 B1	20170920	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20170713
EP2367482 B1	20170929	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: MC
EP2367482 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161231 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2367482 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	Lapsed date: 20161230 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU

				INFORMATION FROM NATIONAL OFFICE TO EPO]	
EP2367482 B1	20171031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20161231 Country of Ref document: LI
EP2367482 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: SI
EP2367482 B1	20171227	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 8 Ref legal event code: PLFP Ref country code: FR
EP2367482 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171227 Year of fee payment: 8 Country of Ref document: FR
EP2367482 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20171228 Country of Ref document: IE
EP2367482 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20171227 Country of Ref document: GB
EP2367482 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20171229 Country of Ref document: DE
EP2367482 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP2367482 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20101230 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2367482 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: TR
EP2367482 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: MK
EP2367482 B1	20180727	LSWD	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: WD Ref document number: 1162287 Ref country code: HK Country of Ref document: HK
EP2367482 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20161230 Country of Ref document: MT
EP2367482 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181121 Year of fee payment: 9 Country of Ref document: IE
EP2367482 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20181126 Country of Ref document: DE
EP2367482 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	Payment date: 20181127 Year of fee payment: 9 Country of Ref document: FR

				EPO]	
EP2367482 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181127 Year of fee payment: 9 Country of Ref document: GB
EP2367482 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191121 Year of fee payment: 10 Country of Ref document: IE
EP2367482 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20191119 Country of Ref document: DE
EP2367482 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191120 Year of fee payment: 10 Country of Ref document: FR
EP2367482 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20191122 Country of Ref document: GB
EP2367482 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: AL
EP2367482 B1	20301230	PEXP		Calculated Patent Term Expiry	
EP2478930 A2	20120725	LSPB	+	published / reissued	
EP2478930 A2	20120725		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2217315 Country of Ref document: EP
EP2478930 A2	20120725		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2478930 A3	20121226		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2478930 A3	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/00 20060101ALI20121122BHEP ClassificationScheme: IPC
EP2478930 A3	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/09 20060101AFI20121122BHEP ClassificationScheme: IPC
EP2478930 A3	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALN20121122BHEP
EP2478930 A3	20121226		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101ALI20121122BHEP
EP2478930 A3	20130731	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20130625
EP2478930 A3	20130731		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2478930 A3	20131002	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: COVIDIEN LP PartyType: owner
EP2478930 A3	20190904	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20190805
EP3173037 A1	20170531	LSPB	+	published / reissued	
EP3173037 A1	20170531		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2367482 Country of Ref document: EP
EP3173037 A1	20170531		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

EP3173037 A1	20180103	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20171128
EP3173037 A1	20180103		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3173037 A1	20190306	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20190205
EP3173037 A1	20190521		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602010062299 ClassificationSymbol: A61B0017221000 ClassificationScheme: IPC Text: PREVIOUS MAIN CLASS: A61B0017220000 Ref legal event code: R079 Country of Ref document: DE
EP3173037 A1	20190626		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALI20190521BHEP
EP3173037 A1	20190626		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61L 27/54 20060101ALI20190521BHEP
EP3173037 A1	20190626		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/12 20060101ALI20190521BHEP ClassificationScheme: IPC
EP3173037 A1	20190626		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20190521BHEP
EP3173037 A1	20190717	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20190624
EP3173037 B1	20191204	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3173037 B1	20191204		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Ref document number: 2367482 Kind code of Ref document: P Country of Ref document: EP
EP3173037 B1	20191204		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3173037 B1	20191204	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP3173037 B1	20191213	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP3173037 B1	20191215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Kind code of Ref document: T Effective date: 20191215 Ref legal event code: REF Ref document number: 1208413 Country of Ref document: AT
EP3173037 B1	20191225	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP3173037 B1	20200102	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602010062299 Ref country code: DE Ref legal event code: R096 Country of Ref document: DE
EP3173037 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20191119 Country of Ref document: DE
EP3173037 B1	20200408		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MP Effective date: 20191204 Ref country code: NL
EP3173037 B1	20200427	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP3173037 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20191204 Country of Ref document: SE
EP3173037 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191204 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP3173037 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20200305 Country of Ref document: GR
EP3173037 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20191204 Country of Ref document: LT
EP3173037 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20191204 Country of Ref document: FI
EP3173037 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP3173037 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20200304 Country of Ref document: NO
EP3173037 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200124 Year of fee payment: 10 Country of Ref document: ES
EP3173037 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20191231 Country of Ref document: IT
EP3173037 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200123 Year of fee payment: 10 Country of Ref document: GB
EP3173037 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20191204 Country of Ref document: RS
EP3173037 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20191204 Country of Ref document: HR
EP3173037 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20191204 Country of Ref document: AL
EP3173037 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200121 Year of fee payment: 10 Country of Ref document: FR
EP3173037 B1	20200708	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: ES Kind code of Ref document: T3 Ref legal event code: FG2A Ref document number: 2772948 Effective date: 20200708 Country of Ref document: ES
EP3173037 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200429 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP3173037 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191204 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE

EP3173037 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191204 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP3173037 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191204 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP3173037 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191204 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP3173037 B1	20200731	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP3173037 B1	20301230	PEXP		Calculated Patent Term Expiry	
ES2385631 T3	20120727	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2385631 T3	20281112	PEXP		Calculated Patent Term Expiry	
ES2579527 T3	20160812	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2579527 T3	20281219	PEXP		Calculated Patent Term Expiry	
ES2772948 T3	20200708	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2772948 T3	20200708	LSGT	+FG2A	DEFINITIVE PROTECTION	Filing date: 20200708 Effective date: 20200708
ES2772948 T3	20301230	PEXP		Calculated Patent Term Expiry	
GB201008683 A0	20100630	LSWD	-AT	APPLICATIONS TERMINATED BEFORE PUBLICATION UNDER SECTION 16(1)	
GB2463592 A1	20100324	LSPB	+	published / reissued	
GB2463592 B2	20100804	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2463592 B2	20131106		732E	AMENDMENTS TO THE REGISTER IN RESPECT OF CHANGES OF NAME OR CHANGES AFFECTING RIGHTS (SECT. 32/1977)	Text: REGISTERED BETWEEN 20131010 AND 20131016
GB2463592 B2	20200902	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20191112
GB2463592 B2	20281112	PEXP		Calculated Patent Term Expiry	
HK1162287 A1	20120831	LSPB	+	published / reissued	
IN06688DN2012 A	20151023	LSPB	+	published / reissued	
JP2011502655 T2	20110127	LSPB	+	published / reissued	
JP2011502655 T2	20111102	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20111101 Text: JAPANESE INTERMEDIATE CODE: A523
JP2011502655 T2	20111102	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20111101
JP2011502655 T2	20120608	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20120607 Text: JAPANESE INTERMEDIATE CODE: A523
JP2011502655 T2	20121101	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20121031
JP2011502655 T2	20121222	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Effective date: 20121221 Text: JAPANESE INTERMEDIATE CODE: A711
JP2011502655 T2	20130729	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20130726
JP2011502655 T2	20131004	LSRE	A521	WRITTEN	Effective date: 20131003

				AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523
JP2011502655 T2	20140306	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2011502655 T2	20140312	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20140311
JP2011502655 T2	20140320	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20140317
JP2011507633 T2	20110310	LSPB	+	published / reissued	
JP2011507633 T2	20120306	LSWD	-A300	WITHDRAWAL OF APPLICATION BECAUSE OF NO REQUEST FOR EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A300 Effective date: 20120306
JP2011517607 T2	20110616	LSPB	+	published / reissued	
JP2011517607 T2	20120329	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20120328
JP2011517607 T2	20121222	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Effective date: 20121221 Text: JAPANESE INTERMEDIATE CODE: A711
JP2011517607 T2	20130301	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130228 Text: JAPANESE INTERMEDIATE CODE: A523
JP2011517607 T2	20130302	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130301 Text: JAPANESE INTERMEDIATE CODE: A523
JP2011517607 T2	20130613	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20130612
JP2011517607 T2	20130617		A977	REPORT ON RETRIEVAL	Effective date: 20130613 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2011517607 T2	20131125	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20131122 Text: JAPANESE INTERMEDIATE CODE: A02
JP2012183366 A2	20120927	LSPB	+	published / reissued	
JP2012183366 A2	20121222	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Effective date: 20121221 Text: JAPANESE INTERMEDIATE CODE: A711
JP2012183366 A2	20131228	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20131227
JP2012183366 A2	20150209	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20150206
JP2012183366 A2	20150422	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20150422
JP2012183366 A2	20151005	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20151002 Text: JAPANESE INTERMEDIATE CODE: A131
JP2012183366 A2	20151228		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20151228
JP2012183366 A2	20160119	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160119 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012183366 A2	20160628	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012183366 A2	20160630	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20160630 Text: JAPANESE INTERMEDIATE CODE: A01
JP2012183366 A2	20160728	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20160719
JP2012510352 T2	20120510	LSPB	+	published / reissued	
JP2012510352 T2	20120521	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2012510352 T2	20120524	LSGT	+A01	WRITTEN DECISION	Effective date: 20120523

				TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2012510352 T2	20120531	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2012510352 T2	20120607	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20120531
JP2012510352 T2	20120611	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP2016104212 A2	20160609	LSPB	+	published / reissued	
JP2016104212 A2	20160809	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20160809 Text: JAPANESE INTERMEDIATE CODE: A131
JP2016104212 A2	20161020	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20161020 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016104212 A2	20170321	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20170321 Text: JAPANESE INTERMEDIATE CODE: A131
JP2016104212 A2	20170620	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20170620
JP2016104212 A2	20171122	LSRV	-A02	DECISION OF REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A02 Effective date: 20171122
JP5010054 B2	20120425	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20120424 Text: JAPANESE INTERMEDIATE CODE: A523
JP5010054 B2	20120531	LSGT	+A01	特許査定書	
JP5010054 B2	20120531	LSGT	+A01	特許査定書	Effective date: 20120523
JP5010054 B2	20120605	LSFE	R100	特許料納付書	
JP5010054 B2	20120605	LSFE	R100	特許料納付書	Effective date: 20120531 Text: 51201163211
JP5010054 B2	20120608	LSGT	+R150	特許証	
JP5010054 B2	20120608	LSGT	+R150	特許証	Effective date: 20120619
JP5010054 B2	20120829	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5010054 B2	20121228	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP5010054 B2	20121228	LSAS	R313113	本権移転登録申請書 (譲渡)	
JP5010054 B2	20121228	LSAS	R313113	本権移転登録申請書 (譲渡)	Text: 009752-B01 Effective date: 20121225
JP5010054 B2	20121228	LSAS	R313533	表示変更登録申請書 (住所)	
JP5010054 B2	20121228	LSAS	R313533	表示変更登録申請書 (住所)	Text: 009752-A01 Effective date: 20121225
JP5010054 B2	20121228	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313113
JP5010054 B2	20121228	LSAS	S533	WRITTEN REQUEST FOR REGISTRATION OF CHANGE OF NAME	Text: JAPANESE INTERMEDIATE CODE: R313533
JP5010054 B2	20130111	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
JP5010054 B2	20130111	LSAS	R350	移転登録済通知書	
JP5010054 B2	20130111	LSAS	R350	移転登録済通知書	Effective date: 20130125 Text: 009752-A01
JP5010054 B2	20130121	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP5010054 B2	20130121		R360	WRITTEN NOTIFICATION FOR DECLINING OF TRANSFER OF RIGHTS	Text: JAPANESE INTERMEDIATE CODE: R360

JP5010054 B2	20130212	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP5010054 B2	20130212		R360	WRITTEN NOTIFICATION FOR DECLINING OF TRANSFER OF RIGHTS	Text: JAPANESE INTERMEDIATE CODE: R360
JP5010054 B2	20130212		R360	却下理由通知書 (移転)	
JP5010054 B2	20130212		R360	却下理由通知書 (移転)	Text: 009752-B01 Effective date: 20130129
JP5010054 B2	20130212		R371	TRANSFER WITHDRAWN	Text: JAPANESE INTERMEDIATE CODE: R371
JP5010054 B2	20130212		R371	取下 (移転)	
JP5010054 B2	20130212		R371	取下 (移転)	Text: 009752-B01 Effective date: 20130219
JP5010054 B2	20130227	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP5010054 B2	20130227	LSAS	R313113	本権移転登録申請書 (譲渡)	
JP5010054 B2	20130227	LSAS	R313113	本権移転登録申請書 (譲渡)	Effective date: 20130222 Text: 001358 01
JP5010054 B2	20130227	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313113
JP5010054 B2	20130307	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP5010054 B2	20130307	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
JP5010054 B2	20130307	LSAS	R350	移転登録済通知書	
JP5010054 B2	20130307	LSAS	R350	移転登録済通知書	Text: 001358 01 Effective date: 20130322
JP5010054 B2	20150604	LSFE	R20	特許料納付書	
JP5010054 B2	20150604	LSFE	R20	特許料納付書	Text: 51501089943 Effective date: 20150529
JP5010054 B2	20150609	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5010054 B2	20150609	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5010054 B2	20150609	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20150616
JP5010054 B2	20160602	LSFE	R20	特許料納付書	
JP5010054 B2	20160602	LSFE	R20	特許料納付書	Effective date: 20160531 Text: 51601130969
JP5010054 B2	20160607	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5010054 B2	20160607	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5010054 B2	20160607	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20160614
JP5010054 B2	20170601	LSFE	R20	特許料納付書	
JP5010054 B2	20170601	LSFE	R20	特許料納付書	Effective date: 20170530 Text: 51701148875
JP5010054 B2	20170606	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5010054 B2	20170606	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP5010054 B2	20170606	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20170613
JP5010054 B2	20180531	LSFE	R20	特許料納付書	
JP5010054 B2	20180531	LSFE	R20	特許料納付書	Text: 51801107710 Effective date: 20180530
JP5010054 B2	20180605	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5010054 B2	20180605	LSFE	+R250	年金領収書, 年金領収書 (分納)	

JP5010054 B2	20180605	LSFE	+R250	年金領収書, 年金領収書(分納)	Effective date: 20180612
JP5010054 B2	20190530	LSFE	R20	特許料納付書	
JP5010054 B2	20190530	LSFE	R20	特許料納付書	Text: 51901133158 Effective date: 20190529
JP5010054 B2	20190604	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5010054 B2	20190604	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP5010054 B2	20190604	LSFE	+R250	年金領収書, 年金領収書(分納)	Effective date: 20190614
JP5010054 B2	20200527	LSFE	R20	特許料納付書	Text: 52001074127 Effective date: 20200526
JP5010054 B2	20200602	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5010054 B2	20200602	LSFE	+R250	年金領収書, 年金領収書(分納)	Effective date: 20200619
JP5010054 B2	20301230	PEXP		Calculated Patent Term Expiry	
JP5504167 B2	20140313	LSGT	+A01	特許査定書	
JP5504167 B2	20140318	LSFE	R100	特許料納付書	
JP5504167 B2	20140320	LSGT	+R150	特許証	
JP5504167 B2	20140528	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5504167 B2	20170309	LSFE	R20	特許料納付書	
JP5504167 B2	20170314	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5504167 B2	20170314	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP5504167 B2	20180308	LSFE	R20	特許料納付書	
JP5504167 B2	20180313	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5504167 B2	20180313	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP5504167 B2	20190228	LSFE	R20	特許料納付書	
JP5504167 B2	20190312	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5504167 B2	20190312	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP5504167 B2	20200227	LSFE	R20	特許料納付書	Effective date: 20200226
JP5504167 B2	20200304	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5504167 B2	20200304	LSFE	+R250	年金領収書, 年金領収書(分納)	Effective date: 20200324
JP5504167 B2	20281112	PEXP		Calculated Patent Term Expiry	
JP5975737 B2	20160707	LSGT	+A01	特許査定書	
JP5975737 B2	20160726	LSFE	R100	特許料納付書	
JP5975737 B2	20160729	LSGT	+R150	特許証	
JP5975737 B2	20160823	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5975737 B2	20190704	LSFE	R20	特許料納付書	
JP5975737 B2	20190709	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5975737 B2	20190709	LSFE	+R250	年金領収書, 年金領収書(分納)	
JP5975737 B2	20200702	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP5975737 B2	20320531	PEXP		Calculated Patent Term Expiry	
US10016211 BB	20180620	LSGT	PAT1	Patented Case	
US10016211 BB	20180710	LSGT	+	granted / extensions (spc, cpc, pte)	
US10016211 BB	20290205	PEXP		Calculated Patent Term Expiry (PTA 262 days)	
US10123803 BB	20110913	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS

					INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW H.;FULKERSON, JOHN;SIGNING DATES FROM 20110815 TO 20110826;REEL/FRAME:026902/0611
US10123803 BB	20181024	LSGT	PAT1	Patented Case	
US10123803 BB	20181113	LSGT	+	granted / extensions (spc, cpc, pte)	
US10123803 BB	20340612	PEXP		Calculated Patent Term Expiry (PTA 2215 days and a terminal disclaimer has been filed)	
US10413310 BB	20190828	LSGT	PAT1	Patented Case	
US10413310 BB	20190917	LSGT	+	granted / extensions (spc, cpc, pte)	
US10413310 BB	20191203	LSRE	CC	CERTIFICATE OF CORRECTION	
US10413310 BB	20300710	PEXP		Calculated Patent Term Expiry (PTA 782 days)	
US2009105722 AA	20090423	LSPB	+	published / reissued	
US2009105722 AA	20121008	LSAS	AS	ASSIGNMENT	Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 PartyType: owner Owner: MINDFRAME LLC, CALIFORNIA
US2009105722 AA	20121019	LSAS	AS	ASSIGNMENT	Owner: COVIDIEN LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Effective date: 20121010 PartyType: owner
US2009105722 AA	20151209	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009105737 AA	20090423	LSPB	+	published / reissued	
US2009105737 AA	20121008	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: MINDFRAME LLC, CALIFORNIA Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835
US2009105737 AA	20121019	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010
US2009105737 AA	20151111	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009125053 AA	20090514	LSPB	+	published / reissued	
US2009125053 AA	20121008	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Effective date: 20120926 Owner: MINDFRAME LLC, CALIFORNIA
US2009125053 AA	20121019	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010
US2009125053 AA	20141217	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2009192455 AA	20090405	LSAS	AS	ASSIGNMENT	Effective date: 20090217 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FERRERA, DAVID A.;REEL/FRAME:022505/0333 Owner: INTERSECT PARTNERS, LLC, CALIFORNIA
US2009192455 AA	20090730	LSPB	+	published / reissued	
US2009192455 AA	20100209	LSAS	AS	ASSIGNMENT	Owner: INTERSECT PARTNERS LLC,CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID;FULKERSON, JOHN;RIZK, ISA;AND OTHERS;SIGNING DATES FROM 20090217 TO 20091214;REEL/FRAME:023917/0870
US2009192455 AA	20131104	LSWD	ABD3	Abandoned -- Failure to Respond to an	

				Office Action	
US2009192455 AA	20131104		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2009292297 AA	20091126	LSPB	+	published / reissued	
US2009292297 AA	20100610	LSAS	AS	ASSIGNMENT	Effective date: 20100609 Owner: MINDFRAME INC.,CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FERRERA, DAVE A.;REEL/FRAME:024519/0185 PartyType: owner
US2009292297 AA	20100610	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FERRERA, DAVE A.;REEL/FRAME:024519/0185 Effective date: 20100609 PartyType: owner Owner: MINDFRAME INC., CALIFORNIA
US2009292297 AA	20111101	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CRAGG, ANDREW H.;FULKERSON, JOHN;SIGNING DATES FROM 20111031 TO 20111101;REEL/FRAME:027157/0197 Owner: MINDFRAME, INC., CALIFORNIA
US2009292297 AA	20111214	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2010022951 AA	20100128	LSPB	+	published / reissued	
US2010022951 AA	20100610	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME INC.,CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVE A.;FULKERSON, JOHN;SIGNING DATES FROM 20100609 TO 20100610;REEL/FRAME:024518/0967 PartyType: owner
US2010022951 AA	20120423	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010022951 AA	20120423		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2010022951 AA	20121008	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Effective date: 20120926 PartyType: owner Owner: MINDFRAME LLC, CALIFORNIA
US2010022951 AA	20121019	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010
US2010100106 AA	20100422	LSPB	+	published / reissued	
US2010100106 AA	20100610	LSAS	AS	ASSIGNMENT	Effective date: 20100609 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FERRERA, DAVID A.;REEL/FRAME:024519/0124 PartyType: owner Owner: MINDFRAME INC.,CALIFORNIA
US2010100106 AA	20100610	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FERRERA, DAVID A.;REEL/FRAME:024519/0124 Effective date: 20100609 Owner: MINDFRAME INC., CALIFORNIA
US2010100106 AA	20121008	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20120926 Owner: MINDFRAME LLC, CALIFORNIA OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835
US2010100106 AA	20121019	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010 PartyType: owner
US2010100106 AA	20130911	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2010174309 AA	20100319	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FULKERSON, JOHN;FERRERA, DAVID A.;CRAGG, ANDREW;SIGNING DATES FROM 20100302 TO 20100304;REEL/FRAME:024111/0358 Owner: MINDFRAME INC.,, CALIFORNIA

					PartyType: owner
US2010174309 AA	20100708	LSPB	+	published / reissued	
US2010174309 AA	20121008	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME LLC, CALIFORNIA Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 PartyType: owner
US2010174309 AA	20121019	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20121010 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Owner: COVIDIEN LP, MASSACHUSETTS
US2010174309 AA	20141215	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010174309 AA	20141215		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2010217187 AA	20100507	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: MINDFRAME INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FULKERSON, JOHN;CRAGG, ANDREW;FERRERA, DAVID;SIGNING DATES FROM 20100414 TO 20100419;REEL/FRAME:024356/0302
US2010217187 AA	20100826	LSPB	+	published / reissued	
US2010217187 AA	20121008	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20120926 Owner: MINDFRAME LLC, CALIFORNIA OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835
US2010217187 AA	20121019	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010 PartyType: owner
US2010217187 AA	20141009	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010217187 AA	20141009		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2010256600 AA	20100610	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20100609 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FERRERA, DAVID A.;REEL/FRAME:024519/0001 Owner: MINDFRAME INC., CALIFORNIA
US2010256600 AA	20101007	LSPB	+	published / reissued	
US2010256600 AA	20121008	LSAS	AS	ASSIGNMENT	Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 PartyType: owner Owner: MINDFRAME LLC, CALIFORNIA
US2010256600 AA	20121019	LSAS	AS	ASSIGNMENT	Owner: COVIDIEN LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 PartyType: owner Effective date: 20121010
US2010256600 AA	20150810	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010256600 AA	20150810		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2010318097 AA	20100824	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;FULKERSON, JOHN;CRAGG, ANDREW;SIGNING DATES FROM 20100723 TO 20100820;REEL/FRAME:024881/0103 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US2010318097 AA	20101216	LSPB	+	published / reissued	
US2010318097 AA	20121008	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Owner: MINDFRAME LLC, CALIFORNIA

					Effective date: 20120926
US2010318097 AA	20121019	LSAS	AS	ASSIGNMENT	Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235
US2010318097 AA	20131031	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010318097 AA	20131031		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2011160742 AA	20110630	LSPB	+	published / reissued	
US2011160742 AA	20120523	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011160757 AA	20110311	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW H.;FULKERSON, JOHN;AND OTHERS;SIGNING DATES FROM 20110202 TO 20110211;REEL/FRAME:025942/0343 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US2011160757 AA	20110630	LSPB	+	published / reissued	
US2011160757 AA	20121008	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Owner: MINDFRAME LLC, CALIFORNIA
US2011160757 AA	20121019	LSAS	AS	ASSIGNMENT	Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 PartyType: owner
US2011160757 AA	20150123	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011160757 AA	20150123		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2011160760 AA	20110311	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW H.;FULKERSON, JOHN;AND OTHERS;SIGNING DATES FROM 20110202 TO 20110211;REEL/FRAME:025942/0343
US2011160760 AA	20110630	LSPB	+	published / reissued	
US2011160760 AA	20121008	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME LLC, CALIFORNIA Effective date: 20120926 PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835
US2011160760 AA	20121019	LSAS	AS	ASSIGNMENT	Owner: COVIDIEN LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Effective date: 20121010 PartyType: owner
US2011160760 AA	20150306	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011160760 AA	20150306		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2011160761 AA	20110630	LSPB	+	published / reissued	
US2011160761 AA	20111116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011160763 AA	20110630	LSPB	+	published / reissued	
US2011160763 AA	20111109	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011190797 AA	20110804	LSPB	+	published / reissued	
US2011190797 AA	20120928	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS

					INTEREST;ASSIGNORS:FERRERA, DAVID A.;FULKERSON, JOHN;CRAGG, ANDREW;SIGNING DATES FROM 20080701 TO 20081112;REEL/FRAME:029048/0588
US2011190797 AA	20121008	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME LLC, CALIFORNIA PartyType: owner Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835
US2011190797 AA	20121019	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20121010 Owner: COVIDIEN LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235
US2011190797 AA	20140403	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011190797 AA	20140403		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2011238106 AA	20110929	LSPB	+	published / reissued	
US2011238106 AA	20120928	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW;FULKERSON, JOHN;SIGNING DATES FROM 20110208 TO 20110211;REEL/FRAME:029048/0821 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US2011238106 AA	20121008	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Effective date: 20120926 Owner: MINDFRAME LLC, CALIFORNIA PartyType: owner
US2011238106 AA	20121019	LSAS	AS	ASSIGNMENT	Effective date: 20121010 Owner: COVIDIEN LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 PartyType: owner
US2011238106 AA	20150701	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011238106 AA	20150701		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2011319917 AA	20111229	LSPB	+	published / reissued	
US2011319917 AA	20121008	LSAS	AS	ASSIGNMENT	Effective date: 20120926 Owner: MINDFRAME LLC, CALIFORNIA OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 PartyType: owner
US2011319917 AA	20121019	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235
US2011319917 AA	20151014		FRM1	Final Rejection Mailed	
US2011319917 AA	20160923	LSAL	APL5	On Appeal -- Awaiting Decision by the Board of Appeals	
US2011319917 AA	20180718	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2011319917 AA	20180725	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2011319917 AA	20181024	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012016406 AA	20120119	LSPB	+	published / reissued	
US2012016406 AA	20120928	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW;FULKERSON, JOHN;SIGNING DATES FROM 20110208 TO 20110211;REEL/FRAME:029048/0821 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA

US2012016406 AA	20121008	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME LLC, CALIFORNIA Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 PartyType: owner
US2012016406 AA	20121019	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235
US2012016406 AA	20141010	LSWD	EAB1	Expressly Abandoned -- During Examination	
US2012016406 AA	20141010		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: EXPRESSLY ABANDONED -- DURING EXAMINATION
US2012022576 AA	20120126	LSPB	+	published / reissued	
US2012022576 AA	20120928	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW;FULKERSON, JOHN;SIGNING DATES FROM 20110208 TO 20110211;REEL/FRAME:029048/0821 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US2012022576 AA	20121008	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Owner: MINDFRAME LLC, CALIFORNIA Effective date: 20120926 PartyType: owner
US2012022576 AA	20121019	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010
US2012022576 AA	20131016	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012041460 AA	20120216	LSPB	+	published / reissued	
US2012041460 AA	20120928	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW;FULKERSON, JOHN;SIGNING DATES FROM 20110815 TO 20110826;REEL/FRAME:029049/0064 Owner: MINDFRAME, INC., CALIFORNIA PartyType: owner
US2012041460 AA	20121008	LSAS	AS	ASSIGNMENT	Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 PartyType: owner Owner: MINDFRAME LLC, CALIFORNIA
US2012041460 AA	20121019	LSAS	AS	ASSIGNMENT	Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Effective date: 20121010
US2012041460 AA	20140417	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012041460 AA	20140417		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2012041475 AA	20120216	LSPB	+	published / reissued	
US2012041475 AA	20120928	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW;FULKERSON, JOHN;SIGNING DATES FROM 20110815 TO 20110826;REEL/FRAME:029049/0064 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US2012041475 AA	20121008	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20120926 Owner: MINDFRAME LLC, CALIFORNIA OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835
US2012041475 AA	20121019	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010

US2012041475 AA	20141116	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2012041475 AA	20141116		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2012065660 AA	20120315	LSPB	+	published / reissued	
US2012065660 AA	20120928	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW;FULKERSON, JOHN;SIGNING DATES FROM 20110815 TO 20110826;REEL/FRAME:029049/0064
US2012065660 AA	20121008	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Owner: MINDFRAME LLC, CALIFORNIA Effective date: 20120926 PartyType: owner
US2012065660 AA	20121019	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Effective date: 20121010 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner
US2012065660 AA	20131030	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012116443 AA	20120510	LSPB	+	published / reissued	
US2012116443 AA	20120928	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW;FULKERSON, JOHN;SIGNING DATES FROM 20100609 TO 20111101;REEL/FRAME:029048/0967
US2012116443 AA	20121008	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME LLC, CALIFORNIA PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Effective date: 20120926
US2012116443 AA	20121019	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Effective date: 20121010 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner
US2012116443 AA	20150114	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012316600 AA	20121005	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW;FULKERSON, JOHN;AND OTHERS;SIGNING DATES FROM 20110202 TO 20110211;REEL/FRAME:029086/0048 Owner: MINDFRAME, INC., CALIFORNIA
US2012316600 AA	20121008	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Effective date: 20120926 Owner: MINDFRAME LLC, CALIFORNIA PartyType: owner
US2012316600 AA	20121019	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010 PartyType: owner
US2012316600 AA	20121213	LSPB	+	published / reissued	
US2012316600 AA	20141010	LSWD	EAB1	Expressly Abandoned -- During Examination	
US2012316600 AA	20141010		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: EXPRESSLY ABANDONED -- DURING EXAMINATION
US2014121758 AA	20140501	LSPB	+	published / reissued	
US2014121758 AA	20160622	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2014155981 AA	20140605	LSPB	+	published / reissued	
US2014155981 AA	20141224	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID

					A.;CRAGG, ANDREW H.;FULKERSON, JOHN;SIGNING DATES FROM 20110815 TO 20110826;REEL/FRAME:034585/0343 Owner: MINDFRAME, INC., CALIFORNIA PartyType: owner
US2014155981 AA	20141224	LSAS	AS	ASSIGNMENT	Effective date: 20121010 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:034585/0320 PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS
US2014155981 AA	20141224	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:034701/0110 Owner: MINDFRAME LLC, CALIFORNIA
US2014155981 AA	20150114	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015157346 AA	20150401		RFE1	Docketed New Case - Ready for Examination	
US2015157346 AA	20150611	LSPB	+	published / reissued	
US2015157346 AA	20170417	LSAL	NAF1	Notice of Appeal Filed	
US2015157346 AA	20170417	LSAL	NAF1	Notice of Appeal Filed	
US2015157346 AA	20170714	LSAL	ABE1	Appeal Brief (or Supplemental Brief) Entered and Forwarded to Examiner	
US2015157346 AA	20170906	LSES	NFA1	Non Final Action Mailed	
US2015157346 AA	20180116		FRM1	Final Rejection Mailed	
US2015157346 AA	20180306	LSAL	NAF1	Notice of Appeal Filed	
US2015157346 AA	20180607	LSAL	APL8	TC Return of Appeal	
US2015157346 AA	20180607	LSAL	EAA1	Examiner's Answer to Appeal Brief Mailed	
US2015157346 AA	20180814	LSAL	APL3	Appeal Ready for Review	
US2015157346 AA	20180822	LSAL	APL5	On Appeal -- Awaiting Decision by the Board of Appeals	
US2015157346 AA	20180822	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	Text: ON APPEAL -- AWAITING DECISION BY THE BOARD OF APPEALS
US2015157346 AA	20190528	LSAL	BDR1	Board of Appeals Decision Rendered	
US2015157346 AA	20190528	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	Text: BOARD OF APPEALS DECISION RENDERED
US2015157346 AA	20190617	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015157346 AA	20190617		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2015157346 AA	20190624	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW H.;FULKERSON, JOHN;SIGNING DATES FROM 20100609 TO 20111101;REEL/FRAME:049570/0936 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US2015157346 AA	20190624	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:049571/0107 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner Effective date: 20121010
US2015157346 AA	20190624	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:049571/0621 Owner: MINDFRAME LLC, CALIFORNIA PartyType: owner Effective date: 20120926

US2015157346 AA	20190806	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015157346 AA	20190806		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2015157346 AA	20190828	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015209058 AA	20150730	LSPB	+	published / reissued	
US2015209058 AA	20150820	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW H.;FULKERSON, JOHN;SIGNING DATES FROM 20110815 TO 20110826;REEL/FRAME:036386/0441 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US2015209058 AA	20150820	LSAS	AS	ASSIGNMENT	Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:036386/0425 PartyType: owner
US2015209058 AA	20150820	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:036408/0430 Effective date: 20120926 Owner: MINDFRAME LLC, CALIFORNIA
US2015209058 AA	20160406	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017020555 AA	20161213		RFE1	Docketed New Case - Ready for Examination	
US2017020555 AA	20170126	LSPB	+	published / reissued	
US2017020555 AA	20180312	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017020555 AA	20180607	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A;FULKERSON, JOHN;CRAGG, ANDREW H;SIGNING DATES FROM 20110815 TO 20110826;REEL/FRAME:046016/0921 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US2017020555 AA	20180607	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20121010 Owner: COVIDIEN LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:046017/0804
US2017020555 AA	20180607	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME LLC, CALIFORNIA Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:046327/0110 PartyType: owner
US2017020555 AA	20180620	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019029692 AA	20181001	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW H.;FULKERSON, JOHN;SIGNING DATES FROM 20110815 TO 20110826;REEL/FRAME:047019/0615 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US2019029692 AA	20181001	LSAS	AS	ASSIGNMENT	Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20121010 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:047019/0695
US2019029692 AA	20181001	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:047171/0465 PartyType: owner Effective date: 20120926 Owner: MINDFRAME LLC, CALIFORNIA
US2019029692 AA	20181023		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2019029692 AA	20190131	LSPB	+	published / reissued	
US2019029692 AA	20190306		RFE1	Docketed New Case -	

				Ready for Examination	
US2019029692 AA	20190306		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019029692 AA	20200721	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2019029692 AA	20200721		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2019388108 AA	20190905	LSAS	AS	ASSIGNMENT	Effective date: 20121010 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:050284/0778
US2019388108 AA	20190905	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID;CRAGG, ANDREW;FULKERSON, JOHN;SIGNING DATES FROM 20100609 TO 20111101;REEL/FRAME:050284/0638 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US2019388108 AA	20190905	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME LLC, CALIFORNIA PartyType: owner Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:051739/0964
US2019388108 AA	20191028		RFE1	Docketed New Case - Ready for Examination	
US2019388108 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019388108 AA	20191226	LSPB	+	published / reissued	
US8066757 BB	20110311	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW H.;FULKERSON, JOHN;SIGNING DATES FROM 20110208 TO 20110211;REEL/FRAME:025942/0263 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US8066757 BB	20111109	LSGT	PAT1	Patented Case	
US8066757 BB	20111129	LSGT	+	granted / extensions (spc, cpc, pte)	
US8066757 BB	20120327	LSRE	CC	CERTIFICATE OF CORRECTION	
US8066757 BB	20121008	LSAS	AS	ASSIGNMENT	Effective date: 20120926 PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Owner: MINDFRAME LLC, CALIFORNIA
US8066757 BB	20121019	LSAS	AS	ASSIGNMENT	Effective date: 20121010 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235
US8066757 BB	20150428	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8066757 BB	20190312	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8066757 BB	20190423	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8066757 BB	20301228	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8070791 BB	20110311	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW H.;FULKERSON, JOHN;SIGNING DATES FROM 20110208 TO 20110211;REEL/FRAME:025942/0263 Owner: MINDFRAME, INC., CALIFORNIA

					PartyType: owner
US8070791 BB	20111116	LSGT	PAT1	Patented Case	
US8070791 BB	20111206	LSGT	+	granted / extensions (spc, cpc, pte)	
US8070791 BB	20120327	LSRE	CC	CERTIFICATE OF CORRECTION	
US8070791 BB	20121008	LSAS	AS	ASSIGNMENT	Effective date: 20120926 OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 PartyType: owner Owner: MINDFRAME LLC, CALIFORNIA
US8070791 BB	20121019	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Effective date: 20121010
US8070791 BB	20150529	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8070791 BB	20190522	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8070791 BB	20190606	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8070791 BB	20190625	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Text: PAYMENT OF MAINTENANCE FEE UNDER 1.28(C) (ORIGINAL EVENT CODE: M1559); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8070791 BB	20200116	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PTGR); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8070791 BB	20301229	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8088140 BB	20111214	LSGT	PAT1	Patented Case	
US8088140 BB	20120103	LSGT	+	granted / extensions (spc, cpc, pte)	
US8088140 BB	20120626	LSRE	CC	CERTIFICATE OF CORRECTION	
US8088140 BB	20121008	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Owner: MINDFRAME LLC, CALIFORNIA PartyType: owner Effective date: 20120926
US8088140 BB	20121019	LSAS	AS	ASSIGNMENT	Effective date: 20121010 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS
US8088140 BB	20150626	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8088140 BB	20190624	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8088140 BB	20291213	PEXP		Calculated Patent Term Expiry (PTA 198 days)	
US8197493 BB	20110311	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW H.;FULKERSON, JOHN;AND OTHERS;SIGNING DATES FROM 20110202 TO 20110211;REEL/FRAME:025942/0343 Owner: MINDFRAME, INC., CALIFORNIA PartyType: owner
US8197493 BB	20120523	LSGT	PAT1	Patented Case	
US8197493 BB	20120612	LSGT	+	granted / extensions (spc, cpc, pte)	
US8197493 BB	20121008	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:029093/0835 Owner: MINDFRAME LLC, CALIFORNIA Effective date: 20120926 PartyType: owner
US8197493 BB	20121019	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:029160/0235 Effective date: 20121010
US8197493 BB	20151126	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4

US8197493 BB	20190606	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8197493 BB	20191121	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8197493 BB	20301229	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8545514 BB	20130911	LSGT	PAT1	Patented Case	
US8545514 BB	20131001	LSGT	+	granted / extensions (spc, cpc, pte)	
US8545514 BB	20170403	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8545514 BB	20300401	PEXP		Calculated Patent Term Expiry (PTA 356 days)	
US8574262 BB	20131016	LSGT	PAT1	Patented Case	
US8574262 BB	20131105	LSGT	+	granted / extensions (spc, cpc, pte)	
US8574262 BB	20170505	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8574262 BB	20280802	PEXP		Calculated Patent Term Expiry (PTA 75 days)	
US8585713 BB	20131030	LSGT	PAT1	Patented Case	
US8585713 BB	20131119	LSGT	+	granted / extensions (spc, cpc, pte)	
US8585713 BB	20170519	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8585713 BB	20280519	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8926680 BB	20080801	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;FULKERSON, JOHN;REEL/FRAME:021329/0709;SIGNING DATES FROM 20080701 TO 20080729
US8926680 BB	20080801	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;FULKERSON, JOHN;SIGNING DATES FROM 20080701 TO 20080729;REEL/FRAME:021329/0709 PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA
US8926680 BB	20141217	LSGT	PAT1	Patented Case	
US8926680 BB	20150106	LSGT	+	granted / extensions (spc, cpc, pte)	
US8926680 BB	20180621	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8926680 BB	20280722	PEXP		Calculated Patent Term Expiry (PTA 42 days)	
US8945143 BB	20150114	LSGT	PAT1	Patented Case	
US8945143 BB	20150203	LSGT	+	granted / extensions (spc, cpc, pte)	
US8945143 BB	20180720	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8945143 BB	20330624	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8945172 BB	20150114	LSGT	PAT1	Patented Case	
US8945172 BB	20150203	LSGT	+	granted / extensions (spc, cpc, pte)	
US8945172 BB	20180720	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8945172 BB	20311230	PEXP		Calculated Patent Term Expiry	
US9198687 BB	20080801	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;FULKERSON, JOHN;REEL/FRAME:021329/0542;SIGNING DATES FROM 20080701 TO 20080729
US9198687 BB	20080801	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS

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US9198687 BB	20081113	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: MINDFRAME, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CRAGG, ANDREW;REEL/FRAME:021830/0080 Effective date: 20081112
US9198687 BB	20151030	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US9198687 BB	20151111	LSGT	PAT1	Patented Case	
US9198687 BB	20151201	LSGT	+	granted / extensions (spc, cpc, pte)	
US9198687 BB	20190522	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9198687 BB	20280519	PEXP		Calculated Patent Term Expiry	
US9220522 BB	20080730	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;FULKERSON, JOHN;REEL/FRAME:021314/0735;SIGNING DATES FROM 20080701 TO 20080729 PartyType: owner
US9220522 BB	20080730	LSAS	AS	ASSIGNMENT	Owner: MINDFRAME, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;FULKERSON, JOHN;SIGNING DATES FROM 20080701 TO 20080729;REEL/FRAME:021314/0735
US9220522 BB	20151123	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US9220522 BB	20151209	LSGT	PAT1	Patented Case	
US9220522 BB	20151229	LSGT	+	granted / extensions (spc, cpc, pte)	
US9220522 BB	20190522	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9220522 BB	20290214	PEXP		Calculated Patent Term Expiry (PTA 199 days)	
US9320532 BB	20151214		RFE1	Docketed New Case - Ready for Examination	
US9320532 BB	20151221	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9320532 BB	20160406	LSGT	PAT1	Patented Case	
US9320532 BB	20160426	LSGT	+	granted / extensions (spc, cpc, pte)	
US9320532 BB	20190923	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9320532 BB	20280519	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9387098 BB	20151116	LSES	NFA1	Non Final Action Mailed	
US9387098 BB	20160314	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9387098 BB	20160622	LSGT	PAT1	Patented Case	
US9387098 BB	20160712	LSGT	+	granted / extensions (spc, cpc, pte)	
US9387098 BB	20190807	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID A.;CRAGG, ANDREW H.;FULKERSON, JOHN;SIGNING DATES FROM 20110208 TO 20110211;REEL/FRAME:049992/0540 Owner: MINDFRAME, INC., CALIFORNIA
US9387098 BB	20190807	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MINDFRAME LLC;REEL/FRAME:049992/0625 PartyType: owner Effective date: 20120928 Owner: COVIDIEN LP, MASSACHUSETTS

US9387098 BB	20190807	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:MINDFRAME, INC.;REEL/FRAME:049996/0110 Owner: MINDFRAME LLC, CALIFORNIA Effective date: 20120926 PartyType: owner
US9387098 BB	20191223	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9387098 BB	20290123	PEXP		Calculated Patent Term Expiry (PTA 249 days and a terminal disclaimer has been filed)	
WO09067629 A2	20090528	LSPB	+	published / reissued	
WO09067629 A3	20090722		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 08851545 Country of Ref document: EP
WO09067629 A3	20100521	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09067629 A3	20101006		-32PN	EP: PUBLIC NOTIFICATION IN THE EP BULLETIN AS ADDRESS OF THE ADRESSEE CANNOT BE ESTABLISHED	Text: NOTING OF LOSS OF RIGHTS PURSUANT TO RULE 112(1) EPC (EPO FORM 1205A DATED 27.07.2010)
WO09067629 A3	20110309	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 08851545 Country of Ref document: EP
WO09086154 A2	20090709	LSPB	+	published / reissued	
WO09086154 A2	20090902		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 08866763 Kind code of Ref document: A2 Country of Ref document: EP
WO09086154 A3	20100617	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2709999 Country of Ref document: CA
WO09086154 A3	20100618	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008345624 Country of Ref document: AU
WO09086154 A3	20100618	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010539893 Country of Ref document: JP
WO09086154 A3	20100622	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09086154 A3	20100715	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2008345624 Date of Ref document: 20081219 Kind code of Ref document: A Country of Ref document: AU
WO09086154 A3	20100719	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008866763 Country of Ref document: EP
WO09089297 A2	20090716	LSPB	+	published / reissued	
WO09089297 A3	20100517	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009701332 Country of Ref document: EP
WO09089297 A3	20100630		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 09701332 Country of Ref document: EP
WO09089297 A3	20100708	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09114046 A2	20090917	LSPB	+	published / reissued	
WO09114046 A3	20091221	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Text: PCT FILING DATE = 20081112 Ref document number: 0922251 Kind code of Ref document: A Country of Ref document: GB
WO09114046 A3	20091221	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 0922251.4 Country of Ref document: GB
WO09114046 A3	20100420	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2717790 Country of Ref document: CA
WO09114046 A3	20100427		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2008873248 Country of Ref document: EP
WO09114046 A3	20100427	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008873248 Country of Ref document: EP
WO09114046 A3	20100428	LSNP	+WWE	WIPO INFORMATION:	Ref document number: 2008352581

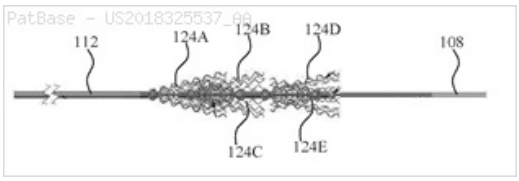
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WO09114046 A3	20100511	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010533336 Country of Ref document: JP
WO09114046 A3	20100513	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09114046 A3	20100520	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20081112 Kind code of Ref document: A Ref document number: 2008352581 Country of Ref document: AU
WO09114046 A3	20100602		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 08873248 Kind code of Ref document: A2 Country of Ref document: EP
WO09126935 A2	20090410	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 200980110391.X Country of Ref document: CN
WO09126935 A2	20091015	LSPB	+	published / reissued	
WO09126935 A2	20091209		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 09730066 Kind code of Ref document: A2 Country of Ref document: EP
WO09126935 A3	20100907	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009234268 Country of Ref document: AU
WO09126935 A3	20100910	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011504226 Country of Ref document: JP
WO09126935 A3	20100930	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2009234268 Date of Ref document: 20090410 Country of Ref document: AU
WO09126935 A3	20101012	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09126935 A3	20101111		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2009730066 Country of Ref document: EP
WO09126935 A3	20101111	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009730066 Country of Ref document: EP
WO11082319 A1	20110512		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2010829315 Country of Ref document: EP
WO11082319 A1	20110512	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010829315 Country of Ref document: EP
WO11082319 A1	20110516	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011548439 Country of Ref document: JP
WO11082319 A1	20110707	LSPB	+	published / reissued	
WO11082319 A1	20110928		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 10829315 Kind code of Ref document: A1 Country of Ref document: EP
WO11082319 A1	20120702	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO11082319 A1	20120726	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010339405 Country of Ref document: AU
WO11082319 A1	20120730	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 6688/DELNP/2012 Country of Ref document: IN
WO11082319 A1	20120816	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20101230 Ref document number: 2010339405 Kind code of Ref document: A Country of Ref document: AU
WO11082319 A1	20121211		REG	REFERENCE TO NATIONAL CODE	Ref country code: BR Ref legal event code: B01A Ref document number: 112012015953 Country of Ref document: BR
WO11082319 A1	20180515	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20120627 Kind code of Ref document: A2 Ref document number: 112012015953 Country of Ref document: BR

20) Family number: 65575168 (US2018325537 AA)

Title: **SYSTEMS** FOR THROMBECTOMY

Abstract: Provided are medical **systems**, kits and **methods** for **retrieval** and/or extraction of a corpus located in a tubular organ. Further provided are **systems** configured for carrying out various procedures for **removal** of **occlusive** corpus from tubular organs, for example thrombectomy.

Classifications:
International (IPC 8-9): A61B A61B17/22 A61B17/221 A61F2/01
CPC: A61B17/221 A61B2017/22034 A61B2017/2215
US: 1/1 606/200



Family:

Publication number	Publication date	Application number	Application date
CA3003232 AA	20180425	CA20163003232	20161026
CN108472051 A	20180831	CN201680073735	20161026
EP3367929 A1	20180905	EP20160859202	20161026
EP3367929 A4	20190710	EP20160859202	20161026
IL258927 A0	20180628	IL20160258927	20161026
JP2018534105 T2	20181122	JP20180540238T	20161026
RU2018117163 A	20191128	RU20180117163	20161026
RU2018117163 A3	20200420	RU20180117163	20161026
US2018325537 AA	20181115	US20160770943	20161026
WO17072761 A1	20170504	WO2016IL51153	20161026

Priority:

US20150246139P 20151026 US20150257346P 20151119 WO2016IL51153 20161026
RU20180117163 20161026 US20160770943 20161026

Probable Assignee: MAJIPA MED LTD

Assignee(s): (std): AMNIS THERAPEUTICS LTD

Assignee(s): AMNIS TERAPYUTIKS LTD ; COHEN SHAHAR ; MAJIPA MED LTD ; PLIS RONEN ARIEL ; SHAMAY NOAM ; АМНИС ТЕРАПЬЮТИКС ЛТД ; アムニス セラピューティクス リミテッド ; 阿姆尼斯治疗有限公司

Inventor(s): (std): COHEN SHAHAR ; PLIS RONEN ARIEL ; SHAMAY NOAM

Inventor(s): KOEN SHAKHAR ; N 沙梅 ; N·沙梅 ; R A 普利斯 ; R·A·普利斯 ; S 科恩 ; SHAMAJ NOAM ; S·科恩 ; КОЭН ШАХАР ; ПЛИС РОНЕН АРИЭЛЬ ; ШАМАЙ НОАМ ; コーエン シャハル ; コーエン, シャハル ; シャメイ ノアム ; シャメイ, ノアム ; プリス ロネン アリエル ; プリス, ロネン アリエル

Agent(s): FRKELLY; INABA YOSHIYUKI; NEVINPAT; RIDOUT AND MAYBEE LLP; SOKOL EDITH; НЕВИНПАТ; 中国国际贸易促进委员会专利商标事务所 11038; 内藤 和彦; 大貫 敏史; 朱海涛; 江口 昭彦; 稲葉 良幸

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)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA3003232 AA	20180425	LSPB	+	published / reissued	
CN108472051 A	20180831	LSPB	+	published / reissued	
CN108472051 A	20180831	LSPB	PB01	PUBLICATION	
CN108472051 A	20180925		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
EP3367929 A1	20180905	LSPB	+	published / reissued	
EP3367929 A1	20180905	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20180427
EP3367929 A1	20180905		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3367929 A1	20180905		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3367929 A1	20180905		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME

EP3367929 A1	20190130		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3367929 A1	20190130		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3367929 A4	20190710	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20190606
EP3367929 A4	20190710		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101AFI20190531BHEP ClassificationScheme: IPC
JP2018534105 T2	20181122	LSPB	+	published / reissued	
JP2018534105 T2	20191024	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20191024 Text: JAPANESE INTERMEDIATE CODE: A523
JP2018534105 T2	20191024		A523	手続補正書	Effective date: 20191024
JP2018534105 T2	20191024	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20191024
JP2018534105 T2	20191024	LSES	+A621	出願審査請求書	Effective date: 20191024
RU2018117163 A	20191128	LSPB	+	published / reissued	
US2018325537 AA	20180425	LSAS	AS	ASSIGNMENT	Owner: AMNIS THERAPEUTICS LTD., ISRAEL Effective date: 20161222 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SHAMAY, NOAM;PLIS, RONEN ARIEL;COHEN, SHAHAR;REEL/FRAME:045634/0152 PartyType: owner
US2018325537 AA	20180426	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:AMNIS THERAPEUTICS LTD.;REEL/FRAME:045647/0690 PartyType: owner Effective date: 20180124 Owner: MAJIPA MED LTD., ISRAEL
US2018325537 AA	20181115	LSPB	+	published / reissued	
US2018325537 AA	20181212		RFE1	Docketed New Case - Ready for Examination	
US2018325537 AA	20181212		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018325537 AA	20200304	LSES	NFA1	Non Final Action Mailed	
WO17072761 A1	20170504	LSPB	+	published / reissued	
WO17072761 A1	20170614		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 16859202 Country of Ref document: EP
WO17072761 A1	20180424	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2018540238 Kind code of Ref document: A Country of Ref document: JP
WO17072761 A1	20180424	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2018540238 Country of Ref document: JP
WO17072761 A1	20180425	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 3003232 Country of Ref document: CA
WO17072761 A1	20180425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 15770943 Country of Ref document: US
WO17072761 A1	20180425	LSNP	+WWE	WIPO INFORMATION:	Ref document number: 258927 Country of Ref document: IL

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WO17072761 A1	20180427	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17072761 A1	20180528	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2018117163 Country of Ref document: RU
WO17072761 A1	20180528	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2016859202 Country of Ref document: EP

21) Family number: 51332177 (WO12081020 A1)

Title: METHOD AND APPARATUS FOR OCCLUSION RETRIEVAL

Abstract: A device arranged to at least partially remove an occlusion occluding a small blood vessel, the device constituted of a generally tubular inner member and an outer member in communication with the generally tubular inner member. The generally tubular inner member is expandable to a large diameter state, which is no more than an at rest state and which is in one embodiment no more than 50 percent of the diameter of the small blood vessel at the occlusion location. The generally tubular outer member is expandable to a large diameter state which is greater than the at rest outer diameter state of the generally tubular inner member, and wherein in one embodiment the outer member meets the inner walls of the small blood vessel at the occlusion location. At least a portion of the occlusion is contained between the generally tubular inner member in the large diameter state and the outer member in the large diameter state.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61B17/3207 A61F2/86
CPC: A61B17/22031 A61B17/221 A61B17/320725 A61B2017/22034 A61B2017/2215 A61B2017/2217 A61F2/86

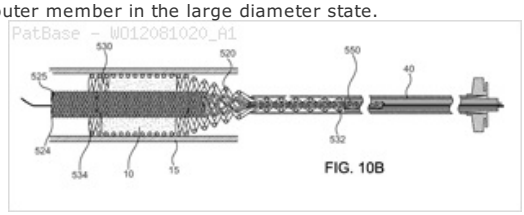


FIG. 10B

Family:

Publication number	Publication date	Application number	Application date
WO12081020 A1	20120621	WO2011IL50058	20111212

Priority:
US20100422171P 20101212

Probable Assignee: PERFLOW MEDICAL LTD

Assignee(s): (std): CIBULSKI GILAD ; PERFLOW MEDICAL LTD ; RAPAPORT AVRAHAM

Inventor(s): (std): CIBULSKI GILAD ; RAPAPORT AVRAHAM

Agent(s): KAHN SIMON

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

Legal status (INPADOC)

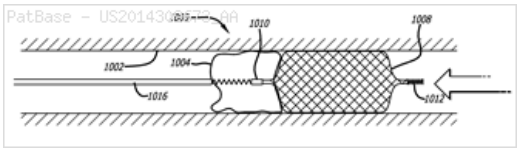
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Patent	Date recorded	Event group	Code	Event	Details
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WO12081020 A1	20120808		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 11808948 Country of Ref document: EP
WO12081020 A1	20130612	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO12081020 A1	20131204		-32PN	EP: PUBLIC NOTIFICATION IN THE EP BULLETIN AS ADDRESS OF THE ADRESSEE CANNOT BE ESTABLISHED	Text: NOTING OF LOSS OF RIGHTS PURSUANT TO RULE 112(1) EPC (EPO FORM 1205N DATED 22/08/2013)
WO12081020 A1	20140423	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref document number: 11808948 Kind code of Ref document: A1 Country of Ref document: EP

22) Family number: 53737218 (US2014309673 AA)

Title: DEVICES FOR **REMOVING** VESSEL **OCCLUSIONS**

Abstract: Described herein are thrombectomy devices and **methods** of using same for capturing or encapsulating and **removal** of a blood or vessel.



Classifications:
International (IPC 8-9): A61B17/22 A61B17/3207 A61B18/12 A61B18/20 A61L29/02 A61M25/098
CPC: A61B17/221 A61B17/320725 A61B2017/00867 A61B2017/2212 A61L2400/10 A61L2400/16 A61L2400/18 A61L31/022 A61L31/10 A61L31/14 A61L31/18 A61B18/12 A61B18/20
US: 606/159

Family:

Publication number	Publication date	Application number	Application date
US2014309673 AA	20141016	US20120357547	20121109
WO13071173 A1	20130516	WO2012US64533	20121109

Priority:

US20110558550P 20111111 US20120607915P 20120307 WO2012US64533 20121109 US20120357547 20121109

Probable Assignee: DACUYCUY NATHAN JOHN

Assignee(s): (std): DACUYCUY NATHAN JOHN ; MA JIANLU

Inventor(s): (std): DACUYCUY NATHAN JOHN ; MA JIANLU

Agent(s): CULLMAN LOUIS C ET AL

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

Legal status (INPADOC)

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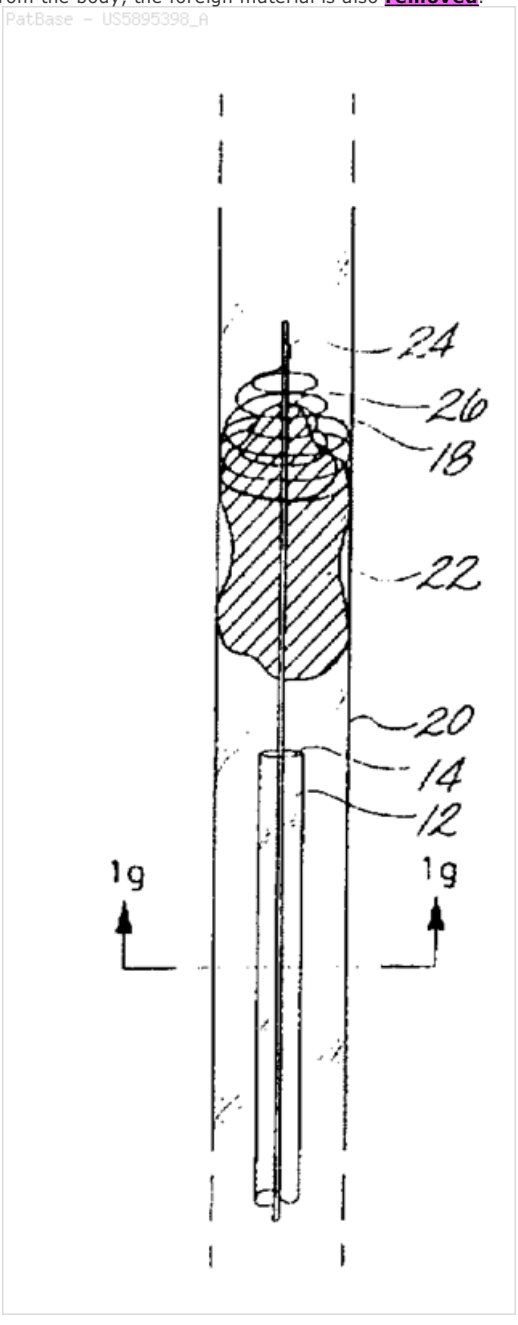
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US2014309673 AA	20160229		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014309673 AA	20161227	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2014309673 AA	20161227		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO13071173 A1	20130516	LSPB	+	published / reissued	
WO13071173 A1	20130703		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 12847745 Kind code of Ref document: A1 Country of Ref document: EP
WO13071173 A1	20140509	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 14357547 Country of Ref document: US
WO13071173 A1	20140512	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO13071173 A1	20141203	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 12847745 Country of Ref document: EP

23) Family number: 28172059 (US5895398 A)

Title: METHOD OF USING A CLOT CAPTURE COIL

Abstract: A clot and foreign body removal device is described which comprises a catheter with at least one lumen. Located within the catheter is a clot capture coil that is connected to an insertion mandrel. In one embodiment, the clot capture coil is made out of a solid elastic or superelastic material which has shape memory, preferably nitinol. The elasticity or superelasticity of the coil allows it to be deformed within the catheter and to then reform its original coil configuration when the coil is moved outside of the catheter lumen. In another embodiment the coil is a biphasic coil which changes shape upon heating or passing an electric current. Once the coil configuration has been established, the coil can be used to ensnare and corkscrew a clot in a vessel. A clot is extracted from the vessel by moving the clot capture coil and catheter proximally until the clot can be removed or released into a different vessel that does not perfuse a critical organ. Foreign bodies are similarly captured by deploying the coil distal to the foreign body and moving the clot capture coil proximally until the foreign body is trapped within the coil. By removing the device from the body, the foreign material is also removed.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B17/24 A61B18/04 A61F2/00 A61F2/01
International (IPC 1-7): A61B1/722 A61B17/22 A61F2/00 A61F2/01 A61M29/00
CPC: A61B17/22 A61B17/221 A61B2017/00867 A61B2017/22034 A61B2017/2212 A61B2017/2215 A61B2017/2217 A61F2/01 A61F2002/016 A61F2002/30092 A61F2210/0033 A61F2230/0006 A61F2230/0091 A61B2017/22094 A61F2/013 A61F2002/30098
US: 606/114 606/127 606/127S 606/159 606/159P 606/200 606/200P 606/27 606/27P



Family:

Publication number	Publication date	Application number	Application date
AT315358 E	20060215	AT19970905763T	19970131
AT432662 E	20090615	AT19970000195T	19970131
AU199722583 A1	19970822	AU19970022583	19970131
AU200129863 A1	20010531	AU20010029863	20010323
AU200129863 A5	20010531	AU20010029863	20010323
AU2003204826 AA	20030724	AU20030204826	20030620
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AU2006203116 AA	20060810	AU20060203116	20060720
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CA2248226 AA	19980904	CA19972248226	19970131	
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DK0880341 T3	20060403	DK19970905763T	19970131	
EP0880341 A1	19981202	EP19970905763	19970131	
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IL125612 A0	19990312	IL19970125612	19970131	
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US2002026204 AA	20020228	US20010891101	20010625	
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US6436112 BA	20020820	US20010891100	20010625	
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US6485497 BB	20021126	US20010891101	20010625	
US6530935 BB	20030311	US19980170135	19981012	
US6692508 BB	20040217	US20020234356	20020903	
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US8608754 BB	20131217	US20070982735	20071031	
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Priority:

US19960011070P 19960202	US19960011070 19960202	US19960018715P 19960531
US19960018715 19960531	US19960723619 19961002	WO1997US01807 19970131
AU19970022583 19970131	EP19970905763 19970131	EP20060000195 19970131
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US20020234356 20020903	AU20030204826 20030620	AU20060203116 20060720
US20070982723 20071031	US20070982735 20071031	AU20090212829 20090827

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Inventor(s): GOBIN Y ; JEFFREY P WENSEL ; Y PIERRE GOBIN ; ウェンゼル, ジェフリー ピー. ; ゴビン, ワイ. ピエール

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT315358 E	20060215	LSGT	+	granted / extensions (spc, cpc, pte)	
AT315358 E	20070115	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	Ref document number: 0880341 Country of Ref document: EP
AT315358 E	20170131	PEXP		Calculated Patent Term Expiry	
AT432662 E	20090615	LSGT	+	granted / extensions (spc, cpc, pte)	
AT432662 E	20091215	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT432662 E	20170131	PEXP		Calculated Patent Term Expiry	

AU199722583 A1	19970822	LSPB	+	published / reissued	
AU200129863 A1	20010531	LSPB	+	published / reissued	
AU2003204826 AA	20030724	LSPB	+	published / reissued	
AU2003204826 BB	20060810	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2003204826 BB	20061207	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2003204826 BB	20160825	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED	
AU2003204826 BB	20230620	PEXP		Calculated Patent Term Expiry	
AU2006203116 AA	20060810	LSPB	+	published / reissued	
AU2006203116 BB	20090528	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2006203116 BB	20090924	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
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AU2006203116 BB	20260720	PEXP		Calculated Patent Term Expiry	
AU2009212829 AA	20090917	LSPB	+	published / reissued	
AU2009212829 BB	20121220	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2009212829 BB	20130418	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
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AU758524 B2	20210323	PEXP		Calculated Patent Term Expiry	
CA2248226 AA	19980904	LSPB	+	published / reissued	
CA2248226 AA	20011207	LSES	+EEER	EXAMINATION REQUEST	
CA2248226 AA	20020327	LSRE	+FZDC	CORRECTION OF DEAD APPLICATION (REINSTATEMENT)	
CA2248226 AA	20170314	LSLE	-MKLA	LAPSED	Effective date: 20170131
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DK0880341 T3	20060403	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP0880341 A1	19981202	LSPB	+	published / reissued	
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EP0880341 A1	20030212	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20021227
EP0880341 A1	20060111		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE DK ES FR GB IE IT LI NL SE
EP0880341 A1	20060113	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP0880341 A1	20060208	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP0880341 A1	20060228		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: NV Ref country code: CH PartyType: representative Representative: PATENTANWALTSBUERO JEAN HUNZIKER
EP0880341 A1	20060403		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DK Ref legal event code: T3
EP0880341 A1	20060406		REF	CORRESPONDS TO:	Ref document number: 69735088 Date of Ref document: 20060406 Kind code of Ref document: P Country of Ref document: DE
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EP0880341 A1	20150529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 19 Payment date: 20150119 Country of Ref document: FR
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EP0880341 A1	20160822	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DK Ref legal event code: EBP Effective date: 20160131
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EP0880341 A1	20161005		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM Ref country code: NL Effective date: 20160201
EP0880341 A1	20161028	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: ST Effective date: 20160930 Ref country code: FR
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EP0880341 A1	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160131 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP0880341 A1	20161102	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP0880341 A1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160201 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP0880341 A1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160131 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: AT
EP0880341 A1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160201 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: SE
EP0880341 A1	20161130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160201 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: NL
EP0880341 A1	20161230	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160131 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP0880341 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20160131 Country of Ref document: IE
EP0880341 A1	20170131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160131 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DK
EP0880341 A1	20170224	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: ES Ref legal event code: FD2A Effective date: 20170224

EP0880341 A1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20160201 Country of Ref document: ES
EP0880341 B1	20060111	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0880341 B1	20170131	PEXP		Calculated Patent Term Expiry	
EP1642540 A1	20060405	LSPB	+	published / reissued	
EP1642540 A1	20060405	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060105
EP1642540 A1	20060405		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Ref document number: 0880341 Kind code of Ref document: P Country of Ref document: EP
EP1642540 A1	20060405		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FR GB IE IT LI NL SE
EP1642540 A1	20060816		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: WENSEL, JEFFREY P.
EP1642540 A1	20060816		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: GOBIN, Y. PIERRE PartyType: inventor
EP1642540 A1	20061213	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: AT BE CH DE DK ES FR GB IE IT LI NL SE
EP1642540 A1	20061220	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20061117
EP1642540 B1	20090603	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1642540 B1	20090603		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 0880341 Country of Ref document: EP
EP1642540 B1	20090603		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH DE DK ES FR GB IE IT LI NL SE
EP1642540 B1	20090603	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1642540 B1	20090615	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1642540 B1	20090624	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1642540 B1	20090716		REF	CORRESPONDS TO:	Ref document number: 69739446 Kind code of Ref document: P Date of Ref document: 20090716 Country of Ref document: DE
EP1642540 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090603 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1642540 B1	20091102	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
EP1642540 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20090603 Country of Ref document: NL
EP1642540 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20090903 Country of Ref document: SE
EP1642540 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090914 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1642540 B1	20100226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20090603 Country of Ref document: BE
EP1642540 B1	20100430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20090603 Country of Ref document: DK
EP1642540 B1	20100512	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20100304
EP1642540 B1	20100831	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP1642540 B1	20100929	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20100131
EP1642540 B1	20101022	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20100930 Ref legal event code: ST Ref country code: FR
EP1642540 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100131 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1642540 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20100201 Country of Ref document: FR
EP1642540 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100131 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1642540 B1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20100803 Country of Ref document: DE
EP1642540 B1	20101231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20100131 Country of Ref document: GB
EP1642540 B1	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100131 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1642540 B1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090603 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP1642540 B1	20170131	PEXP		Calculated Patent Term Expiry	
EP2098179 A1	20090909	LSPB	+	published / reissued	
EP2098179 A1	20090909	LSES	+17P	REQUEST FOR EXAMINATION	Effective date: 20090701

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EP2098179 A1	20090909		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Ref document number: 1642540 Kind code of Ref document: P Country of Ref document: EP
EP2098179 A1	20090909		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 0880341 Country of Ref document: EP
EP2098179 A1	20090909		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FR GB IE IT LI NL SE
EP2098179 A1	20100519	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20100410
EP2098179 A1	20150805	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20150708
EP2098179 A1	20150805	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA
EP2098179 A1	20160601	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20151119
ES2256876 T3	20060716	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2256876 T3	20170131	PEXP		Calculated Patent Term Expiry	
IL125612 A1	20020912	LSPB	+	published / reissued	
IL125612 A1	20030212	LSGT	+FF	PATENT GRANTED	
IL125612 A1	20030410	LSFE	+KB	PATENT RENEWED	
IL125612 A1	20070521	LSFE	+KB	PATENT RENEWED	
IL125612 A1	20110131	LSFE	+KB	PATENT RENEWED	
IL125612 A1	20150129	LSFE	+KB	PATENT RENEWED	
IL125612 A1	20170831	LSLE	-EXP	PATENT EXPIRED	
JP2000504595 T2	20000418	LSPB	+	published / reissued	
JP2000504595 T2	20040219	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20040202
JP2000504595 T2	20060228	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20060228
JP2000504595 T2	20060622		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20060530 Text: JAPANESE INTERMEDIATE CODE: A601
JP2000504595 T2	20060714		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A602 Effective date: 20060714
JP2000504595 T2	20060921	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20060831
JP2000504595 T2	20070130	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20070130 Text: JAPANESE INTERMEDIATE CODE: A02
JP2000504595 T2	20070502	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20070501
JP2000504595 T2	20070616	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070522 Text: JAPANESE INTERMEDIATE CODE: A523
JP2000504595 T2	20070627	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20070628 Text: JAPANESE INTERMEDIATE CODE: A911
JP2000504595 T2	20070814	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20070809 Text: JAPANESE INTERMEDIATE CODE: A912
JP2007252951 A2	20070926	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070925 Text: JAPANESE INTERMEDIATE CODE: A131
JP2007252951 A2	20071004	LSPB	+	published / reissued	

JP2007252951 A2	20071222		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20071221 Text: JAPANESE INTERMEDIATE CODE: A601
JP2007252951 A2	20071228		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20071227 Text: JAPANESE INTERMEDIATE CODE: A602
JP2007252951 A2	20080423	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20080422
JP2007252951 A2	20080719		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20080718 Text: JAPANESE INTERMEDIATE CODE: A601
JP2007252951 A2	20080725		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A602 Effective date: 20080724
JP2007252951 A2	20081126	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20081125 Text: JAPANESE INTERMEDIATE CODE: A02
JP2007252951 A2	20090324	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20090227 Text: JAPANESE INTERMEDIATE CODE: A523
US2001031980 AA	20011018	LSPB	+	published / reissued	
US2001031980 AA	20030220	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2002016609 AA	20020207	LSPB	+	published / reissued	
US2002016609 AA	20020801	LSGT	PAT1	Patented Case	
US2002016609 AA	20020801	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2002026204 AA	20020228	LSPB	+	published / reissued	
US2002026204 AA	20021107	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2003004542 AA	20030102	LSPB	+	published / reissued	
US2003004542 AA	20080707	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2003004542 AA	20080707		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2003004542 AA	20191113	LSAS	AS	ASSIGNMENT	Effective date: 20191030 Owner: STRYKER CORPORATION, MICHIGAN OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CONCENTRIC MEDICAL, INC.;REEL/FRAME:051003/0472 PartyType: owner
US2003009191 AA	20030109	LSPB	+	published / reissued	
US2003014072 AA	20030116	LSPB	+	published / reissued	
US2003014072 AA	20031223	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:WENSEL, JEFFREY P.;GOBIN, Y. PIERRE;REEL/FRAME:014827/0814;SIGNING DATES FROM 19990226 TO 19990303 Owner: CALIFORNIA, REGENTS OF THE UNIVERSITY OF, THE, CAL PartyType: owner
US2003014072 AA	20031223	LSAS	AS	ASSIGNMENT	Owner: REGENTS OF THE UNIVERSITY OF CALIFORNIA, THE, CALI OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:WENSEL, JEFFREY P.;GOBIN, Y. PIERRE;SIGNING DATES FROM 19990226 TO 19990303;REEL/FRAME:014827/0814 PartyType: owner
US2008262487 AA	20081023	LSPB	+	published / reissued	
US2008262487 AA	20110425	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2008262487 AA	20110425		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

US2008262487 AA	20191113	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: STRYKER CORPORATION, MICHIGAN Effective date: 20191030 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CONCENTRIC MEDICAL, INC.;REEL/FRAME:051003/0472
US2008294181 AA	20081127	LSPB	+	published / reissued	
US2008294181 AA	20131021	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:WENSEL, JEFFREY P.;GOBIN, Y. PIERRE;SIGNING DATES FROM 19990226 TO 19990303;REEL/FRAME:031446/0888 Owner: THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, CALIF PartyType: owner
US5895398 A	19961002	LSAS	AS	ASSIGNMENT	Effective date: 19961001 Owner: REGENTS OF THE UNIVERSITY OF CALIFORNIA, THE, CALI OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GOBIN, Y. PIERRE;WENSEL, JEFFREY P.;REEL/FRAME:008235/0822 PartyType: owner
US5895398 A	19990412	LSGT	PAT1	Patented Case	
US5895398 A	19990412	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5895398 A	19990420	LSGT	+	granted / extensions (spc, cpc, pte)	
US5895398 A	20021018	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5895398 A	20021106		REMI	MAINTENANCE FEE REMINDER MAILED	
US5895398 A	20061020	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5895398 A	20101020	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5895398 A	20161002	PEXP		Calculated Patent Term Expiry	
US6436112 BA	20020820	LSGT	+	granted / extensions (spc, cpc, pte)	
US6436112 BA	20210625	PEXP		Calculated Patent Term Expiry	
US6436112 BB	20020820	LSGT	+	granted / extensions (spc, cpc, pte)	
US6436112 BB	20060404	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6436112 BB	20060404		+SULP	SURCHARGE FOR LATE PAYMENT	
US6436112 BB	20100222	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6436112 BB	20140129	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6436112 BB	20210625	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6485497 BB	20021107	LSGT	PAT1	Patented Case	
US6485497 BB	20021126	LSGT	+	granted / extensions (spc, cpc, pte)	
US6485497 BB	20041214	LSRE	CC	CERTIFICATE OF CORRECTION	
US6485497 BB	20060526	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6485497 BB	20100526	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6485497 BB	20140430	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6485497 BB	20210625	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6530935 BB	19990324	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:WENSEL, JEFFREY P.;GOBIN, Y. PIERRE;REEL/FRAME:009842/0313;SIGNING DATES FROM 19990226 TO 19990303 PartyType: owner Owner: REGENTS OF THE UNIVERSITY OF CALIFORNIA, THE, CALI
US6530935 BB	20030220	LSGT	PAT1	Patented Case	
US6530935 BB	20030311	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
US6530935 BB	20041116	LSRE	CC	CERTIFICATE OF CORRECTION	
US6530935 BB	20060911	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6530935 BB	20100913	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6530935 BB	20140813	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6530935 BB	20181012	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6692508 BB	20040129	LSGT	PAT1	Patented Case	
US6692508 BB	20040217	LSGT	+	granted / extensions (spc, cpc, pte)	
US6692508 BB	20050621	LSRE	CC	CERTIFICATE OF CORRECTION	
US6692508 BB	20070817	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6692508 BB	20110817	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6692508 BB	20150925		REMI	MAINTENANCE FEE REMINDER MAILED	
US6692508 BB	20160217	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6692508 BB	20160314	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6692508 BB	20160314	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6692508 BB	20160405	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20160217
US6692508 BB	20220903	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US6692509 BB	20040129	LSGT	PAT1	Patented Case	
US6692509 BB	20040217	LSGT	+	granted / extensions (spc, cpc, pte)	
US6692509 BB	20050419	LSRE	CC	CERTIFICATE OF CORRECTION	
US6692509 BB	20070817	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6692509 BB	20110817	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6692509 BB	20150925		REMI	MAINTENANCE FEE REMINDER MAILED	
US6692509 BB	20160217	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6692509 BB	20160314	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
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US6692509 BB	20220903	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8608754 BB	20131126	LSGT	PAT1	Patented Case	
US8608754 BB	20131217	LSGT	+	granted / extensions (spc, cpc, pte)	
US8608754 BB	20170728		REMI	MAINTENANCE FEE REMINDER MAILED	
US8608754 BB	20180115	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US8608754 BB	20180119	LSLE	PEX1	Patent Expired Due	

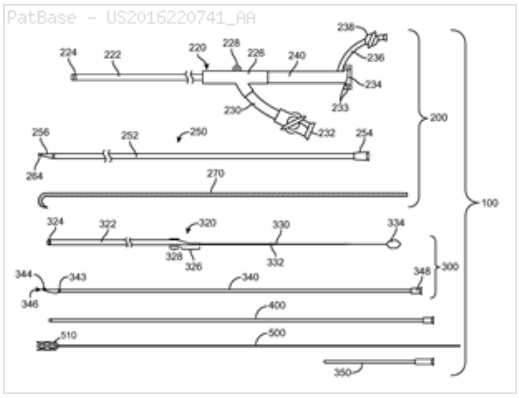
				to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8608754 BB	20180119	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8608754 BB	20180206	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20171217
US8608754 BB	20290319	PEXP		Calculated Patent Term Expiry (PTA 505 days and a terminal disclaimer has been filed)	
WO9727808 A1	19970807	LSPB	+	published / reissued	
WO9727808 A1	19970807		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AU CA IL JP
WO9727808 A1	19970807		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
WO9727808 A1	19971029		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9727808 A1	19971127		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO9727808 A1	19980902	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1997905763 Country of Ref document: EP
WO9727808 A1	19980904	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2248226 Country of Ref document: CA
WO9727808 A1	19980904	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2248226 Kind code of Ref document: A Country of Ref document: CA
WO9727808 A1	19981202	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1997905763 Country of Ref document: EP
WO9727808 A1	20060111	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1997905763 Country of Ref document: EP

24) Family number: 63038484 (US2016220741 AA)

Title: RAPID ASPIRATION THROMBECTOMY **SYSTEM** AND **METHOD**

Abstract: An intravascular access **system** for facilitation of intraluminal medical procedures within the neurovasculature through an access sheath. The **system** includes an aspiration or support **catheter** having a flexible, distal luminal portion having an inner diameter defining a lumen extending between a proximal opening at a proximal end of the luminal portion and a distal opening at a distal end of the luminal portion. The **catheter** has a rigid spine coupled to at least the proximal end of the luminal portion and extending proximally therefrom. The **system** includes a dilator having a flexible, distal dilator portion sized to be received within the lumen of the luminal portion. Associated **systems**, devices, and **methods** of use are also described.

Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/22 A61B17/221 A61F2/01 A61M A61M1/00 A61M25/00 A61M25/01 A61M25/06 A61M25/10 A61M29/00 A61M5/00
CPC: A61B17/22 A61B17/221 A61B2017/22038 A61B2017/22079 A61B2017/2212 A61B2217/005 A61M1/008 A61M2025/0019 A61M2025/0042 A61M2025/0175 A61M2025/0681 A61M2025/1084 A61M2210/0693 A61M2210/12 A61M25/0043 A61M25/0054 A61M25/0067 A61M25/0074 A61M25/0097 A61M25/01 A61M25/0102 A61M25/0108 A61M25/0662 A61M25/10 A61M29/00 A61M5/007 A61F2/95 A61M2025/018
US: 1/1 600/431 604/100.01



Family:

Publication number	Publication date	Application number	Application date
AU2016215229 AA	20160811	AU20160215229	20160204
AU2016215229 BB	20200507	AU20160215229	20160204
AU2020205209 AA	20200730	AU20200205209	20200713
CA2983072 AA	20170801	CA20162983072	20160204
CN107405159 A	20171128	CN201680018521	20160204
DE602016025491 D1	20191224	DE201660025491T	20160204
EP3253437 A1	20171213	EP20160708246	20160204
EP3253437 B1	20191204	EP20160708246	20160204
EP3620204 A1	20200311	EP20190205500	20160204
ES2770321 T3	20200701	ES20160708246T	20160204
HK1247141 A1	20180921	HK20180106757	20180524
JP2018508270 T2	20180329	JP20170541355T	20160204
JP6732769 B2	20200729	JP20170541355T	20160204
US10456555 BB	20191029	US20170856979	20171228
US10485952 BB	20191126	US20170805673	20171107
US2016220741 AA	20160804	US20160015799	20160204
US2016367272 AA	20161222	US20160254857	20160901
US2018064453 AA	20180308	US20170805673	20171107
US2018116684 AA	20180503	US20170856979	20171228
US2019366042 AA	20191205	US20190543215	20190816
US2019366043 AA	20191205	US20190543226	20190816
US2020016369 AA	20200116	US20190584220	20190926
US2020046939 AA	20200213	US20190596531	20191008
US2020046940 AA	20200213	US20190596535	20191008
US2020164178 AA	20200528	US20200775105	20200128
US2020215306 AA	20200709	US20200821804	20200317
US9681882 BB	20170620	US20160254857	20160901
US9820761 BB	20171121	US20160015799	20160204
US9820761 C1	20190722	US20160015799	20160204
WO16126974 A1	20160811	WO2016US16618	20160204

Priority:

US20140221917 20140321
US20140576953 20141219
US20150142637P 20150403
EP20160708246 20160204
US20170805673 20171107
US20190543226 20190816
US20190596535 20191008
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WO2016US16618 20160204
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US20150111481P 20150204
AU20160215229 20160204
US20160254857 20160901
US20190543215 20190816
US20190596531 20191008
US20200821804 20200317

Probable Assignee: ROUTE 92 MEDICAL INC

Assignee(s): (std): ROUTE 92 MEDICAL INC

Assignee(s): 92号医疗公司；92號醫療公司；CHOU TOMY M；GARRISON MICHI E；NEUROCO INC；ROUTE 92 MEDICAL INC BASKING RIDGE；SILK ROAD MEDICAL INC；WILSON SCOTT D；ルート92メディカル インコーポレイテッド；ルート92メディカル･インコーポレイテッドROUTE 92 MEDICAL, INC.

Inventor(s): (std): CHOU TOMY M；CHOU TONY M；GARRISON MICHI E；WILSON SCOTT D

Inventor(s): CHOU TOMY M BASKING RIDGE；CHOU TOMY M T M；GARRISON MICHI E BASKING RIDGE；GARRISON MICHI E M E；M E 加里森；M·E·加里森；S D 威尔逊；S·D·威尔逊；T M 周；T·M·周；WILSON SCOTT D BASKING RIDGE；WILSON SCOTT D S D；スコット ディ ウィルソン；スコット･ディ･ウィルソン；トニー エム チョウ；トニー･エム･チョウ；ミチ イー ギャリソン；ミチ･イー･ギャリソン；加里森；周；威爾遜

Agent(s): ELZABURU SLP; FRED C; GONJOU KEIICHI; MINTZ LEVIN COHN FERRIS GLOVSKY AND POPEO PC; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; SAMEJIMA MUTSUMI; SCHILLER NATALIE K ET AL; SLINGSBY PARTNERS LLP; SMART AND BIGGAR; SPRUSON AND FERGUSON HONG KONG LTD;

北京派特恩知识产权代理有限公司 11270; 姚开丽; 康艳青; 言上 惠一; 鲛島 睦

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
AU2016215229 AA	20170817	LSPB	+	published / reissued	
AU2016215229 BB	20200507	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2016215229 BB	20200813	LSRE	DA3	AMENDMENTS MADE SECTION 104	Text: THE NATURE OF THE AMENDMENT IS: AMEND THE NAME OF THE INVENTOR TO READ GARRISON, MICHI E.; CHOU, TONY M. AND WILSON, SCOTT D.
AU2016215229 BB	20200903	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2016215229 BB	20360204	PEXP		Calculated Patent Term Expiry	
AU2020205209 AA	20200730	LSPB	+	published / reissued	
AU2020205209 AA	20200813	LSRE	DA3	AMENDMENTS MADE SECTION 104	Text: THE NATURE OF THE AMENDMENT IS: AMEND THE NAME OF THE INVENTOR TO READ GARRISON, MICHI E.; WILSON, SCOTT D. AND CHOU, TONY M.
CA2983072 AA	20170801	LSPB	+	published / reissued	
CN107405159 A	20171128	LSPB	+	published / reissued	
CN107405159 A	20171128	LSPB	PB01	PUBLICATION	
CN107405159 A	20171222		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN107405159 A	20180921		REG	REFERENCE TO A NATIONAL CODE	Ref document number: 1247141 Ref country code: HK Ref legal event code: DE Country of Ref document: HK
EP3253437 A1	20171213	LSPB	+	published / reissued	
EP3253437 A1	20171213	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20170825
EP3253437 A1	20171213		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3253437 A1	20171213		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3253437 A1	20171213		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3253437 A1	20180509		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3253437 A1	20180509		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3253437 A1	20180919	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20180816
EP3253437 A1	20190703		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101ALI20190524BHEP ClassificationScheme: IPC
EP3253437 A1	20190703		RIC1	INFORMATION PROVIDED ON IPC	ClassificationScheme: IPC ClassificationSymbol: A61M 25/00

				CODE ASSIGNED BEFORE GRANT	20060101ALN20190524BHEP
EP3253437 A1	20190703		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/01 20060101ALI20190524BHEP ClassificationScheme: IPC
EP3253437 A1	20190703		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALN20190524BHEP
EP3253437 A1	20190703		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/06 20060101ALI20190524BHEP
EP3253437 A1	20190703		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 29/00 20060101AFI20190524BHEP ClassificationScheme: IPC
EP3253437 A1	20190710		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/06 20060101ALI20190604BHEP ClassificationScheme: IPC
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EP3253437 A1	20190710		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101ALI20190604BHEP
EP3253437 A1	20190717	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20190624
EP3253437 B1	20191204	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP3253437 B1	20191213	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP3253437 B1	20191215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20191215 Ref legal event code: REF Ref country code: AT Kind code of Ref document: T Ref document number: 1208634 Country of Ref document: AT
EP3253437 B1	20191224	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Ref document number: 602016025491 Ref country code: DE Country of Ref document: DE
EP3253437 B1	20191225	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP3253437 B1	20200427	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP3253437 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP3253437 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191204 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP3253437 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20191204 Country of Ref document: SE
EP3253437 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191204 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP3253437 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20200305 Country of Ref document: GR
EP3253437 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200304 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP3253437 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191204 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP3253437 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200226 Year of fee payment: 5 Country of Ref document: IT
EP3253437 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20200225 Country of Ref document: DE
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EP3253437 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200310 Year of fee payment: 5 Country of Ref document: ES
EP3253437 B1	20200508		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: FP
EP3253437 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191204 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
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EP3253437 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200226 Year of fee payment: 5 Country of Ref document: BE
EP3253437 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191204 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
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EP3253437 B1	20200701	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref legal event code: FG2A Effective date: 20200701 Ref country code: ES Ref document number: 2770321 Country of Ref document: ES
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EP3253437 B1	20360204	PEXP		Calculated Patent Term Expiry	
EP3620204 A1	20200311	LSPB	+	published / reissued	
EP3620204 A1	20200311		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Ref document number: 3253437 Kind code of Ref document: P Country of Ref document: EP
EP3620204 A1	20200311		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
ES2770321 T3	20200701	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2770321 T3	20200701	LSGT	+FG2A	DEFINITIVE PROTECTION	Filing date: 20200701 Effective date: 20200701
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HK1247141 A1	20180921	LSPB	+	published / reissued	
JP2018508270 T2	20171116		A632	国内書面	Effective date: 20170804
JP2018508270 T2	20171116		A634	国際出願翻訳文提出書	Effective date: 20171003
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JP2018508270 T2	20190201		A523	手続補正書	Effective date: 20190201
JP2018508270 T2	20190201	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20190201
JP2018508270 T2	20190201	LSES	+A621	出願審査請求書	Effective date: 20190201
JP2018508270 T2	20191202		A971007	検索報告書	Effective date: 20191128
JP2018508270 T2	20191202		A977	REPORT ON RETRIEVAL	Text: JAPANESE INTERMEDIATE CODE: A971007 Effective date: 20191128
JP2018508270 T2	20191203	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20191203
JP2018508270 T2	20191203	LSES	-A131	拒絶理由通知書	Effective date: 20191203
JP2018508270 T2	20200303		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20200303

JP2018508270 T2	20200303		A601	期間延長請求書	Effective date: 20200303
JP2018508270 T2	20200420	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20200420 Text: JAPANESE INTERMEDIATE CODE: A523
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JP2018508270 T2	20200609	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20200609 Text: JAPANESE INTERMEDIATE CODE: A01
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JP2018508270 T2	20200710	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20200708
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US10456555 BB	20171228	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
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US10456555 BB	20180202	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;WILSON, SCOTT D.;SIGNING DATES FROM 20160830 TO 20160901;REEL/FRAME:044813/0952 PartyType: owner Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA
US10456555 BB	20191009	LSGT	PAT1	Patented Case	
US10456555 BB	20191029	LSGT	+	granted / extensions (spc, cpc, pte)	
US10456555 BB	20360204	PEXP		Calculated Patent Term Expiry	
US10485952 BB	20171107	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10485952 BB	20171128	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10485952 BB	20180104	LSAS	AS	ASSIGNMENT	Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;WILSON, SCOTT D.;SIGNING DATES FROM 20160830 TO 20160901;REEL/FRAME:044540/0076 PartyType: owner
US10485952 BB	20191126	LSGT	+	granted / extensions (spc, cpc, pte)	
US10485952 BB	20360204	PEXP		Calculated Patent Term Expiry	
US2016220741 AA	20160804	LSPB	+	published / reissued	
US2016220741 AA	20161026	LSES	NFA1	Non Final Action Mailed	
US2016220741 AA	20170510		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016220741 AA	20170605		FRM1	Final Rejection	

				Mailed	
US2016220741 AA	20170915		RFE1	Docketed New Case - Ready for Examination	
US2016220741 AA	20171018	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2016220741 AA	20171020	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016220741 AA	20171101	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016367272 AA	20161222	LSPB	+	published / reissued	
US2016367272 AA	20170207		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016367272 AA	20170511	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2016367272 AA	20170518	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016367272 AA	20170531	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018064453 AA	20180207	LSES	NFA1	Non Final Action Mailed	
US2018064453 AA	20180308	LSPB	+	published / reissued	
US2018064453 AA	20181114		FRM1	Final Rejection Mailed	
US2018064453 AA	20181114		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2018064453 AA	20190518		RFE1	Docketed New Case - Ready for Examination	
US2018064453 AA	20190518		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018064453 AA	20190628	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018064453 AA	20190628		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018064453 AA	20191004	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018064453 AA	20191004		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018064453 AA	20191106	LSGT	PAT1	Patented Case	
US2018064453 AA	20191106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018116684 AA	20180503	LSPB	+	published / reissued	
US2018116684 AA	20181114		FRM1	Final Rejection Mailed	
US2018116684 AA	20181114		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2018116684 AA	20190518		RFE1	Docketed New Case - Ready for Examination	

US2018116684 AA	20190518		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018116684 AA	20190606	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018116684 AA	20190606		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018116684 AA	20190910	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018116684 AA	20190910		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2018116684 AA	20190916	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018116684 AA	20190916		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018116684 AA	20191009	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019366042 AA	20191001		RFE1	Docketed New Case - Ready for Examination	
US2019366042 AA	20191001		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019366042 AA	20191205	LSPB	+	published / reissued	
US2019366042 AA	20200204	LSAS	AS	ASSIGNMENT	Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;WILSON, SCOTT D.;SIGNING DATES FROM 20160830 TO 20160901;REEL/FRAME:051715/0313 PartyType: owner
US2019366043 AA	20191001		RFE1	Docketed New Case - Ready for Examination	
US2019366043 AA	20191001		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019366043 AA	20191205	LSPB	+	published / reissued	
US2019366043 AA	20200204	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;WILSON, SCOTT D.;SIGNING DATES FROM 20160830 TO 20160901;REEL/FRAME:051715/0313
US2020016369 AA	20191009		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020016369 AA	20191009		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: APPLICATION DISPATCHED FROM PREEXAM, NOT YET DOCKETED
US2020016369 AA	20200116	LSPB	+	published /	

				reissued	
US2020016369 AA	20200204	LSAS	AS	ASSIGNMENT	Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;WILSON, SCOTT D.;SIGNING DATES FROM 20160830 TO 20160901;REEL/FRAME:051715/0313 PartyType: owner
US2020046939 AA	20191104		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020046939 AA	20191104		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: APPLICATION DISPATCHED FROM PREEXAM, NOT YET DOCKETED
US2020046939 AA	20200204	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;WILSON, SCOTT D.;SIGNING DATES FROM 20160830 TO 20160901;REEL/FRAME:051715/0313 Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA
US2020046939 AA	20200213	LSPB	+	published / reissued	
US2020046940 AA	20191104		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020046940 AA	20191104		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: APPLICATION DISPATCHED FROM PREEXAM, NOT YET DOCKETED
US2020046940 AA	20200204	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;WILSON, SCOTT D.;SIGNING DATES FROM 20160830 TO 20160901;REEL/FRAME:051715/0313 Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA
US2020046940 AA	20200213	LSPB	+	published / reissued	
US2020164178 AA	20200204	LSAS	AS	ASSIGNMENT	Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;WILSON, SCOTT D.;SIGNING DATES FROM 20160830 TO 20160901;REEL/FRAME:051715/0313
US2020164178 AA	20200429		FRM1	Final Rejection Mailed	
US2020164178 AA	20200528	LSPB	+	published / reissued	
US2020215306 AA	20200331		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020215306 AA	20200406	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;WILSON, SCOTT D.;SIGNING DATES FROM 20160830 TO 20160901;REEL/FRAME:052324/0476 PartyType: owner Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA
US2020215306 AA	20200709	LSPB	+	published / reissued	
US9681882 BB	20160906	LSAS	AS	ASSIGNMENT	Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;WILSON, SCOTT D.;SIGNING DATES FROM

					20160830 TO 20160901;REEL/FRAME:039638/0518
US9681882 BB	20170531	LSGT	PAT1	Patented Case	
US9681882 BB	20170620	LSGT	+	granted / extensions (spc, cpc, pte)	
US9681882 BB	20191022	LSRE	CC	CERTIFICATE OF CORRECTION	
US9681882 BB	20360204	PEXP		Calculated Patent Term Expiry	
US9820761 BB	20160512	LSAS	AS	ASSIGNMENT	Owner: SILK ROAD MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;SIGNING DATES FROM 20150512 TO 20150518;REEL/FRAME:038569/0161 PartyType: owner
US9820761 BB	20160512	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;SIGNING DATES FROM 20150911 TO 20150918;REEL/FRAME:038569/0598 PartyType: owner Owner: SILK ROAD MEDICAL, INC., CALIFORNIA
US9820761 BB	20160513	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEUROCO, INC.;REEL/FRAME:038592/0916 Effective date: 20160512 Owner: ROUTE 92 MEDICAL, INC., NEW JERSEY PartyType: owner
US9820761 BB	20160513	LSAS	AS	ASSIGNMENT	Owner: NEUROCO, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SILK ROAD MEDICAL, INC.;REEL/FRAME:038587/0955 PartyType: owner Effective date: 20141231
US9820761 BB	20160720	LSAS	AS	ASSIGNMENT	Owner: ROUTE 92 MEDICAL, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WILSON, SCOTT D.;REEL/FRAME:039197/0872 Effective date: 20160719 PartyType: owner
US9820761 BB	20171101	LSGT	PAT1	Patented Case	
US9820761 BB	20171121	LSGT	+	granted / extensions (spc, cpc, pte)	
US9820761 BB	20180717	LSRX	+RR	REQUEST FOR REEXAMINATION FILED	Effective date: 20180511
US9820761 BB	20190730	LSLE	-FPB1	REEXAMINATION DECISION CANCELLED ALL CLAIMS	Filing date: 20180511 Text: REEXAMINATION CERTIFICATE Effective date: 20190722 Kind code of Ref document: C1
US9820761 BB	20200728	LSLE	-FPB1	REEXAMINATION DECISION CANCELLED ALL CLAIMS	Text: REEXAMINATION CERTIFICATE Effective date: 20190722 Filing date: 20180511 Kind code of Ref document: C1
US9820761 BB	20360204	PEXP		Calculated Patent Term Expiry	
WO16126974 A1	20160811	LSPB	+	published / reissued	
WO16126974 A1	20160928		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 16708246 Kind code of Ref document: A1 Country of Ref document: EP
WO16126974 A1	20170801	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2983072 Country of Ref document: CA
WO16126974 A1	20170804	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2017541355 Kind code of Ref document: A Country of Ref document: JP
WO16126974 A1	20170805	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO16126974 A1	20170817	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Date of Ref document: 20160204 Ref document number: 2016215229

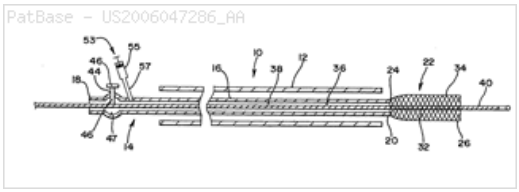
				Country of Ref document: AU
WO16126974 A1	20170825	+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2016708246 Country of Ref document: EP

25) Family number: 32651416 (US2006047286 AA)

Title: CLOT RETRIEVAL DEVICE

Abstract: A clot retrieval device includes a clot retrieval unit having a pusher member and a retrieval basket connected to the distal end of the pusher member. The retrieval basket is transformable between an expanded state and a contracted state. The retrieval basket also includes a closeable opening in the distal end for receiving a clot into the retrieval basket. The opening and the transition between the expanded and contracted states are controlled by a control wire connected to the distal end of the retrieval basket.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B17/24 A61B17/26 A61B17/94 A61F2/01
CPC: A61B17/221 A61B2017/22045 A61B2017/22049 A61B2017/2215 A61B90/39
US: 606/114 606/114P



Family:

Publication number	Publication date	Application number	Application date
AT454855 E	20100115	AT20050255238T	20050825
CA2517621 AA	20060228	CA20052517621	20050829
CA2517621 C	20140708	CA20052517621	20050829
DE602005018864 D1	20100304	DE200560018864T	20050825
EP1629784 A1	20060301	EP20050255238	20050825
EP1629784 B1	20100113	EP20050255238	20050825
JP2006068527 A2	20060316	JP20050249808	20050830
US2006047286 AA	20060302	US20050197662	20050804

Priority:
US20040605910P 20040831 US20050197662 20050804 CA20052517621 20050829

Probable Assignee: CODMAN AND SHURTLEFF INC
Assignee(s): (std): CORDIS NEUROVASCULAR INC ; WEST STEPHEN
Assignee(s): CODMAN AND SHURTLEFF INC ; CORDIS DEVELOPMENT CORP ; CORDIS NEUROVASCULAR INC14000 N.W. 57TH COURTMIAMI LAKESFL33014US ; コーディス・ニューロバスキュラー・インコーポレイテッド
Inventor(s): (std): WEST STEPHEN
Inventor(s): WEST STEPHENUS ; ステファン・ウエスト
Agent(s): COOK ALEX MCFARRON MANZO CUMMINGS AND MEHLER LTD; GOVER RICHARD PAUL; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; OGILVY RENAULT LLP SENCRL SRL
Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT454855 E	20100115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT454855 E	20100715	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT454855 E	20250825	PEXP		Calculated Patent Term Expiry	
CA2517621 AA	20060228	LSPB	+	published / reissued	
CA2517621 AA	20100827	LSES	+EEER	EXAMINATION REQUEST	
CA2517621 C	20140708	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2517621 C	20250829	PEXP		Calculated Patent Term Expiry	
DE602005018864 D1	20110104	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OldParty: Cordis Neurovascular, Inc., Miami Lakes, Fla., US PartyType: Owner
DE602005018864 D1	20110203	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE602005018864 D1	20110310	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	Owner: CODMAN & SHURTLEFF, INC., NEW BRUNSWICK, N.J., US PartyType: owner
EP1629784 A1	20060301	LSPB	+	published / reissued	
EP1629784 A1	20060301		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR
EP1629784 A1	20060301		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK YU

EP1629784 A1	20061004	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060818
EP1629784 A1	20061108	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20061005
EP1629784 A1	20061108	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR
EP1629784 A1	20160930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 12 Payment date: 20160810 Country of Ref document: NL
EP1629784 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160824 Year of fee payment: 12 Country of Ref document: GB
EP1629784 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160816 Year of fee payment: 12 Country of Ref document: DE
EP1629784 A1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 12 Payment date: 20160712 Country of Ref document: FR
EP1629784 B1	20100113	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1629784 B1	20100113		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR
EP1629784 B1	20100113	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1629784 B1	20100115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP1629784 B1	20100217	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP1629784 B1	20100304		REF	CORRESPONDS TO:	Ref document number: 602005018864 Date of Ref document: 20100304 Kind code of Ref document: P Country of Ref document: DE
EP1629784 B1	20100421	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: T3
EP1629784 B1	20100628	LSRV	-LTIE	LT: INVALIDATION OF EUROPEAN PATENT OR PATENT EXTENSION	Ref country code: EP Effective date: 20100113
EP1629784 B1	20100630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20100113 Country of Ref document: AT
EP1629784 B1	20100707		REG	REFERENCE TO A NATIONAL CODE	Text: REGISTERED BETWEEN 20100610 AND 20100616 Ref legal event code: 732E Ref country code: GB
EP1629784 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20100424 Country of Ref document: ES
EP1629784 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100513 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP1629784 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100113 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP1629784 B1	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100513 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT

EP1629784 B1	20100820	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: TP
EP1629784 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20100113 Country of Ref document: FI
EP1629784 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20100113 Country of Ref document: LV
EP1629784 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100113 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP1629784 B1	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100113 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
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EP1629784 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20100113 Country of Ref document: CY
EP1629784 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20100113 Country of Ref document: EE
EP1629784 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20100414 Country of Ref document: GR
EP1629784 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20100113 Country of Ref document: RO
EP1629784 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100113 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1629784 B1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100413 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP1629784 B1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100113 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1629784 B1	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20100113 Country of Ref document: SK
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EP1629784 B1	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100831 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
EP1629784 B1	20110331	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1629784 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20100831 Country of Ref document: LI
EP1629784 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20100831 Country of Ref document: CH
EP1629784 B1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20100825 Country of Ref document: IE
EP1629784 B1	20110831	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: SD Effective date: 20110819 Ref country code: NL
EP1629784 B1	20111111		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: CA Effective date: 20111011 Ref country code: FR
EP1629784 B1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20100825 Country of Ref document: LU
EP1629784 B1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100714 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HU
EP1629784 B1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20100113 Country of Ref document: TR
EP1629784 B1	20160712	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PLFP Ref country code: FR Year of fee payment: 12 Country of Ref document: FR
EP1629784 B1	20170714	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 13
EP1629784 B1	20170929	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 13 Payment date: 20170814 Country of Ref document: NL
EP1629784 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170823 Year of fee payment: 13 Country of Ref document: GB
EP1629784 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 13 Payment date: 20170714 Country of Ref document: FR

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EP1629784 B1	20180712	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PLFP Year of fee payment: 14 Ref country code: FR
EP1629784 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 14 Payment date: 20180814 Country of Ref document: DE
EP1629784 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 14 Payment date: 20180815 Country of Ref document: NL
EP1629784 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180712 Year of fee payment: 14 Country of Ref document: FR
EP1629784 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180822 Year of fee payment: 14 Country of Ref document: GB
EP1629784 B1	20190930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 15 Payment date: 20190814 Country of Ref document: NL
EP1629784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190813 Year of fee payment: 15 Country of Ref document: DE
EP1629784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 15 Payment date: 20190711 Country of Ref document: FR
EP1629784 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190822 Year of fee payment: 15 Country of Ref document: GB
EP1629784 B1	20250825	PEXP		Calculated Patent Term Expiry	
JP2006068527 A2	20051223	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20051222 Text: JAPANESE INTERMEDIATE CODE: A523
JP2006068527 A2	20060316	LSPB	+	published / reissued	
JP2006068527 A2	20071130		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20071129 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2006068527 A2	20080926		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Text: JAPANESE INTERMEDIATE CODE: A7424 Effective date: 20080925
US2006047286 AA	20051026	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WEST, STEPHEN;REEL/FRAME:016685/0996 Owner: CORDIS DEVELOPMENT CORPORATION, FLORIDA PartyType: owner Effective date: 20051012
US2006047286 AA	20060302	LSPB	+	published / reissued	
US2006047286 AA	20060809	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CORDIS DEVELOPMENT CORPORATION;REEL/FRAME:018136/0948 PartyType: owner Effective date: 20051012 Owner: CORDIS NEUROVASCULAR, INC., FLORIDA
US2006047286 AA	20090731	LSAS	AS	ASSIGNMENT	OldParty: MERGER;ASSIGNOR:CORDIS NEUROVASCULAR, INC.;REEL/FRAME:023032/0233 Effective date: 20081216 Owner: CODMAN & SHURTLEFF, INC., MASSACHUSETTS PartyType: owner
US2006047286 AA	20090731	LSAS	AS	ASSIGNMENT	Effective date: 20081216 Owner: CODMAN & SHURTLEFF, INC.,MASSACHUSETTS OldParty: MERGER;ASSIGNOR:CORDIS NEUROVASCULAR,

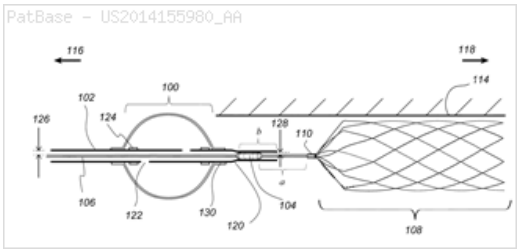
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US2006047286 AA	20090928	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006047286 AA	20090928		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

26) Family number: 55525653 (US2014155980 AA)

Title: **METHODS**, DEVICES, AND **SYSTEMS** FOR POSTCONDITIONING WITH **CLOT** **REMOVAL**

Abstract: New devices, **systems**, and **methods** are disclosed for preventing, treating, and/or at least minimizing ischemia and/or reperfusion injury by restoring and/or modulating blood flow, particularly in the cerebral vasculature where blood vessels are narrow and tortuous. These devices, **systems**, and **methods** make it possible for a clinician to adequately and systematically restore blood flow to ischemic tissue while simultaneously modulating the blood flow to minimize reperfusion injury. New thrombectomy devices and **systems**, which, for example, expand with greater radial force, further enable improved binding with **clots** and restoration of blood flow.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B17/3207 A61F2/06 A61F2/82 A61F2/844 A61F2/86 A61F2/95 A61F2/962 A61F2/966 A61M25/00 A61M25/10
CPC: A61B17/12031 A61B17/12036 A61B17/12109 A61B17/12136 A61B17/12172 A61B17/221 A61B17/3207 A61B17/320725 A61B2017/22065 A61B2017/22067 A61B2017/2215 A61B2017/320716 A61F2/82 A61F2/844 A61F2/86 A61F2/95 A61F2/962 A61F2/966 A61M2025/1095 A61M25/0082 A61M25/10
US: 1/1 604/167.01 606/159 606/191 606/200 623/1.11 623/1.12 623/1.2



Family:

Publication number	Publication date	Application number	Application date
EP2869887 A2	20150513	EP20130812984	20130705
EP2869887 A4	20160120	EP20130812984	20130705
JP2015521922 T2	20150803	JP20150520702T	20130705
US10149692 BB	20181211	US20160238439	20160816
US2014155980 AA	20140605	US20130844728	20130315
US2015230820 AA	20150820	US20130412387	20130705
US2016354099 AA	20161208	US20160238439	20160816
US9445828 BB	20160920	US20130844728	20130315
WO14008460 A2	20140109	WO2013US49428	20130705
WO14008460 A3	20140508	WO2013US49428	20130705

Priority:

US20120668408P 20120705 US20130844728 20130315 WO2013US49428 20130705
US20130412387 20130705 US20160238439 20160816

Probable Assignee: COGNITION MEDICAL CORP

Assignee(s): (std): COGNITION MEDICAL CORP

Assignee(s): コグニション メディカル コーポレイション ; コグニション・メディカル・コーポレイションCOGNITION MEDICAL CORP.

Inventor(s): (std): BERNSTEIN JONAH ; TURJMAN ALEXIS

Inventor(s): アレクシス タージマン ; アレクシス・タージマン ; ジョナ バーンスタイン ; ジョナ・バーンスタイン

Agent(s): CAVANAUGH DAVID L ET AL; GONJOU KEIICHI; SAMEJIMA MUTSUMI; STAINTHORPE VANESSA JULIET; TAMURA YASUO; WILMER CUTLER PICKERING HALE AND DORR LLP; 山尾 憲人; 田村 恭生; 言上 惠一; 鮫島 睦

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP2869887 A2	20150513	LSPB	+	published / reissued	
EP2869887 A2	20150513	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20150119
EP2869887 A2	20150513		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2869887 A2	20150513		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2869887 A2	20151007		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2869887 A4	20160120	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20151218
EP2869887 A4	20160120		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/10 20060101AFI20151214BHEP
EP2869887 A4	20160120		RIC1	INFORMATION	ClassificationScheme: IPC

				PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101ALI20151214BHEP
EP2869887 A4	20160120		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/12 20060101ALI20151214BHEP
EP2869887 A4	20190327	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20190222
JP2015521922 T2	20150803	LSPB	+	published / reissued	
JP2015521922 T2	20160216		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20160216 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2015521922 T2	20160704	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20160704
JP2015521922 T2	20160704	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20160704 Text: JAPANESE INTERMEDIATE CODE: A621
JP2015521922 T2	20170509	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20170509 Text: JAPANESE INTERMEDIATE CODE: A131
JP2015521922 T2	20170728		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20170728 Text: JAPANESE INTERMEDIATE CODE: A601
JP2015521922 T2	20180109	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20180109 Text: JAPANESE INTERMEDIATE CODE: A02
US10149692 BB	20160901	LSAS	AS	ASSIGNMENT	Effective date: 20130714 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:TURJMAN, ALEXIS;BERNSTEIN, JONAH;REEL/FRAME:039613/0702 Owner: COGNITION MEDICAL CORP., MASSACHUSETTS PartyType: owner
US10149692 BB	20181120	LSGT	PAT1	Patented Case	
US10149692 BB	20181211	LSGT	+	granted / extensions (spc, cpc, pte)	
US10149692 BB	20330816	PEXP		Calculated Patent Term Expiry (PTA 154 days)	
US2014155980 AA	20140605	LSPB	+	published / reissued	
US2014155980 AA	20151118	LSAS	AS	ASSIGNMENT	Effective date: 20130714 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:TURJMAN, ALEXIS;BERNSTEIN, JONAH;REEL/FRAME:037074/0048 Owner: COGNITION MEDICAL CORP., MASSACHUSETTS PartyType: owner
US2014155980 AA	20160831	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015230820 AA	20150708		RFE1	Docketed New Case - Ready for Examination	
US2015230820 AA	20150820	LSPB	+	published / reissued	
US2015230820 AA	20150929	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:TURJMAN, ALEXIS;BERNSTEIN, JONAH;SIGNING DATES FROM 20120531 TO 20150513;REEL/FRAME:036678/0559 Owner: COGNITION MEDICAL CORP., MASSACHUSETTS PartyType: owner
US2015230820 AA	20170413	LSES	NFA1	Non Final Action Mailed	
US2015230820 AA	20171114	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2015230820 AA	20171114		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2016354099 AA	20161208	LSPB	+	published /	

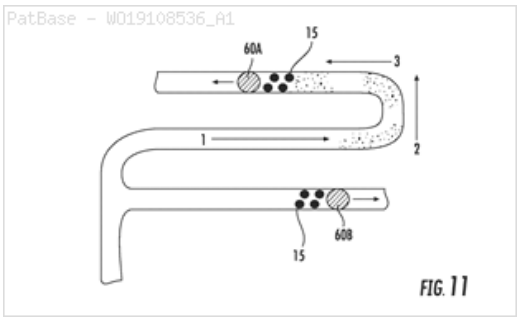
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US2016354099 AA	20161213		RFE1	Docketed New Case - Ready for Examination	
US2016354099 AA	20180315	LSES	NFA1	Non Final Action Mailed	
US2016354099 AA	20180731	LSES	ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016354099 AA	20180731	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016354099 AA	20181120	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9445828 BB	20151023	LSES	PIC1	Pre-Interview Communication Mailed	
US9445828 BB	20160831	LSGT	PAT1	Patented Case	
US9445828 BB	20160920	LSGT	+	granted / extensions (spc, cpc, pte)	
US9445828 BB	20200320	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9445828 BB	20330630	PEXP		Calculated Patent Term Expiry (PTA 107 days)	
WO14008460 A2	20140109	LSPB	+	published / reissued	
WO14008460 A2	20140305		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 13812984 Country of Ref document: EP
WO14008460 A3	20141226	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2015520702 Country of Ref document: JP
WO14008460 A3	20141231	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 14412387 Country of Ref document: US
WO14008460 A3	20150105	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO14008460 A3	20150119	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2013812984 Country of Ref document: EP

27) Family number: 74606291 (WO19108536 A1)

Title: DELIVERY OF MAGNETIC PARTICLES IN CONJUNCTION WITH THERAPEUTIC AND/OR DIAGNOSTIC AGENTS

Abstract: Controlled delivery of magnetic particles (e.g., nanoparticles) in combination with therapeutic, diagnostic and/or theranostic agents is described. The magnetic particles may be delivered through a **catheter** to a location adjacent a therapeutic and/or diagnostic target or region.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/3207 A61N2/06 A61N2/10 B82Y5/00
CPC: A61B17/3207 A61B17/320758 A61B2017/00345 A61B2017/00411 A61B2017/00876 A61B2017/22082 A61B34/73 A61B90/37 A61N2/002 A61N2/12 B82Y5/00



Family:

Publication number	Publication date	Application number	Application date
AU2018374832 AA	20200709	AU20180374832	20181127
WO19108536 A1	20190606	WO2018US62610	20181127

Priority:
US20170591989P 20171129 WO2018US62610 20181127

Probable Assignee: PULSE THERAPEUTICS INC

Assignee(s): (std): PULSE THERAPEUTICS INC

Inventor(s): (std): CREIGHTON FRANCIS ; CREIGHTON FRANCIS M ; KIDD BRIAN ; KIDD BRIAN L ; MORRIS SEAN ; MORRIS SEAN C ; SABO MICHAEL ; SABO MICHAEL E

Agent(s): CHRISTENSEN MICHAEL R; FB RICE 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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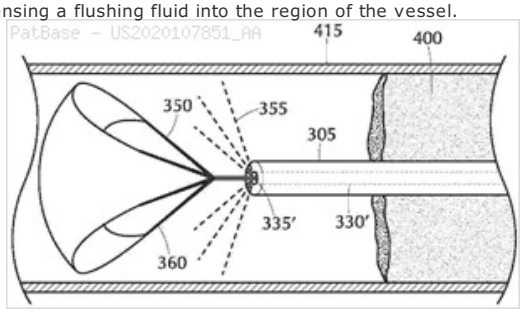
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WO19108536 A1	20190606	LSPB	+	published / reissued	
WO19108536 A1	20190717		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 18883620 Country of Ref document: EP
WO19108536 A1	20200530	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19108536 A1	20200709	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20181127 Kind code of Ref document: A Ref document number: 2018374832 Country of Ref document: AU

28) Family number: 78282617 (US2020107851 AA)

Title: RETROGRADE BLOOD FLOW **OCCLUSION** FLUSHING DEVICE

Abstract: A device and **method** for establishing retrograde blood flow during recanalization of a vessel having a targeted blockage. While in a collapsed state an occluding component is introduced distally intravascularly traversing the targeted blockage to its distal side. Then, the occluding component transitions to an expanded state having an enlarged diameter forming a seal with an internal wall of the vessel prohibiting anterograde blood flow beyond the expanded occluding component. Retrograde blood flow is thereby established in a region of the vessel bound at one end by the occluding component and at an opposite end by the targeted blockage by dispensing a flushing fluid into the region of the vessel.

Classifications:
International (IPC 8-9): A61B17/12 A61B17/22 A61B17/221 A61B17/3203 A61B2017/22051 A61M25/00 A61M25/10
CPC: A61B17/1204 A61B17/12109 A61B17/12136 A61B17/12168 A61B17/22 A61B17/22031 A61B17/221 A61B17/32037 A61B2017/22034 A61B2017/22035 A61B2017/22038 A61B2017/22051 A61B2017/22067 A61B2017/22094 A61B2217/007 A61M2025/0681 A61M2025/1052 A61M2025/1061 A61M25/0026 A61M25/003 A61M25/0662 A61M25/10 A61M25/104 A61M31/005 A61B2017/22001 A61B2017/22079 A61M2025/109 A61M25/10181



Family:

Publication number	Publication date	Application number	Application date
BR102019020723 A2	20200414	BR20191020723	20191002
CN111000616 A	20200414	CN201910949289	20191008
EP3632352 A1	20200408	EP20190201293	20191003
JP2020058799 A2	20200416	JP20190182735	20191003
KR20200039583 A	20200416	KR20190122389	20191002
US2020107851 AA	20200409	US20180152159	20181004

Priority:
US20180152159 20181004 KR20190122389 20191002 JP20190182735 20191003

Probable Assignee: NEURAVI LTD
Assignee(s): (std): NEURAVI LTD
Assignee(s): NEURAVI LIMITED ; ニューラヴィ リミテッド ; ニューラヴィ・リミテッド ; 尼尔拉维有限公司 ; 뉴라비 리미티드
Inventor(s): (std): MCCARTHY RAY ; RAY MCCARTHY
Inventor(s): R 麦卡锡 ; レイ マッカーシー ; レイ・マッカーシー ; 맥카시 레이
Agent(s): SMALL GARY JAMES; 中国专利代理 香港 有限公司 72001; 加藤 公延; 吴俊; 大島 孝文; 金飞; 장훈
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

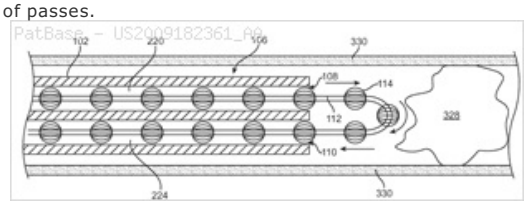
Patent	Date recorded	Event group	Code	Event	Details
BR102019020723 A2	20200414	LSPB	B03A	PUBLICATION OF AN APPLICATION: PUBLICATION OF A PATENT APPLICATION OR OF A CERTIFICATE OF ADDITION OF INVENTION	
CN111000616 A	20200414	LSPB	+	published / reissued	
CN111000616 A	20200414	LSPB	PB01	PUBLICATION	
CN111000616 A	20200414	LSPB	PB01	公开	Text: 公开 (Disclosure)
EP3632352 A1	20200408	LSPB	+	published / reissued	
EP3632352 A1	20200408		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3632352 A1	20200408		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: KH MA MD TN
EP3632352 A1	20200408		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
JP2020058799 A2	20191003		A63	特許願	Effective date: 20191003
JP2020058799 A2	20191008		A792	優先権証明書類	Effective date: 20191008

				（電子データ交換協定）	
JP2020058799 A2	20191118		A631	翻訳文提出書	Effective date: 20191118
JP2020058799 A2	20200127		A972001	要約不備職権訂正	Effective date: 20200127
JP2020058799 A2	20200416	LSPB	+	published / reissued	
KR20200039583 A	20200416	LSPB	+	published / reissued	
US2020107851 AA	20190916	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MCCARTHY, RAY;REEL/FRAME:050390/0064 Effective date: 20181128 Owner: NEURAVI LIMITED, IRELAND
US2020107851 AA	20200409	LSPB	+	published / reissued	

29) Family number: 43506182 (US2009182361 AA)

Title: OBSTRUCTION **REMOVAL** **SYSTEM**

Abstract: An obstruction **removal** **system** for percutaneous **removal** of **clots** or obstructions within the vascular **system** is disclosed. The obstruction **removal** **system** includes a multi-lumen **catheter** with a plurality of circulating capture devices occurring along a drive belt. The plurality of capture devices may be basket-like devices attached to the drive belt, or may be formed by integral coiled or protuberant sections of the drive belt. The circulating capture or interference devices affect **removal** of the **clot** or obstruction bit-by-bit through a series of passes.



Classifications:
International (IPC 8-9): A61B10/02 A61B17/00 A61B17/22 A61B17/32
CPC: A61B10/0266 A61B17/32002 A61B17/320708 A61B17/320725 A61B17/320758 A61B2010/0225 A61B2017/00345 A61B2017/00867 A61B2017/320008 A61B2017/320012 A61B2017/32006 A61B2017/320064 A61B2017/320741
US: 606/128 606/159 606/159P 606/170

Family:

Publication number	Publication date	Application number	Application date
EP2249714 A1	20101117	EP20080870268	20081222
JP2011509147 T2	20110324	JP20100542248T	20081222
US2009182361 AA	20090716	US20080972743	20080111
US8021379 BB	20110920	US20080972743	20080111
WO09088750 A1	20090716	WO2008US88032	20081222

Priority:
US20080972743 20080111 WO2008US88032 20081222

Probable Assignee: MEDTRONIC INC

Assignee(s): (std): JOHNSON JEREMY ; MAUCH KEVIN ; MEDTRONIC INC ; MEDTRONIC VASCULAR INC ; PERKINS DH ; SILVER MICHELE ; THOMPSON DUSTIN

Assignee(s): メドトロニック ヴァスキュラー インコーポレイテッド

Inventor(s): (std): JOHNSON JEEREMY ; JOHNSON JEREMY ; MAUCH KEVIN ; PERKINS D H ; SILVER MICHELE ; THOMPSON DUSTIN

Inventor(s): シルヴァー ミッシェル ; ジョンソン ジェレミー ; トンプソン ダスティン ; パーキンズ ディー エイチ ; マウフ ケヴィン

Agent(s): HAYNES WILLIAM; MEDTRONIC VASCULAR INC IP LEGAL DEPARTMENT; ZIMMERMANN AND PARTNER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI 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
EP2249714 A1	20101117	LSPB	+	published / reissued	
EP2249714 A1	20101117	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100811
EP2249714 A1	20101117		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2249714 A1	20101117		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2249714 A1	20110119		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: THOMPSON, DUSTIN PartyType: inventor
EP2249714 A1	20110119		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PERKINS, DH PartyType: inventor
EP2249714 A1	20110119		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: JOHNSON, JEREMY PartyType: inventor
EP2249714 A1	20110119		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SILVER, MICHELE PartyType: inventor
EP2249714 A1	20110119		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT	Inventor: MAUCH, KEVIN PartyType: inventor

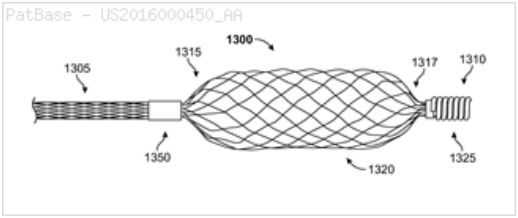
				(CORRECTED)	
EP2249714 A1	20110420		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2249714 A1	20130731	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20130702
EP2249714 A1	20150617	LSWD	-18W	APPLICATION WITHDRAWN	Effective date: 20150512
JP2011509147 T2	20110324	LSPB	+	published / reissued	
US2009182361 AA	20090716	LSPB	+	published / reissued	
US8021379 BB	20080111	LSAS	AS	ASSIGNMENT	Effective date: 20080110 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:THOMPSON, DUSTIN;PERKINS, D.H.;JOHNSON, JEREMY;AND OTHERS;REEL/FRAME:020354/0079 Owner: MEDTRONIC VASCULAR, INC., CALIFORNIA
US8021379 BB	20110920	LSGT	+	granted / extensions (spc, cpc, pte)	
US8021379 BB	20150501		REMI	MAINTENANCE FEE REMINDER MAILED	
US8021379 BB	20150920	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8021379 BB	20151019	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8021379 BB	20151019	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8021379 BB	20151110	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150920
US8021379 BB	20290124	PEXP		Calculated Patent Term Expiry (PTA 379 days)	
WO09088750 A1	20090716	LSPB	+	published / reissued	
WO09088750 A1	20090916		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 08870268 Country of Ref document: EP
WO09088750 A1	20100709	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010542248 Country of Ref document: JP
WO09088750 A1	20100713	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09088750 A1	20100811	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008870268 Country of Ref document: EP

30) Family number: 57599321 (US2016000450 AA)

Title: **SYSTEMS** AND **METHODS** FOR RESTORING BLOOD FLOW TO A VESSEL

Abstract: In one illustrative embodiment, a thrombectomy device is disclosed. The thrombectomy device includes a treatment portion, comprising a reversibly-expandable framework configured to be deployed from within a microcatheter into a selected vasculature for **removing** thrombus or embolus. The thrombectomy device further includes a substantially tubular connection member disposed on a proximal end portion of the treatment portion configured to receive a terminal portion of a delivery member for positioning the treatment portion within the vasculature. The framework comprises structural features for engaging the thrombus or embolus including one or more of: framework peaks and valleys along a long axis of the treatment portion or a plurality of strut members.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B19/00 A61B90/00 A61F2/06 B23K103/14 B23K26/38 B23K26/40
CPC: A61B17/221 A61B2017/00867 A61B2017/00893 A61B2017/22034 A61B2017/2212 A61B2090/3966 A61B90/39 B23K2103/14 B23K26/38 B23K26/40
US: 1/1 29/428 606/159 606/200



Family:

Publication number	Publication date	Application number	Application date
CN105377156 A	20160302	CN201480020861	20140412
CN105377156 B	20190507	CN201480020861	20140412
DE602014034323 D1	20181115	DE201460034323T	20140412
EP2983597 A1	20160217	EP20140782971	20140412
EP2983597 A4	20161116	EP20140782971	20140412
EP2983597 B1	20181017	EP20140782971	20140412
US10194928 BB	20190205	US20160183468	20160615
US2016000450 AA	20160107	US20140768920	20140412
US2016296245 AA	20161013	US20160183468	20160615
US9393035 BB	20160719	US20140768920	20140412
WO14169266 A1	20141016	WO2014US33891	20140412

Priority:

US20130811689P 20130412 WO2014US33891 20140412 EP20140782971 20140412
US20140768920 20140412 US20150768920 20150819 US20160183468 20160615

Probable Assignee: MINITECH MEDICAL JIANGSU LTD

Assignee(s): (std): YU YONGYI ; YU YONGYI ALAN

Assignee(s): MINITECH MEDICAL JIANGSU LTD ; MINITECH MEDICAL JIANSU LTD ; YU YONGYI ALAN MAPLE GROVE ; 余永毅 ; 江苏尼科医疗器械有限公司

Inventor(s): (std): YU YONGYI ; YU YONGYI ALAN

Inventor(s): YU YONGYI ALAN MAPLE GROVE ; 余永毅

Agent(s): SUTTO LUCA; UNDERWOOD AND ASSOCIATES LLC; UNDERWOOD DAVID F; 北京万慧达知识产权代理有限公司 11111; 北京市万慧达律师事务所 11111; 张锦波; 顾友

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
CN105377156 A	20160302	LSPB	+	published / reissued	
CN105377156 A	20160302	LSPB	+C06	PUBLICATION	
CN105377156 A	20160302	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN105377156 A	20160511		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN105377156 A	20160511		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN105377156 A	20181016	LSAS	TA01	TRANSFER OF PATENT APPLICATION RIGHT	
CN105377156 A	20181016	LSAS	TA01	专利申请权的转移	Text: 专利申请权、专利权的转移 (Transfer of Patent Application or Patent Right) Applicant Before Change: 余永毅 (Yu Yong Yi) Applicant After Change: 江苏尼科医疗器械有限公司 (MINITECH MEDICAL JIANGSU LTD) Effective date: 20180921
CN105377156 B	20190507	LSGT	+	granted / extensions	

				(spc, cpc, pte)	
CN105377156 B	20190507	LSGT	+GR01	PATENT GRANT	
CN105377156 B	20190507	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN105377156 B	20340412	PEXP		Calculated Patent Term Expiry	
EP2983597 A1	20160217	LSPB	+	published / reissued	
EP2983597 A1	20160217	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20151111
EP2983597 A1	20160217		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2983597 A1	20160217		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2983597 A1	20160720		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2983597 A4	20161116	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20161014
EP2983597 A4	20161116		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20161010BHEP
EP2983597 A4	20161116		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/00 20060101ALI20161010BHEP
EP2983597 A4	20171220	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20171116
EP2983597 A4	20180606	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180514
EP2983597 A4	20180613	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180514
EP2983597 B1	20181017	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2983597 B1	20181017		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
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EP2983597 B1	20181031	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2983597 B1	20181114	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP2983597 B1	20181115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20181115 Ref legal event code: REF Kind code of Ref document: T Ref country code: AT Ref document number: 1053046 Country of Ref document: AT
EP2983597 B1	20181115	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602014034323 Ref legal event code: R096 Country of Ref document: DE
EP2983597 B1	20181130		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref country code: CH Ref legal event code: NV Representative: ING. ALESSANDRO GALASSI C/O PGA S.P.A., MILANO, CH
EP2983597 B1	20190220		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20181017 Ref country code: NL Ref legal event code: MP
EP2983597 B1	20190312	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP2983597 B1	20190315	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Ref document number: 1053046 Effective date: 20181017 Kind code of Ref document: T Ref legal event code: MK05 Country of Ref document: AT
EP2983597 B1	20190329	LSLE	-PG25	LAPSED IN A	Lapsed date: 20181017

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2983597 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190217 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2983597 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190117 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2983597 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181017 Country of Ref document: HR
EP2983597 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2983597 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2983597 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2983597 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181017 Country of Ref document: LT
EP2983597 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2983597 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190117 Country of Ref document: BG
EP2983597 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2983597 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2983597 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190217 Country of Ref document: PT
EP2983597 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2983597 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2983597 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190118 Country of Ref document: GR
EP2983597 B1	20190718	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R097 Ref country code: DE Ref document number: 602014034323 Country of Ref document: DE
EP2983597 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2983597 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2983597 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181017 Country of Ref document: IT
EP2983597 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190621 Year of fee payment: 6 Country of Ref document: DE
EP2983597 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181017 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
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US10194928 BB	20190116	LSGT	PAT1	Patented Case	
US10194928 BB	20190205	LSGT	+	granted / extensions (spc, cpc, pte)	
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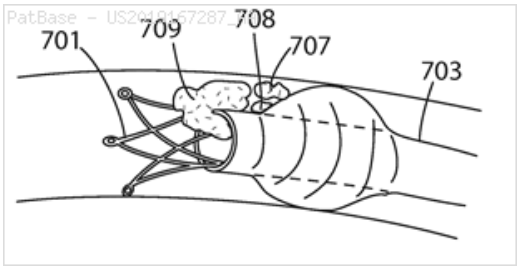
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US2016000450 AA	20160629	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016296245 AA	20160819		RFE1	Docketed New Case - Ready for Examination	
US2016296245 AA	20161013	LSPB	+	published / reissued	
US2016296245 AA	20180313	LSES	NFA1	Non Final Action Mailed	
US2016296245 AA	20180716	LSES	ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016296245 AA	20180717	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016296245 AA	20181218	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2016296245 AA	20190116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9393035 BB	20160617	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US9393035 BB	20160629	LSGT	PAT1	Patented Case	
US9393035 BB	20160719	LSGT	+	granted / extensions (spc, cpc, pte)	
US9393035 BB	20180930	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:YU, YONGYI ALAN;REEL/FRAME:047014/0221 Effective date: 20180927 PartyType: owner Owner: MINITECH MEDICAL (JIANGSU) LTD, CHINA
US9393035 BB	20200309	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: MICROENTITY
US9393035 BB	20200410	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, MICRO ENTITY (ORIGINAL EVENT CODE: M3554); ENTITY STATUS OF PATENT OWNER: MICROENTITY
US9393035 BB	20200410	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9393035 BB	20340412	PEXP		Calculated Patent Term Expiry	
WO14169266 A1	20141016	LSPB	+	published / reissued	
WO14169266 A1	20141203		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 14782971 Country of Ref document: EP
WO14169266 A1	20150319		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO14169266 A1	20150819	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 14768920 Country of Ref document: US
WO14169266 A1	20151012	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

WO14169266 A1	20151111	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2014782971 Country of Ref document: EP

31) Family number: 68640076 (US2019167287 AA)

Title: A **CLOT** **RETRIEVAL** **SYSTEM** FOR **REMOVING** **OCCLUSIVE** **CLOT** FROM A BLOOD VESSEL

Abstract: A **clot** capture **catheter** comprises an elongate tubular shaft having a proximal end, a distal end and an inflatable expansile member at the distal end. The expansile member is inflatable from a collapsed delivery configuration to an expanded configuration. In the expanded configuration, the expansile member extends to define a funnel shape having an enlarged distal **clot** entry mouth at the distal-most end of the **catheter**. In the expanded configuration, the expansile member may extend distally beyond the distalmost tip of the shaft. The expansile member may be integral with the distal tip of the **catheter** shaft.



Classifications:
International (IPC 8-9): A61B A61B17/22 A61B17/221 A61F2/95 A61L29/04 A61M25/00 A61M25/10
International (IPC 1-7): A61B17/22 A61M25/10
CPC: A61B17/22 A61B17/22032 A61B17/221 A61B2017/22054 A61B2017/22062 A61B2017/22067 A61B2017/22069 A61B2017/22079 A61B2017/2215 A61B2217/005 A61F2/95 A61F2002/9528 A61L29/04 A61M2025/0042 A61M2025/1013 A61M2025/1047 A61M2025/1059 A61M2025/1065 A61M2025/1079 A61M2025/1084 A61M2025/109 A61M2025/1093 A61M2205/0216 A61M25/0032 A61M25/005 A61M25/1002 A61M25/1011 A61M25/1018 A61M25/1034
US: 1/1

Family:

Publication number	Publication date	Application number	Application date
AU2017312421 AA	20190307	AU20170312421	20170803
BR112019003113 A2	20190521	BR20191103113	20170803
CA3034121 AA	20190215	CA20173034121	20170803
CN109862835 A	20190607	CN201780064234	20170803
CO20190002233 A2	20190731	CO20190002233	20190311
EP3500191 A1	20190626	EP20170745361	20170803
IL264849 A0	20190430	IL20170264849	20170803
JP2019524346 T2	20190905	JP20190508917T	20170803
KR20190043144 A	20190425	KR20197006880	20170803
MX2019001899 A1	20190918	MX20190001899	20170803
US2019167287 AA	20190606	US20170326030	20170803
WO18033401 A1	20180222	WO2017EP69668	20170803

Priority:
US20160376264P 20160817 EP20160186028 20160826 WO2017EP69668 20170803 US20170326030 20170803

Probable Assignee: NEURAVI LTD

Assignee(s): (std): NEURAVI LTD

Assignee(s): AMSTUTZ JILL ; BRADY EAMON ; CASEY BRENDAN ; FAHY BRIAN ; GILVARRY MICHAEL ; HOLIAN MAEVE ; KING DANIEL ; MCARDLE KEVIN ; VALE DAVID ; ニューラヴィ リミテッド ; ニューラヴィ・リミテッド ; 尼尔拉维有限公司 ; 뉴라비 리미티드

Inventor(s): (std): AMSTUTZ JILL ; BRADY EAMON ; BRENDAN CASEY ; BRIAN FAHY ; CASEY BRENDAN ; DANIEL KING ; DAVID VALE ; EAMON BRADY ; FAHY BRIAN ; GILVARRY MICHAEL ; HOLIAN MAEVE ; JILL AMSTUTZ ; KEVIN MCARDLE ; KING DANIEL ; MAEVE HOLIAN ; MCARDLE KEVIN ; MICHAEL GILVARRY ; VALE DAVID

Inventor(s): B 凯西 ; B 法伊 ; D 瓦勒 ; D 金 ; E 布拉迪 ; J 阿姆斯图兹 ; K 麦克德 ; M 吉尔瓦瑞 ; M 霍利安 ; アムスタッツ ジル ; アムスタッツ・ジル ; キング ダニエル ; キング・ダニエル ; ギルバリー マイケル ; ギルバリー・マイケル ; ケーシー ブレンダン ; ケーシー・ブレンダン ; ファイー ブライアン ; ファイー・ブライアン ; ブレディー エイモン ; ブレディー・エイモン ; ベイル デビッド ; ベイル・デビッド ; ホリアン メーブ ; ホリアン・メーブ ; マッカードル ケビン ; マッカードル・ケビン ; 길베리 미카엘 ; 맥카르들 케빈 ; 베일 데이비드 ; 브레디 에몬 ; 암스투츠 질 ; 케세이 브렌단 ; 킹 다니엘 ; 파이 브라이언 ; 홀리안 메브

Agent(s): KATO MASANOBU; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; SMALL GARY JAMES; SMALL GARY JAMES ET AL; SPRUSON AND FERGUSON; 中国专利代理 香港 有限公司 72001; 加藤 公延; 大島 孝文; 杨忠; 金飞; 장훈

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
AU2017312421 AA	20190307	LSPB	+	published / reissued	
CA3034121 AA	20190215	LSPB	+	published / reissued	
CN109862835 A	20190607	LSPB	+	published / reissued	
CN109862835 A	20190607	LSPB	PB01	PUBLICATION	
CN109862835 A	20190607	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN109862835 A	20190913		SE01	ENTRY INTO FORCE OF REQUEST FOR	

				SUBSTANTIVE EXAMINATION	
CN109862835 A	20190913		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
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EP3500191 A1	20190626	LSPB	+	published / reissued	
EP3500191 A1	20190626	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20190219
EP3500191 A1	20190626		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3500191 A1	20190626		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3500191 A1	20190626		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
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KR20190043144 A	20190425	LSPB	+	published / reissued	
KR20190043144 A	20200803	LSES	A201	REQUEST FOR EXAMINATION	
MX2019001899 A1	20190918	LSPB	+	published / reissued	
US2019167287 AA	20190530		RFE1	Docketed New Case - Ready for Examination	
US2019167287 AA	20190530		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019167287 AA	20190606	LSPB	+	published / reissued	
US2019167287 AA	20190710	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;CASEY, BRENDAN;FAHY, BRIAN;AND OTHERS;SIGNING DATES FROM 20190502 TO 20190608;REEL/FRAME:049713/0384 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
WO18033401 A1	20180222	LSPB	+	published / reissued	
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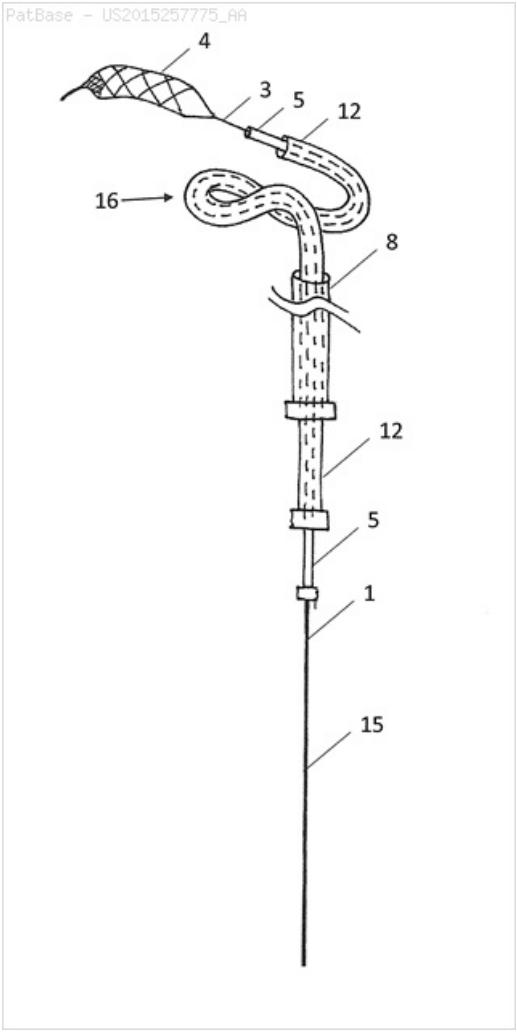
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WO18033401 A1	20190215	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2019508917 Kind code of Ref document: A Country of Ref document: JP
WO18033401 A1	20190219	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18033401 A1	20190226		REG	REFERENCE TO NATIONAL CODE	Ref document number: 112019003113 Ref country code: BR Ref legal event code: B01A Country of Ref document: BR
WO18033401 A1	20190307	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20170803 Kind code of Ref document: A Ref document number: 2017312421 Country of Ref document: AU
WO18033401 A1	20190308	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 20197006880 Kind code of Ref document: A Country of Ref document: KR
WO18033401 A1	20190322	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20190318 Ref document number: 2017745361 Country of Ref document: EP
WO18033401 A1	20190521	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A2 Ref document number: 112019003113 Effective date: 20190215 Country of Ref document: BR

32) Family number: 60348909 (US2015257775 AA)

Title: CLOT RETRIEVAL SYSTEM FOR REMOVING OCCLUSIVE CLOT FROM A BLOOD VESSEL

Abstract: A clot retrieval device comprising an elongate shaft having a proximal end and a distal end and a clot retrieval element at the distal end of the elongate shaft. A proximal end of the elongate shaft of the clot retrieval device is adapted for retraction of a first catheter over the clot retrieval device elongate shaft. A second catheter is advanced to or adjacent to the distal end of the clot retrieval device shaft to enable enhanced aspiration adjacent to the clot retrieval element.

Classifications:
International (IPC 8-9): A61B17/221 A61F2/01 A61M1/00 A61M25/00 A61M25/06 A61M39/10
CPC: A61B17/221 A61B2017/2212 A61B2217/005 A61M2025/0042 A61M2025/0681 A61M2039/1077
US: 606/127



Family:

Publication number	Publication date	Application number	Application date
US10285720 BB	20190514	US20150644685	20150311
US2015257775 AA	20150917	US20150644685	20150311
US2019223893 AA	20190725	US20190372876	20190402

Priority:
US20140951270P 20140311 US20150644685 20150311 US20190372876 20190402

Probable Assignee: NEURAVI LTD
Assignee(s): (std): NEURAVI LTD
Inventor(s): (std): CASEY BRENDAN ; GILVARRY MICHAEL ; MCARDLE KEVIN ; O GORMAN JACQUELINE ; VALE DAVID
Agent(s): TROUTMAN SANDERS LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10285720 BB	20150605	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NEURAVI LIMITED, IRELAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GILVARRY, MICHAEL;VALE, DAVID;CASEY, BRENDAN;AND OTHERS;REEL/FRAME:035795/0015 Effective date: 20150413
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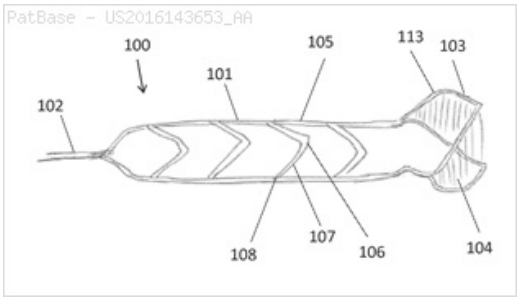
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US2015257775 AA	20150820		RFE1	Docketed New Case - Ready for Examination	
US2015257775 AA	20150917	LSPB	+	published / reissued	
US2015257775 AA	20170510		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015257775 AA	20170627	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2015257775 AA	20170630	LSES	NFA1	Non Final Action Mailed	
US2015257775 AA	20170823		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015257775 AA	20170921	LSES	NFA1	Non Final Action Mailed	
US2015257775 AA	20180222		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015257775 AA	20180403		FRM2	Final Rejection Counted, Not Yet Mailed	
US2015257775 AA	20180405		FRM1	Final Rejection Mailed	
US2015257775 AA	20181231	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015257775 AA	20181231		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2015257775 AA	20190403	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015257775 AA	20190403		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2015257775 AA	20190424	LSGT	PAT1	Patented Case	
US2015257775 AA	20190424	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019223893 AA	20190725	LSPB	+	published / reissued	
US2019223893 AA	20190812	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20150413 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GILVARRY, MICHAEL;VALE, DAVID;CASEY, BRENDAN;AND OTHERS;REEL/FRAME:050023/0320 Owner: NEURAVI LIMITED, IRELAND

33) Family number: 62457057 (US2016143653 AA)

Title: CLOT RETRIEVAL DEVICE FOR REMOVING OCCLUSIVE CLOT FROM A BLOOD VESSEL

Abstract: A clot retrieval device for removal of occlusive clot from a blood vessel comprises a clot engaging element 700 having a constrained delivery configuration and an expanded deployed configuration. In the expanded configuration peripheral portions are laterally spaced-apart and the clot engaging section 700 extends between the peripheral portions. The device 700 may have two superimposed wave patterns provided by a large amplitude curve 723 and shorter pitch sinusoidal patterns 721, 722. A wave shape varies the contact pressure between a clot and the device along the length of the device, reducing the compression of the clot by the device at some locations. The device can elongate when placed under tension which aids elongation of the clot during dislodgement.

Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/22 A61B17/221 A61B17/3207 A61B90/00 A61F A61F2/01
CPC: A61B17/221 A61B17/3207 A61B2017/22034 A61B17/320725 A61B2017/2215 A61B2017/2217 A61F2/013 A61F2002/016 A61F2230/008 A61F2230/0091 A61B2017/22072 A61B2017/22094 A61B2017/00867 A61B2017/22079 A61B2090/3966 A61B90/39
US: 1/1 606/114 606/200



Family:

Publication number	Publication date	Application number	Application date
AU2016358836 AA	20170601	AU20160358836	20161123
BR112018010607 A2	20181113	BR20181110607	20161123
CA3006614 AA	20180524	CA20163006614	20161123
CN106999196 A	20170801	CN201580064164	20151125
CN106999196 B	20200728	CN201580064164	20151125
CN108601599 A	20180928	CN201680080064	20161123
CO20180006459 A2	20180831	CO20180006459	20180622
DE602015045262 D1	20200213	DE201560045262T	20151125
EP3223723 A1	20171004	EP20150801153	20151125
EP3223723 B1	20200108	EP20150801153	20151125
EP3380021 A1	20181003	EP20160800973	20161123
EP3682821 A1	20200722	EP20200150339	20151125
ES2781184 T3	20200831	ES20150801153T	20151125
HK1247066 A1	20180921	HK20180104404	20180403
IL259552 A0	20180731	IL20160259552	20161123
JP2017535352 T2	20171130	JP20170527557T	20151125
JP2018537183 T2	20181220	JP20180527175T	20161123
KR20180087320 A	20180801	KR20187017658	20161123
MX2018006446 A1	20190606	MX20180006446	20161123
RU2018122453 A	20191226	RU20180122453	20161123
RU2018122453 A3	20200421	RU20180122453	20161123
US10363054 BB	20190730	US20150952202	20151125
US10617435 BB	20200414	US20160359943	20161123
US2016143653 AA	20160526	US20150952202	20151125
US2017071614 AA	20170316	US20160359943	20161123
US2019298397 AA	20191003	US20190446749	20190620
US2020060703 AA	20200227	US20190671488	20191101
WO16083472 A1	20160602	WO2015EP77692	20151125
WO17089424 A1	20170601	WO2016EP78595	20161123

Priority:

US20140084960P 20141126
WO2015EP77692 20151125
WO2016EP78595 20161123
US20190446749 20190620
US20150952202 20151125
EP20150801153 20151125
RU20180122453 20161123
US20190671488 20191101
US20150259976P 20151125
US20160342012P 20160526
US20160359943 20161123

Probable Assignee: NEURAVI LTD

Assignee(s): (std): NEURAVI LTD

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郎; 山本 修; 朱铁宏; 永新专利商标代理有限公司 72002; 渡邊 誠; 王丽军; 장훈

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
AU2016358836 AA	20180621	LSPB	+	published / reissued	
AU2016358836 AA	20200827	LSLE	-MK1	APPLICATION LAPSED SECTION 142(2)(A) - NO REQUEST FOR EXAMINATION IN RELEVANT PERIOD	
BR112018010607 A2	20200609		B06U	PRELIMINARY REQUIREMENT: REQUESTS WITH SEARCHES PERFORMED BY OTHER PATENT OFFICES: SUSPENSION OF THE PATENT APPLICATION PROCEDURE	
CA3006614 AA	20180524	LSPB	+	published / reissued	
CN106999196 A	20170801	LSPB	+	published / reissued	
CN106999196 A	20170801	LSPB	PB01	PUBLICATION	
CN106999196 A	20170801	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN106999196 A	20171124		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN106999196 A	20171124		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN106999196 B	20200728	LSGT	+	granted / extensions (spc, cpc, pte)	
CN106999196 B	20200728	LSGT	+GR01	PATENT GRANT	
CN106999196 B	20200728	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN106999196 B	20351125	PEXP		Calculated Patent Term Expiry	
CN108601599 A	20180928	LSPB	+	published / reissued	
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CN108601599 A	20180928	LSPB	PB01	公开	Text: 公开 (Disclosure)
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CO20180006459 A2	20180831	LSPB	+	published / reissued	
EP3223723 A1	20171004	LSPB	+	published / reissued	
EP3223723 A1	20171004	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20170404
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				OF THE EUROPEAN PATENT	
EP3223723 A1	20171004		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3223723 A1	20180307		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3223723 A1	20180307		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3223723 A1	20180921		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1247066 Ref legal event code: DE Country of Ref document: HK
EP3223723 A1	20190403	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20190228
EP3223723 A1	20190904		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALI20190731BHEP
EP3223723 A1	20190904		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/01 20060101ALI20190731BHEP
EP3223723 A1	20190904		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20190731BHEP
EP3223723 A1	20190904		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/3207 20060101ALI20190731BHEP
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EP3223723 B1	20200108	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP3223723 B1	20200115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP3223723 B1	20200205	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP3223723 B1	20200213	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602015045262 Ref legal event code: R096 Country of Ref document: DE
EP3223723 B1	20200215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20200215 Kind code of Ref document: T Ref country code: AT Ref document number: 1221692 Ref legal event code: REF Country of Ref document: AT
EP3223723 B1	20200513		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20200108 Ref country code: NL Ref legal event code: MP
EP3223723 B1	20200710	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP3223723 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	Lapsed date: 20200108 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
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EP3380021 A1	20181003		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3380021 A1	20181003		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3380021 A1	20181003		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3380021 A1	20190306		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	

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EP3682821 A1	20200722	LSPB	+	published / reissued	
EP3682821 A1	20200722		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 3223723 Country of Ref document: EP
EP3682821 A1	20200722		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
ES2781184 T3	20200831	LSGT	+	granted / extensions (spc, cpc, pte)	
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HK1247066 A1	20180921	LSPB	+	published / reissued	
JP2017535352 T2	20170907		A632	国内書面	Effective date: 20170522
JP2017535352 T2	20171130	LSPB	+	published / reissued	
JP2017535352 T2	20181019	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20181019 Text: JAPANESE INTERMEDIATE CODE: A621
JP2017535352 T2	20181019	LSES	+A621	出願審査請求書	Effective date: 20181019
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JP2017535352 T2	20190826	LSES	-A131	拒絶理由通知書	Effective date: 20190826
JP2017535352 T2	20190827		A971007	検索報告書	Effective date: 20190823
JP2017535352 T2	20190827		A977	REPORT ON RETRIEVAL	Text: JAPANESE INTERMEDIATE CODE: A971007 Effective date: 20190823
JP2017535352 T2	20191125	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20191125 Text: JAPANESE INTERMEDIATE CODE: A523
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JP2017535352 T2	20200421	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20200421 Text: JAPANESE INTERMEDIATE CODE: A131
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JP2018537183 T2	20181220	LSPB	+	published / reissued	
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JP2018537183 T2	20191122	LSES	+A621	出願審査請求書	Effective date: 20191122
KR20180087320 A	20180801	LSPB	+	published / reissued	
MX2018006446 A1	20190606	LSPB	+	published / reissued	
RU2018122453 A	20191226	LSPB	+	published / reissued	
US10363054 BB	20151216	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20151214 TO 20151215;REEL/FRAME:037303/0701 Owner: NEURAVI LIMITED, IRELAND PartyType: owner

US10363054 BB	20190730	LSGT	+	granted / extensions (spc, cpc, pte)	
US10363054 BB	20370210	PEXP		Calculated Patent Term Expiry (PTA 443 days)	
US10617435 BB	20200325	LSGT	PAT1	Patented Case	
US10617435 BB	20200414	LSGT	+	granted / extensions (spc, cpc, pte)	
US10617435 BB	20361029	PEXP		Calculated Patent Term Expiry (PTA 339 days)	
US2016143653 AA	20160314		RFE1	Docketed New Case - Ready for Examination	
US2016143653 AA	20160526	LSPB	+	published / reissued	
US2016143653 AA	20171129	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016143653 AA	20171130	LSES	NFA1	Non Final Action Mailed	
US2016143653 AA	20180628	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016143653 AA	20180711	LSES	NFA1	Non Final Action Mailed	
US2016143653 AA	20181204		FRM1	Final Rejection Mailed	
US2016143653 AA	20190212		RSP1	Response after Final Action Forwarded to Examiner	
US2016143653 AA	20190306	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2016143653 AA	20190313	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016143653 AA	20190313		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016143653 AA	20190427	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2016143653 AA	20190427		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP., ISSUE FEE NOT PAID
US2016143653 AA	20190430	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016143653 AA	20190619	LSFE	AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2016143653 AA	20190619		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP, ISSUE FEE PAYMENT VERIFIED

US2016143653 AA	20190710	LSGT	PAT1	Patented Case	
US2016143653 AA	20190710	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017071614 AA	20170314		RFE1	Docketed New Case - Ready for Examination	
US2017071614 AA	20170316	LSPB	+	published / reissued	
US2017071614 AA	20181221	LSES	NFA1	Non Final Action Mailed	
US2017071614 AA	20190315		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017071614 AA	20190315		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
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US2017071614 AA	20190523		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017071614 AA	20190523		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017071614 AA	20190725	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017071614 AA	20190725		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017071614 AA	20190802	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20151214 TO 20151215;REEL/FRAME:049940/0696 PartyType: owner Owner: NEURAVI LIMITED, IRELAND
US2017071614 AA	20191029		RFE1	Docketed New Case - Ready for Examination	
US2017071614 AA	20191029		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017071614 AA	20191213	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017071614 AA	20191213		STPP	INFORMATION	Text: NOTICE OF ALLOWANCE MAILED

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US2017071614 AA	20200228	LSAS	AS	ASSIGNMENT	Owner: NEURAVI LIMITED, IRELAND PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20191105 TO 20200227;REEL/FRAME:051965/0556
US2017071614 AA	20200309	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2017071614 AA	20200325	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019298397 AA	20190627		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2019298397 AA	20190627		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: APPLICATION DISPATCHED FROM PREEXAM, NOT YET DOCKETED
US2019298397 AA	20190724	LSAS	AS	ASSIGNMENT	Owner: NEURAVI LIMITED, IRELAND PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20151214 TO 20151215;REEL/FRAME:049845/0133
US2019298397 AA	20191003	LSPB	+	published / reissued	
US2019298397 AA	20191028		RFE1	Docketed New Case - Ready for Examination	
US2019298397 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020060703 AA	20200123		RFE1	Docketed New Case - Ready for Examination	
US2020060703 AA	20200123		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020060703 AA	20200227	LSPB	+	published / reissued	
US2020060703 AA	20200228	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20191105 TO 20200227;REEL/FRAME:051965/0556 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
WO16083472 A1	20160602	LSPB	+	published / reissued	
WO16083472 A1	20160713		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 15801153 Kind code of Ref document: A1 Country of Ref document: EP
WO16083472 A1	20170404		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN	Ref document number: 2015801153 Country of Ref document: EP

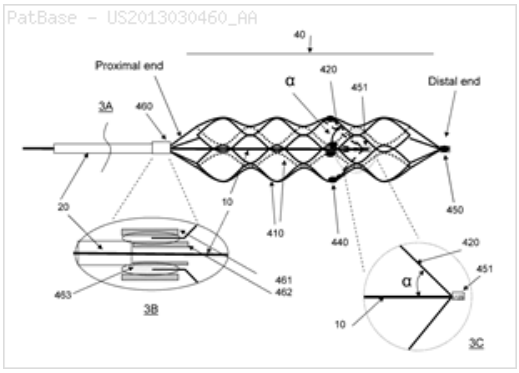
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WO16083472 A1	20170522	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2017527557 Kind code of Ref document: A Country of Ref document: JP
WO16083472 A1	20170526	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17089424 A1	20170601	LSPB	+	published / reissued	
WO17089424 A1	20170802		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 16800973 Country of Ref document: EP
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WO17089424 A1	20180524	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 3006614 Country of Ref document: CA
WO17089424 A1	20180524	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2018/006446 Country of Ref document: MX
WO17089424 A1	20180525	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2018527175 Country of Ref document: JP
WO17089424 A1	20180525	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2018527175 Country of Ref document: JP
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WO17089424 A1	20180605		REG	REFERENCE TO NATIONAL CODE	Ref country code: BR Ref legal event code: B01A Ref document number: 112018010607 Country of Ref document: BR
WO17089424 A1	20180621	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2016358836 Kind code of Ref document: A Date of Ref document: 20161123 Country of Ref document: AU
WO17089424 A1	20180621	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20187017658 Country of Ref document: KR
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WO17089424 A1	20180625	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2018122453 Country of Ref document: RU
WO17089424 A1	20180625	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2016800973 Country of Ref document: EP
WO17089424 A1	20180706	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2016800973 Effective date: 20180625 Country of Ref document: EP
WO17089424 A1	20181113	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20180524 Ref document number: 112018010607 Kind code of Ref document: A2 Country of Ref document: BR

34) Family number: 52874680 (US2013030460 AA)

Title: INTRAVASCULAR THROMBOEMBOLECTOMY DEVICE AND **METHOD** USING THE SAME

Abstract: A device and a **method** for increasing or restoring a flow in a body lumen are provided. The device and the **method** may treat conditions related to a stroke, such as an ischemic stroke, by **removing** an **occlusion** from a blood vessel and/or reopen a blood vessel. The device may comprise a pusher tube and an expandable compartment. The expandable compartment may comprise a control element, a reconfigurable element, and supportive element. The supportive element is configured to adjust a radial force and a configuration of the reconfigurable element, thereby allowing highly efficient **removal** of an **occlusion** from a blood vessel and/or reopen a blood vessel with least or no damage to the body lumen.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61F2/01 A61M25/00
CPC: A61B17/22032 A61B17/221 A61B2017/00778 A61B2017/22038 A61B2017/22051 A61B2017/2215 A61F2/013 A61F2002/016 A61F2230/0076 A61F2230/008 A61F2230/0093 A61B17/320725 A61B2017/22034 A61B2017/2212 A61B2090/08021
US: 1/1 606/159 606/200



Family:

Publication number	Publication date	Application number	Application date
CA2841980 AA	20140114	CA20122841980	20120725
CA2841980 C	20190820	CA20122841980	20120725
CN103764049 A	20140430	CN201280036998	20120725
CN108784887 A	20181113	CN201810724051	20120725
EP2736425 A1	20140604	EP20120817411	20120725
EP2736425 A4	20150211	EP20120817411	20120725
EP2736425 B1	20200205	EP20120817411	20120725
ES2775193 T3	20200724	ES20120817411T	20120725
JP2014525796 T2	20141002	JP20140522968T	20120725
JP6025846 B2	20161116	JP20140522968T	20120725
US2013030460 AA	20130131	US20110191306	20110726
US2013030461 AA	20130131	US20120543657	20120706
US2016361077 AA	20161215	US20160190047	20160622
WO13016435 A1	20130131	WO2012US48158	20120725

Priority:

US20110191306 20110726 US20120543657 20120706 WO2012US48158 20120725
CN201280036998 20120725 EP20120817411 20120725 US20160190047 20160622

Probable Assignee: THROMBX MEDICAL INC

Assignee(s): (std): LIKEMARK MEDICAL INC ; MARKS MICHAEL P ; QUE LIKE

Assignee(s): THROMBX MEDICAL INC ; マイケル ピー マークス ; マイケル･ピー･マークス ; ライク クー ; ライク･クー ; 莱克 奎 ; 莱克·奎 ; 迈克尔 P 马克思 ; 迈克尔·P·马克思

Inventor(s): (std): MARKS MICHAEL ; MARKS MICHAEL P ; QUE LIKE

Inventor(s): マイケル ピー マークス ; マイケル･ピー･マークス ; ライク クー ; ライク･クー ; 莱克 奎 ; 莱克·奎 ; 迈克尔 P 马克思 ; 迈克尔·P·马克思

Agent(s): BERESKIN AND PARR LLP SENCRL SRL; DURAN CORRETJER SLP; KIMMEL ANDREW I; 上海专利商标事务所有限公司 31100; 张兰英; 江漪; 泉 通博

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CA2841980 AA	20140114	LSPB	+	published / reissued	
CA2841980 AA	20170727	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20170721
CA2841980 C	20190820	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2841980 C	20320725	PEXP		Calculated Patent Term Expiry	
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CN103764049 A	20140430	LSPB	+C06	PUBLICATION	

CN103764049 A	20140730		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN108784887 A	20181113	LSPB	+	published / reissued	
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CN108784887 A	20181207		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN108784887 A	20181207		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
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EP2736425 A1	20140604		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2736425 A4	20150211	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20150113
EP2736425 A4	20150211		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/00 20060101ALI20150107BHEP
EP2736425 A4	20150211		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20150107BHEP
EP2736425 A4	20180117	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20171214
EP2736425 A4	20190716		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R079 ClassificationSymbol: A61B0017221000 Text: PREVIOUS MAIN CLASS: A61B0017220000 ClassificationScheme: IPC Ref country code: DE Ref document number: 602012067589 Country of Ref document: DE
EP2736425 A4	20190821		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20190716BHEP
EP2736425 A4	20190821		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61F 2/01 20060101ALI20190716BHEP ClassificationScheme: IPC
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EP2736425 B1	20200227	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602012067589 Ref legal event code: R096 Country of Ref document: DE
EP2736425 B1	20200304	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2736425 B1	20200331	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2736425 B1	20200708		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20200205 Ref country code: NL

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EP2736425 B1	20200724	LSGT	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20200724 Kind code of Ref document: T3 Ref country code: ES Ref document number: 2775193 Ref legal event code: FG2A Country of Ref document: ES
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EP2736425 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200205 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
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JP2014525796 T2	20150716	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20150716 Text: JAPANESE INTERMEDIATE CODE: A621
JP2014525796 T2	20160606		A977	REPORT ON RETRIEVAL	Effective date: 20160603 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2014525796 T2	20160607	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20160607 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014525796 T2	20160823	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160823 Text: JAPANESE INTERMEDIATE CODE: A523
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JP2014525796 T2	20160920	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20160920
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JP6025846 B2	20161018	LSFE	R100	特許料納付書	
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US2013030460 AA	20160714		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2013030461 AA	20130131	LSPB	+	published / reissued	
US2013030461 AA	20150916	LSES	NFA1	Non Final Action Mailed	
US2013030461 AA	20161228		FRM1	Final Rejection Mailed	
US2013030461 AA	20170223	LSAS	AS	ASSIGNMENT	Effective date: 20170121 OldParty: CHANGE OF NAME;ASSIGNOR:LIKEMARK MEDICAL, INC.;REEL/FRAME:041792/0678 Owner: THROMBX MEDICAL, INC., CALIFORNIA PartyType: owner
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US2013030461 AA	20170531	LSES	NFA1	Non Final Action Mailed	
US2013030461 AA	20170731		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2013030461 AA	20171028		FRM2	Final Rejection Counted, Not Yet Mailed	
US2013030461 AA	20171030		FRM1	Final Rejection Mailed	
US2013030461 AA	20180123	LSES	ADV1	Advisory Action Mailed	
US2013030461 AA	20180131	LSAS	AS	ASSIGNMENT	Effective date: 20180131 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MARKS, MICHAEL P.;QUE, LIKE;REEL/FRAME:044793/0048 Owner: THROMBX MEDICAL, INC., CALIFORNIA PartyType: owner
US2013030461 AA	20180806	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2013030461 AA	20180809	LSES	NFA1	Non Final Action Mailed	
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US2013030461 AA	20190224		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2013030461 AA	20190528		FRM1	Final Rejection Mailed	
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US2013030461 AA	20190830	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	Text: NOTICE OF APPEAL FILED
US2013030461 AA	20191105	LSAL	ABE1	Appeal Brief (or Supplemental Brief) Entered and Forwarded to Examiner	
US2013030461 AA	20191105	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	Text: APPEAL BRIEF (OR SUPPLEMENTAL BRIEF) ENTERED AND FORWARDED TO EXAMINER
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US2016361077 AA	20161215	LSPB	+	published / reissued	
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US2016361077 AA	20170523		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
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US2016361077 AA	20190225	LSAL	APL5	On Appeal -- Awaiting Decision by the Board of Appeals	
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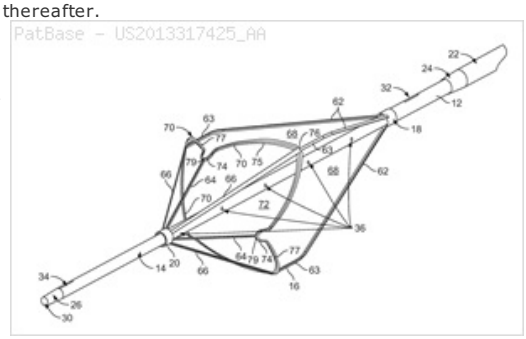
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WO13016435 A1	20130131	LSPB	+	published / reissued	
WO13016435 A1	20130320		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 12817411 Country of Ref document: EP
WO13016435 A1	20131219		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO13016435 A1	20140106	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2014522968 Country of Ref document: JP
WO13016435 A1	20140114	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2841980 Country of Ref document: CA
WO13016435 A1	20140127	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO13016435 A1	20140128	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2012817411 Country of Ref document: EP

35) Family number: 55109630 (US2013317425 AA)

Title: MULTI-LUMEN CENTRAL ACCESS VENA CAVA FILTER APPARATUS FOR **CLOT** MANAGEMENT AND **METHOD** OF USING SAME

Abstract: A combined multi-lumen central access **catheter** and an embolic filter including ports proximal and distal the filter for fluid infusion and/or pressure sensing and infusion ports in the **catheter** to permit infusion of bioactive agents, flushing agents and/or contrast agents and managing the capture of the **clot** thereafter.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B19/00 A61F2/01 A61M25/00 A61M25/01 A61M29/02 A61M31/00
CPC: A61B17/22031 A61B17/221 A61B2017/00349 A61B2017/22042 A61B2090/0807 A61B2090/081 A61F2/01 A61F2/013 A61F2002/018 A61M2025/0003 A61M25/003 A61M31/005
US: 1/1 604/93.01 606/127 606/200



Family:

Publication number	Publication date	Application number	Application date
EP2844163 A1	20150311	EP20130784707	20130430
EP2844163 A4	20150923	EP20130784707	20130430
US2013317425 AA	20131128	US20130874227	20130430
US2013345627 AA	20131226	US20130918841	20130614
US2013345740 AA	20131226	US20130918827	20130614
US2014005674 AA	20140102	US20130918800	20130614
US9125728 BB	20150908	US20130918800	20130614
US9421080 BB	20160823	US20130918841	20130614
US9427300 BB	20160830	US20130874227	20130430
WO13166049 A1	20131107	WO2013US38918	20130430

Priority:

US20120640469P 20120430 WO2013US38918 20130430 US20130874227 20130430
US20130874277 20130430 US20130918841 20130614 US20130918827 20130614
US20130918800 20130614

Probable Assignee: MERMAID MEDICAL VASCULAR APS

Assignee(s): (std): BIO2 MEDICAL INC

Assignee(s): INSOLVENCY SERVICES GROUP INC ; MERMAID MEDICAL VASCULAR APS ; OXFORD FINANCE LLC COLLATERAL AGENT AS ; REMEDITEX VENTURES LLC COLLATERAL AGONT AS

Inventor(s): (std): ANGEL LUIS F ; ATKINSON ELIJAH WADE ; GUERRA ROGELIO IVAN ; MORGAN JEREMY ; STEINMETZ JEFFREY N

Agent(s): BENJAMIN D; DAVID G; J PETER; MICHALSKI HUETTERMANN AND PARTNER PATENTANWAELTE MBB; REMISSONG MATTHEW M ET AL; ROSENBAUM IP PC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN 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)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
EP2844163 A1	20150311	LSPB	+	published / reissued	
EP2844163 A1	20150311	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20141118
EP2844163 A1	20150311		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2844163 A1	20150311		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2844163 A1	20150805		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2844163 A1	20150923	LSES	+RA4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED (CORRECTED)	Effective date: 20150821
EP2844163 A1	20150923		RIC1	INFORMATION PROVIDED ON IPC	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22

				CODE ASSIGNED BEFORE GRANT	20060101AFI20150817BHEP
EP2844163 A1	20150923		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 29/02 20060101ALI20150817BHEP
EP2844163 A1	20150923		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/01 20060101ALI20150817BHEP
EP2844163 A1	20170412	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20161101
US2013317425 AA	20131128	LSPB	+	published / reissued	
US2013317425 AA	20160810	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013345627 AA	20131226	LSPB	+	published / reissued	
US2013345627 AA	20160803	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013345740 AA	20130614	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ANGEL, LUIS F.;ATKINSON, ELIJAH WADE;STEINMETZ, JEFFREY N.;AND OTHERS;SIGNING DATES FROM 20130610 TO 20130611;REEL/FRAME:030619/0200 Owner: BIO2 MEDICAL, INC., TEXAS PartyType: owner
US2013345740 AA	20131226	LSPB	+	published / reissued	
US2013345740 AA	20150918	LSES	NFA1	Non Final Action Mailed	
US2013345740 AA	20161117	LSES	NFA1	Non Final Action Mailed	
US2013345740 AA	20170308	LSAS	AS	ASSIGNMENT	Effective date: 20170307 OldParty: SECURITY INTEREST;ASSIGNOR:BI02 MEDICAL, INC.;REEL/FRAME:041506/0723 Owner: OXFORD FINANCE LLC, AS COLLATERAL AGENT, VIRGINIA PartyType: owner
US2013345740 AA	20170321	LSAS	AS	ASSIGNMENT	Effective date: 20170307 OldParty: SECURITY AGREEMENT;ASSIGNOR:BIO2 MEDICAL, INC.;REEL/FRAME:042372/0359 Owner: REMEDITEX VENTURES LLC, AS COLLATERAL AGONT, TEXAS PartyType: owner
US2013345740 AA	20170713	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2013345740 AA	20170713		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2013345740 AA	20190516	LSAS	AS	ASSIGNMENT	Effective date: 20180827 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BIO2 MEDICAL, INC.;REEL/FRAME:049199/0455 Owner: INSOLVENCY SERVICES GROUP, INC., CALIFORNIA PartyType: owner
US2013345740 AA	20190607	LSAS	AS	ASSIGNMENT	Effective date: 20180827 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:INSOLVENCY SERVICES GROUP, INC.;REEL/FRAME:049410/0894 Owner: MERMAID MEDICAL VASCULAR APS, DENMARK PartyType: owner
US2014005674 AA	20140102	LSPB	+	published / reissued	
US2014005674 AA	20150819	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9125728 BB	20130614	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ANGEL, LUIS F.;ATKINSON, ELIJAH WADE;STEINMETZ, JEFFREY N.;AND OTHERS;SIGNING DATES FROM

					20130610 TO 20130611;REEL/FRAME:030619/0148 Owner: BIO2 MEDICAL, INC., TEXAS PartyType: owner
US9125728 BB	20150819	LSGT	PAT1	Patented Case	
US9125728 BB	20150908	LSGT	+	granted / extensions (spc, cpc, pte)	
US9125728 BB	20170308	LSAS	AS	ASSIGNMENT	Effective date: 20170307 OldParty: SECURITY INTEREST;ASSIGNOR:BI02 MEDICAL, INC.;REEL/FRAME:041506/0723 Owner: OXFORD FINANCE LLC, AS COLLATERAL AGENT, VIRGINIA PartyType: owner
US9125728 BB	20170321	LSAS	AS	ASSIGNMENT	Effective date: 20170307 OldParty: SECURITY AGREEMENT;ASSIGNOR:BIO2 MEDICAL, INC.;REEL/FRAME:042372/0359 Owner: REMEDITEX VENTURES LLC, AS COLLATERAL AGONT, TEXAS PartyType: owner
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US9125728 BB	20190516	LSAS	AS	ASSIGNMENT	Effective date: 20180827 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BIO2 MEDICAL, INC.;REEL/FRAME:049199/0455 Owner: INSOLVENCY SERVICES GROUP, INC., CALIFORNIA PartyType: owner
US9125728 BB	20190607	LSAS	AS	ASSIGNMENT	Effective date: 20180827 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:INSOLVENCY SERVICES GROUP, INC.;REEL/FRAME:049410/0894 Owner: MERMAID MEDICAL VASCULAR APS, DENMARK PartyType: owner
US9125728 BB	20330614	PEXP		Calculated Patent Term Expiry	
US9421080 BB	20130614	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ANGEL, LUIS F.;ATKINSON, ELIJAH WADE;STEINMETZ, JEFFREY N.;AND OTHERS;SIGNING DATES FROM 20130610 TO 20130611;REEL/FRAME:030619/0250 PartyType: owner Owner: BIO2 MEDICAL, INC., TEXAS
US9421080 BB	20150922	LSES	NFA1	Non Final Action Mailed	
US9421080 BB	20160803	LSGT	PAT1	Patented Case	
US9421080 BB	20160823	LSGT	+	granted / extensions (spc, cpc, pte)	
US9421080 BB	20170308	LSAS	AS	ASSIGNMENT	Effective date: 20170307 PartyType: owner OldParty: SECURITY INTEREST;ASSIGNOR:BI02 MEDICAL, INC.;REEL/FRAME:041506/0723 Owner: OXFORD FINANCE LLC, AS COLLATERAL AGENT, VIRGINIA
US9421080 BB	20170321	LSAS	AS	ASSIGNMENT	Owner: REMEDITEX VENTURES LLC, AS COLLATERAL AGONT, TEXAS Effective date: 20170307 OldParty: SECURITY AGREEMENT;ASSIGNOR:BIO2 MEDICAL, INC.;REEL/FRAME:042372/0359 PartyType: owner
US9421080 BB	20190516	LSAS	AS	ASSIGNMENT	Owner: INSOLVENCY SERVICES GROUP, INC., CALIFORNIA PartyType: owner Effective date: 20180827 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BIO2 MEDICAL, INC.;REEL/FRAME:049199/0455
US9421080 BB	20190607	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:INSOLVENCY SERVICES GROUP, INC.;REEL/FRAME:049410/0894 Owner: MERMAID MEDICAL VASCULAR APS, DENMARK PartyType: owner Effective date: 20180827

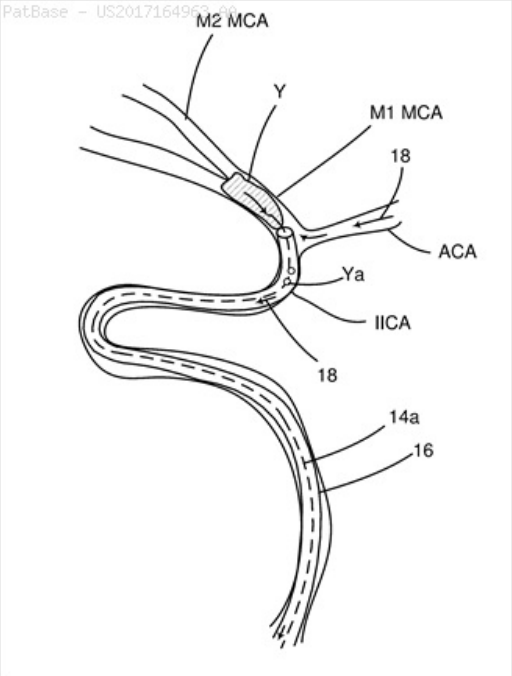
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US9421080 BB	20340720	PEXP		Calculated Patent Term Expiry (PTA 446 days)	
US9427300 BB	20130613	LSAS	AS	ASSIGNMENT	Owner: BIO2 MEDICAL, INC., TEXAS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ANGEL, LUIS F.;ATKINSON, ELIJAH WADE;STEINMETZ, JEFFREY N.;AND OTHERS;SIGNING DATES FROM 20130610 TO 20130611;REEL/FRAME:030609/0981 PartyType: owner
US9427300 BB	20151020	LSES	NFA1	Non Final Action Mailed	
US9427300 BB	20160721	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US9427300 BB	20160810	LSGT	PAT1	Patented Case	
US9427300 BB	20160830	LSGT	+	granted / extensions (spc, cpc, pte)	
US9427300 BB	20170308	LSAS	AS	ASSIGNMENT	Owner: OXFORD FINANCE LLC, AS COLLATERAL AGENT, VIRGINIA PartyType: owner Effective date: 20170307 OldParty: SECURITY INTEREST;ASSIGNOR:BI02 MEDICAL, INC.;REEL/FRAME:041506/0723
US9427300 BB	20170321	LSAS	AS	ASSIGNMENT	OldParty: SECURITY AGREEMENT;ASSIGNOR:BIO2 MEDICAL, INC.;REEL/FRAME:042372/0359 Owner: REMEDITEX VENTURES LLC, AS COLLATERAL AGONT, TEXAS PartyType: owner Effective date: 20170307
US9427300 BB	20190516	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BIO2 MEDICAL, INC.;REEL/FRAME:049199/0455 Effective date: 20180827 Owner: INSOLVENCY SERVICES GROUP, INC., CALIFORNIA PartyType: owner
US9427300 BB	20190607	LSAS	AS	ASSIGNMENT	Owner: MERMAID MEDICAL VASCULAR APS, DENMARK Effective date: 20180827 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:INSOLVENCY SERVICES GROUP, INC.;REEL/FRAME:049410/0894 PartyType: owner
US9427300 BB	20200214	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9427300 BB	20330430	PEXP		Calculated Patent Term Expiry	
WO13166049 A1	20131107	LSPB	+	published / reissued	
WO13166049 A1	20131225		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 13784707 Country of Ref document: EP
WO13166049 A1	20141030	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO13166049 A1	20141118		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2013784707 Country of Ref document: EP
WO13166049 A1	20141118	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2013784707 Country of Ref document: EP

36) Family number: 66073720 (US2017164963 AA)

Title: **SYSTEMS** AND **METHODS** TO IMPROVE PERFUSION PRESSURE DURING ENDOVASCULAR INTERVENTION

Abstract: The invention relates to **systems** and **methods** to improve perfusion flow and pressure during endovascular intervention. In particular, the invention relates to catheters that enable both antegrade and retrograde flow through the **catheter** during a recanalization procedure and specifically at the step in a procedure where a **clot** is being withdrawn. Additionally, the invention provides **systems** for supplying fluids and fluid compositions to improve nutrition to ischemic brain.

Classifications:
International (IPC 8-9): A61B17/22 A61M1/00 A61M1/36 A61M25/00 A61M25/09 A61M5/172
CPC: A61B17/22 A61B2017/22079 A61B2017/22094 A61M1/00 A61M1/3613 A61M1/3659 A61M5/1723
US: 1/1 604/31



Family:

Publication number	Publication date	Application number	Application date
US10485564 BB	20191126	US20160377229	20161213
US2017164963 AA	20170615	US20160377229	20161213

Priority:
US20150267160P 20151214 US20160377229 20161213

Probable Assignee: MG STROKE ANALYTICS INC
Assignee(s): (std): GOYAL MAYANK ; MG STROKE ANALYTICS INC
Inventor(s): (std): GOYAL MAYANK
Agent(s): MCGLEW AND TUTTLE PC

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10485564 BB	20191126	LSGT	+	granted / extensions (spc, cpc, pte)	
US10485564 BB	20370707	PEXP		Calculated Patent Term Expiry (PTA 206 days)	
US2017164963 AA	20170531		RFE1	Docketed New Case - Ready for Examination	
US2017164963 AA	20170615	LSPB	+	published / reissued	
US2017164963 AA	20181205	LSAS	AS	ASSIGNMENT	Effective date: 20181021 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GOYAL, MAYANK;REEL/FRAME:047678/0712 Owner: MG STROKE ANALYTICS INC., CANADA PartyType: owner
US2017164963 AA	20190110		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017164963 AA	20190225	LSES	NFA1	Non Final Action Mailed	

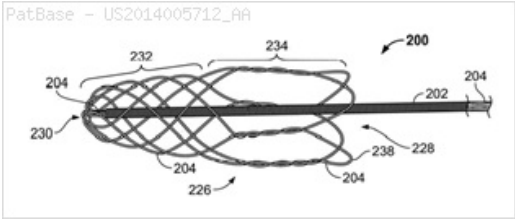
US2017164963 AA	20190225		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017164963 AA	20190723	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017164963 AA	20190723		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017164963 AA	20191021	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017164963 AA	20191021		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017164963 AA	20191106	LSGT	PAT1	Patented Case	
US2017164963 AA	20191106	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

37) Family number: 50499384 (US2014005712 AA)

Title: **RETRIEVAL** **SYSTEMS** AND **METHODS** FOR USE THEREOF

Abstract: The devices and **methods** described herein relate to improved structures for **removing** obstructions from body lumens. Such devices have applicability in through-out the ho including clearing of blockages within the vasculature, by addressing the frictional resistance on the obstruction prior to attempting to translate and/or mobilize the obstruction within the body lumen.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61B17/3207 A61F2/01
CPC: A61B17/221 A61B17/320725 A61B17/32075 A61B2017/22034 A61B2017/22094
US: 1/1 606/200



Family:

Publication number	Publication date	Application number	Application date
US2014005712 AA	20140102	US20130741845	20130115
US2018206865 AA	20180726	US20180933669	20180323
US9924958 BB	20180327	US20130741845	20130115
WO12009675 A2	20120119	WO2011US44249	20110715
WO12009675 A3	20140327	WO2011US44249	20110715

Priority:

US20100364718P 20100715 WO2011US44249 20110715 US20130741845 20130115 US20180933669 20180323

Probable Assignee: COVIDIEN LP

Assignee(s): (std): COVIDIEN LP ; LAZARUS EFFECT INC ; MARTIN BRIAN B

Assignee(s): LAZARUS EFFECT LLC

Inventor(s): (std): AGUILAR JULIO ; MARTIN BRIAN B

Agent(s): BAGADE SANJAY S ET AL; FORTEM IP LLP; MARY

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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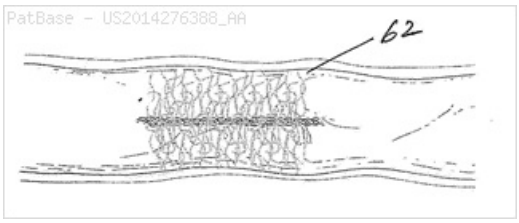
Patent	Date recorded	Event group	Code	Event	Details
US2014005712 AA	20140102	LSPB	+	published / reissued	
US2014005712 AA	20151016	LSAS	AS	ASSIGNMENT	Effective date: 20140818 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:AGUILAR, JULIO;REEL/FRAME:036814/0056 Owner: LAZARUS EFFECT, INC., CALIFORNIA PartyType: owner
US2014005712 AA	20151117		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014005712 AA	20161025	LSAS	AS	ASSIGNMENT	Effective date: 20160505 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LAZARUS EFFECT LLC;REEL/FRAME:040120/0772 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner
US2014005712 AA	20161025	LSAS	AS	ASSIGNMENT	Effective date: 20160504 OldParty: CHANGE OF NAME;ASSIGNOR:LAZARUS EFFECT, INC.;REEL/FRAME:040477/0604 Owner: LAZARUS EFFECT LLC, CALIFORNIA PartyType: owner
US2014005712 AA	20170503	LSES	NFA1	Non Final Action Mailed	
US2014005712 AA	20170727		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	

US2014005712 AA	20171030		FRM1	Final Rejection Mailed	
US2014005712 AA	20180307	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018206865 AA	20180620	LSAS	AS	ASSIGNMENT	Effective date: 20160505 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LAZARUS EFFECT LLC;REEL/FRAME:046149/0102 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner
US2018206865 AA	20180620	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:AGUILAR, JULIO;MARTIN, BRIAN B.;SIGNING DATES FROM 20130713 TO 20140818;REEL/FRAME:046148/0776 Owner: LAZARUS EFFECT, INC., CALIFORNIA PartyType: owner
US2018206865 AA	20180620	LSAS	AS	ASSIGNMENT	Effective date: 20160504 OldParty: CHANGE OF NAME;ASSIGNOR:LAZARUS EFFECT, INC.;REEL/FRAME:046398/0689 Owner: LAZARUS EFFECT LLC, CALIFORNIA PartyType: owner
US2018206865 AA	20180726	LSPB	+	published / reissued	
US2018206865 AA	20180728		RFE1	Docketed New Case - Ready for Examination	
US2018206865 AA	20180728		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018206865 AA	20200722	LSES	NFA1	Non Final Action Mailed	
US2018206865 AA	20200722		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US9924958 BB	20130913	LSAS	AS	ASSIGNMENT	Effective date: 20130713 Owner: LAZARUS EFFECT, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:MARTIN, BRIAN B.;REEL/FRAME:031206/0424 PartyType: owner
US9924958 BB	20180307	LSGT	PAT1	Patented Case	
US9924958 BB	20180327	LSGT	+	granted / extensions (spc, cpc, pte)	
US9924958 BB	20330810	PEXP		Calculated Patent Term Expiry (PTA 757 days)	
WO12009675 A2	20120119	LSPB	+	published / reissued	
WO12009675 A2	20120307		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 11807593 Country of Ref document: EP
WO12009675 A2	20130814	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A2 Ref document number: 11807593 Country of Ref document: EP

38) Family number: 57409380 (US2014276388 AA)

Title: EMBOLIZATION **SYSTEMS**

Abstract: Provided is a device for delivery into a body lumen having a longitudinally extending stem and a plurality of bristles extending generally radially outwardly from the stem. The device includes at least two different groups or types of bristles.



Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/12 A61B17/32
International (IPC 1-7): A61B17/00 A61B17/12
CPC: A61B17/0057 A61B17/12031 A61B17/12109 A61B17/12113 A61B17/1214 A61B17/1215 A61B17/12163 A61B17/1219 A61B2017/00575 A61B2017/00623 A61B2017/1205 A61B2017/12054 A61B2017/12095 A61F2/01 A61F2/013 A61F2002/016 A61F2002/823 A61F2230/0069 A61B17/12022 A61B17/12177 A61B2017/00526 A61B2017/00867 A61B2017/00995 A61B17/12145 A61B2017/00592 A61B2017/00606 A61B2017/00893 A61B17/12118 A61B17/12172 A61B2017/00004 A61B2017/00243 A61B2017/00898 A61B2017/320012
US: 604/93.01 606/200

Family:

Publication number	Publication date	Application number	Application date
AU2014230137 AA	20151105	AU20140230137	20140314
AU2014230137 BB	20181122	AU20140230137	20140314
AU2015316918 AA	20170330	AU20150316918	20150915
AU2015316918 BB	20170831	AU20150316918	20150915
AU2015316918 BI	20170914	AU20150316918	20150915
AU2017228568 AA	20171005	AU20170228568	20170912
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AU2018264122 AA	20181206	AU20180264122	20181116
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DE602015042548 D1	20191219	DE201560042548T	20150915
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WO14140325 A1	20140918	WO2014EP55186	20140314
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Priority:

US20130787223P	20130315	US20130885868P	20131002	US20140205016	20140311
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US20200867295	20200505	AU20200204137	20200622		

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Agent(s): CLT PATENT AND TRADEMARK HK LTD; DINSMORE AND SHOHL LLP; GRIFFITH HACK; HOFFMANN EITLE; HOFFMANN EITLE PATENT U RECHTSANWAELTE PARTMBB; IRENE MARTIN BADAJOZ; KOBAYASHI YASUSHI; MIYAMAE TORU; MOFFAT AND CO; NAKANISHI MOTOHARU; OBRIEN JOHN AUGUSTINE; OBRIEN JOHN ET AL; ONO SHINJIRO; PHILLIPS ORMONDE FITZPATRICK; SMART AND BIGGAR; TAKEUCHI SHIGEO; WATERMARK INTELLECTUAL PROPERTY PTY LTD; WATERMARK PATENT AND TRADE MARKS ATTORNEYS; YAMAMOTO OSAMU; 上田 充; 中国国际贸易促进委员会专利商标事务所 11038; 中西 基晴; 串田 幸一; 宮前 徹; 小林 泰; 小野 新次郎; 小野 達己; 山本 修; 焦丽雅; 秦振; 竹内 茂雄; 문경진; 신관호

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
AU2014230137 AA	20151105	LSPB	+	published / reissued	
AU2014230137 AA	20160331	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	OldParty: FORMER APPLICANT(S): NATIONAL UNIVERSITY OF IRELAND, GALWAY Owner: EMBO MEDICAL LIMITED PartyType: owner
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AU2015316918 AA	20170330	LSPB	+	published / reissued	
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AU2015316918 BI	20170914	LSPB	SREP	SPECIFICATION REPUBLISHED	
AU2015316918 BI	20180104	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
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AU2017228568 BB	20181213	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
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AU2020204137 AA	20200709	LSPB	+	published / reissued	
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CA2961431 AA	20170404	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20170315
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CN105705100 A	20160622	LSPB	+C06	PUBLICATION	
CN105705100 A	20160720		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN107249483 A	20171013	LSPB	+	published / reissued	
CN107249483 A	20171013	LSPB	PB01	PUBLICATION	
CN107249483 A	20171013	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN107249483 A	20171110		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN107249483 A	20171110		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
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CN107249483 B	20350915	PEXP		Calculated Patent Term Expiry	
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CN110301955 A	20191008	LSPB	PB01	PUBLICATION	
CN110301955 A	20191008	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN110301955 A	20191101		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
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CN111616765 A	20200904	LSPB	+	published / reissued	
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EP2967569 A1	20160120	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20151014
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EP2967569 A1	20160120		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2967569 A1	20160601	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: EMBO MEDICAL LIMITED PartyType: owner
EP2967569 A1	20160622		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
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EP2967569 A1	20200819	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: EMBO MEDICAL LIMITED PartyType: owner
EP2967569 A1	20200826		INTC	INTENTION TO GRANT ANNOUNCED (DELETED)	
EP3193743 A2	20170726	LSPB	+	published / reissued	
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EP3193743 A2	20170726		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3193743 A2	20170726		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA
EP3193743 A2	20170726		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
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EP3193743 A2	20191113	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: EMBO MEDICAL LIMITED PartyType: owner
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EP3193743 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191127 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP3193743 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP3193743 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191127 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
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EP3193743 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20191127 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP3193743 B1	20350915	PEXP		Calculated Patent Term Expiry	
EP3632350 A1	20200408	LSPB	+	published / reissued	
EP3632350 A1	20200408		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 3193743 Country of Ref document: EP
EP3632350 A1	20200408		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
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ES2763094 T3	20200527	LSGT	+FG2A	DEFINITIVE PROTECTION	Effective date: 20200527 Filing date: 20200527
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JP2016509922 T2	20160314	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Effective date: 20160314 Text: JAPANESE INTERMEDIATE CODE: A711
JP2016509922 T2	20160331	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160314 Text: JAPANESE INTERMEDIATE CODE: A821
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JP2016509922 T2	20170314	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20170314 Text: JAPANESE INTERMEDIATE CODE: A621
JP2016509922 T2	20170314	LSES	+A621	出願審査請求書	Effective date: 20170314
JP2016509922 T2	20170405	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170405 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016509922 T2	20170405		A523	手続補正書	Effective date: 20170405
JP2016509922 T2	20180226		A971007	検索報告書	Effective date: 20180226
JP2016509922 T2	20180226		A977	REPORT ON RETRIEVAL	Effective date: 20180226 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2016509922 T2	20180228	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20180228 Text: JAPANESE INTERMEDIATE CODE: A131
JP2016509922 T2	20180228	LSES	-A131	拒絶理由通知書	Effective date: 20180228
JP2016509922 T2	20180531		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20180531 Text: JAPANESE INTERMEDIATE CODE: A601
JP2016509922 T2	20180531		A601	期間延長請求書	Effective date: 20180531
JP2016509922 T2	20180703	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180703 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016509922 T2	20180703		A523	手続補正書	Effective date: 20180703
JP2016509922 T2	20180703		A53	意見書	Effective date: 20180703
JP2016509922 T2	20181210	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20181210 Text: JAPANESE INTERMEDIATE CODE: A02
JP2016509922 T2	20181210	LSRV	-A02	拒絶査定	Effective date: 20181210
JP2016509922 T2	20190410	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190410 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016509922 T2	20190410		A523	手続補正書	Effective date: 20190410
JP2016509922 T2	20190410		C60	審判請求書(その他の請求書・申立書を含む)	Effective date: 20190410
JP2016509922 T2	20190422	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20190419 Text: JAPANESE INTERMEDIATE CODE: A911
JP2016509922 T2	20190422	LSAL	A911	審査前置移管	Effective date: 20190419
JP2016509922 T2	20190422		C21	審査前置移管通知	Effective date: 20190422
JP2016509922 T2	20190510		A913	前置報告書	Effective date: 20190509
JP2016509922 T2	20190513	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20190510 Text: JAPANESE INTERMEDIATE CODE: A912
JP2016509922 T2	20190513	LSAL	-A912	審査前置解除	Effective date: 20190510
JP2016509922 T2	20190514		A861	ファイル記録事項の閲覧(縦覧) 請求書	Effective date: 20190514

JP2016509922 T2	20190514		C211	審査前置解除通知	Effective date: 20190514
JP2016509922 T2	20190717		A781	上申書	Effective date: 20190717
JP2016509922 T2	20200219		C22	審判官指定(変更)通知	Effective date: 20200219
JP2016509922 T2	20200331		C13	拒絶理由通知書	Effective date: 20200331
JP2016509922 T2	20200630	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20200630 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016509922 T2	20200630		A523	手続補正書	Effective date: 20200630
JP2016509922 T2	20200630		A53	意見書	Effective date: 20200630
JP2017528294 T2	20170623	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170517 Text: JAPANESE INTERMEDIATE CODE: A523
JP2017528294 T2	20170623		A523	手続補正書	Effective date: 20170517
JP2017528294 T2	20170623		A632	国内書面	Effective date: 20170315
JP2017528294 T2	20170623		A634	国際出願翻訳文提出書	Effective date: 20170515
JP2017528294 T2	20170810		A231	出願番号特定通知書	Effective date: 20170810
JP2017528294 T2	20170928	LSPB	+	published / reissued	
JP2017528294 T2	20180719	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20180719 Text: JAPANESE INTERMEDIATE CODE: A621
JP2017528294 T2	20180719	LSES	+A621	出願審査請求書	Effective date: 20180719
JP2017528294 T2	20190529	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20190529 Text: JAPANESE INTERMEDIATE CODE: A131
JP2017528294 T2	20190529	LSES	-A131	拒絶理由通知書	Effective date: 20190529
JP2017528294 T2	20190604		A971007	検索報告書	Effective date: 20190531
JP2017528294 T2	20190604		A977	REPORT ON RETRIEVAL	Effective date: 20190531 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2017528294 T2	20190820		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20190820 Text: JAPANESE INTERMEDIATE CODE: A601
JP2017528294 T2	20190820		A601	期間延長請求書	Effective date: 20190820
JP2017528294 T2	20191120	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20191120 Text: JAPANESE INTERMEDIATE CODE: A523
JP2017528294 T2	20191120		A523	手続補正書	Effective date: 20191120
JP2017528294 T2	20191120		A53	意見書	Effective date: 20191120
JP2017528294 T2	20200127	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20200127 Text: JAPANESE INTERMEDIATE CODE: A02
JP2017528294 T2	20200127	LSRV	-A02	拒絶査定	Effective date: 20200127
JP2019141638 A2	20190510	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190510 Text: JAPANESE INTERMEDIATE CODE: A523
JP2019141638 A2	20190510	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20190510 Text: JAPANESE INTERMEDIATE CODE: A621
JP2019141638 A2	20190829	LSPB	+	published / reissued	
JP2019141638 A2	20200728	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20200728 Text: JAPANESE INTERMEDIATE CODE: A131
JP2019141638 A2	20200728	LSES	-A131	拒絶理由通知書	Effective date: 20200728
JP2020124613 A2	20200618	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20200618 Text: JAPANESE INTERMEDIATE CODE: A523
JP2020124613 A2	20200618	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20200618 Text: JAPANESE INTERMEDIATE CODE: A621
JP2020124613 A2	20200820	LSPB	+	published / reissued	
KR20150127135 A	20151116	LSPB	+	published / reissued	
KR20150127135 A	20190123	LSES	A201	REQUEST FOR EXAMINATION	
KR20150127135 A	20200727	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20170056653 A	20170523	LSPB	+	published / reissued	

KR20170056653 A	20200420	LSES	A201	REQUEST FOR EXAMINATION	
NZ713123 A	20160527	LSAS	ASS	CHANGE OF OWNERSHIP	Effective date: 20160519 Owner: EMBO MEDICAL LIMITED, IE PartyType: owner
NZ713123 A	20180525	LSPB	+	published / reissued	
NZ713123 A	20180831	LSGT	+PSEA	PATENT SEALED	
NZ713123 A	20190222	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20190219 Text: PATENT RENEWED FOR 1 YEAR UNTIL 14 MAR 2020 BY ANAQUA SERVICES
NZ713123 A	20200228	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20200218 Text: PATENT RENEWED FOR 1 YEAR UNTIL 14 MAR 2021 BY ANAQUA SERVICES
NZ729857 A	20180928	LSPB	+	published / reissued	
NZ729857 A	20190125	LSGT	+PSEA	PATENT SEALED	
NZ729857 A	20190830	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20190820 Text: PATENT RENEWED FOR 1 YEAR UNTIL 15 SEP 2020 BY ANAQUA SERVICES
NZ729857 A	20200828	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20200819 Text: PATENT RENEWED FOR 1 YEAR UNTIL 15 SEP 2021 BY ANAQUA SERVICES
NZ741995 A	20190830	LSPB	+	published / reissued	
NZ741995 A	20191220	LSGT	+PSEA	PATENT SEALED	
NZ741995 A	20200228	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20200218 Text: PATENT RENEWED FOR 1 YEAR UNTIL 14 MAR 2021 BY ANAQUA SERVICES
NZ746276 A	20190927	LSPB	+	published / reissued	
NZ746276 A	20200131	LSGT	+PSEA	PATENT SEALED	
NZ746276 A	20200828	LSFE	+RENW	RENEWAL (RENEWAL FEES ACCEPTED)	Effective date: 20200818 Text: PATENT RENEWED FOR 1 YEAR UNTIL 15 SEP 2021 BY GRIFFITH HACK
NZ751703 A	20191220	LSPB	+	published / reissued	
NZ751703 A	20200327	LSGT	+PSEA	PATENT SEALED	
NZ751704 A	20200131	LSPB	+	published / reissued	
NZ751704 A	20200529	LSGT	+PSEA	PATENT SEALED	
NZ751705 A	20191220	LSPB	+	published / reissued	
NZ751705 A	20200327	LSGT	+PSEA	PATENT SEALED	
NZ755781 A	20200626	LSPB	+	published / reissued	
US10660645 BB	20140513	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ALLEN, WAYNE;FORDE, COLIN;MULLINS, LIAM;AND OTHERS;SIGNING DATES FROM 20140318 TO 20140319;REEL/FRAME:032876/0329 Owner: NATIONAL UNIVERSITY OF IRELAND, GALWAY, IRELAND PartyType: owner
US10660645 BB	20200526	LSGT	+	granted / extensions (spc, cpc, pte)	
US10660645 BB	20200818	LSRE	CC	CERTIFICATE OF CORRECTION	
US10660645 BB	20340311	PEXP		Calculated Patent Term Expiry	
US10675039 BB	20200520	LSGT	PAT1	Patented Case	
US10675039 BB	20200609	LSGT	+	granted / extensions (spc, cpc, pte)	
US10675039 BB	20340331	PEXP		Calculated Patent Term Expiry (PTA 17 days)	
US2014276388 AA	20140918	LSPB	+	published / reissued	

US2014276388 AA	20151214		FRM1	Final Rejection Mailed	
US2014276388 AA	20160129	LSAS	AS	ASSIGNMENT	Effective date: 20151203 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NATIONAL UNIVERSITY OF IRELAND, GALWAY;REEL/FRAME:037615/0723 Owner: EMBO MEDICAL LIMITED, IRELAND PartyType: owner
US2014276388 AA	20170208		RFE1	Docketed New Case - Ready for Examination	
US2014276388 AA	20170526	LSES	NFA1	Non Final Action Mailed	
US2014276388 AA	20170911		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014276388 AA	20171128		FRM2	Final Rejection Counted, Not Yet Mailed	
US2014276388 AA	20171130		FRM1	Final Rejection Mailed	
US2014276388 AA	20180220	LSES	ADV2	Advisory Action Counted, Not Yet Mailed	
US2014276388 AA	20180308		RFE1	Docketed New Case - Ready for Examination	
US2014276388 AA	20181016	LSES	NFA1	Non Final Action Mailed	
US2014276388 AA	20190224		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014276388 AA	20190224		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2014276388 AA	20190523		FRM1	Final Rejection Mailed	
US2014276388 AA	20190523		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2014276388 AA	20190829		RSP1	Response after Final Action Forwarded to Examiner	
US2014276388 AA	20190829		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER
US2014276388 AA	20190916	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014276388 AA	20190916		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2014276388 AA	20191116	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014276388 AA	20191116		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2014276388 AA	20191219		RFE1	Docketed New Case - Ready for Examination	
US2014276388 AA	20191219		STPP	INFORMATION ON	Text: DOCKETED NEW CASE - READY

				STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	FOR EXAMINATION
US2014276388 AA	20200121	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014276388 AA	20200121		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2014276388 AA	20200422	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2014276388 AA	20200423	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2014276388 AA	20200423		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2014276388 AA	20200506	LSGT	PAT1	Patented Case	
US2014276388 AA	20200506	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016030047 AA	20151023	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ALLEN, WAYNE;FORDE, COLIN;GILSON, PAUL;AND OTHERS;SIGNING DATES FROM 20151021 TO 20151022;REEL/FRAME:036871/0700 Owner: NATIONAL UNVERSITY OF IRELAND, GALWAY, IRELAND PartyType: owner
US2016030047 AA	20160129	LSAS	AS	ASSIGNMENT	Effective date: 20151203 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NATIONAL UNIVERSITY OF IRELAND, GALWAY;REEL/FRAME:037615/0723 Owner: EMBO MEDICAL LIMITED, IRELAND PartyType: owner
US2016030047 AA	20160204	LSPB	+	published / reissued	
US2016030047 AA	20160523		RFE1	Docketed New Case - Ready for Examination	
US2016030047 AA	20170915	LSES	NFA1	Non Final Action Mailed	
US2016030047 AA	20180114		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016030047 AA	20180409		FRM2	Final Rejection Counted, Not Yet Mailed	
US2016030047 AA	20180416		FRM1	Final Rejection Mailed	
US2016030047 AA	20181126	LSES	NFA1	Non Final Action Mailed	
US2016030047 AA	20190318		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016030047 AA	20190318		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2016030047 AA	20190627		FRM1	Final Rejection Mailed	
US2016030047 AA	20190627		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED

US2016030047 AA	20190831		RSP1	Response after Final Action Forwarded to Examiner	
US2016030047 AA	20190831		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER
US2016030047 AA	20190930	LSAL	NAF1	Notice of Appeal Filed	
US2016030047 AA	20190930	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	Text: NOTICE OF APPEAL FILED
US2016030047 AA	20200107	LSAL	ABE1	Appeal Brief (or Supplemental Brief) Entered and Forwarded to Examiner	
US2016030047 AA	20200107	LSAL	STCV	INFORMATION ON STATUS: APPEAL PROCEDURE	Text: APPEAL BRIEF (OR SUPPLEMENTAL BRIEF) ENTERED AND FORWARDED TO EXAMINER
US2016030047 AA	20200415	LSES	NFA1	Non Final Action Mailed	
US2016030047 AA	20200415		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2016030047 AA	20200714	LSWD	EAB1	Expressly Abandoned -- During Examination	
US2016166257 AA	20151023	LSAS	AS	ASSIGNMENT	Effective date: 20151022 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ALLEN, WAYNE;FORDE, COLIN;GILSON, PAUL;AND OTHERS;REEL/FRAME:036871/0729 Owner: NATIONAL UNVERSITY OF IRELAND, GALWAY, IRELAND PartyType: owner
US2016166257 AA	20160129	LSAS	AS	ASSIGNMENT	Effective date: 20151203 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NATIONAL UNIVERSITY OF IRELAND, GALWAY;REEL/FRAME:037615/0723 Owner: EMBO MEDICAL LIMITED, IRELAND PartyType: owner
US2016166257 AA	20160523		RFE1	Docketed New Case - Ready for Examination	
US2016166257 AA	20160616	LSPB	+	published / reissued	
US2016166257 AA	20170712	LSES	NFA1	Non Final Action Mailed	
US2016166257 AA	20180215		FRM2	Final Rejection Counted, Not Yet Mailed	
US2016166257 AA	20180220		FRM1	Final Rejection Mailed	
US2016166257 AA	20181016	LSES	NFA1	Non Final Action Mailed	
US2016166257 AA	20190224		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016166257 AA	20190224		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2016166257 AA	20190528		FRM1	Final Rejection Mailed	
US2016166257 AA	20190528		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2016166257 AA	20190910	LSES	NAM1	Notice of Allowance Mailed --	

US2016166257 AA	20190910		STPP	Application Received in Office of Publications INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016166257 AA	20191213	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016166257 AA	20191213		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2016166257 AA	20191222		RFE1	Docketed New Case - Ready for Examination	
US2016166257 AA	20191222		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2016166257 AA	20200205	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016166257 AA	20200205		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016166257 AA	20200508	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016166257 AA	20200508		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2020289122 AA	20200917	LSPB	+	published / reissued	
WO14140325 A1	20140918	LSPB	+	published / reissued	
WO14140325 A1	20141112		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 14710288 Country of Ref document: EP
WO14140325 A1	20150915	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2906996 Country of Ref document: CA
WO14140325 A1	20150915	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2015562239 Country of Ref document: JP
WO14140325 A1	20150915	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO14140325 A1	20150924	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20157026629 Country of Ref document: KR
WO14140325 A1	20151014	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2014710288 Country of Ref document: EP
WO14140325 A1	20151105	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20140314 Kind code of Ref document: A Ref document number: 2014230137 Country of Ref document: AU
WO14140325 A1	20151208		REG	REFERENCE TO NATIONAL CODE	Ref country code: BR Ref document number: 112015022634 Ref legal event code: B01A Country of Ref document: BR
WO14140325 A1	20170718	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20150911 Kind code of Ref document: A2 Ref document number: 112015022634 Country of Ref document: BR
WO16041961 A2	20160324	LSPB	+	published /	

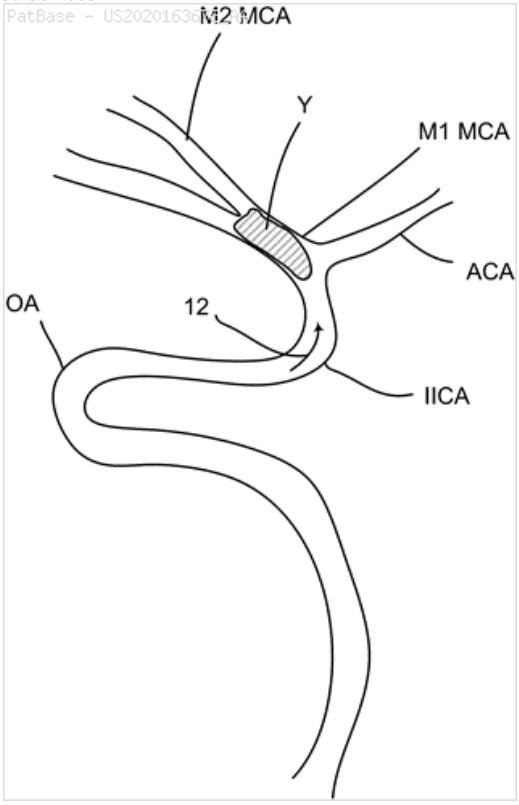
				reissued	
WO16041961 A2	20160504		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 15763021 Country of Ref document: EP
WO16041961 A3	20170209		DPE1	REQUEST FOR PRELIMINARY EXAMINATION FILED AFTER EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED FROM 20040101)	
WO16041961 A3	20170315	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2961431 Country of Ref document: CA
WO16041961 A3	20170315	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2017534002 Country of Ref document: JP
WO16041961 A3	20170315	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO16041961 A3	20170316		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2015763021 Country of Ref document: EP
WO16041961 A3	20170316	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2015763021 Country of Ref document: EP
WO16041961 A3	20170330	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20150915 Kind code of Ref document: A Ref document number: 2015316918 Country of Ref document: AU
WO16041961 A3	20170414	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20177010263 Country of Ref document: KR

39) Family number: 79123009 (US2020163678 AA)

Title: PRELOADED **CATHETER** AND **CLOT** **RETRIEVAL** **SYSTEMS** AND **METHODS** FOR TREATMENT OF ISCHEMIC STROKE

Abstract: The invention describes **systems** and **methods** for **retrieving** blood **clots** (thrombi) from patients undergoing endovascular/neurointervention procedures following ischemic stroke. More specifically, a preloaded **catheter** and **clot** **retrieval** **system** (PCS) effective in positioning a **clot** **retrieval** **system** (CRS) or stent adjacent a **clot** and ensnaring and **removing** the **clot** are described as well as **methods** of utilizing these devices.

Classifications:
International (IPC 8-9): A61B17/12 A61M25/00 A61M25/01
CPC: A61B17/12118 A61B17/221 A61B2017/00477 A61B2017/22042 A61B2017/22049 A61B2017/2215 A61M2025/0293 A61M2025/09008 A61M2025/09125 A61M25/0067 A61M25/0125



Family:

Publication number	Publication date	Application number	Application date
US2020163678 AA	20200528	US20190698158	20191127

Priority:
US20180771971P 20181127 US20190698158 20191127

Probable Assignee: MG STROKE ANALYTICS INC
Assignee(s): (std): MG STROKE ANALYTICS INC
Inventor(s): (std): GOYAL MAYANK

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2020163678 AA	20191223	LSAS	AS	ASSIGNMENT	Effective date: 20181213 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GOYAL, MAYANK, DR.;REEL/FRAME:051356/0571 Owner: MG STROKE ANALYTICS INC., CANADA PartyType: owner
US2020163678 AA	20200113		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020163678 AA	20200528	LSPB	+	published / reissued	

40) Family number: 67555813 (US2017333174 AA)

Title: VESSEL ACCESS **CATHETER**

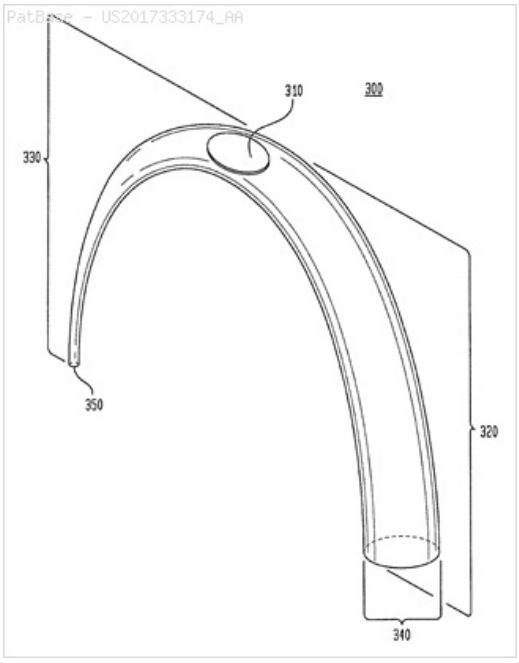
Abstract: The described invention provides an endovascular device comprising a tube comprising a first end comprising a bifurcation and a second end comprising an opening. The bifurcation at the first end comprises a first branch and a second branch. The opening at the second end comprises a primary opening and a secondary opening. The first branch and the primary opening form a working lumen. The second branch and the secondary opening form a support lumen. The described invention further provides an endovascular device comprising a tube comprising a side-hole, a first segment comprising a primary opening and a second segment. The side-hole and the first segment form a working lumen. The second segment forms a support lumen.

Classifications:

International (IPC 8-9): A61B1/00 A61B17/00 A61B17/22 A61B17/3207 A61B17/34 A61B5/00 A61F2/01 A61F2/06 A61F2/07 A61F2/82 A61F2/856 A61F2/95 A61F2/954 A61F2/958 A61F2/966 A61M25/00 A61M25/01 A61M25/04 A61M25/06 A61M25/09 A61M25/10 A61M25/14 A61M25/16

CPC: A61B17/22 A61B17/3207 A61B17/3415 A61B17/3423 A61B2017/00278 A61B2017/3425 A61F2/011 A61F2/013 A61F2/95 A61F2/954 A61M2025/006 A61M2205/04 A61M2210/127 A61M25/0026 A61M25/0041 A61M25/0045 A61M25/04 A61M25/0662 A61M25/09041 A61M25/104 A61F2/06 A61F2/07 A61F2/82 A61F2/958 A61F2002/061 A61F2210/0014 A61F2230/0013 A61F2230/006 A61F2250/0039 A61M2025/0036 A61M2025/004 A61M2025/1047 A61M25/0068 A61M25/007 A61M25/01 A61M25/0133 A61M25/0152 A61M25/1011 A61B5/042 A61B5/055 A61B5/4836 A61B5/6852 A61B6/481 A61B6/487 A61B6/504 A61F2/856 A61F2002/9528 A61M2205/0266 A61M2210/12 A61M25/0052 A61M25/10 A61F2002/8486 A61B1/00071 A61B1/00154 A61B17/12109 A61B2017/003 A61B2017/00778 A61B2017/00867 A61B2017/00871 A61B2017/1205 A61F2/01 A61M2025/0058 A61M25/0105 A61M25/0158 A61B17/3462 A61B2017/00331 A61B2017/3486 A61M25/00 A61B2017/22069 A61B6/12 A61M2025/0161 A61M25/0147 A61M25/0668

US: 1/1 604/174 606/108 623/1.11



Family:

Publication number	Publication date	Application number	Application date
US10258371 BB	20190416	US20180013707	20180620
US2017333174 AA	20171123	US20160167304	20160527
US2017333237 AA	20171123	US20170482436	20170407
US2017333670 AA	20171123	US20160250693	20160829
US2017333674 AA	20171123	US20160158341	20160518
US2018049862 AA	20180222	US20170732130	20170920
US2018125635 AA	20180510	US20170732664	20171211
US2018243003 AA	20180830	US20180932775	20180423
US2018317960 AA	20181108	US20180013707	20180620
US2019216499 AA	20190718	US20190290923	20190303
US2019282265 AA	20190919	US20190501577	20190502
US2019282266 AA	20190919	US20190501592	20190502
US2020009351 AA	20200109	US20190575302	20190918
US2020060723 AA	20200227	US20190600096	20191011
US2020078554 AA	20200312	US20190602469	20191011
US2020222173 AA	20200716	US20200828312	20200324
WO17200738 A1	20171123	WO2017US30448	20170501
WO17200750 A1	20171123	WO2017US30889	20170503

Priority:

US20160158341 20160518 US20160167304 20160527 US20160250693 20160829
US20170482436 20170407 US20170732130 20170920 US20170732664 20171211
US20180932775 20180423 US20180013707 20180620 US20190290923 20190303
US20190501577 20190502 US20190501592 20190502 US20190575302 20190918
US20190600096 20191011 US20190602469 20191011 US20200828312 20200324

Probable Assignee: WALZMAN INNOVATIONS LLC

Assignee(s): (std): WALZMAN DANIEL ; WALZMAN DANIEL EZRA ; WALZMAN INNOVATIONS LLC

Inventor(s): (std): WALZMAN DANIEL ; WALZMAN DANIEL EZRA

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details

US10258371 BB	20180620	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
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US10258371 BB	20190327	LSGT	PAT1	Patented Case	
US10258371 BB	20190416	LSGT	+	granted / extensions (spc, cpc, pte)	
US10258371 BB	20190502	LSAS	AS	ASSIGNMENT	Effective date: 20190425 PartyType: owner Owner: WALZMAN INNOVATIONS, LLC, FLORIDA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WALZMAN, DANIEL EZRA;REEL/FRAME:049063/0365
US10258371 BB	20360518	PEXP		Calculated Patent Term Expiry	
US2017333174 AA	20161202	LSAS	AS	ASSIGNMENT	Effective date: 20160210 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WALZMAN, DANIEL;REEL/FRAME:040493/0835 Owner: WALZMAN INNOVATIONS, LLC, FLORIDA
US2017333174 AA	20171123	LSPB	+	published / reissued	
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US2017333174 AA	20171130		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
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US2017333237 AA	20190221		FRM1	Final Rejection Mailed	
US2017333237 AA	20190319		RFE1	Docketed New Case - Ready for Examination	
US2017333237 AA	20190319		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
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US2017333670 AA	20171123	LSPB	+	published / reissued	
US2017333670 AA	20171201		FRM1	Final Rejection	

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US2017333670 AA	20180411		RFE1	Docketed New Case - Ready for Examination	
US2017333670 AA	20181120		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017333670 AA	20190221		FRM1	Final Rejection Mailed	
US2017333670 AA	20190319		RFE1	Docketed New Case - Ready for Examination	
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US2017333670 AA	20190905		FRM1	Final Rejection Mailed	
US2017333670 AA	20190905		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
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US2017333670 AA	20200103	LSES	NFA1	Non Final Action Mailed	
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US2017333670 AA	20200207		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017333670 AA	20200305		FRM1	Final Rejection Mailed	
US2017333670 AA	20200430		RSP1	Response after Final Action Forwarded to Examiner	
US2017333670 AA	20200701	LSES	ADV1	Advisory Action Mailed	
US2017333670 AA	20200701		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: ADVISORY ACTION MAILED

US2017333674 AA	20161202	LSAS	AS	ASSIGNMENT	Effective date: 20160210 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WALZMAN, DANIEL;REEL/FRAME:040493/0547 Owner: WALZMAN INNOVATIONS, LLC, FLORIDA PartyType: owner
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US2017333674 AA	20171201		FRM1	Final Rejection Mailed	
US2017333674 AA	20180625	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2017333674 AA	20180625		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
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US2018049862 AA	20190815	LSES	NFA1	Non Final Action Mailed	
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US2018125635 AA	20180510	LSPB	+	published / reissued	
US2018125635 AA	20180510		RFE1	Docketed New Case - Ready for Examination	
US2018125635 AA	20180510		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
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US2018125635 AA	20200507		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018243003 AA	20180830	LSPB	+	published / reissued	
US2018243003 AA	20190109		RFE1	Docketed New Case - Ready for Examination	
US2018243003 AA	20190201	LSES	NFA1	Non Final Action Mailed	
US2018243003 AA	20190314	LSES	NFA1	Non Final Action Mailed	
US2018243003 AA	20190314		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018243003 AA	20190314		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
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US2018243003 AA	20190410		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018243003 AA	20190506		FRM1	Final Rejection Mailed	
US2018243003 AA	20190506		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
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US2018243003 AA	20190618	LSES	ADV1	Advisory Action Mailed	
US2018243003 AA	20190618		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN	Text: ADVISORY ACTION MAILED

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US2018243003 AA	20200505		RFE1	Docketed New Case - Ready for Examination	
US2018317960 AA	20181108	LSPB	+	published / reissued	
US2018317960 AA	20190109		RFE1	Docketed New Case - Ready for Examination	
US2018317960 AA	20190214	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018317960 AA	20190305	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018317960 AA	20190327	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019216499 AA	20190628		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
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US2019216499 AA	20190718	LSPB	+	published / reissued	
US2019216499 AA	20190905		FRM1	Final Rejection Mailed	
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US2019216499 AA	20191126		STPP	INFORMATION ON	Text: DOCKETED NEW CASE -

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US2019216499 AA	20200103	LSES	NFA1	Non Final Action Mailed	
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US2020009351 AA	20200108	LSES	NFA1	Non Final Action Mailed	
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US2020009351 AA	20200710		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
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US2020060723 AA	20191211		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: SPECIAL NEW
US2020060723 AA	20200227	LSPB	+	published / reissued	
US2020060723 AA	20200318	LSES	NFA1	Non Final Action Mailed	
US2020060723 AA	20200318		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
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US2020078554 AA	20200123		RFE1	Docketed New Case - Ready for Examination	
US2020078554 AA	20200312	LSPB	+	published / reissued	
US2020222173 AA	20200609		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020222173 AA	20200716	LSPB	+	published / reissued	

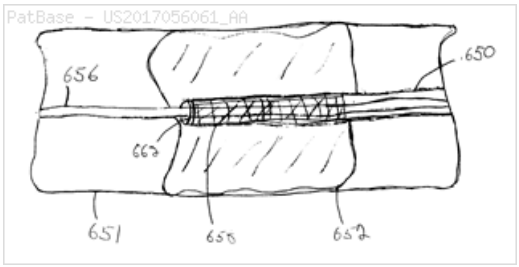
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WO17200738 A1	20181120	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17200738 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 17799852 Country of Ref document: EP
WO17200738 A1	20190612	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 17799852 Country of Ref document: EP
WO17200750 A1	20171123	LSPB	+	published / reissued	
WO17200750 A1	20181120	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17200750 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 17799858 Country of Ref document: EP
WO17200750 A1	20190612	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 17799858 Country of Ref document: EP

41) Family number: 65074656 (US2017056061 AA)

Title: THROMBECTOMY DEVICES AND TREATMENT OF ACUTE ISCHEMIC STROKE WITH THROMBUS ENGAGEMENT

Abstract: Components and corresponding **systems** are described for providing **removal** of a **clot** or fragment thereof to address an acute ischemic stroke condition. In particular, a filter design is presented that provides metal elements below a bundle of polymer fibers to provide more mechanical strength while cushioning the vessel wall from direct contact with the metal elements. Designs of stent **retrievers** are presented with polymer covers or mounted on the exterior of a microcatheter. Corresponding **systems** are described that can use various combinations of the components, generally in combination with an aspiration **catheter**. Corresponding procedures are described that can effectively use the various devices and **systems**.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B17/3207 A61B90/00 A61F2/01 A61M25/09 A61M29/00
CPC: A61B17/221 A61B17/320725 A61B2017/22035 A61B2017/2212 A61B2017/2215 A61B2090/0811 A61F2/013 A61F2002/016
US: 1/1 606/159



Family:

Publication number	Publication date	Application number	Application date
EP3344184 A1	20180711	EP20160842917	20160831
EP3344184 A4	20190515	EP20160842917	20160831
US10463386 BB	20191105	US20160253202	20160831
US2017056061 AA	20170302	US20160253202	20160831
US2020029998 AA	20200130	US20190582719	20190925
WO17040681 A1	20170309	WO2016US49723	20160831

Priority:
US20150212773P 20150901 WO2016US49723 20160831 US20160253202 20160831 US20190582719 20190925

Probable Assignee: MIVI NEUROSCIENCE INC

Assignee(s): (std): MIVI NEUROSCIENCE INC

Inventor(s): (std): GUTERMAN LEE R ; GUTTERMAN LEE R ; MATTISON RICHARD C ; OGLE MATTHEW F

Agent(s): CHRISTENSEN FONDER DARDI AND HERBERT PLLC; DARDI PETER S; DARDI PETER S ET AL; DOMPATENT VON KREISLER SELTING WERNER PARTNERSCHAFT VON PATENT U RECHTSANWAELTEN MBB

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
EP3344184 A1	20180711	LSPB	+	published / reissued	
EP3344184 A1	20180711	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20180329
EP3344184 A1	20180711		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3344184 A1	20180711		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3344184 A1	20180711		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3344184 A1	20181205		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3344184 A1	20181205		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3344184 A4	20190515	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20190415
EP3344184 A4	20190515		RIC1	INFORMATION PROVIDED ON IPC	ClassificationSymbol: A61F 2/01 20060101AFI20190409BHEP

				CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC
EP3344184 A4	20190515		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/09 20060101ALI20190409BHEP ClassificationScheme: IPC
EP3344184 A4	20190515		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 29/00 20060101ALI20190409BHEP
US10463386 BB	20161208	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:OGLE, MATTHEW F.;GUTERMAN, LEE R.;MATTISON, RICHARD C.;SIGNING DATES FROM 20160913 TO 20161202;REEL/FRAME:040597/0023 Owner: MIVI NEUROSCIENCE, INC., MINNESOTA PartyType: owner
US10463386 BB	20191105	LSGT	+	granted / extensions (spc, cpc, pte)	
US10463386 BB	20370908	PEXP		Calculated Patent Term Expiry (PTA 373 days)	
US2017056061 AA	20170217		RFE1	Docketed New Case - Ready for Examination	
US2017056061 AA	20170302	LSPB	+	published / reissued	
US2017056061 AA	20181227	LSES	NFA1	Non Final Action Mailed	
US2017056061 AA	20181227		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017056061 AA	20190406		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017056061 AA	20190406		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017056061 AA	20190417		FRM1	Final Rejection Mailed	
US2017056061 AA	20190417		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017056061 AA	20190719	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017056061 AA	20190719		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017056061 AA	20191001	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017056061 AA	20191001		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017056061 AA	20191016	LSGT	PAT1	Patented Case	
US2017056061 AA	20191016	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2020029998 AA	20191028		RFE1	Docketed New Case - Ready for Examination	
US2020029998 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN	Text: DOCKETED NEW CASE - READY FOR EXAMINATION

				GENERAL	
US2020029998 AA	20200130	LSPB	+	published / reissued	
WO17040681 A1	20170309	LSPB	+	published / reissued	
WO17040681 A1	20170426		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 16842917 Country of Ref document: EP
WO17040681 A1	20180302	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17040681 A1	20180403	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2016842917 Country of Ref document: EP

42) Family number: 68797690 (US2018064462 AA)

Title: ROTATING SEPARATOR, IRRIGATOR MICROCATHETER FOR THROMBECTOMY

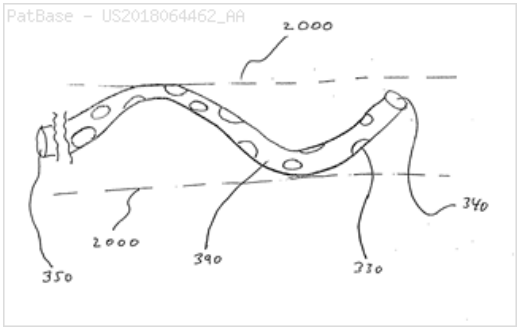
Abstract: The described invention provides several aspects designed to help mechanically break up and/or lyse a **clot** inside vessels and/or **remove** a **clot** via aspiration. According to some embodiments, the devices are adapted to irrigate a blood vessel during thrombectomy; to macerate an obstruction during thrombectomy, to block blood flow in a blood vessel during aspiration of a thrombus; or to capture distal emboli.

Classifications:

International (IPC 8-9): A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B17/3203 A61B17/3207 A61B8/06 A61B8/08 A61B8/12 A61B90/00 A61F2/01 A61M25/00

CPC: A61B17/3207 A61B17/320758 A61B2017/22038 A61B2017/22051 A61B2017/22079 A61B2017/22084 A61B2017/2215 A61B2017/320716 A61B2017/320733 A61B2017/320766 A61B2217/005 A61B2217/007 A61B17/22 A61B17/2202 A61B17/32037 A61B17/320783 A61B2017/00876 A61B2017/00955 A61B2017/22039 A61B2017/320775 A61B2090/3784 A61B2090/3966 A61B8/06 A61B8/0891 A61B8/12 A61F2/011 A61F2/013 A61F2002/018 A61M2025/0042 A61M2025/1052 A61M25/0021 A61M25/0026 A61M25/0032 A61M25/0068 A61M25/007 A61B17/22012 A61B2017/22067 A61M2025/0024 A61B17/12109 A61B17/12136 A61B2017/1205 A61M25/00

US: 1/1 606/128 606/159



Family:

Publication number	Publication date	Application number	Application date
US10299824 BB	20190528	US20170530898	20170320
US10307242 BB	20190604	US20180125691	20180908
US10314684 BB	20190611	US20170731478	20170616
US2018064462 AA	20180308	US20170530898	20170320
US2018064526 AA	20180308	US20170731478	20170616
US2019029791 AA	20190131	US20180125691	20180908
US2019262120 AA	20190829	US20190501593	20190502
US2019343614 AA	20191114	US20190501806	20190610
US2020246014 AA	20200806	US20200795475	20200219

Priority:

US20160258877 20160907 US20170530898 20170320 US20170731478 20170616
US20180732953 20180116 US20180125691 20180908 US20190501593 20190502
US20190501806 20190610 US20200795475 20200219

Probable Assignee: WALZMAN INNOVATIONS LLC

Assignee(s): (std): WALZMAN DANIEL EZRA

Assignee(s): WALZMAN INNOVATIONS LLC

Inventor(s): (std): WALZMAN DANIEL EZRA

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10299824 BB	20170426		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10299824 BB	20190508	LSGT	PAT1	Patented Case	
US10299824 BB	20190528	LSGT	+	granted / extensions (spc, cpc, pte)	
US10299824 BB	20190603	LSAS	AS	ASSIGNMENT	Effective date: 20190530 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WALZMAN, DANIEL EZRA, DR.;REEL/FRAME:049351/0729 Owner: WALZMAN INNOVATIONS, LLC, FLORIDA PartyType: owner
US10299824 BB	20370721	PEXP		Calculated Patent Term Expiry (PTA 317 days)	
US10307242 BB	20180908	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10307242 BB	20181003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10307242 BB	20190604	LSGT	+	granted / extensions (spc,	

				cpc, pte)	
US10307242 BB	20190917	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WALZMAN, DANIEL EZRA;REEL/FRAME:050405/0665 Owner: WALZMAN INNOVATIONS, LLC, FLORIDA PartyType: owner Effective date: 20190917
US10307242 BB	20360907	PEXP		Calculated Patent Term Expiry	
US10314684 BB	20190611	LSGT	+	granted / extensions (spc, cpc, pte)	
US10314684 BB	20190618	LSAS	AS	ASSIGNMENT	Effective date: 20190617 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:WALZMAN, DANIEL EZRA;REEL/FRAME:049502/0686 Owner: WALZMAN INNOVATIONS, LLC, FLORIDA PartyType: owner
US10314684 BB	20370501	PEXP		Calculated Patent Term Expiry (PTA 236 days)	
US2018064462 AA	20170426		RFE1	Docketed New Case - Ready for Examination	
US2018064462 AA	20180308	LSPB	+	published / reissued	
US2018064462 AA	20190402	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018064462 AA	20190402		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018064462 AA	20190423	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018064462 AA	20190423		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018064462 AA	20190508	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018064526 AA	20180308	LSPB	+	published / reissued	
US2018064526 AA	20180318		RFE1	Docketed New Case - Ready for Examination	
US2018064526 AA	20180318		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018064526 AA	20190408	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018064526 AA	20190408		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018064526 AA	20190423	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018064526 AA	20190423		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2018064526 AA	20190522	LSGT	PAT1	Patented Case	
US2018064526 AA	20190522	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

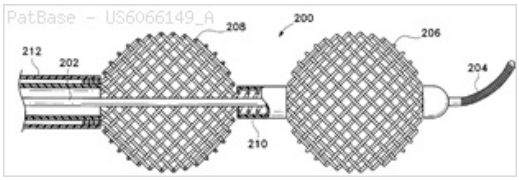
US2019029791 AA	20190107	LSES	NFA1	Non Final Action Mailed	
US2019029791 AA	20190131	LSPB	+	published / reissued	
US2019029791 AA	20190219		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019029791 AA	20190219		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019029791 AA	20190404	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2019029791 AA	20190404		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2019029791 AA	20190422	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2019029791 AA	20190422		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2019029791 AA	20190515	LSGT	PAT1	Patented Case	
US2019029791 AA	20190515	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019262120 AA	20190829	LSPB	+	published / reissued	
US2019343614 AA	20191028		RFE1	Docketed New Case - Ready for Examination	
US2019343614 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019343614 AA	20191114	LSPB	+	published / reissued	
US2020246014 AA	20200429		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020246014 AA	20200806	LSPB	+	published / reissued	

43) Family number: 28208829 (US6066149 A)

Title: MECHANICAL **CLOT** TREATMENT DEVICE WITH DISTAL FILTER

Abstract: This is a surgical device usually delivered through an intravascular **catheter**. It may be used in several ways. It may, for instance, be used to open a clear passageway adjacent thrombus to allow both blood and medication to bypass the **clot**. It may be used to pierce and to **remove** thrombus. These thrombus are often found in tortuous vasculature. The device includes several sections. The device has a core element, typically a core wire. Placed around the distal end of the core element is a collapsible but preferably self expanding proximal cage assembly and a distal filter, preferably a self-expanding cage assembly or other filter component. The various portions of those components are preferably radio-opaque. The proximal end of the proximal cage is typically is affixed to an actuator in such a way as to allow expansion of the cage after deployment. The proximal cage assembly may be used for collecting emboli or for displacing them to allow blood flow to resume, either with or without concurrent **clot** -dissolving drug treatment. The distal sector, whether a self-expanding cage or fan, is placed distally of the thrombus to collect portions of the thrombus which may loosen during the treatment or **removal** procedure.

Classifications:
International (IPC 8-9): A61B17/22 A61B19/00 A61F2/01 A61M29/00
International (IPC 1-7): A61B17/22 A61M2/900 A61M29/00 A61M5/178
CPC: A61B17/221 A61B2017/22034 A61B2017/22045 A61B2017/22084 A61B2017/2212 A61B2090/376 A61B90/39 A61F2/01 A61F2/011 A61F2/013 A61F2002/016 A61F2230/0006 A61F2230/005 A61F2230/0067 A61F2230/0071
US: 604/159 604/159P 606/127 606/159 606/200 606/200P



Family:

Publication number	Publication date	Application number	Application date
AU199892961 A1	19990423	AU19980092961	19980827
DE69831968 D1	20051124	DE19986031968T	19980827
DE69831968 T2	20060713	DE19986031968T	19980827
EP1026997 A1	20000816	EP19980945801	19980827
EP1026997 B1	20051019	EP19980945801	19980827
EP1611855 A1	20060104	EP20050016166	19980827
JP2003521259 T2	20030715	JP20000513509T	19980827
JP4152071 B2	20080917	JP20000513509T	19980827
US2002082558 AA	20020627	US20020082492	20020222
US2011082493 AA	20110407	US20100966311	20101213
US6066149 A	20000523	US19970941514	19970930
US6383205 BA	20020507	US19990452528	19991201
US7875050 BB	20110125	US20020082492	20020222
US8486104 BB	20130716	US20100966311	20101213
WO9916362 A1	19990408	WO1998US17976	19980827

Priority:

US19970941514 19970930 WO1998US17976 19980827 EP19980945801 19980827
US19990452528 19991201 US20020082492 20020222 US20100966311 20101213

Probable Assignee: STRYKER CORP

Assignee(s): (std): BOSTON SCIENT LTD ; CARRISON HAROLD F ; SAMSON GENE ; SCIMED LIFE SYSTEMS INC ; STRYKER CORP ; STRYKER OPERATIONS LTD NV ; TARGET THERAPEUTICS INC

Assignee(s): BOSTON SCIENTIFIC LIMITED ; BOSTON SCIENTIFIC LTD ; BOSTON SCIENTIFIC LTD ST MICHAEL ; STRYKER EUROPEAN HOLDINGS I LLC ; STRYKER EUROPEAN HOLDINGS III LLC ; STRYKER EUROPEAN OPERATIONS HOLDINGS LLC ; STRYKER MEDTECH LTD ; ボストン サイエンティフィック リミテッド

Inventor(s): (std): CARRISON F ; CARRISON HAROLD F ; SAMSON GENE

Inventor(s): GENE SAMSON ; HAROLD F CARRISON ; キャリソン ハロルド エフ ; キャリソン, ハロルド エフ. ; サムソン ジーン ; サムソン, ジーン

Agent(s): LYON AND LYON; SEAGER TUFTE AND WICKHEM LLC; VISTA IP LAW GROUP LLP; 山本 秀策

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HR HU ID IE IL 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 US UZ VN YU ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199892961 A1	19990423	LSPB	+	published / reissued	
AU199892961 A1	20000615	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2) (F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
DE69831968 D1	20061109	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69831968 D1	20121129	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	Owner: Stryker NV Operations Ltd., Dublin, IE Owner: Stryker Corp., Kalamazoo, Mich., US PartyType: Owner OldParty: Boston Scientific Ltd., St. Michael, Barbados, BB

DE69831968 D1	20130124	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PartyType: owner Owner: STRYKER CORP., US OldParty: FORMER OWNER: BOSTON SCIENTIFIC LTD., ST. MICHAEL, BB Effective date: 20121129 Ref document number: 1026997 Country of Ref document: EP
DE69831968 D1	20130124	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PartyType: owner OldParty: FORMER OWNER: BOSTON SCIENTIFIC LTD., ST. MICHAEL, BB Owner: STRYKER NV OPERATIONS LTD., IE Ref document number: 1026997 Effective date: 20121129 Country of Ref document: EP
DE69831968 D1	20130124		R082	CHANGE OF REPRESENTATIVE	PartyType: representative Effective date: 20121129 Ref document number: 1026997 Representative: RECHTS- UND PATENTANWAELTE LORENZ SEIDLER GOSS, DE Country of Ref document: EP
DE69831968 T2	20060713	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69831968 T2	20061109	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69831968 T2	20130124	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OldParty: FORMER OWNER: BOSTON SCIENTIFIC LTD., ST. MICHAEL, BB Effective date: 20121129 Owner: STRYKER CORP., US PartyType: owner Ref document number: 1026997 Country of Ref document: EP
DE69831968 T2	20130124	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	Ref document number: 1026997 Effective date: 20121129 OldParty: FORMER OWNER: BOSTON SCIENTIFIC LTD., ST. MICHAEL, BB PartyType: owner Owner: STRYKER NV OPERATIONS LTD., IE Country of Ref document: EP
DE69831968 T2	20130124		R082	CHANGE OF REPRESENTATIVE	Ref document number: 1026997 Representative: RECHTS- UND PATENTANWAELTE LORENZ SEIDLER GOSS, DE PartyType: representative Effective date: 20121129 Country of Ref document: EP
DE69831968 T2	20180827	PEXP		Calculated Patent Term Expiry	
EP1026997 A1	20000816	LSPB	+	published / reissued	
EP1026997 A1	20000816	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20000425
EP1026997 A1	20000816		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: DE DK ES FR GB IE IT NL
EP1026997 A1	20031001	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20030814
EP1026997 B1	20051019	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP1026997 B1	20051019	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP1026997 B1	20051116	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D

EP1026997 B1	20051124		REF	CORRESPONDS TO:	Kind code of Ref document: P Date of Ref document: 20051124 Ref document number: 69831968 Country of Ref document: DE
EP1026997 B1	20060119	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20060119 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1026997 B1	20060130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20060130 Country of Ref document: ES
EP1026997 B1	20060609		+ET	FR: TRANSLATION FILED	
EP1026997 B1	20060927	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20060720
EP1026997 B1	20080131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20070710 Country of Ref document: NL
EP1026997 B1	20090506	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	Ref country code: EP Effective date: 20090301
EP1026997 B1	20090529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090301 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: NL
EP1026997 B1	20111031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20110810 Year of fee payment: 14 Country of Ref document: IE
EP1026997 B1	20111130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20110824 Year of fee payment: 14 Country of Ref document: GB
EP1026997 B1	20111130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 14 Payment date: 20110824 Country of Ref document: DE
EP1026997 B1	20111130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20110818 Year of fee payment: 14 Country of Ref document: FR
EP1026997 B1	20121107		REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Text: REGISTERED BETWEEN 20121011 AND 20121017 Ref legal event code: 732E
EP1026997 B1	20130124		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R082 Effective date: 20121129 PartyType: representative Representative: RECHTS- UND PATENTANWAELTE LORENZ SEIDLER GOSS, DE Ref document number: 69831968 Ref country code: DE Country of Ref document: DE
EP1026997 B1	20130124		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20121129 PartyType: representative Ref legal event code: R082 Ref country code: DE Ref document number: 69831968 Representative: LORENZ SEIDLER GOSSEL RECHTSANWAELTE PATENTANW, DE Country of Ref document: DE
EP1026997 B1	20130124	LSAS	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20121129 Ref document number: 69831968 Ref country code: DE OldParty: FORMER OWNER: BOSTON SCIENTIFIC LTD., ST. MICHAEL, BB Ref legal event code: R081 Owner: STRYKER CORP., US PartyType: owner Country of Ref document: DE
EP1026997 B1	20130124	LSAS	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20121129 Ref legal event code: R081 Ref country code: DE OldParty: FORMER OWNER: BOSTON

					SCIENTIFIC LTD., ST. MICHAEL, BB Ref document number: 69831968 Owner: STRYKER NV OPERATIONS LTD., IE PartyType: owner Country of Ref document: DE
EP1026997 B1	20130124	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Owner: STRYKER CORP., KALAMAZOO, US OldParty: FORMER OWNER: BOSTON SCIENTIFIC LTD., ST. MICHAEL, BARBADOS, BB Effective date: 20121129 Ref document number: 69831968 PartyType: owner Ref legal event code: R081 Country of Ref document: DE
EP1026997 B1	20130124	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Effective date: 20121129 OldParty: FORMER OWNER: BOSTON SCIENTIFIC LTD., ST. MICHAEL, BARBADOS, BB Ref document number: 69831968 Owner: STRYKER NV OPERATIONS LTD., IE PartyType: owner Ref legal event code: R081 Country of Ref document: DE
EP1026997 B1	20130201	LSAS	REG	REFERENCE TO A NATIONAL CODE	Owner: STRYKER CORPORATION, US Ref country code: FR Ref legal event code: TP Effective date: 20130103 PartyType: owner
EP1026997 B1	20130424	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20120827 Ref country code: EP
EP1026997 B1	20130517	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: ST Ref country code: FR Effective date: 20130430
EP1026997 B1	20130522	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM4A Ref country code: IE
EP1026997 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120827 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1026997 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120827 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1026997 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130301 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP1026997 B1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120831 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1026997 B1	20130926	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R119 Effective date: 20130301 Ref document number: 69831968 Country of Ref document: DE
EP1026997 B1	20180827	PEXP		Calculated Patent Term Expiry	
EP1611855 A1	20060104	LSPB	+	published / reissued	
EP1611855 A1	20060104		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Ref document number: 1026997 Kind code of Ref document: P Country of Ref document: EP
EP1611855 A1	20060104		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: DE DK ES FR GB IE IT NL
EP1611855 A1	20060726	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060608
EP1611855 A1	20060823	LSES	+17Q	FIRST EXAMINATION REPORT	Effective date: 20060725

EP1611855 A1	20060906	LSFE	+AKX	DESPATCHED DESIGNATION FEES PAID	Country of Ref document: DE DK ES FR GB IE IT NL
EP1611855 A1	20130828	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20130301
JP2003521259 T2	20030715	LSPB	+	published / reissued	
JP2003521259 T2	20050714	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20050713
JP2003521259 T2	20050714	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20050713 Text: JAPANESE INTERMEDIATE CODE: A621
JP2003521259 T2	20070425	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070424 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003521259 T2	20070725	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20070724 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003521259 T2	20071218	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20071217
JP2003521259 T2	20080318	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20080317 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003521259 T2	20080605	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003521259 T2	20080611	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20080610
JP2003521259 T2	20080612	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2003521259 T2	20080710	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20080701
JP2003521259 T2	20080714	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4152071 B2	20080917	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4152071 B2	20110630	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4152071 B2	20110705	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4152071 B2	20120711	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4152071 B2	20180827	PEXP		Calculated Patent Term Expiry	
US2002082558 AA	20020627	LSPB	+	published / reissued	
US2002082558 AA	20110105	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011082493 AA	20110407	LSPB	+	published / reissued	
US2011082493 AA	20130626	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6066149 A	19980327	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SAMSON, GENE;CARRISON, HAROLD F.;REEL/FRAME:009070/0910;SIGNING DATES FROM 19980227 TO 19980304 PartyType: owner Owner: TARGET THERAPEUTICS, INC., CALIFORNIA
US6066149 A	20000511	LSGT	PAT1	Patented Case	
US6066149 A	20000511	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6066149 A	20000523	LSGT	+	granted / extensions	

				(spc, cpc, pte)	
US6066149 A	20010522	LSRE	CC	CERTIFICATE OF CORRECTION	
US6066149 A	20030926	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6066149 A	20070914	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6066149 A	20110223	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TARGET THERAPEUTICS, INC.;REEL/FRAME:025853/0613 Owner: STRYKER CORPORATION, MICHIGAN Effective date: 20110103 PartyType: owner
US6066149 A	20110223	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TARGET THERAPEUTICS, INC.;REEL/FRAME:025853/0613 Owner: STRYKER NV OPERATIONS LIMITED, IRELAND Effective date: 20110103 PartyType: owner
US6066149 A	20111026	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6066149 A	20151123	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:037153/0241 Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN Effective date: 20151013
US6066149 A	20151123	LSAS	AS	ASSIGNMENT	Effective date: 20151013 Owner: STRYKER MEDTECH LIMITED, MALTA OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:037153/0034 PartyType: owner
US6066149 A	20160308	LSAS	AS	ASSIGNMENT	Effective date: 20151013 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT LISTED SERIAL NOS. 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0241. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT EFFECTIVE DATE 9/29/2014;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:038043/0011 PartyType: owner Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN
US6066149 A	20160308	LSAS	AS	ASSIGNMENT	Owner: STRYKER MEDTECH LIMITED, MALTA Effective date: 20151013 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT SERIAL # 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0034. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:038039/0001 PartyType: owner
US6066149 A	20170930	PEXP		Calculated Patent Term Expiry	
US6066149 A	20200607	LSAS	AS	ASSIGNMENT	Owner: STRYKER EUROPEAN OPERATIONS HOLDINGS LLC, MICHIGAN PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:STRYKER EUROPEAN HOLDINGS III, LLC;REEL/FRAME:052860/0716 Effective date: 20190226
US6066149 A	20200607	LSAS	AS	ASSIGNMENT	Owner: STRYKER EUROPEAN HOLDINGS III, LLC, DELAWARE PartyType: owner Effective date: 20200519 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER EUROPEAN HOLDINGS I, LLC;REEL/FRAME:052861/0001
US6383205 BA	20020419	LSGT	PAT1	Patented Case	
US6383205 BA	20020419	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6383205 BA	20020507	LSGT	+	granted / extensions (spc, cpc, pte)	

US6383205 BA	20040608	LSRE	CC	CERTIFICATE OF CORRECTION	
US6383205 BA	20050927	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6383205 BA	20090928	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6383205 BA	20110324	LSAS	AS	ASSIGNMENT	Owner: STRYKER CORPORATION, MICHIGAN Effective date: 20110103 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TARGET THERAPEUTICS, INC.;REEL/FRAME:026018/0677 PartyType: owner
US6383205 BA	20110324	LSAS	AS	ASSIGNMENT	Owner: STRYKER NV OPERATIONS LIMITED, IRELAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TARGET THERAPEUTICS, INC.;REEL/FRAME:026018/0677 PartyType: owner Effective date: 20110103
US6383205 BA	20131009	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6383205 BA	20151123	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:037153/0034 Owner: STRYKER MEDTECH LIMITED, MALTA PartyType: owner Effective date: 20151013
US6383205 BA	20151123	LSAS	AS	ASSIGNMENT	Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:037153/0241 Effective date: 20151013
US6383205 BA	20160308	LSAS	AS	ASSIGNMENT	Effective date: 20151013 Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT LISTED SERIAL NOS. 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0241. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT EFFECTIVE DATE 9/29/2014;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:038043/0011
US6383205 BA	20160308	LSAS	AS	ASSIGNMENT	Effective date: 20151013 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT SERIAL # 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0034. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:038039/0001 Owner: STRYKER MEDTECH LIMITED, MALTA PartyType: owner
US6383205 BA	20191201	PEXP		Calculated Patent Term Expiry	
US6383205 BA	20200607	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: STRYKER EUROPEAN OPERATIONS HOLDINGS LLC, MICHIGAN Effective date: 20190226 OldParty: CHANGE OF NAME;ASSIGNOR:STRYKER EUROPEAN HOLDINGS III, LLC;REEL/FRAME:052860/0716
US6383205 BA	20200607	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER EUROPEAN HOLDINGS I, LLC;REEL/FRAME:052861/0001 Owner: STRYKER EUROPEAN HOLDINGS III, LLC, DELAWARE PartyType: owner Effective date: 20200519
US7875050 BB	20110105	LSGT	PAT1	Patented Case	
US7875050 BB	20110125	LSGT	+	granted / extensions (spc, cpc, pte)	
US7875050 BB	20110324	LSAS	AS	ASSIGNMENT	Owner: STRYKER CORPORATION, MICHIGAN OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TARGET THERAPEUTICS, INC.;REEL/FRAME:026018/0677

					PartyType: owner Effective date: 20110103
US7875050 BB	20110324	LSAS	AS	ASSIGNMENT	Owner: STRYKER NV OPERATIONS LIMITED, IRELAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TARGET THERAPEUTICS, INC.;REEL/FRAME:026018/0677 Effective date: 20110103 PartyType: owner
US7875050 BB	20140625	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7875050 BB	20151123	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:037153/0241 Effective date: 20151013
US7875050 BB	20151123	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:037153/0034 Owner: STRYKER MEDTECH LIMITED, MALTA Effective date: 20151013
US7875050 BB	20160308	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT LISTED SERIAL NOS. 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0241. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT EFFECTIVE DATE 9/29/2014;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:038043/0011 Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN PartyType: owner Effective date: 20151013
US7875050 BB	20160308	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT SERIAL # 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0034. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:038039/0001 Effective date: 20151013 PartyType: owner Owner: STRYKER MEDTECH LIMITED, MALTA
US7875050 BB	20180712	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7875050 BB	20200607	LSAS	AS	ASSIGNMENT	Effective date: 20190226 OldParty: CHANGE OF NAME;ASSIGNOR:STRYKER EUROPEAN HOLDINGS III, LLC;REEL/FRAME:052860/0716 PartyType: owner Owner: STRYKER EUROPEAN OPERATIONS HOLDINGS LLC, MICHIGAN
US7875050 BB	20200607	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20200519 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER EUROPEAN HOLDINGS I, LLC;REEL/FRAME:052861/0001 Owner: STRYKER EUROPEAN HOLDINGS III, LLC, DELAWARE
US7875050 BB	20230804	PEXP		Calculated Patent Term Expiry (PTA 528 days)	
US8486104 BB	20110324	LSAS	AS	ASSIGNMENT	Owner: STRYKER CORPORATION, MICHIGAN PartyType: owner Effective date: 20110103 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TARGET THERAPEUTICS, INC.;REEL/FRAME:026018/0677
US8486104 BB	20110324	LSAS	AS	ASSIGNMENT	Effective date: 20110103 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TARGET THERAPEUTICS, INC.;REEL/FRAME:026018/0677 Owner: STRYKER NV OPERATIONS LIMITED, IRELAND
US8486104 BB	20130626	LSGT	PAT1	Patented Case	

US8486104 BB	20130716	LSGT	+	granted / extensions (spc, cpc, pte)	
US8486104 BB	20151123	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:037153/0241 PartyType: owner Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN Effective date: 20151013
US8486104 BB	20151123	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:037153/0034 Effective date: 20151013 Owner: STRYKER MEDTECH LIMITED, MALTA
US8486104 BB	20160308	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT LISTED SERIAL NOS. 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0241. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT EFFECTIVE DATE 9/29/2014;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:038043/0011 Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN Effective date: 20151013
US8486104 BB	20160308	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT SERIAL # 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0034. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:038039/0001 PartyType: owner Owner: STRYKER MEDTECH LIMITED, MALTA Effective date: 20151013
US8486104 BB	20170105	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8486104 BB	20180611	PEXP		Calculated Patent Term Expiry (PTA 254 days and a terminal disclaimer has been filed)	
US8486104 BB	20200607	LSAS	AS	ASSIGNMENT	Owner: STRYKER EUROPEAN OPERATIONS HOLDINGS LLC, MICHIGAN PartyType: owner Effective date: 20190226 OldParty: CHANGE OF NAME;ASSIGNOR:STRYKER EUROPEAN HOLDINGS III, LLC;REEL/FRAME:052860/0716
US8486104 BB	20200607	LSAS	AS	ASSIGNMENT	Owner: STRYKER EUROPEAN HOLDINGS III, LLC, DELAWARE PartyType: owner Effective date: 20200519 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER EUROPEAN HOLDINGS I, LLC;REEL/FRAME:052861/0001
WO9916362 A1	19990408	LSPB	+	published / reissued	
WO9916362 A1	19990408		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
WO9916362 A1	19990408		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SN SZ TD TG TJ TM UG ZW
WO9916362 A1	19990609		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9916362 A1	19990624		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	

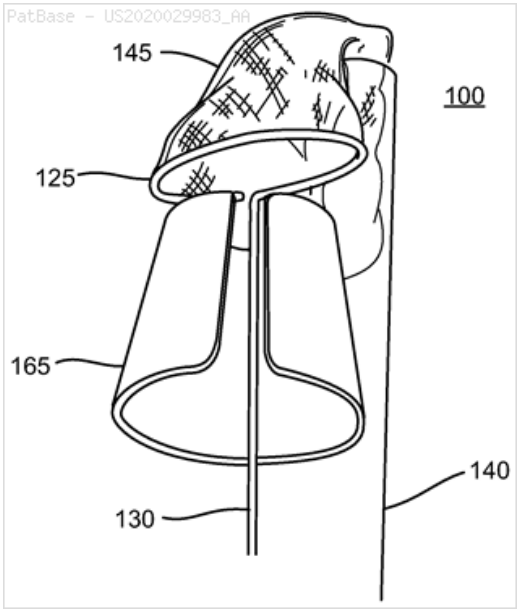
WO9916362 A1	20000330	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2000 513509 Country of Ref document: JP
WO9916362 A1	20000331	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: KR
WO9916362 A1	20000425	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1998945801 Country of Ref document: EP
WO9916362 A1	20000803	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO9916362 A1	20000816	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1998945801 Country of Ref document: EP
WO9916362 A1	20010330	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: CA
WO9916362 A1	20051019	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1998945801 Country of Ref document: EP

44) Family number: 70249270 (US2020029983 AA)

Title: CLOT RETRIEVERS AND METHODS FOR DEPLOYMENT

Abstract: Methods and devices for catheter -based removal of unwanted tissue or occlusive matter from blood vessels and other body lumens rely on a wire advanced from a tube to deploy a capture net that can be drawn over the clot. Apparatus include simple and reliable mechanisms for deployment of nets, funnels, and other clot capturing mechanisms for retrieving clot material from inside a blood vessel.

Classifications:
International (IPC 8-9): A61B17/221 A61F2/01
CPC: A61B17/221 A61B2017/00287 A61B2017/0042 A61B2017/00867 A61B2017/22035 A61B2017/22072 A61B2017/2212 A61B2017/2215



Family:

Publication number	Publication date	Application number	Application date
US2020029983 AA	20200130	US20190410912	20190513
WO18118706 A1	20180628	WO2017US66789	20171215

Priority:

US20160436920P 20161220 WO2017US66789 20171215 US20180672383P 20180516 US20190410912 20190513

Probable Assignee: LATTOUF OMAR M

Assignee(s): (std): LATTOUF OMAR M

Inventor(s): (std): LATTOUF OMAR M

Agent(s): HESLIN JAMES M

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE 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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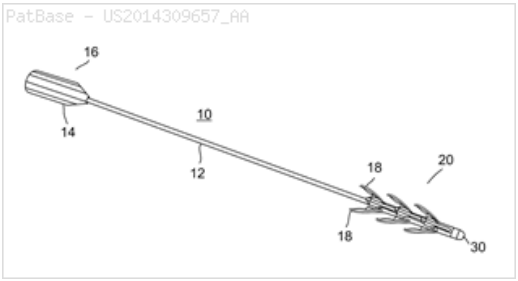
Patent	Date recorded	Event group	Code	Event	Details
US2020029983 AA	20200130	LSPB	+	published / reissued	
US2020029983 AA	20200205		RFE1	Docketed New Case - Ready for Examination	
US2020029983 AA	20200205		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
WO18118706 A1	20180628	LSPB	+	published / reissued	
WO18118706 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 17883219 Country of Ref document: EP
WO18118706 A1	20190622	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18118706 A1	20191218	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 17883219 Country of Ref document: EP

45) Family number: 54339807 (US2014309657 AA)

Title: DEVICE AND **METHOD** FOR **REMOVING** **OCCLUSIONS** IN A BIOLOGICAL VESSEL

Abstract: A device for use within an occluded biological vessel and a **method** of using same to **remove** **occlusion** material from a vessel are provided. The device includes an elongated body configured for delivering projections arranged around a distal portion thereof into the biological vessel. Each of the projections includes a leaf-like structure connected to a stem portion having a higher axial rigidity than the leaf-like structure.

Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/22 A61B17/3207
CPC: A61B17/22031 A61B2017/22034 A61B2017/22094 A61B2017/22035 A61B2017/22038 A61B17/22
US: 1/1 606/127



Family:

Publication number	Publication date	Application number	Application date
AU2013208660 AA	20130718	AU20130208660	20130115
AU2013208660 BB	20161208	AU20130208660	20130115
CA2860301 AA	20140623	CA20132860301	20130115
CA2860301 C	20190423	CA20132860301	20130115
CN104093369 A	20141008	CN201380005571	20130115
CN104093369 B	20170301	CN201380005571	20130115
CN105943117 A	20160921	CN201610379472	20130115
DE602013035383 D1	20180503	DE201360035383T	20130115
EP2804547 A2	20141126	EP20130735641	20130115
EP2804547 A4	20150610	EP20130735641	20130115
EP2804547 B1	20180404	EP20130735641	20130115
ES2671045 T3	20180604	ES20130735641T	20130115
IL233660 A0	20140831	IL20130233660	20130115
IL233660 A1	20180830	IL20130233660	20130115
JP2015506229 T2	20150302	JP20140551729T	20130115
JP2018122123 A2	20180809	JP20180054893	20180322
JP6363957 B2	20180725	JP20140551729T	20130115
JP6430674 B2	20181128	JP20180054893	20180322
MX2014008474 A1	20150717	MX20140008474	20130115
US2014309657 AA	20141016	US20140315352	20140626
US2018235645 AA	20180823	US20180961909	20180425
US9987027 BB	20180605	US20140315352	20140626
WO13105099 A2	20130718	WO2013IL50049	20130115
WO13105099 A3	20131010	WO2013IL50049	20130115

Priority:

US20120586792P 20120115 WO2013IL50049 20130115 CN201380005571 20130115
EP20130735641 20130115 JP20140551729T 20130115 US20140315352 20140626
IL20140233660 20140715 JP20180054893 20180322 US20180961909 20180425

Probable Assignee: TRITICUM LTD

Assignee(s): (std): DORON JACOB BEN AMI ; TRITICUM LTD

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Inventor(s): (std): BEN AMI DORON JACOB ; DORON JACOB BEN AMI

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Agent(s): DENNEMEYER AND ASSOCIATES SA; ENGFIELD PROFESSIONAL CORP; GE EHRLICH 1995 LTD; GRIFFITH HACK; INTEGRAL IP; ISERN JORGE; VALADARES LAW PROFESSIONAL CORP; 1995 גיאירליך מ עב; 上海翼胜专利商标事务所(普通合伙) 31218; 翟羽; 鷲田 公一

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2013208660 AA	20130718	LSPB	+	published / reissued	
AU2013208660 AA	20170406	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2013208660 BB	20161208	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
AU2013208660 BB	20330115	PEXP		Calculated Patent Term Expiry	
CA2860301 AA	20140623	LSPB	+	published / reissued	
CA2860301 AA	20171207	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20171201
CA2860301 C	20190423	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN104093369 A	20141008	LSPB	+C06	PUBLICATION	
CN104093369 A	20141029		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
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CN104093369 B	20170301	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104093369 B	20330115	PEXP		Calculated Patent Term Expiry	
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CN105943117 A	20160921	LSPB	+C06	PUBLICATION	
CN105943117 A	20160921	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN105943117 A	20161019		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN105943117 A	20161019		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN105943117 A	20200424	LSRV	-RJ01	REJECTION OF INVENTION PATENT APPLICATION AFTER PUBLICATION	
CN105943117 A	20200424	LSRV	-RJ01	发明专利申请公布后的驳回	Text: 发明专利申请公布后的驳回 (Rejection of Patent Application for Invention after Publication)
EP2804547 A2	20141126	LSPB	+	published / reissued	
EP2804547 A2	20141126	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20140707
EP2804547 A2	20141126		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2804547 A2	20150422		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2804547 A4	20150610	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20150511
EP2804547 A4	20150610		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20150504BHEP
EP2804547 A4	20160413	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20160310
EP2804547 A4	20180110	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20171215
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EP2804547 B1	20180404	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D

EP2804547 B1	20180413	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2804547 B1	20180415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180415 Kind code of Ref document: T Ref country code: AT Ref document number: 984707 Ref legal event code: REF Country of Ref document: AT
EP2804547 B1	20180502	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2804547 B1	20180503	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602013035383 Ref legal event code: R096 Country of Ref document: DE
EP2804547 B1	20180604	LSGT	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180604 Kind code of Ref document: T3 Ref country code: ES Ref document number: 2671045 Ref legal event code: FG2A Country of Ref document: ES
EP2804547 B1	20180808		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180404 Ref country code: NL Ref legal event code: MP
EP2804547 B1	20180827	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2804547 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2804547 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2804547 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2804547 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2804547 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2804547 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2804547 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP2804547 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180704 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2804547 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT

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EP2804547 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2804547 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180705 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2804547 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2804547 B1	20181215	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180404 Kind code of Ref document: T Ref country code: AT Ref document number: 984707 Ref legal event code: MK05 Country of Ref document: AT
EP2804547 B1	20181231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180806 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2804547 B1	20190107	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602013035383 Ref legal event code: R097 Country of Ref document: DE
EP2804547 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2804547 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
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EP2804547 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2804547 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ

EP2804547 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2804547 B1	20190313	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190107
EP2804547 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190124 Year of fee payment: 7 Country of Ref document: IT
EP2804547 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190124 Year of fee payment: 7 Country of Ref document: FR
EP2804547 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190121 Year of fee payment: 7 Country of Ref document: GB
EP2804547 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190226 Year of fee payment: 7 Country of Ref document: ES
EP2804547 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190123 Year of fee payment: 7 Country of Ref document: DE
EP2804547 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2804547 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2804547 B1	20190830	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2804547 B1	20190930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190115 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
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EP2804547 B1	20191030	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP2804547 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190131 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
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EP2804547 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200221 Year of fee payment: 8 Country of Ref document: ES
EP2804547 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200124 Year of fee payment: 8 Country of Ref document: GB
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EP2804547 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200121 Year of fee payment: 8 Country of Ref document: DE
EP2804547 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190115 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
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ES2671045 T3	20330115	PEXP		Calculated Patent Term Expiry	
IL233660 A1	20180830	LSPB	+	published / reissued	
IL233660 A1	20181231	LSGT	+FF	PATENT GRANTED	
JP2015506229 T2	20150302	LSPB	+	published / reissued	
JP2015506229 T2	20151124	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20151124 Text: JAPANESE INTERMEDIATE CODE: A621
JP2015506229 T2	20161017		A977	REPORT ON RETRIEVAL	Effective date: 20161014 Text: JAPANESE INTERMEDIATE CODE: A971007
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JP2015506229 T2	20161226	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20161226 Text: JAPANESE INTERMEDIATE CODE: A523
JP2015506229 T2	20170530	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20170530 Text: JAPANESE INTERMEDIATE CODE: A131
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JP2015506229 T2	20180322	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180322 Text: JAPANESE INTERMEDIATE CODE: A523
JP2015506229 T2	20180402	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20180330 Text: JAPANESE INTERMEDIATE CODE: A911
JP2015506229 T2	20180528	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2015506229 T2	20180605	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20180605 Text: JAPANESE INTERMEDIATE CODE: A01
JP2015506229 T2	20180705	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20180629 Text: JAPANESE INTERMEDIATE CODE: A61
JP2018122123 A2	20180809	LSPB	+	published / reissued	
JP2018122123 A2	20181002	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2018122123 A2	20181009	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20181009 Text: JAPANESE INTERMEDIATE CODE: A01
JP2018122123 A2	20181108	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20181031 Text: JAPANESE INTERMEDIATE CODE: A61
JP6363957 B2	20180607	LSGT	+A01	特許査定書	
JP6363957 B2	20180703	LSFE	R100	特許料納付書	
JP6363957 B2	20180706	LSGT	+R150	特許証	
JP6363957 B2	20180725	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6363957 B2	20330115	PEXP		Calculated Patent Term Expiry	
JP6430674 B2	20181011	LSGT	+A01	特許査定書	
JP6430674 B2	20181106	LSFE	R100	特許料納付書	
JP6430674 B2	20181109	LSGT	+R150	特許証	
JP6430674 B2	20181128	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6430674 B2	20380322	PEXP		Calculated Patent Term Expiry	
MX2014008474 A1	20150717	LSPB	+	published / reissued	
US2014309657 AA	20140820		RFE1	Docketed New Case - Ready for Examination	
US2014309657 AA	20141016	LSPB	+	published / reissued	
US2014309657 AA	20170429		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014309657 AA	20170726		FRM1	Final Rejection Mailed	
US2014309657 AA	20170824		RSP1	Response after Final Action Forwarded to Examiner	
US2014309657 AA	20170908	LSES	ADV1	Advisory Action Mailed	
US2014309657 AA	20171004		RFE1	Docketed New Case - Ready for Examination	
US2014309657 AA	20171012	LSES	NFA2	Non Final Action Counted, Not Yet	

				Mailed	
US2014309657 AA	20171016	LSES	NFA1	Non Final Action Mailed	
US2014309657 AA	20180228	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014309657 AA	20180503	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2014309657 AA	20180516	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018235645 AA	20180430	LSAS	AS	ASSIGNMENT	Effective date: 20140625 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BEN-AMI, DORON JACOB;REEL/FRAME:045663/0713 Owner: TRITICUM LTD., ISRAEL PartyType: owner
US2018235645 AA	20180728		RFE1	Docketed New Case - Ready for Examination	
US2018235645 AA	20180728		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018235645 AA	20180823	LSPB	+	published / reissued	
US2018235645 AA	20200212	LSES	NFA1	Non Final Action Mailed	
US2018235645 AA	20200212		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018235645 AA	20200310		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018235645 AA	20200522		FRM1	Final Rejection Mailed	
US2018235645 AA	20200630	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018235645 AA	20200630		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2018235645 AA	20200815	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018235645 AA	20200815		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US9987027 BB	20140714	LSAS	AS	ASSIGNMENT	Effective date: 20140625 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BEN-AMI, DORON JACOB;REEL/FRAME:033301/0381 Owner: TRITICUM LTD., ISRAEL PartyType: owner
US9987027 BB	20180516	LSGT	PAT1	Patented Case	
US9987027 BB	20180605	LSGT	+	granted / extensions (spc, cpc, pte)	
US9987027 BB	20200310	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PTGR); ENTITY STATUS OF PATENT OWNER: MICROENTITY
US9987027 BB	20330505	PEXP		Calculated Patent Term Expiry (PTA 110 days)	

WO13105099 A2	20130718	LSPB	+	published / reissued	
WO13105099 A2	20130904		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 13735641 Country of Ref document: EP
WO13105099 A3	20140623	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2860301 Country of Ref document: CA
WO13105099 A3	20140704	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2014551729 Country of Ref document: JP
WO13105099 A3	20140707	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2013735641 Country of Ref document: EP
WO13105099 A3	20140710	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2014/008474 Country of Ref document: MX
WO13105099 A3	20140715	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 233660 Country of Ref document: IL
WO13105099 A3	20140724	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20130115 Kind code of Ref document: A Ref document number: 2013208660 Country of Ref document: AU

46) Family number: 57467764 (WO14151209 A1)

Title: DYNAMIC ASPIRATION **METHODS** AND **SYSTEMS**

Abstract: Dynamic aspiration, such as in aspiration thrombectomy, provides a changing negative pressure in a **catheter** such that a dynamic suction force is exerted on a thrombus or occluding element. Various dynamic aspiration profiles may be used. Devices for providing dynamic aspiration may be used with existing **catheter** -pump **systems** which currently deliver only static aspiration. A dynamic suction force exerted on a thrombus may induce material fatigue and thereby reduce the **clot**'s load-to-failure and time-to-failure as compared to existing suction thrombectomy techniques.

Classifications:
International (IPC 8-9): A61B17/22 A61M27/00 A61N1/00
CPC: A61B17/22 A61B17/22004 A61B17/3207 A61B2017/00154 A61B2017/00172 A61B2217/005 A61B2562/0261 A61B5/02007 A61B5/065 A61M1/0037 A61M2025/0031 A61M2025/1047 A61M25/04

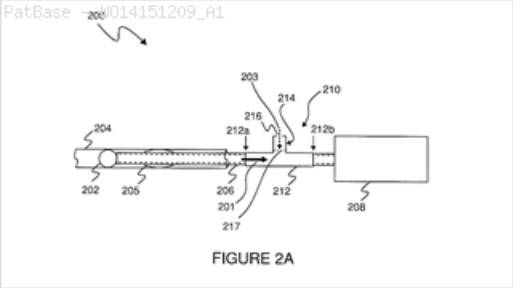


FIGURE 2A

Family:

Publication number	Publication date	Application number	Application date
WO14151209 A1	20140925	WO2014US25211	20140313
WO14151209 A8	20141120	WO2014US25211	20140313

Priority:
US20130802908P 20130318

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

Legal status (INPADOC)

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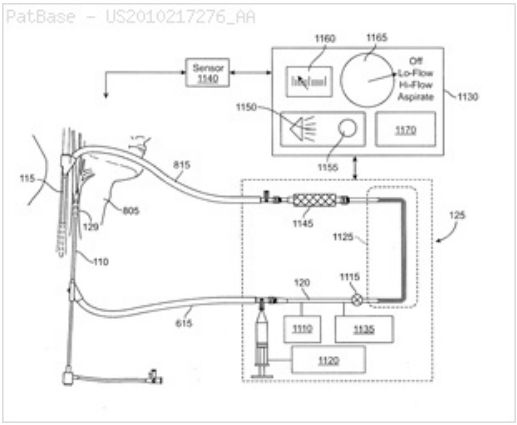
Patent	Date recorded	Event group	Code	Event	Details
WO14151209 A1	20140925	LSPB	+	published / reissued	
WO14151209 A1	20141119		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 14771136 Kind code of Ref document: A1 Country of Ref document: EP
WO14151209 A8	20150918	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO14151209 A8	20160413	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref document number: 14771136 Kind code of Ref document: A1 Country of Ref document: EP

47) Family number: 45910993 (US2010217276 AA)

Title: **METHODS** AND **SYSTEMS** FOR TREATMENT OF ACUTE ISCHEMIC STROKE

Abstract: **Methods** and devices are disclosed that enable safe, rapid and relatively short and straight access to the cerebral arteries for the introduction of interventional devices to treat acute ischemic stroke. In addition, the disclosed **methods** and devices provide means to securely close the access site to the cerebral arteries to avoid the potentially devastating consequences of a transcervical hematoma.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B17/3207 A61B17/34 A61F2/01 A61F2/82 A61F2/84 A61M1/00 A61M1/36 A61M25/00 A61M25/06 A61M25/10 A61M29/02 A61N7/00
CPC: A61B17/22004 A61B17/320725 A61B2017/320716 A61B2017/320733 A61F2/013 A61M1/3613 A61M1/3621 A61M1/3653 A61M1/3656 A61M1/3659 A61M2025/0031 A61M2025/0037 A61M2025/0042 A61M2025/0681 A61M2025/1052 A61M2205/7545 A61M25/007 A61M25/0662 A61M25/10 A61M29/02 A61N2007/0043 A61N7/00
US: 604/500 604/500S 604/509 604/509S 604/8 604/8P 604/9 604/96.01 604/96.010S 604/9S 606/127 606/127S 606/128 606/128P 606/128S 606/158 606/158S 606/185 606/185S 606/194 606/194S 606/228 606/228S 623/1.11 623/1.110S



Family:

Publication number	Publication date	Application number	Application date
EP2379129 A1	20111026	EP20090803966	20091222
EP2379129 B1	20170913	EP20090803966	20091222
JP2012513292 T2	20120614	JP20110543654T	20091222
JP2015083142 A2	20150430	JP20140242180	20141128
US10226563 BB	20190312	US20090645179	20091222
US2010217276 AA	20100826	US20090645179	20091222
US2011087147 AA	20110414	US20100966948	20101213
US2020038576 AA	20200206	US20190297348	20190308
US2020282127 AA	20200910	US20200880594	20200521
WO10075445 A1	20100701	WO2009US69300	20091222

Priority:

US20080140601P 20081223 US20090176463P 20090507 WO2009US69300 20091222
JP20110543654 20091222 JP20110543654T 20091222 US20090645179 20091222
US20100966948 20101213 US20190297348 20190308 US20200880594 20200521

Probable Assignee: SILK ROAD MEDICAL INC

Assignee(s): (std): CHOU TONY M ; GARRISON MICHI E ; HYDE GREGORY M ; SILK ROAD MEDICAL INC

Assignee(s): NEUROCO INC ; シルク ロード メディカル インコーポレイテッド ; シルク・ロード・メディカル・インコーポレイテッドSILK ROADMEDICAL, INC.

Inventor(s): (std): CHOU TONY M ; GARRISON MICHI E ; HYDE GREGORY M ; MICHI E GARRISON

Inventor(s): グレゴリー エム ハイド ; グレゴリー・エム・ハイド ; トニー エム チョウ ; トニー・エム・チョウ ; ミチ イー ギャリソン ; ミチ・イー・ギャリソン

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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 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
EP2379129 A1	20111026	LSPB	+	published / reissued	
EP2379129 A1	20111026	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20110719
EP2379129 A1	20111026		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP2379129 A1	20120328		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2379129 A1	20131106	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20131003

EP2379129 A1	20170228		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R079 ClassificationSymbol: A61B0017320700 ClassificationScheme: IPC Text: PREVIOUS MAIN CLASS: A61M0001360000 Ref document number: 602009048368 Country of Ref document: DE
EP2379129 A1	20170405		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61N 7/00 20060101ALI20170228BHEP
EP2379129 A1	20170405		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALN20170228BHEP
EP2379129 A1	20170405		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 1/36 20060101ALI20170228BHEP
EP2379129 A1	20170405		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 29/02 20060101ALN20170228BHEP
EP2379129 A1	20170405		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/10 20130101ALI20170228BHEP
EP2379129 A1	20170405		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/01 20060101ALN20170228BHEP
EP2379129 A1	20170405		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/3207 20060101AFI20170228BHEP
EP2379129 A1	20170510	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20170410
EP2379129 B1	20170913	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2379129 B1	20170913		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP2379129 B1	20170913	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP2379129 B1	20170915	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP2379129 B1	20171004	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2379129 B1	20171015	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 927393 Ref legal event code: REF Kind code of Ref document: T Ref country code: AT Effective date: 20171015 Country of Ref document: AT
EP2379129 B1	20171102	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602009048368 Ref legal event code: R096 Ref country code: DE Country of Ref document: DE
EP2379129 B1	20171211	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PLFP Ref country code: FR Year of fee payment: 9
EP2379129 B1	20180117		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: MP Effective date: 20170913
EP2379129 B1	20180125	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP2379129 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2379129 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170913 Country of Ref document: SE

EP2379129 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170913 Country of Ref document: LT
EP2379129 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2379129 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20171213 Country of Ref document: NO
EP2379129 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20171211 Country of Ref document: FR
EP2379129 B1	20180215	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Ref document number: 927393 Kind code of Ref document: T Ref legal event code: MK05 Effective date: 20170913 Country of Ref document: AT
EP2379129 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP2379129 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171213 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2379129 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170913 Country of Ref document: LV
EP2379129 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2379129 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20171220 Country of Ref document: GB
EP2379129 B1	20180330	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170913 Country of Ref document: NL
EP2379129 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2379129 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-

				OFFICE TO EPO]	LIMIT Country of Ref document: CZ
EP2379129 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2379129 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171220 Year of fee payment: 9 Country of Ref document: DE
EP2379129 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2379129 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2379129 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180113 Country of Ref document: IS
EP2379129 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170913 Country of Ref document: SK
EP2379129 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170913 Country of Ref document: AT
EP2379129 B1	20180531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2379129 B1	20180614	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602009048368 Ref legal event code: R097 Country of Ref document: DE
EP2379129 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2379129 B1	20180731	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2379129 B1	20180822	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20180614
EP2379129 B1	20180904		REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602009048368 Ref country code: DE Representative: WUESTHOFF & WUESTHOFF, PATENTANWAELTE PARTG MB, DE PartyType: representative Ref legal event code: R082 Country of Ref document: DE
EP2379129 B1	20180904	LSAS	REG	REFERENCE TO A NATIONAL CODE	PartyType: owner Owner: NEUROCO, INC., SUNNYVALE, US OldParty: FORMER OWNER: SILK ROAD MEDICAL, INC., SUNNYVALE,

					CALIF., US Ref document number: 602009048368 Ref country code: DE Ref legal event code: R081 Country of Ref document: DE
EP2379129 B1	20180904	LSAS	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE OldParty: FORMER OWNER: SILK ROAD MEDICAL, INC., SUNNYVALE, CALIF., US Owner: SILK ROAD MEDICAL, INC., SUNNYVALE, US PartyType: owner Ref document number: 602009048368 Ref legal event code: R081 Country of Ref document: DE
EP2379129 B1	20180919	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM4A Ref country code: IE
EP2379129 B1	20180926		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: 732E Text: REGISTERED BETWEEN 20180830 AND 20180905 Ref country code: GB
EP2379129 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20171222 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2379129 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20171222 Country of Ref document: MT
EP2379129 B1	20181018		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20171231 Ref country code: BE Ref legal event code: MM
EP2379129 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20171222 Country of Ref document: IE
EP2379129 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20171231 Country of Ref document: BE
EP2379129 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20171231 Country of Ref document: LI
EP2379129 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20171231 Country of Ref document: CH
EP2379129 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170913 Country of Ref document: SI
EP2379129 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181211 Year of fee payment: 10 Country of Ref document: DE
EP2379129 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181219 Year of fee payment: 10 Country of Ref document: GB
EP2379129 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20181121 Country of Ref document: FR

EP2379129 B1	20190307		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R082 Ref document number: 602009048368 Representative: WUESTHOFF & WUESTHOFF, PATENTANWAELTE PARTG MB, DE PartyType: representative Country of Ref document: DE
EP2379129 B1	20190307	LSAS	REG	REFERENCE TO A NATIONAL CODE	OldParty: FORMER OWNER: NEUROCO, INC., SUNNYVALE, CA, US Ref document number: 602009048368 Ref country code: DE PartyType: owner Ref legal event code: R081 Owner: SILK ROAD MEDICAL, INC., SUNNYVALE, US Country of Ref document: DE
EP2379129 B1	20190403		REG	REFERENCE TO A NATIONAL CODE	Text: REGISTERED BETWEEN 20190307 AND 20190313 Ref legal event code: 732E Ref country code: GB
EP2379129 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2379129 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091222 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP2379129 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20170913 Country of Ref document: CY
EP2379129 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170913 Country of Ref document: MK
EP2379129 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191125 Year of fee payment: 11 Country of Ref document: DE
EP2379129 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20191227 Country of Ref document: FR
EP2379129 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170913 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2379129 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20191220 Country of Ref document: GB
EP2379129 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170913 Country of Ref document: PT
EP2379129 B1	20291222	PEXP		Calculated Patent Term Expiry	
JP2012513292 T2	20120614	LSPB	+	published / reissued	
JP2012513292 T2	20121208	LSRE	A521	WRITTEN	Effective date: 20121207

				AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523
JP2012513292 T2	20121208	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20121207 Text: JAPANESE INTERMEDIATE CODE: A621
JP2012513292 T2	20131030		A977	REPORT ON RETRIEVAL	Effective date: 20131030 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2012513292 T2	20140205	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20140204 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012513292 T2	20140730	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20140729 Text: JAPANESE INTERMEDIATE CODE: A02
JP2015083142 A2	20150430	LSPB	+	published / reissued	
JP2015083142 A2	20151009		A977	REPORT ON RETRIEVAL	Effective date: 20151009 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2015083142 A2	20151111	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20151110
JP2015083142 A2	20160412	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20160412 Text: JAPANESE INTERMEDIATE CODE: A02
US10226563 BB	20100711	LSAS	AS	ASSIGNMENT	Owner: SILK ROAD MEDICAL, INC., CALIFORNIA PartyType: owner Effective date: 20100614 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;HYDE, GREGORY M.;REEL/FRAME:024663/0227
US10226563 BB	20190220	LSGT	PAT1	Patented Case	
US10226563 BB	20190312	LSGT	+	granted / extensions (spc, cpc, pte)	
US10226563 BB	20291222	PEXP		Calculated Patent Term Expiry	
US2010217276 AA	20100826	LSPB	+	published / reissued	
US2010217276 AA	20150914	LSES	NFA1	Non Final Action Mailed	
US2010217276 AA	20160513	LSAS	AS	ASSIGNMENT	Effective date: 20141231 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SILK ROAD MEDICAL, INC.;REEL/FRAME:038584/0230 Owner: NEUROCO, INC., CALIFORNIA PartyType: owner
US2010217276 AA	20161221	LSES	NFA1	Non Final Action Mailed	
US2010217276 AA	20170627		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2010217276 AA	20170629		FRM2	Final Rejection Counted, Not Yet Mailed	
US2010217276 AA	20170703		FRM1	Final Rejection Mailed	
US2010217276 AA	20180119		RFE1	Docketed New Case - Ready for Examination	
US2010217276 AA	20180330	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2010217276 AA	20180403	LSES	NFA1	Non Final Action Mailed	
US2010217276 AA	20181019	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2010217276 AA	20190116	LSAS	AS	ASSIGNMENT	Effective date: 20181217 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NEUROCO, INC.;REEL/FRAME:048037/0823 Owner: SILK ROAD MEDICAL,

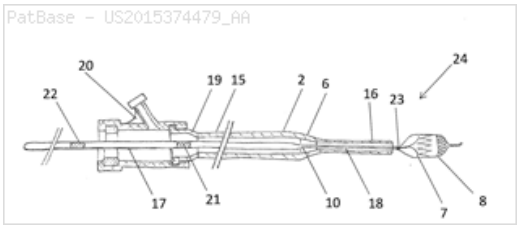
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US2010217276 AA	20190123	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2010217276 AA	20190220	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011087147 AA	20110204	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;HYDE, GREGORY M.;REEL/FRAME:025746/0399 Effective date: 20100614 Owner: SILK ROAD MEDICAL, INC., CALIFORNIA PartyType: owner
US2011087147 AA	20110414	LSPB	+	published / reissued	
US2011087147 AA	20150914	LSES	NFA1	Non Final Action Mailed	
US2011087147 AA	20160303		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2011087147 AA	20160513	LSAS	AS	ASSIGNMENT	Owner: NEUROCO, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SILK ROAD MEDICAL, INC.;REEL/FRAME:038584/0230 PartyType: owner Effective date: 20141231
US2011087147 AA	20161110	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011087147 AA	20161110		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2020038576 AA	20200123		RFE1	Docketed New Case - Ready for Examination	
US2020038576 AA	20200123		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020038576 AA	20200206	LSPB	+	published / reissued	
US2020038576 AA	20200605	LSAS	AS	ASSIGNMENT	Effective date: 20100614 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GARRISON, MICHI E.;CHOU, TONY M.;HYDE, GREGORY M.;REEL/FRAME:052853/0671 Owner: SILK ROAD MEDICAL, INC., CALIFORNIA PartyType: owner
US2020282127 AA	20200910	LSPB	+	published / reissued	
WO10075445 A1	20100701	LSPB	+	published / reissued	
WO10075445 A1	20100818		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 09803966 Kind code of Ref document: A1 Country of Ref document: EP
WO10075445 A1	20110622	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2011543654 Country of Ref document: JP
WO10075445 A1	20110719		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2009803966 Country of Ref document: EP
WO10075445 A1	20110719	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009803966 Country of Ref document: EP
WO10075445 A1	20111107	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

48) Family number: 61266731 (US2015374479 AA)

Title: **SYSTEM** FOR **REMOVING** A **CLOT** FROM A BLOOD VESSEL

Abstract: A **system** for **removing** obstructions from a blood vessel comprises a **clot** **retrieval** device and a **catheter**. The **clot** **retrieval** device comprises a **clot** engaging element attached to the distal end of an elongate shaft. The elongate shaft has a shaft proximal section, a shaft distal section and a shaft intermediate section between the shaft distal and proximal sections. The **catheter** has a **catheter** proximal section, a **catheter** distal section, and a **catheter** intermediate section between the proximal and distal sections. The maximum diameter of a shaft proximal section is greater than an inner distal lumen of the **catheter** distal section.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61F2/01 A61M29/00
CPC: A61B17/221 A61B2017/22034 A61B2017/22079 A61B2017/2212 A61F2/013 A61F2002/016
US: 606/200



Family:

Publication number	Publication date	Application number	Application date
US10265086 BB	20190423	US20150698552	20150428
US2015374479 AA	20151231	US20150698552	20150428
US2019201014 AA	20190704	US20190294661	20190306

Priority:
US20140019137P 20140630 US20150698552 20150428 US20190294661 20190306

Probable Assignee: NEURAVI LTD
Assignee(s): (std): NEURAVI LTD
Inventor(s): (std): VALE DAVID
Agent(s): TROUTMAN SANDERS LLP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10265086 BB	20150430	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VALE, DAVID;REEL/FRAME:035535/0960 Effective date: 20150429 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US10265086 BB	20190403	LSGT	PAT1	Patented Case	
US10265086 BB	20190423	LSGT	+	granted / extensions (spc, cpc, pte)	
US10265086 BB	20350717	PEXP		Calculated Patent Term Expiry (PTA 80 days)	
US2015374479 AA	20151231	LSPB	+	published / reissued	
US2015374479 AA	20170216	LSES	NFA1	Non Final Action Mailed	
US2015374479 AA	20170511		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015374479 AA	20170905		FRM1	Final Rejection Mailed	
US2015374479 AA	20180123		RFE1	Docketed New Case - Ready for Examination	
US2015374479 AA	20180305	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2015374479 AA	20180327	LSES	NFA1	Non Final Action Mailed	
US2015374479 AA	20181129	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015374479 AA	20190304	LSFE	PPV1	Publications -- Issue Fee Payment Verified	

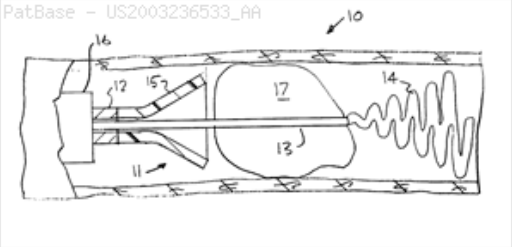
US2015374479 AA	20190304		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2015374479 AA	20190403	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019201014 AA	20190306	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20150429 Owner: NEURAVI LIMITED, IRELAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VALE, DAVID;REEL/FRAME:048523/0062
US2019201014 AA	20190704	LSPB	+	published / reissued	

49) Family number: 30123301 (US2003236533 AA)

Title: SHAPE MEMORY POLYMER ACTUATOR AND **CATHETER**

Abstract: A **system** for **removing** an **occlusion** from a vessel. The **system** utilizes a shape memory polymer device for acting upon the **occlusion**. A transport vehicle moves a shape memory material through the vessel. The shape memory material is adapted to move from a first unexpanded coil shape to move through or around the **occlusion**, to a second expanded coil shape for acting upon the **occlusion**. A heat transfer mechanism is operatively connected to the shape memory material and is adapted to transfer heat to the shape memory material to move the shape memory material from the first shape to the second shape. The transport vehicle and the shape memory polymer material is withdrawn through the conduit carrying the **occlusion** matter. The **system** may include a second shape memory polymer device situated so that the **occlusion** material is gripped from both sides to facilitate **removal**.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22
International (IPC 1-7): A61B17/22
CPC: A61B17/22031 A61B17/221 A61B2017/00398 A61B2017/00867 A61B2017/00871 A61B2017/22034 A61B2017/2217
US: 606/127 606/127P 606/2 606/200 606/200S 977/961 977/961S 977/962 977/962S



Family:

Publication number	Publication date	Application number	Application date
US2003236533 AA	20031225	US20020177225	20020620

Priority:

US20020177225 20020620

Probable Assignee: LAWRENCE LIVERMORE NATIONAL SECURITY LLC

Assignee(s): (std): UNIV CALIFORNIA

Assignee(s): ENERGY US DEPARTMENT ; LAWRENCE LIVERMORE NATIONAL SECURITY LLC ; OF CALIFORNIA UNIV ; THE REGENTS OF THE UNIVERSITY OF CALIFORNIA ; THE UNIV OF CALIFORNIA ; UNIV

Inventor(s): (std): AHRE PAUL E ; LITTLE STEVE L ; MAITLAND DUNCAN ; SCHUMANN DANIEL L ; WILSON THOMAS S

Inventor(s): DANIEL L SCHUMANN ; DUNCAN MAITLAND ; PAUL E AHRE ; STEVE L LITTLE ; THOMAS S WILSON

Legal status (INPADOC)

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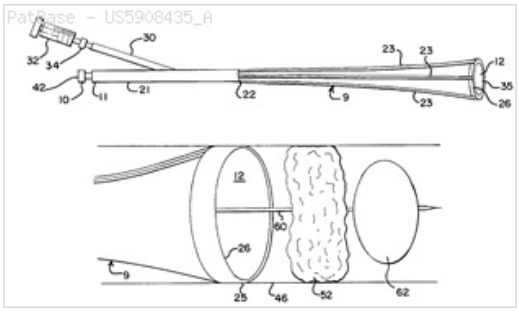
Patent	Date recorded	Event group	Code	Event	Details
US2003236533 AA	20020620	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:WILSON, THOMAS S.;MAITLAND, DUNCAN;SCHUMANN, DANIEL L.;AND OTHERS;REEL/FRAME:013058/0525;SIGNING DATES FROM 20020605 TO 20020617 PartyType: owner Owner: REGENTS OF THE UNIVERSITY OF CALIFORNIA, THE, CALI
US2003236533 AA	20021007	LSAS	AS	ASSIGNMENT	Owner: ENERGY, U.S. DEPARTMENT, CALIFORNIA Effective date: 20020730 PartyType: owner OldParty: CONFIRMATORY LICENSE;ASSIGNOR:CALIFORNIA, UNIVERSITY OF;REEL/FRAME:013391/0730
US2003236533 AA	20031225	LSPB	+	published / reissued	
US2003236533 AA	20071004	LSAS	AS	ASSIGNMENT	Owner: LAWRENCE LIVERMORE NATIONAL SECURITY, LLC, CALIFOR PartyType: owner Effective date: 20070924 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:REGENTS OF THE UNIVERSITY OF CALIFORNIA, THE;REEL/FRAME:020012/0032
US2003236533 AA	20071004	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:REGENTS OF THE UNIVERSITY OF CALIFORNIA, THE;REEL/FRAME:020012/0032 Effective date: 20070924 Owner: LAWRENCE LIVERMORE NATIONAL SECURITY, LLC,CALIFORN PartyType: owner
US2003236533 AA	20090930	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2003236533 AA	20090930		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

50) Family number: 12892045 (US5908435 A)

Title: Expandable lumen device and **method** of use

Abstract: A device for **removing** undesirable material from a tubular structure within the human body features a cylindrical body with a lumen therethrough. The distal portion of the body is divided into a number of flexible members. An inflatable cuff is attached to the flexible members. When the cuff is inflated, the members flex radially outwardly so that the distal opening of the lumen is expanded. An inflation tube is used to inflate and deflate the cuff by means of a syringe. An elastomeric membrane sleeve surrounds the flexible members so that the latter are contracted towards their original position when the cuff is deflated. The sleeve also prevents material from escaping between the flexible members when the cuff is inflated.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61M25/00
International (IPC 1-7): A61B17/22 A61M25/00 A61M29/00
CPC: A61B17/22031 A61B17/22032 A61B17/221 A61B2017/2215 A61M2025/0024 A61M2025/109 A61M25/00 A61M25/0023 A61M25/0074
US: 606/127 606/200



Family:

Publication number	Publication date	Application number	Application date
AT235282 E	20030415	AT19980953966T	19981023
DE69812589 D1	20030430	DE19986012589T	19981023
DE69812589 T2	20031224	DE19986012589T	19981023
EP0956078 A1	19991117	EP19980953966	19981023
EP0956078 A4	20010425	EP19980953966	19981023
EP0956078 B1	20030326	EP19980953966	19981023
JP2001506912 T2	20010529	JP19990524717T	19981023
JP4026860 B2	20071226	JP19990524717T	19981023
US5908435 A	19990601	US19970956951	19971023
US6159230 A	20001212	US19990322829	19990528
WO9920335 A1	19990429	WO1998US22560	19981023

Priority:
US19970956951 19971023 WO1998US22560 19981023 US19990322829 19990528

Probable Assignee: ENDOVENTION INC
Assignee(s): (std): SAMUELS SHAUN L W
Assignee(s): ENDOVENTION INC ; SAMUELS SHAUN L
Inventor(s): (std): SAMUELS SHAUN L W
Inventor(s): SAMUELS SHAUN L ; サムエルズ, ショーン, エル, ダブリュー
Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT JP LI LU MC NL PT SE

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT235282 E	20030415	LSGT	+	granted / extensions (spc, cpc, pte)	
AT235282 E	20030915	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT235282 E	20181023	PEXP		Calculated Patent Term Expiry	
DE69812589 D1	20040422	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69812589 T2	20031224	LSGT	+	granted / extensions (spc, cpc, pte)	
DE69812589 T2	20040422	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE69812589 T2	20181023	PEXP		Calculated Patent Term Expiry	
EP0956078 A1	19991117	LSPB	+	published / reissued	
EP0956078 A1	19991117	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19990720
EP0956078 A1	19991117		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT CH DE DK ES FI FR GB IE LI NL SE

EP0956078 A1	20010411		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	Text: 7A 61M 25/00 A, 7A 61B 17/22 B, 7A 61M 29/00 B
EP0956078 A4	20010425	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20010308
EP0956078 A4	20010425		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A4 Country of Ref document: AT CH DE DK ES FI FR GB IE LI NL SE
EP0956078 A4	20010822	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20010709
EP0956078 A4	20020327	LSRE	RTI1	TITLE (CORRECTION)	Text: EXPANDABLE LUMEN DEVICE
EP0956078 B1	20030326	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0956078 B1	20030326		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: AT CH DE DK ES FI FR GB IE LI NL SE
EP0956078 B1	20030326	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030326 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP0956078 B1	20030326	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030326 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CH
EP0956078 B1	20030326	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030326 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP0956078 B1	20030326	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030326 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LI
EP0956078 B1	20030326	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP0956078 B1	20030327	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP0956078 B1	20030430		REF	CORRESPONDS TO:	Date of Ref document: 20030430 Kind code of Ref document: P Ref document number: 69812589 Country of Ref document: DE
EP0956078 B1	20030430	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP0956078 B1	20030626	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP0956078 B1	20030626	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030626 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP0956078 B1	20030930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030930 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP0956078 B1	20031015	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL

EP0956078 B1	20031023	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20031023 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP0956078 B1	20031205		+ET	FR: TRANSLATION FILED	
EP0956078 B1	20040317	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20031230
EP0956078 B1	20040728	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP0956078 B1	20140228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20131026 Year of fee payment: 16 Country of Ref document: NL
EP0956078 B1	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141031 Year of fee payment: 17 Country of Ref document: FR
EP0956078 B1	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141029 Year of fee payment: 17 Country of Ref document: GB
EP0956078 B1	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141021 Year of fee payment: 17 Country of Ref document: DE
EP0956078 B1	20150520	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150501 Ref country code: NL Ref legal event code: V1
EP0956078 B1	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150501 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: NL
EP0956078 B1	20160503	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 69812589 Ref legal event code: R119 Country of Ref document: DE
EP0956078 B1	20160629	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20151023 Ref country code: EP
EP0956078 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160503 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP0956078 B1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20151023 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP0956078 B1	20160729	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20160630 Ref country code: FR Ref legal event code: ST
EP0956078 B1	20160831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20151102 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP0956078 B1	20181023	PEXP		Calculated Patent Term Expiry	
JP2001506912 T2	20010529	LSPB	+	published / reissued	
JP2001506912 T2	20051110	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20051021 Text: JAPANESE INTERMEDIATE CODE: A621
JP2001506912 T2	20070109	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20070109 Text: JAPANESE INTERMEDIATE CODE: A131
JP2001506912 T2	20070122		A977	REPORT ON RETRIEVAL	Effective date: 20061219 Text: JAPANESE INTERMEDIATE

					CODE: A971007
JP2001506912 T2	20070510		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20070409 Text: JAPANESE INTERMEDIATE CODE: A601
JP2001506912 T2	20070531		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20070509 Text: JAPANESE INTERMEDIATE CODE: A601
JP2001506912 T2	20070604		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20070604 Text: JAPANESE INTERMEDIATE CODE: A602
JP2001506912 T2	20070625		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20070625 Text: JAPANESE INTERMEDIATE CODE: A602
JP2001506912 T2	20070628		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20070608 Text: JAPANESE INTERMEDIATE CODE: A601
JP2001506912 T2	20070802	LSRE	A524	WRITTEN SUBMISSION OF COPY OF AMENDMENT UNDER SECTION 19 (PCT)	Effective date: 20070709 Text: JAPANESE INTERMEDIATE CODE: A524
JP2001506912 T2	20070813		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20070813 Text: JAPANESE INTERMEDIATE CODE: A602
JP2001506912 T2	20070906	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2001506912 T2	20070918	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20070918 Text: JAPANESE INTERMEDIATE CODE: A01
JP2001506912 T2	20071018	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20071009 Text: JAPANESE INTERMEDIATE CODE: A61
JP2001506912 T2	20071019	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4026860 B2	20070920	LSGT	+A01	特許査定書	
JP4026860 B2	20071016	LSFE	R100	特許料納付書	
JP4026860 B2	20071019	LSGT	+R150	特許証	
JP4026860 B2	20071226	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4026860 B2	20101014	LSFE	R20	特許料納付書	
JP4026860 B2	20101019	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4026860 B2	20101019	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4026860 B2	20111110	LSFE	R20	特許料納付書	
JP4026860 B2	20111115	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP4026860 B2	20111115	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4026860 B2	20121018	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 5
JP4026860 B2	20121018	LSFE	R20	特許料納付書	
JP4026860 B2	20121023	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 6
JP4026860 B2	20121023	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4026860 B2	20131010	LSFE	R20	特許料納付書	
JP4026860 B2	20131015	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4026860 B2	20131015	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4026860 B2	20141023	LSFE	R20	特許料納付書	
JP4026860 B2	20141028	LSFE	+R250	年金領収書, 年金領収書 (分納)	

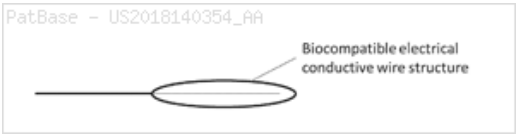
JP4026860 B2	20151019	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4026860 B2	20181023	PEXP		Calculated Patent Term Expiry	
US5908435 A	19990521	LSGT	PAT1	Patented Case	
US5908435 A	19990521	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5908435 A	19990601	LSGT	+	granted / extensions (spc, cpc, pte)	
US5908435 A	20021127	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5908435 A	20061129	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US5908435 A	20061218	LSAS	AS	ASSIGNMENT	Effective date: 20061018 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SAMUELS, SHAUN L. W.;REEL/FRAME:018654/0206 Owner: ENDOVENTION, INC., CALIFORNIA PartyType: owner
US5908435 A	20101201	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5908435 A	20171023	PEXP		Calculated Patent Term Expiry	
US6159230 A	20001124	LSGT	PAT1	Patented Case	
US6159230 A	20001124	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6159230 A	20001212	LSGT	+	granted / extensions (spc, cpc, pte)	
US6159230 A	20040611	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6159230 A	20061218	LSAS	AS	ASSIGNMENT	Effective date: 20061018 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SAMUELS, SHAUN L. W.;REEL/FRAME:018654/0206 Owner: ENDOVENTION, INC., CALIFORNIA PartyType: owner
US6159230 A	20080612	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6159230 A	20120612	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6159230 A	20190528	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO9920335 A1	19990429	LSPB	+	published / reissued	
WO9920335 A1	19990429		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: JP
WO9920335 A1	19990429		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
WO9920335 A1	19990623	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 1999 524717 Country of Ref document: JP
WO9920335 A1	19990625	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1998953966 Country of Ref document: EP
WO9920335 A1	19990707		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9920335 A1	19991117	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1998953966 Country of Ref document: EP
WO9920335 A1	20030326	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1998953966 Country of Ref document: EP

51) Family number: 64382784 (US2018140354 AA)

Title: RADIO FREQUENCY ELECTRO-THROMBECTOMY DEVICE

Abstract: A device is designed to **remove** blockages in a lumen such as a thrombus, blood **clot**, or embolus. The device comprises a manipulating wire and a structure that can conduct electrical current to a lumen blockage. The electrical current is preferably in radio frequency (RF). The RF electric current in the blockage can excite the contents such as proteins of the blockage, so that cross-linking density and interfacial adsorption of the entire blockage is enhanced. The enhanced cross-linking density can result in increased fracture resistance of the blockage such that fracture of the blockage during the **removal** process is unlikely. The enhanced interfacial adsorption results in increased interfacial fracture resistance between the device and blockage so that the blockage can be securely captured during the **removal** process without using radially applied force.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61B18/14
CPC: A61B17/221 A61B18/1492 A61B2017/22034 A61B2018/00214 A61B2018/00267 A61B2018/00398 A61B2018/00404 A61B2018/0041 A61B2018/144 A61B2018/1475
US: 1/1 606/41



Family:

Publication number	Publication date	Application number	Application date
CN107847239 A	20180327	CN201680028972	20160606
EP3302309 A1	20180411	EP20160806954	20160606
EP3302309 A4	20190206	EP20160806954	20160606
US2018140354 AA	20180524	US20160574758	20160606
WO16198947 A1	20161215	WO2016IB00872	20160606

Priority:
US20150172043P 20150606 WO2016IB00872 20160606 US20160574758 20160606

Probable Assignee: HONG KONG UNIV OF SCIENCE AND TECHNOLOGY
Assignee(s): (std): HONG KONG UNIV OF SCIENCE AND TECH ; HONG KONG UNIV OF SCIENCE AND TECHNOLOGY ; UNIV HONG KONG SCIENCE AND TECH ; UNIV HONG KONG SCIENCE AND TECHNOLOGY
Assignee(s): 香港科技大学
Inventor(s): (std): CHON CHI HANG ; CHOU CHI HANG ; KWOK JOHN CHING KWONG ; LAM ALEXANDER KA NGAI ; LAM DAVID CHUEN CHUN ; QIN ZHEN ; YUEN MATTHEW MING FAI
Inventor(s): 庄智恒 ; 林嘉毅 ; 林铨振 ; 秦臻 ; 袁铭辉 ; 郭正光
Agent(s): F AND E PATENT; 北京英赛嘉华知识产权代理有限责任公司 11204; 王艳春; 王达佐
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
CN107847239 A	20180327	LSPB	+	published / reissued	
CN107847239 A	20180327	LSPB	PB01	PUBLICATION	
CN107847239 A	20180420		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN107847239 A	20180529		CB03	CHANGE OF INVENTOR OR DESIGNER INFORMATION	
EP3302309 A1	20180411	LSPB	+	published / reissued	
EP3302309 A1	20180411	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20171206
EP3302309 A1	20180411		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3302309 A1	20180411		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3302309 A1	20180411		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3302309 A1	20180718		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: QIN, ZHEN PartyType: inventor

EP3302309 A1	20180718		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CHON, CHI HANG PartyType: inventor
EP3302309 A1	20180718		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YUEN, MATTHEW MING FAI PartyType: inventor
EP3302309 A1	20180718		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KWOK, JOHN CHING KWONG PartyType: inventor
EP3302309 A1	20180718		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LAM, DAVID CHUEN CHUN PartyType: inventor
EP3302309 A1	20180718		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LAM, ALEXANDER KA NGAI PartyType: inventor
EP3302309 A1	20180912		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3302309 A1	20180912		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3302309 A4	20190206	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20190109
EP3302309 A4	20190206		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20190103BHEP
EP3302309 A4	20190724	LSWD	-18W	APPLICATION WITHDRAWN	Effective date: 20190605
US2018140354 AA	20180111	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LAM, DAVID CHUEN CHUN;CHON, CHI HANG;KWOK, JOHN CHING KWONG;AND OTHERS;SIGNING DATES FROM 20170111 TO 20171024;REEL/FRAME:044594/0992 Owner: THE HONG KONG UNIVERSITY OF SCIENCE AND TECHNOLOGY PartyType: owner
US2018140354 AA	20180216		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2018140354 AA	20180508		RFE1	Docketed New Case - Ready for Examination	
US2018140354 AA	20180508		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018140354 AA	20180524	LSPB	+	published / reissued	
US2018140354 AA	20200512	LSES	NFA1	Non Final Action Mailed	
US2018140354 AA	20200512		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018140354 AA	20200627		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018140354 AA	20200627		STPP	INFORMATION ON STATUS:	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND

				PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	FORWARDED TO EXAMINER
US2018140354 AA	20200728	LSES	NFA1	Non Final Action Mailed	
US2018140354 AA	20200728		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
WO16198947 A1	20161215	LSPB	+	published / reissued	
WO16198947 A1	20170125		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 16806954 Country of Ref document: EP
WO16198947 A1	20171116	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 15574758 Country of Ref document: US
WO16198947 A1	20171207	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO16198947 A1	20180108	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2016806954 Country of Ref document: EP

52) Family number: 69192092 (US2018098778 AA)

Title: HYDRAULIC DISPLACEMENT AND **REMOVAL** OF THROMBUS **CLOTS**, AND CATHETERS FOR PERFORMING HYDRAULIC DISPLACEMENT

Abstract: **Clot** **removal** from a patient's vessel, such as an artery, are described using aspiration and hydraulic forces supporting the **removal** process. Hydraulic forces can be generated by occluding the vessel distal to the **clot** and delivering liquid between the **clot** and the **occlusive** device. The aspiration **catheter** is positioned proximal to the **clot**. Catheters designed to facilitate the delivery of hydraulic forces can be based on single lumen designs or dual lumen designs. The catheters may have a fixed internal wire, or in some embodiments the catheters can ride over a wire with a valve/seal positioned to restrict flow into or out from the guide lumen such that the guide lumen can further function for balloon inflation and/or for infusion of liquid.



Classifications:
International (IPC 8-9): A61B17/22 A61M1/00 A61M25/00 A61M25/09 A61M25/10 A61M25/14
CPC: A61B17/22 A61B2017/22038 A61B2017/22062 A61B2017/22067 A61B2017/22079 A61B2017/22082 A61B2017/22084 A61F2/013 A61M2025/0018 A61M2025/0031 A61M2025/0037 A61M2025/0039 A61M2025/0042 A61M2025/1052 A61M25/0021 A61M25/007 A61M25/0108
US: 1/1 606/128

Family:

Publication number	Publication date	Application number	Application date
EP3522798 A1	20190814	EP20170859199	20171005
EP3522798 A4	20200513	EP20170859199	20171005
JP2019530512 T2	20191024	JP20190517974T	20171005
US2018098778 AA	20180412	US20170725970	20171005
WO18067844 A1	20180412	WO2017US55382	20171005

Priority:
US20160404918P 20161006 WO2017US55382 20171005 US20170725970 20171005

Probable Assignee: MIVI NEUROSCIENCE INC
Assignee(s): (std): MIVI NEUROSCIENCE INC
Assignee(s): ミビ ニューロサイエンス インコーポレイテッド；ミビ・ニューロサイエンス・インコーポレイテッドMIVI NEUROSCIENCE, INC.
Inventor(s): (std): OGLE MATTHEW；OGLE MATTHEW F
Inventor(s): マシュー エフ オーグル；マシュー・エフ・オーグル
Agent(s): DARDI PETER S ET AL; DOMPATENT VON KREISLER SELTING WERNER PARTNERSCHAFT VON PATENT U RECHTSANWAELTEN MBB; 山尾 憲人; 岡部 博史
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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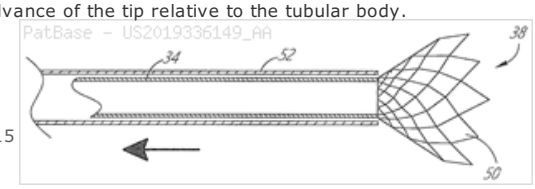
Patent	Date recorded	Event group	Code	Event	Details
EP3522798 A1	20190814	LSPB	+	published / reissued	
EP3522798 A1	20190814	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20190402
EP3522798 A1	20190814		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
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EP3522798 A1	20190814		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3522798 A1	20200115		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3522798 A1	20200115		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3522798 A4	20200513	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20200409
EP3522798 A4	20200513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 1/00 20060101ALI20200403BHEP
EP3522798 A4	20200513		RIC1	INFORMATION	ClassificationScheme: IPC

				PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/10 20130101ALI20200403BHEP
EP3522798 A4	20200513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/09 20060101ALI20200403BHEP ClassificationScheme: IPC
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EP3522798 A4	20200513		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20200403BHEP
JP2019530512 T2	20191024	LSPB	+	published / reissued	
US2018098778 AA	20171011	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:OGLE, MATTHEW F.;REEL/FRAME:043840/0564 Owner: MIVI NEUROSCIENCE, INC., MINNESOTA PartyType: owner Effective date: 20171010
US2018098778 AA	20180207		RFE1	Docketed New Case - Ready for Examination	
US2018098778 AA	20180207		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018098778 AA	20180412	LSPB	+	published / reissued	
US2018098778 AA	20191203	LSES	NFA1	Non Final Action Mailed	
US2018098778 AA	20191203		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018098778 AA	20200405		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018098778 AA	20200405		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018098778 AA	20200630		FRM1	Final Rejection Mailed	
US2018098778 AA	20200630		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
WO18067844 A1	20180412	LSPB	+	published / reissued	
WO18067844 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 17859199 Country of Ref document: EP
WO18067844 A1	20190402	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2019517974 Country of Ref document: JP
WO18067844 A1	20190409	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18067844 A1	20190510	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20190506 Ref document number: 2017859199 Country of Ref document: EP

53) Family number: 76439240 (US2019336149 AA)

Title: DEVICES AND **METHODS** FOR **REMOVING** OBSTRUCTIVE MATERIAL FROM AN INTRAVASCULAR SITE

Abstract: A **system** for **removing** embolic material from an intravascular site is disclosed. The **system** includes an elongate, flexible tubular body, having a proximal end, a distal end, and a tubular side wall defining at least one lumen extending axially there through; an axial restraint carried by the side wall and exposed to the lumen; a rotatable core wire extendable through the lumen, the core wire having a distal end; a limit carried by the core wire, the limit having a bearing surface for rotatably engaging the restraint; and an agitator tip on the distal end of the core wire. The limit and the restraint are engageable to permit rotation of the core wire but limit distal advance of the tip relative to the tubular body.



Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B17/32 A61B90/00 A61F2/06 A61M1/26 A61M25/00 A61M25/01 A61M25/06 A61M25/09 A61M29/00 A61M5/00
CPC: A61B17/22 A61B17/221 A61B2017/00685 A61B2017/00867 A61B2017/22038 A61B2017/22079 A61B2017/22082 A61B2017/2215 A61B2090/3966 A61B2217/005 A61B2217/007 A61M2210/12 A61M25/0012 A61M25/0053 A61M25/0054 A61M25/0068 A61M25/008 A61M25/0108 A61M25/0138 A61M25/0662 A61B17/22031 A61B17/32037 A61B17/320758 A61B2017/00991 A61B2017/22034 A61B2017/22062 A61B2017/2217 A61B2017/320733 A61B2017/320775 A61B2034/105 A61B90/39 A61M2205/0266 A61M25/005 A61M25/0147 A61B17/22012 A61B17/320708 A61B2017/00146 A61B2017/00212 A61B2017/00398 A61B2017/00402 A61B2017/00407 A61B2017/00482 A61B2017/00876 A61B2017/22014 A61B2017/306 A61B2017/308 A61B2017/320766 A61B2090/0807

Family:

Publication number	Publication date	Application number	Application date
US10653434 BA	20200519	US20190683718	20191114
US2019336149 AA	20191107	US20190398626	20190430
US2019336727 AA	20191107	US20190400263	20190501
US2020001046 AA	20200102	US20190570084	20190913
US2020138460 AA	20200507	US20190683718	20191114
US2020155181 AA	20200521	US20190704330	20191205
US2020205845 AA	20200702	US20190589563	20191001
WO19212984 A1	20191107	WO2019US29709	20190429
WO19213179 A1	20191107	WO2019US30073	20190430

Priority:

US20180665369P 20180501 US20180740018P 20181002 US20180777955P 20181211
US20190788399P 20190104 US20190398626 20190430 US20190400263 20190501
US20190570084 20190913 US20190589563 20191001 US20190683718 20191114
US20190704330 20191205

Probable Assignee: INCEPT LLC

Assignee(s): (std): IMPERATIVE CARE INC ; INCEPT LLC

Inventor(s): (std): JANSEN LEX ; JANSEN LEX PHILIP ; KHOSRAVI FARHAD ; KRONE RYAN ; KRONE RYAN TAYLOR ; NGO TIFFANY ; NGO TIFFANY TRAN ; OINEZA CYRUS ; RAY MIRANDA ; RUSSELL MARC ; STONE CAROLYN ; TRAN NGO TIFFANY ; YANG YI ; YEE BRANDON ; YEE BRANDON Y ; YOUNG LISA ; YOUNG LISA M ; YOURGENLOW ASHOOR ; YOURGENLOW ASHOOR SHAHBAZI

Agent(s): DELANEY KAROLINE A; KNOBBE MARTENS OLSON AND BEAR LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC 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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US10653434 BA	20191210	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20190807 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:051229/0671 Owner: IMPERATIVE CARE, INC., CALIFORNIA
US10653434 BA	20191210	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;JANSEN, LEX PHILIP;KRONE, RYAN TAYLOR;AND OTHERS;SIGNING DATES FROM 20190626 TO 20190701;REEL/FRAME:051231/0872 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US10653434 BA	20191218	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10653434 BA	20200429	LSGT	PAT1	Patented	

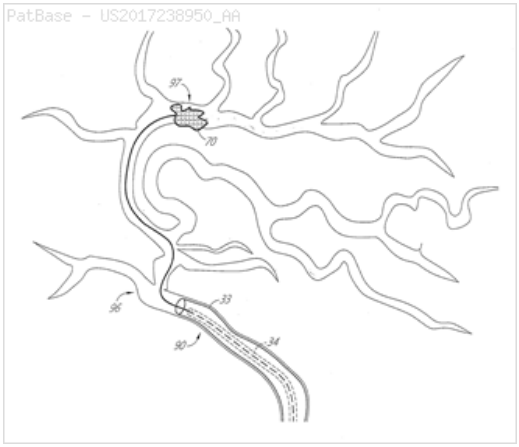
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US10653434 BA	20200519	LSGT	+	granted / extensions (spc, cpc, pte)	
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US2019336149 AA	20190628		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2019336149 AA	20190628		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: APPLICATION DISPATCHED FROM PREEXAM, NOT YET DOCKETED
US2019336149 AA	20190813	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:050039/0842 Effective date: 20190807 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US2019336149 AA	20191107	LSPB	+	published / reissued	
US2019336149 AA	20191210	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: IMPERATIVE CARE, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;JANSEN, LEX PHILIP;KRONE, RYAN TAYLOR;AND OTHERS;SIGNING DATES FROM 20190626 TO 20190701;REEL/FRAME:051231/0872
US2019336149 AA	20191210		RFE1	Docketed New Case - Ready for Examination	
US2019336149 AA	20191210		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019336727 AA	20190603	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;YOURGENLOW, ASHOOR SHAHBAZI;YOUNG, LISA M.;AND OTHERS;SIGNING DATES FROM 20190528 TO 20190531;REEL/FRAME:049346/0296 PartyType: owner Owner: IMPERATIVE CARE, INC., CALIFORNIA
US2019336727 AA	20190815		RFE1	Docketed New Case - Ready for Examination	
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US2019336727 AA	20191107	LSPB	+	published / reissued	
US2020001046 AA	20190916	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:050383/0001 Owner: IMPERATIVE CARE, INC., CALIFORNIA Effective date: 20190807 PartyType: owner
US2020001046 AA	20190916	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: IMPERATIVE CARE, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;YOURGENLOW, ASHOOR SHAHBAZI;YOUNG, LISA M.;AND OTHERS;SIGNING DATES FROM 20190528 TO 20190531;REEL/FRAME:050382/0969

US2020001046 AA	20191001		RFE1	Docketed New Case - Ready for Examination	
US2020001046 AA	20191001		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020001046 AA	20200102	LSPB	+	published / reissued	
US2020138460 AA	20200507	LSPB	+	published / reissued	
US2020155181 AA	20200521	LSPB	+	published / reissued	
US2020155181 AA	20200531		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2020155181 AA	20200531		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2020155181 AA	20200706	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2020155181 AA	20200706		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2020155181 AA	20200813	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2020155181 AA	20200813		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2020205845 AA	20200506		RFE1	Docketed New Case - Ready for Examination	
US2020205845 AA	20200506		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020205845 AA	20200702	LSPB	+	published / reissued	
WO19212984 A1	20191107	LSPB	+	published / reissued	
WO19212984 A1	20191218		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 19796919 Kind code of Ref document: A1 Country of Ref document: EP
WO19213179 A1	20191107	LSPB	+	published / reissued	
WO19213179 A1	20191218		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 19795949 Kind code of Ref document: A1 Country of Ref document: EP

54) Family number: 66712410 (US2017238950 AA)

Title: METHOD OF PULSATILE NEUROVASCULAR ASPIRATION WITH TELESCOPING CATHETER

Abstract: A method of aspirating a vascular occlusion from a remote site is provided. The method includes the steps of advancing a first elongate tubular body through a vascular access site and into a body vessel, advancing a second tubular body distally to extend beyond the first elongate tubular body to reach the remote site, and aspirating thrombus from the site into the lumen by applying pulsatile vacuum to the first elongate tubular body. The second tubular body has a lumen and a length that is shorter than the first elongate tubular body. The pulsatile application of vacuum may cause the distal tip of the second tubular body to open and close like a jaw, which facilitates reshaping the thrombus or biting or nibbling the thrombus material into strands or pieces to facilitate proximal withdrawal under negative pressure through the lumen of the second tubular body.



Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/12 A61B17/22 A61B17/3203 A61B17/3207 A61B6/00 A61F2/95 A61F7/12 A61L29/02 A61L29/04 A61L29/06 A61L29/14 A61M A61M1/00 A61M1/32 A61M25/00 A61M25/01 A61M25/06 A61M25/09 A61M25/10 A61M29/00 A61M31/00 A61M39/06 A61M5/00 B29C41/02 B29C41/14 B29C41/22 B29C41/42 B29C63/18 B29C63/20 B29C63/22 B29C65/00 B29K27/18 B29K75/00 B29L31/00
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US: 1/1 264/134 604/525 604/526 604/95.04 606/108 606/115

Family:

Publication number	Publication date	Application number	Application date
CN108135591 A	20180608	CN201780003461	20170224
EP3419528 A1	20190102	EP20170757352	20170224
EP3419528 A4	20191023	EP20170757352	20170224
HK1250616 A1	20190111	HK20180110193	20180808
HK40004555 A1	20200429	HK20190126177	20190702
JP2019511943 T2	20190509	JP20180545146T	20170224
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US10183145 BB	20190122	US20170442393	20170224
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US10441745 BB	20191015	US20170443948	20170227
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US2017238950 AA	20170824	US20170443841	20170227
US2017238951 AA	20170824	US20170443948	20170227
US2017238953 AA	20170824	US20170443874	20170227
US2017239440 AA	20170824	US20170443838	20170227
US2017239441 AA	20170824	US20170443877	20170227
US2017239447 AA	20170824	US20170444038	20170227
US2017252536 AA	20170907	US20170442393	20170224
US2019366041 AA	20191205	US20190542657	20190816
WO17147493 A1	20170831	WO2017US19453	20170224

Priority:

US20160299418P 20160224 US20170443595P 20170106 WO2017US19453 20170224
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US20170444038 20170227 US20170443948 20170227 US20170443841 20170227
US20170443874 20170227 US20190542657 20190816

Probable Assignee: IMPERATIVE CARE INC

Assignee(s): (std): INCEPT LLC ; WEIHAI HEMO JIRUI BIO TECH CO LTD

Assignee(s): IMPERATIVE CARE INC ; STROKE PROJECT INC ; WEIHAI HEMO JIRUI BIO TECHNOLOGY CO ; WEIHAI HEMO JIRUI BIO TECHNOLOGY CO LTD ; インセプト リミテッド ライアビリティ カンパニー ; インセプト、リミテッド、ライアビリティ、カンパニーINCEPT, LLC ; 威海禾木吉瑞生物科技有限公司

Inventor(s): (std): KHOSRAVI FARHAD ; KHOSRAVI FRED ; RIMSA JOSEPH ; YANG YI ; YOUNG LISA M

Inventor(s): F 科斯拉维 ; F·科斯拉维 ; J 里姆萨 ; J·里姆萨 ; イー ヤン ; イー、ヤン ; ジョゼフ リムサ ; ジョゼフ、リムサ ; ファルハッド ホスラビ ; フレッド ホスラビ ; フレッド、ホスラビ ; リサ エム ヤング ; リサ、エム. ヤング ; 杨奕

Agent(s): ABG INTELLECTUAL PROPERTY SL; ALTMAN DANIEL E; CLT PATENT AND TRADEMARK HK LTD; KNOBBE MARTENS OLSON AND BEAR LLP; ZHONGZI IP; 万柳军; 北京市中咨律师事务所 11247; 吴鹏; 大森 未知子; 榎保孝; 横田 修孝; 赤羽 桃子

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
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CN108135591 A	20180608	LSPB	PB01	PUBLICATION	
CN108135591 A	20180703		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN108135591 A	20190111		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: DE Ref document number: 1250616 Ref country code: HK Country of Ref document: HK
EP3419528 A1	20190102	LSPB	+	published / reissued	
EP3419528 A1	20190102	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20180823
EP3419528 A1	20190102		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3419528 A1	20190102		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3419528 A1	20190102		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3419528 A1	20190529		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3419528 A1	20190529		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3419528 A4	20191023	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20190924
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/3207 20060101ALN20190918BHEP ClassificationScheme: IPC
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 31/00 20060101ALN20190918BHEP ClassificationScheme: IPC
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/00 20060101AFI20190918BHEP
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALN20190918BHEP
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/00 20060101ALI20190918BHEP ClassificationScheme: IPC
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/01 20060101ALI20190918BHEP
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/3203 20060101ALN20190918BHEP
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 1/00 20060101ALI20190918BHEP ClassificationScheme: IPC
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 39/06 20060101ALN20190918BHEP
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: B29K 27/18 20060101ALN20190918BHEP

EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 6/00 20060101ALI20190918BHEP
EP3419528 A4	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 29/00 20060101ALI20190918BHEP ClassificationScheme: IPC
EP3419528 A4	20191023		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KHOSRAVI, FARHAD PartyType: inventor
EP3419528 A4	20191023		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YANG, YI PartyType: inventor
EP3419528 A4	20191023		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: YOUNG, LISA M.
EP3419528 A4	20191023		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: RIMSA, JOSEPH PartyType: inventor
EP3419528 A4	20200429		REG	REFERENCE TO A NATIONAL CODE	Ref document number: 40004555 Ref legal event code: DE Ref country code: HK Country of Ref document: HK
HK1250616 A1	20190111	LSPB	+	published / reissued	
HK40004555 A1	20200429	LSPB	+	published / reissued	
JP2019511943 T2	20190509	LSPB	+	published / reissued	
JP2019511943 T2	20190809	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20190809
JP2019511943 T2	20190829	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20190829
JP2019511943 T2	20200221	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20200221
JP2019511943 T2	20200221	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20200221 Text: JAPANESE INTERMEDIATE CODE: A621
US10179224 BB	20181222	LSGT	PAT1	Patented Case	
US10179224 BB	20190115	LSGT	+	granted / extensions (spc, cpc, pte)	
US10179224 BB	20190813	LSAS	AS	ASSIGNMENT	Effective date: 20190807 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:050039/0842 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US10179224 BB	20190822	LSAS	AS	ASSIGNMENT	Effective date: 20171221 OldParty: CHANGE OF NAME;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:050149/0474 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US10179224 BB	20370224	PEXP		Calculated Patent Term Expiry	
US10183145 BB	20190101	LSGT	PAT1	Patented Case	
US10183145 BB	20190122	LSGT	+	granted / extensions (spc, cpc, pte)	
US10183145 BB	20190813	LSAS	AS	ASSIGNMENT	Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner Effective date: 20190807 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:050039/0842
US10183145 BB	20190822	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:THE STROKE PROJECT,

					INC.;REEL/FRAME:050149/0474 Effective date: 20171221 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US10183145 BB	20370224	PEXP		Calculated Patent Term Expiry	
US10183146 BB	20190101	LSGT	PAT1	Patented Case	
US10183146 BB	20190122	LSGT	+	granted / extensions (spc, cpc, pte)	
US10183146 BB	20190813	LSAS	AS	ASSIGNMENT	Effective date: 20190807 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:050039/0842 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US10183146 BB	20190822	LSAS	AS	ASSIGNMENT	Effective date: 20171221 OldParty: CHANGE OF NAME;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:050149/0474 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US10183146 BB	20370224	PEXP		Calculated Patent Term Expiry	
US10183147 BB	20190101	LSGT	PAT1	Patented Case	
US10183147 BB	20190122	LSGT	+	granted / extensions (spc, cpc, pte)	
US10183147 BB	20190514	LSRE	CC	CERTIFICATE OF CORRECTION	
US10183147 BB	20190813	LSAS	AS	ASSIGNMENT	Effective date: 20190807 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:050039/0842 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US10183147 BB	20190822	LSAS	AS	ASSIGNMENT	Effective date: 20171221 OldParty: CHANGE OF NAME;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:050149/0474 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US10183147 BB	20370224	PEXP		Calculated Patent Term Expiry	
US10441745 BB	20191015	LSGT	+	granted / extensions (spc, cpc, pte)	
US10441745 BB	20370224	PEXP		Calculated Patent Term Expiry	
US10661053 BB	20200526	LSGT	+	granted / extensions (spc, cpc, pte)	
US10661053 BB	20370227	PEXP		Calculated Patent Term Expiry	
US2017238950 AA	20170804		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017238950 AA	20170824	LSPB	+	published / reissued	
US2017238950 AA	20171013		FRM2	Final Rejection Counted, Not Yet Mailed	
US2017238950 AA	20171016		FRM1	Final Rejection Mailed	
US2017238950 AA	20171102		RSP1	Response after Final Action Forwarded to Examiner	
US2017238950 AA	20171114	LSES	ADV1	Advisory Action Mailed	
US2017238950 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG,

					YI;KHOSRAVI, FRED;RIMSA, JOSEPH;REEL/FRAME:045434/0993 Owner: THE STROKE PROJECT, INC., CALIFORNIA PartyType: owner
US2017238950 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170501 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:045439/0264 Owner: INCEPT, LLC, CALIFORNIA PartyType: owner
US2017238950 AA	20180608	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2017238950 AA	20180627	LSES	NFA1	Non Final Action Mailed	
US2017238950 AA	20181024		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017238950 AA	20190122		FRM1	Final Rejection Mailed	
US2017238950 AA	20190122		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017238950 AA	20190725		RFE1	Docketed New Case - Ready for Examination	
US2017238950 AA	20190725		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017238950 AA	20190813	LSAS	AS	ASSIGNMENT	Effective date: 20190807 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:050039/0842 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US2017238950 AA	20190822	LSAS	AS	ASSIGNMENT	Effective date: 20171221 OldParty: CHANGE OF NAME;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:050149/0474 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US2017238950 AA	20191121		EQA1	Ex parte Quayle Action Mailed	
US2017238950 AA	20191121		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: EX PARTE QUAYLE ACTION MAILED
US2017238950 AA	20200128		RSP3	Response to Ex parte Quayle Action Entered and Forwarded to Examiner	
US2017238950 AA	20200128		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO EX PARTE QUAYLE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017238950 AA	20200131	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017238950 AA	20200131		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017238950 AA	20200415	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017238950 AA	20200415		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED

				PROCEDURE IN GENERAL	
US2017238950 AA	20200506	LSGT	PAT1	Patented Case	
US2017238950 AA	20200506	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017238951 AA	20170426		RFE1	Docketed New Case - Ready for Examination	
US2017238951 AA	20170824	LSPB	+	published / reissued	
US2017238951 AA	20180208	LSES	NFA1	Non Final Action Mailed	
US2017238951 AA	20180404	LSAS	AS	ASSIGNMENT	Owner: THE STROKE PROJECT, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;KHOSRAVI, FRED;YOUNG, LISA M.;REEL/FRAME:045438/0140 Effective date: 20170327
US2017238951 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170501 Owner: INCEPT, LLC, CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:045439/0264 PartyType: owner
US2017238951 AA	20180720	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2017238951 AA	20180724	LSES	NFA1	Non Final Action Mailed	
US2017238951 AA	20181116		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017238951 AA	20190124		FRM1	Final Rejection Mailed	
US2017238951 AA	20190124		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017238951 AA	20190514		RFE1	Docketed New Case - Ready for Examination	
US2017238951 AA	20190531	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017238951 AA	20190531		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017238951 AA	20190813	LSAS	AS	ASSIGNMENT	Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner Effective date: 20190807 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:050039/0842
US2017238951 AA	20190822	LSAS	AS	ASSIGNMENT	Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner Effective date: 20171221 OldParty: CHANGE OF NAME;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:050149/0474
US2017238951 AA	20190903	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017238951 AA	20190903		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017238951 AA	20190925	LSGT	PAT1	Patented Case	
US2017238951 AA	20190925	LSGT	STCF	INFORMATION ON STATUS: PATENT	Text: PATENTED CASE

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US2017238953 AA	20170607		RFE1	Docketed New Case - Ready for Examination	
US2017238953 AA	20170824	LSPB	+	published / reissued	
US2017238953 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;KHOSRAVI, FRED;RIMSA, JOSEPH;REEL/FRAME:045434/0884 Owner: THE STROKE PROJECT, INC., CALIFORNIA PartyType: owner
US2017238953 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170501 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:045439/0264 Owner: INCEPT, LLC, CALIFORNIA PartyType: owner
US2017238953 AA	20180622	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2017238953 AA	20181023		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017238953 AA	20190122		FRM1	Final Rejection Mailed	
US2017238953 AA	20190122		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017238953 AA	20190529		FRM1	Final Rejection Mailed	
US2017238953 AA	20190529		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017238953 AA	20190813	LSAS	AS	ASSIGNMENT	Effective date: 20190807 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:050039/0842 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US2017238953 AA	20190822	LSAS	AS	ASSIGNMENT	Effective date: 20171221 OldParty: CHANGE OF NAME;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:050149/0474 Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner
US2017238953 AA	20191003		RFE1	Docketed New Case - Ready for Examination	
US2017238953 AA	20191003		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017238953 AA	20191122	LSES	NFA1	Non Final Action Mailed	
US2017238953 AA	20191122		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017238953 AA	20200328		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017238953 AA	20200328		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017238953 AA	20200526		EQA1	Ex parte Quayle Action Mailed	

US2017238953 AA	20200813	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017238953 AA	20200813		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017239440 AA	20170820		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017239440 AA	20170824	LSPB	+	published / reissued	
US2017239440 AA	20171025		FRM2	Final Rejection Counted, Not Yet Mailed	
US2017239440 AA	20171026		FRM1	Final Rejection Mailed	
US2017239440 AA	20180117	LSES	ADV2	Advisory Action Counted, Not Yet Mailed	
US2017239440 AA	20180301	LSES	NFA1	Non Final Action Mailed	
US2017239440 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;KHOSRAVI, FRED;YOUNG, LISA M.;REEL/FRAME:045437/0079 Owner: THE STROKE PROJECT, INC., CALIFORNIA PartyType: owner
US2017239440 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170501 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:045439/0264 Owner: INCEPT, LLC, CALIFORNIA PartyType: owner
US2017239440 AA	20181222	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017239441 AA	20170731		FRM1	Final Rejection Mailed	
US2017239441 AA	20170824	LSPB	+	published / reissued	
US2017239441 AA	20180103	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2017239441 AA	20180111	LSES	NFA1	Non Final Action Mailed	
US2017239441 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;KHOSRAVI, FRED;YOUNG, LISA M.;REEL/FRAME:045437/0235 Owner: THE STROKE PROJECT, INC., CALIFORNIA PartyType: owner
US2017239441 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170501 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:045439/0264 Owner: INCEPT, LLC, CALIFORNIA PartyType: owner
US2017239441 AA	20180713		FRM1	Final Rejection Mailed	
US2017239441 AA	20190101	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017239447 AA	20170805		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017239447 AA	20170824	LSPB	+	published / reissued	
US2017239447 AA	20170928		FRM1	Final Rejection	

				Mailed	
US2017239447 AA	20171101		RSP1	Response after Final Action Forwarded to Examiner	
US2017239447 AA	20171102	LSES	ADV2	Advisory Action Counted, Not Yet Mailed	
US2017239447 AA	20171103	LSES	ADV1	Advisory Action Mailed	
US2017239447 AA	20180312	LSES	NFA1	Non Final Action Mailed	
US2017239447 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;KHOSRAVI, FRED;YOUNG, LISA M.;REEL/FRAME:045438/0730 Owner: THE STROKE PROJECT, INC., CALIFORNIA PartyType: owner
US2017239447 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170501 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:045439/0264 Owner: INCEPT, LLC, CALIFORNIA PartyType: owner
US2017239447 AA	20190101	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017252536 AA	20170809		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017252536 AA	20170907	LSPB	+	published / reissued	
US2017252536 AA	20171012		FRM1	Final Rejection Mailed	
US2017252536 AA	20180102	LSES	ADV2	Advisory Action Counted, Not Yet Mailed	
US2017252536 AA	20180301	LSES	NFA1	Non Final Action Mailed	
US2017252536 AA	20180404	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;KHOSRAVI, FRED;YOUNG, LISA M.;REEL/FRAME:045434/0737 PartyType: owner Effective date: 20170327 Owner: THE STROKE PROJECT, INC., CALIFORNIA
US2017252536 AA	20180404	LSAS	AS	ASSIGNMENT	Effective date: 20170501 Owner: INCEPT, LLC, CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:045439/0264
US2017252536 AA	20190101	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019366041 AA	20190822	LSAS	AS	ASSIGNMENT	Effective date: 20171221 Owner: IMPERATIVE CARE, INC., CALIFORNIA OldParty: CHANGE OF NAME;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:050149/0474 PartyType: owner
US2019366041 AA	20191001		RFE1	Docketed New Case - Ready for Examination	
US2019366041 AA	20191001		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019366041 AA	20191205	LSPB	+	published / reissued	
US2019366041 AA	20200819	LSAS	AS	ASSIGNMENT	Owner: IMPERATIVE CARE, INC., CALIFORNIA PartyType: owner Effective date: 20190807

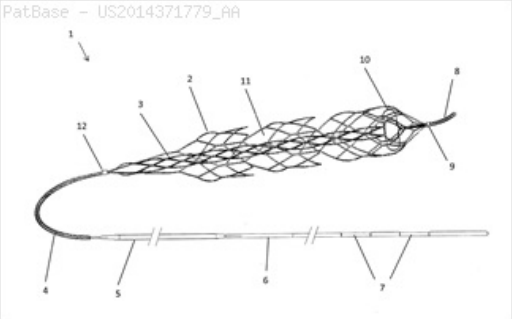
					OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:KHOSRAVI, FARHAD;REEL/FRAME:053539/0630
US2019366041 AA	20200819	LSAS	AS	ASSIGNMENT	Owner: INCEPT, LLC, CALIFORNIA Effective date: 20170518 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:THE STROKE PROJECT, INC.;REEL/FRAME:053539/0650 PartyType: owner
US2019366041 AA	20200819	LSAS	AS	ASSIGNMENT	Effective date: 20170327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YANG, YI;YOUNG, LISA M.;REEL/FRAME:053539/0479 Owner: THE STROKE PROJECT, INC., CALIFORNIA PartyType: owner
WO17147493 A1	20170831	LSPB	+	published / reissued	
WO17147493 A1	20180822	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2018545146 Country of Ref document: JP
WO17147493 A1	20180825	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17147493 A1	20180924	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2017757352 Country of Ref document: EP
WO17147493 A1	20180928	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2017757352 Effective date: 20180924 Country of Ref document: EP
WO17147493 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 17757352 Country of Ref document: EP

55) Family number: 57409093 (US2014371779 AA)

Title: CLOT RETRIEVAL DEVICE FOR REMOVING OCCLUSIVE CLOT FROM A BLOOD VESSEL

Abstract: A clot retrieval device may include an elongate member and an expandable clot engaging element configured to extend across the clot in its expanded state. The expandable clot engaging element may include a first monolithic structure and a second monolithic structure. The first monolithic structure may encircle the second monolithic structure over at least a portion of its length. The second monolithic structure may include a proximal section, an intermediate section, and a distal section. The distal section may include an expansion.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B17/3207 A61F2/00 A61F2/01 A61F2/82 A61F2/90 A61M25/00 A61M29/00
CPC: A61B17/12109 A61B17/221 A61B17/320725 A61B2017/00358 A61B2017/00778 A61B2017/22034 A61B2017/2212 A61B2017/2215 A61F2/013 A61M29/00 A61B17/12118 A61B17/1214 A61B2017/22001 A61B2017/22038 A61B2017/22039 A61B2017/22079 A61B2017/32096 A61B2090/3966 A61F2/82 A61F2002/016
US: 1/1 606/127 606/159 606/200



Family:

Publication number	Publication date	Application number	Application date
CN105208950 A	20151230	CN201480028407	20140305
CN109157304 A	20190108	CN201810594736	20140305
CN110916743 A	20200327	CN201910870154	20190916
EP2967610 A1	20160120	EP20140708025	20140305
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EP3536252 A3	20191023	EP20180210248	20140305
ES2708786 T3	20190411	ES20140708025T	20140305
JP2016513505 T2	20160516	JP20150562023T	20140305
JP2018196762 A2	20181213	JP20180153407	20180817
JP2020127771 A2	20200827	JP20200081678	20200507
JP6745848 B2	20200826	JP20180153407	20180817
PL2967610 T3	20190731	PL20140708025T	20140305
SI2967610 T1	20190731	SI20140031008T	20140305
TR201820525 T4	20190121	TR20180020525T	20140305
US10278717 BB	20190507	US20150985877	20151231
US10390850 BB	20190827	US20140206973	20140312
US10588648 BB	20200317	US20150985574	20151231
US10610246 BB	20200407	US20150985729	20151231
US10675045 BB	20200609	US20150985823	20151231
US2014371779 AA	20141218	US20140206973	20140312
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US2016106449 AA	20160421	US20150985877	20151231
US2016113663 AA	20160428	US20150985574	20151231
US2016113664 AA	20160428	US20150985628	20151231
US2016113665 AA	20160428	US20150985823	20151231
US2019231372 AA	20190801	US20190376652	20190405
US2019336151 AA	20191107	US20190510652	20190712
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US2020046390 AA	20200213	US20190659624	20191022
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US9445829 BB	20160920	US20150629217	20150223
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Priority:

US20130785213P 20130314
EP20140708025 20140305
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US20150985823 20151231
US20180730952P 20180913
US20190822467P 20190322
US20190510652 20190712
US20190659624 20191022

Probable Assignee: NEURAVI LTD

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MARIA ALICIA; KOBAYASHI YASUSHI; MIYAMAE TORU; NAKANISHI MOTOHARU; OBRIEN JOHN AUGUSTINE; OBRIEN JOHN ET AL; ONO SHINJIRO; SMALL GARY JAMES; TAKEUCHI SHIGEO; TROUTMAN SANDERS LLP; YAMAMOTO OSAMU; 中国专利代理 香港 有限公司 72001; 中西 基晴; 宮前 徹; 小林 泰; 小見山 泰明; 小野 新次郎; 山本 修; 李隆涛; 永新专利商标代理有限公司 72002; 渡邊 誠; 王丽军; 竹内 茂雄; 翟建伟; 黄希贵

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
CN105208950 A	20151230	LSPB	+	published / reissued	
CN105208950 A	20151230	LSPB	+C06	PUBLICATION	
CN105208950 A	20160316		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN109157304 A	20190108	LSPB	+	published / reissued	
CN109157304 A	20190108	LSPB	PB01	PUBLICATION	
CN109157304 A	20190108	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN109157304 A	20190201		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN109157304 A	20190201		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN110916743 A	20200327	LSPB	+	published / reissued	
CN110916743 A	20200327	LSPB	PB01	PUBLICATION	
CN110916743 A	20200327	LSPB	PB01	公开	Text: 公开 (Disclosure)
EP2967610 A1	20160120	LSPB	+	published / reissued	
EP2967610 A1	20160120	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20150915
EP2967610 A1	20160120		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2967610 A1	20160120		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2967610 A1	20160622		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2967610 A1	20170125	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20161221
EP2967610 A1	20180627	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180601
EP2967610 A1	20181114		INTC	INTENTION TO GRANT ANNOUNCED (DELETED)	
EP2967610 A1	20181128	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20181024
EP2967610 B1	20181205	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2967610 B1	20181205		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2967610 B1	20181205	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP2967610 B1	20181214	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP2967610 B1	20181215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Ref country code: AT Ref legal event code: REF Effective date: 20181215

					Ref document number: 1072077 Country of Ref document: AT
EP2967610 B1	20181226	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2967610 B1	20181227	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602014037362 Ref country code: DE Ref legal event code: R096 Country of Ref document: DE
EP2967610 B1	20190212		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: TRGR Ref country code: SE
EP2967610 B1	20190315		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref country code: CH Ref legal event code: NV Representative: E. BLUM AND CO. AG PATENT- UND MARKENANWAELTE , CH
EP2967610 B1	20190320		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: FP
EP2967610 B1	20190329	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20190225 Country of Ref document: LU
EP2967610 B1	20190411	LSGT	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190411 Kind code of Ref document: T3 Ref country code: ES Ref document number: 2708786 Ref legal event code: FG2A Country of Ref document: ES
EP2967610 B1	20190415	LSRV	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Effective date: 20181205 Ref country code: AT Ref document number: 1072077 Ref legal event code: MK05 Country of Ref document: AT
EP2967610 B1	20190425	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2967610 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190305 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2967610 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190305 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2967610 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181205 Country of Ref document: LT
EP2967610 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181205 Country of Ref document: AT
EP2967610 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181205 Country of Ref document: LV
EP2967610 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181205 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2967610 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181205 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2967610 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE	Year of fee payment: 6 Payment date: 20190219 Country of Ref document: DE

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EP2967610 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190314 Year of fee payment: 6 Country of Ref document: CH
EP2967610 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20190326 Country of Ref document: IT
EP2967610 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190311 Year of fee payment: 6 Country of Ref document: IE
EP2967610 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190227 Year of fee payment: 6 Country of Ref document: GB
EP2967610 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181205 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2967610 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181205 Country of Ref document: RS
EP2967610 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190306 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2967610 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190213 Year of fee payment: 6 Country of Ref document: FR
EP2967610 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20190227 Country of Ref document: TR
EP2967610 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190215 Year of fee payment: 6 Country of Ref document: BE
EP2967610 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190313 Year of fee payment: 6 Country of Ref document: NL
EP2967610 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190311 Year of fee payment: 6 Country of Ref document: SE
EP2967610 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190405 Country of Ref document: PT
EP2967610 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20190215 Country of Ref document: PL
EP2967610 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20190401 Year of fee payment: 6 Country of Ref document: ES

				NATIONAL OFFICE TO EPO]	
EP2967610 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181205 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2967610 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181205 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
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EP2967610 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181205 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2967610 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181205 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2967610 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190225 Year of fee payment: 6 Country of Ref document: SI
EP2967610 B1	20190906	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602014037362 Ref legal event code: R097 Country of Ref document: DE
EP2967610 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181205 Country of Ref document: DK
EP2967610 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181205 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2967610 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190218 Year of fee payment: 6 Country of Ref document: CZ
EP2967610 B1	20191113	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190906
EP2967610 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200221 Year of fee payment: 7 Country of Ref document: IT
EP2967610 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200309 Year of fee payment: 7 Country of Ref document: IE
EP2967610 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200310 Year of fee payment: 7 Country of Ref document: SE
EP2967610 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE	Payment date: 20200218 Year of fee payment: 7 Country of Ref document: DE

				TO EPO]	
EP2967610 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200131 Year of fee payment: 7 Country of Ref document: PL
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EP2967610 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200312 Year of fee payment: 7 Country of Ref document: NL
EP2967610 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20200218 Country of Ref document: CZ
EP2967610 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20200313 Country of Ref document: CH
EP2967610 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20200211 Country of Ref document: SI
EP2967610 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200224 Year of fee payment: 7 Country of Ref document: LU
EP2967610 B1	20200529	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20200217 Country of Ref document: BE
EP2967610 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190305 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2967610 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200214 Year of fee payment: 7 Country of Ref document: FR
EP2967610 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200304 Year of fee payment: 7 Country of Ref document: TR
EP2967610 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200401 Year of fee payment: 7 Country of Ref document: ES
EP2967610 B1	20340305	PEXP		Calculated Patent Term Expiry	
EP3536252 A2	20190911	LSPB	+	published / reissued	
EP3536252 A2	20190911		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2967610 Country of Ref document: EP
EP3536252 A2	20190911		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3536252 A3	20191023		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

EP3536252 A3	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/01 20060101ALN20190916BHEP
EP3536252 A3	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/3207 20060101ALI20190916BHEP
EP3536252 A3	20191023		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20190916BHEP
EP3536252 A3	20200603	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20200429
EP3536252 A3	20200603		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
ES2708786 T3	20190411	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2708786 T3	20340305	PEXP		Calculated Patent Term Expiry	
JP2016513505 T2	20160516	LSPB	+	published / reissued	
JP2016513505 T2	20170105	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20170105
JP2016513505 T2	20171002	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20171002 Text: JAPANESE INTERMEDIATE CODE: A131
JP2016513505 T2	20171003		A977	REPORT ON RETRIEVAL	Effective date: 20170929 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2016513505 T2	20171222		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20171222 Text: JAPANESE INTERMEDIATE CODE: A601
JP2016513505 T2	20180330	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180330 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016513505 T2	20180606	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20180606 Text: JAPANESE INTERMEDIATE CODE: A02
JP2018196762 A2	20180817		A523	手続補正書	Effective date: 20180817
JP2018196762 A2	20180817	LSES	+A621	出願審査請求書	Effective date: 20180817
JP2018196762 A2	20180817		A63	特許願	Effective date: 20180817
JP2018196762 A2	20180817		A631	翻訳文提出書	Effective date: 20180817
JP2018196762 A2	20180817		A781	上申書	Effective date: 20180817
JP2018196762 A2	20181105		A972001	要約不備職権訂正	Effective date: 20181105
JP2018196762 A2	20181213	LSPB	+	published / reissued	
JP2018196762 A2	20190411	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190411 Text: JAPANESE INTERMEDIATE CODE: A523
JP2018196762 A2	20190411		A523	手続補正書	Effective date: 20190411
JP2018196762 A2	20190411		A781	上申書	Effective date: 20190411
JP2018196762 A2	20190612	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20190612 Text: JAPANESE INTERMEDIATE CODE: A131
JP2018196762 A2	20190612	LSES	-A131	拒絶理由通知書	Effective date: 20190612
JP2018196762 A2	20190910		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20190910 Text: JAPANESE INTERMEDIATE CODE: A601
JP2018196762 A2	20190910		A601	期間延長請求書	Effective date: 20190910
JP2018196762 A2	20191211	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20191211 Text: JAPANESE INTERMEDIATE CODE: A523
JP2018196762 A2	20191211		A523	手続補正書	Effective date: 20191211
JP2018196762 A2	20191211		A53	意見書	Effective date: 20191211
JP2018196762 A2	20200106	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20191211 Text: JAPANESE INTERMEDIATE CODE: A821
JP2018196762 A2	20200106		A821	手続補足書	Effective date: 20191211
JP2018196762 A2	20200107	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20200107 Text: JAPANESE INTERMEDIATE CODE:

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JP2018196762 A2	20200107	LSRV	-A02	拒絶査定	Effective date: 20200107
JP2018196762 A2	20200507	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20200507 Text: JAPANESE INTERMEDIATE CODE: A523
JP2018196762 A2	20200507		A523	手続補正書	Effective date: 20200507
JP2018196762 A2	20200507		C60	審判請求書(その他の請求書･申立書を含む)	Effective date: 20200507
JP2018196762 A2	20200519		C11	手続補正指令書(請求)(長官)	Effective date: 20200519
JP2018196762 A2	20200522	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20200521 Text: JAPANESE INTERMEDIATE CODE: A911
JP2018196762 A2	20200522	LSAL	A911	審査前置移管	Effective date: 20200521
JP2018196762 A2	20200522		C21	審査前置移管通知	Effective date: 20200522
JP2018196762 A2	20200702	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2018196762 A2	20200706	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20200706 Text: JAPANESE INTERMEDIATE CODE: A01
JP2018196762 A2	20200706	LSGT	+A01	特許査定	Effective date: 20200706
JP2018196762 A2	20200806	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20200804 Text: JAPANESE INTERMEDIATE CODE: A61
JP2018196762 A2	20200806	LSFE	+A61	登録料納付	Effective date: 20200804
JP2020127771 A2	20200529	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20200529
JP2020127771 A2	20200529	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20200529 Text: JAPANESE INTERMEDIATE CODE: A621
JP2020127771 A2	20200716	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20200716 Text: JAPANESE INTERMEDIATE CODE: A523
JP2020127771 A2	20200827	LSPB	+	published / reissued	
JP6745848 B2	20180817	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180817 Text: JAPANESE INTERMEDIATE CODE: A523
JP6745848 B2	20200708	LSGT	+A01	特許査定書	Effective date: 20200706
JP6745848 B2	20200805	LSFE	R100	特許料納付書	Effective date: 20200804 Text: 52001588025
JP6745848 B2	20200806	LSGT	+R150	特許証	Effective date: 20200828
JP6745848 B2	20200826	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6745848 B2	20380817	PEXP		Calculated Patent Term Expiry	
PL2967610 T3	20190731	LSGT	+	granted / extensions (spc, cpc, pte)	
SI2967610 T1	20190731	LSGT	+	granted / extensions (spc, cpc, pte)	
SI2967610 T1	20340305	PEXP		Calculated Patent Term Expiry	
TR201820525 T4	20190121	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201820525 T4	20340305	PEXP		Calculated Patent Term Expiry	
US10278717 BB	20151231	LSAS	AS	ASSIGNMENT	Owner: NEURAVI LIMITED, IRELAND PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150329 TO 20150429;REEL/FRAME:037392/0236
US10278717 BB	20190417	LSGT	PAT1	Patented Case	

US10278717 BB	20190507	LSGT	+	granted / extensions (spc, cpc, pte)	
US10278717 BB	20340305	PEXP		Calculated Patent Term Expiry	
US10390850 BB	20190827	LSGT	+	granted / extensions (spc, cpc, pte)	
US10390850 BB	20340904	PEXP		Calculated Patent Term Expiry (PTA 176 days)	
US10588648 BB	20151231	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150329 TO 20150429;REEL/FRAME:037392/0232 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US10588648 BB	20200317	LSGT	+	granted / extensions (spc, cpc, pte)	
US10588648 BB	20350321	PEXP		Calculated Patent Term Expiry (PTA 381 days and a terminal disclaimer has been filed)	
US10610246 BB	20151231	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150329 TO 20150429;REEL/FRAME:037390/0834 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US10610246 BB	20200318	LSGT	PAT1	Patented Case	
US10610246 BB	20200407	LSGT	+	granted / extensions (spc, cpc, pte)	
US10610246 BB	20350310	PEXP		Calculated Patent Term Expiry (PTA 370 days)	
US10675045 BB	20151231	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150329 TO 20150429;REEL/FRAME:037392/0220 Owner: NEURAVI LIMITED, IRELAND
US10675045 BB	20200520	LSGT	PAT1	Patented Case	
US10675045 BB	20200609	LSGT	+	granted / extensions (spc, cpc, pte)	
US10675045 BB	20350522	PEXP		Calculated Patent Term Expiry (PTA 443 days)	
US2014371779 AA	20140519	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;BRADY, EAMON;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20140324 TO 20140404;REEL/FRAME:032920/0401 Owner: NEURAVI LIMITED, IRELAND
US2014371779 AA	20141207		RFE1	Docketed New Case - Ready for Examination	
US2014371779 AA	20141218	LSPB	+	published / reissued	
US2014371779 AA	20170510		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014371779 AA	20170613		FRM1	Final Rejection Mailed	
US2014371779 AA	20170916		RSP1	Response after Final Action Forwarded to Examiner	
US2014371779 AA	20170922	LSES	ADV1	Advisory Action Mailed	

US2014371779 AA	20171018		RFE1	Docketed New Case - Ready for Examination	
US2014371779 AA	20171117	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2014371779 AA	20171120	LSES	NFA1	Non Final Action Mailed	
US2014371779 AA	20180619		FRM1	Final Rejection Mailed	
US2014371779 AA	20181022	LSES	NFA1	Non Final Action Mailed	
US2014371779 AA	20190210		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014371779 AA	20190210		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2014371779 AA	20190410	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014371779 AA	20190410		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2014371779 AA	20190712	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2014371779 AA	20190712		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2014371779 AA	20190807	LSGT	PAT1	Patented Case	
US2014371779 AA	20190807	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015164523 AA	20150618	LSPB	+	published / reissued	
US2015164523 AA	20160831	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016106448 AA	20160304		RFE1	Docketed New Case - Ready for Examination	
US2016106448 AA	20160421	LSPB	+	published / reissued	
US2016106448 AA	20180202	LSES	NFA1	Non Final Action Mailed	
US2016106448 AA	20180522	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2016106448 AA	20180725	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016106448 AA	20180730	LSES	NFA1	Non Final Action Mailed	
US2016106448 AA	20181126		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016106448 AA	20190131	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016106448 AA	20190225		RFE1	Docketed New Case - Ready for Examination	
US2016106448 AA	20190225		STPP	INFORMATION ON STATUS: PATENT	Text: DOCKETED NEW CASE - READY FOR EXAMINATION

				APPLICATION AND GRANTING PROCEDURE IN GENERAL	
US2016106448 AA	20190523	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016106448 AA	20190523		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016106448 AA	20190911	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016106448 AA	20190911		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016106448 AA	20191118		RFE1	Docketed New Case - Ready for Examination	
US2016106448 AA	20191118		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2016106448 AA	20200102	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016106448 AA	20200102		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016106448 AA	20200225	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016106448 AA	20200225		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2016106448 AA	20200318	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016106449 AA	20160421	LSPB	+	published / reissued	
US2016106449 AA	20170310	LSES	NFA1	Non Final Action Mailed	
US2016106449 AA	20170917		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016106449 AA	20171102		FRM2	Final Rejection Counted, Not Yet Mailed	
US2016106449 AA	20171103		FRM1	Final Rejection Mailed	
US2016106449 AA	20180307		RFE1	Docketed New Case - Ready for Examination	
US2016106449 AA	20180322	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016106449 AA	20180327	LSES	NFA1	Non Final Action Mailed	
US2016106449 AA	20180808	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016106449 AA	20190107	LSES	NAM1	Notice of Allowance Mailed -- Application	

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US2016106449 AA	20190116	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2016106449 AA	20190123	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016106449 AA	20190320	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2016106449 AA	20190320		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP., ISSUE FEE NOT PAID
US2016106449 AA	20190403	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016106449 AA	20190409	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016106449 AA	20190409		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2016106449 AA	20190417	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016113663 AA	20160304		RFE1	Docketed New Case - Ready for Examination	
US2016113663 AA	20160428	LSPB	+	published / reissued	
US2016113663 AA	20180105	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016113663 AA	20180110	LSES	NFA1	Non Final Action Mailed	
US2016113663 AA	20180117	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2016113663 AA	20180725	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016113663 AA	20180726	LSES	NFA1	Non Final Action Mailed	
US2016113663 AA	20190116		FRM1	Final Rejection Mailed	
US2016113663 AA	20190116		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2016113663 AA	20190411		RFE1	Docketed New Case - Ready for Examination	
US2016113663 AA	20190411		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2016113663 AA	20190718	LSES	NFA1	Non Final Action Mailed	
US2016113663 AA	20190718		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2016113663 AA	20191010		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016113663 AA	20191010		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER

				GRANTING PROCEDURE IN GENERAL	
US2016113663 AA	20191209	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016113663 AA	20191209		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016113663 AA	20200212	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016113663 AA	20200212		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2016113663 AA	20200226	LSGT	PAT1	Patented Case	
US2016113663 AA	20200226	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016113664 AA	20151231	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150329 TO 20150429;REEL/FRAME:037390/0830 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US2016113664 AA	20160428	LSPB	+	published / reissued	
US2016113664 AA	20170125	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2016113664 AA	20170125		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2016113665 AA	20160304		RFE1	Docketed New Case - Ready for Examination	
US2016113665 AA	20160428	LSPB	+	published / reissued	
US2016113665 AA	20180201	LSES	NFA1	Non Final Action Mailed	
US2016113665 AA	20180621	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016113665 AA	20180622	LSES	NFA1	Non Final Action Mailed	
US2016113665 AA	20180912	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2016113665 AA	20181228	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016113665 AA	20190118		RFE1	Docketed New Case - Ready for Examination	
US2016113665 AA	20190304	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016113665 AA	20190304		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016113665 AA	20190418		RFE1	Docketed New Case - Ready for Examination	
US2016113665 AA	20190418		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING	Text: DOCKETED NEW CASE - READY FOR EXAMINATION

				PROCEDURE IN GENERAL	
US2016113665 AA	20190613	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016113665 AA	20190613		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016113665 AA	20190930	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016113665 AA	20190930		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016113665 AA	20191129		RFE1	Docketed New Case - Ready for Examination	
US2016113665 AA	20191129		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2016113665 AA	20200210	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016113665 AA	20200210		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016113665 AA	20200501	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2019231372 AA	20190801	LSPB	+	published / reissued	
US2019231372 AA	20190808	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150329 TO 20150429;REEL/FRAME:050005/0516 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US2019336151 AA	20190712	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VALE, DAVID;BRADY, EAMON;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20140324 TO 20140404;REEL/FRAME:049744/0261 PartyType: owner Owner: NEURAVI LIMITED, IRELAND
US2019336151 AA	20191028		RFE1	Docketed New Case - Ready for Examination	
US2019336151 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019336151 AA	20191107	LSPB	+	published / reissued	
US2020000483 AA	20191210		RFE1	Docketed New Case - Ready for Examination	
US2020000483 AA	20191210		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020000483 AA	20200102	LSPB	+	published / reissued	

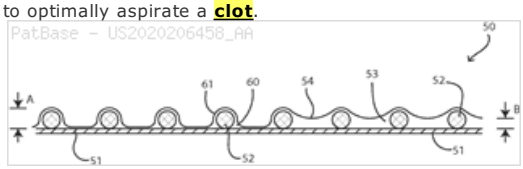
US2020046390 AA	20191022	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150329 TO 20150429;REEL/FRAME:050784/0484 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US2020046390 AA	20200123		RFE1	Docketed New Case - Ready for Examination	
US2020046390 AA	20200123		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020046390 AA	20200213	LSPB	+	published / reissued	
US2020085444 AA	20200313	LSES	NFA1	Non Final Action Mailed	
US2020085444 AA	20200319	LSPB	+	published / reissued	
US2020085444 AA	20200510		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2020085444 AA	20200510		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2020085444 AA	20200709	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2020085444 AA	20200814		RFE1	Docketed New Case - Ready for Examination	
US2020085444 AA	20200814		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US9445829 BB	20150430	LSAS	AS	ASSIGNMENT	Owner: NEURAVI LIMITED, IRELAND PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;CASEY, BRENDAN;GILVARRY, MICHAEL;AND OTHERS;SIGNING DATES FROM 20150329 TO 20150429;REEL/FRAME:035535/0967
US9445829 BB	20151105		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US9445829 BB	20160422		RFE1	Docketed New Case - Ready for Examination	
US9445829 BB	20160831	LSGT	PAT1	Patented Case	
US9445829 BB	20160920	LSGT	+	granted / extensions (spc, cpc, pte)	
US9445829 BB	20200219	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US9445829 BB	20200305	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9445829 BB	20340305	PEXP		Calculated Patent Term Expiry	
WO14139845 A1	20140918	LSPB	+	published / reissued	
WO14139845 A1	20141105		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 14708025 Country of Ref document: EP
WO14139845 A1	20150910	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2015562023

					Country of Ref document: JP
WO14139845 A1	20150914	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO14139845 A1	20150915	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2014708025 Country of Ref document: EP

56) Family number: 74787574 (US2020206458 AA)

Title: CATHETERS AND DEVICES AND **SYSTEMS** INCORPORATING SUCH CATHETERS

Abstract: A **catheter** has a jacket (**10, 11, 5**) defining a lumen and a helical support (**6**). The **catheter** has a proximal portion (**1**) and a distal portion (**3**), the distal portion having for at least some of its length a corrugated outer surface. A transition portion has a flexural stiffness which is less than that of the distal portion and more than that of the proximal portion. The transition portion provides an optimum transition in flexural stiffness by way of features of the jacket including geometry of jacket corrugations (**15**), or overlapping tubular layers (**1073, 1074**). The distal end of the distal portion may have an extension of liner material folded over (**1072, 1082**) to provide a particularly soft tip. In other examples the liner is terminated (**763**) before the distal tip. The **catheter** is particularly suited to an aspiration device (**1350**) with a flow restrictor (**1353**) and the distal portion distal of the flow restrictor. An aspiration **system** (**3500**) may employ the **catheter** with a pump which dynamically applies negative or positive pressure to optimally aspirate a **clot**.



Classifications:
International (IPC 8-9): A61B17/22 A61L29/06 A61M1/00 A61M25/00 A61M25/01
CPC: A61B17/22 A61B2017/22067 A61B2017/22079 A61L29/06 A61M1/0031 A61M1/0037 A61M1/008 A61M25/0012 A61M25/005 A61M25/0054 A61M25/0108

Family:

Publication number	Publication date	Application number	Application date
CN111465420 A	20200728	CN201880081023	20181214
US2020206458 AA	20200702	US20200817787	20200313
WO19115809 A1	20190620	WO2018EP85064	20181214

Priority:

US20170599560P 20171215 US20170599573P 20171215 US20180616188P 20180111
WO2018EP85064 20181214 US20200817787 20200313

Probable Assignee: PERFUZE LTD

Assignee(s): (std): PERFUZE LTD

Assignee(s): 佩尔福兹有限公司

Inventor(s): (std): CRAGG ANDREW ; ESPINOSA ALEJANDRO ; FARNAN ROBERT ; FINNERAN DARA ; INNERAN DARA ; LOGAN JOHN ; MULLINS LIAM ; NAGLREITER BRETT ; RIVERA LISANDRO

Inventor(s): A 克拉格 ; A 埃斯皮诺萨 ; A·克拉格 ; A·埃斯皮诺萨 ; B 纳格尔雷特 ; B·纳格尔雷特 ; D 因尼然 ; D·因尼然 ; J 洛根 ; J·洛根 ; L 里韦拉 ; L 马林斯 ; L·里韦拉 ; L·马林斯 ; R 法南 ; R·法南

Agent(s): WELDON MICHAEL ET AL; 李隆涛; 永新专利商标代理有限公司 72002

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

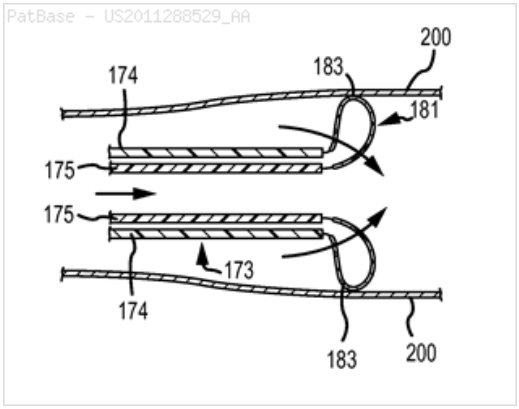
Patent	Date recorded	Event group	Code	Event	Details
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CN111465420 A	20200728	LSPB	PB01	PUBLICATION	
CN111465420 A	20200728	LSPB	PB01	公开	Text: 公开 (Disclosure)
US2020206458 AA	20200623	LSES	NFA1	Non Final Action Mailed	
US2020206458 AA	20200623		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2020206458 AA	20200702	LSPB	+	published / reissued	
WO19115809 A1	20190620	LSPB	+	published / reissued	
WO19115809 A1	20190731		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 18830199 Kind code of Ref document: A1 Country of Ref document: EP
WO19115809 A1	20200616	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19115809 A1	20200717	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20200715 Ref document number: 2018830199 Country of Ref document: EP

57) Family number: 49965190 (US2011288529 AA)

Title: AUGMENTED DELIVERY **CATHETER** AND **METHOD**

Abstract: The present invention relates to a **catheter** apparatus with an anchoring device to stabilize the **catheter** tip when in use, such as when infusing, injecting, or delivering substances, devices or other catheters into a patient. The apparatus according to various embodiments deploys an anchoring device that stabilizes the **catheter** tip and enables adjustment of the blood flow during use.

Classifications:
International (IPC 8-9): A61B17/221 A61B17/3207 A61F2/01 A61F2/24 A61M25/00 A61M25/04 A61M25/09
CPC: A61M2025/0004 A61M2210/12 A61M25/0074 A61M25/0084 A61M25/04 A61B17/221 A61B17/3207 A61B17/32075 A61B2017/2212 A61B2017/320716 A61F2/01 A61F2/011 A61F2/013 A61F2/2412 A61F2/2418 A61F2/2475 A61F2002/016 A61F2220/0008 A61F2220/0016 A61F2230/0006 A61F2230/0065 A61F2230/0069 A61F2250/0067
US: 1/1 604/175 604/175S 604/508 604/508S 604/509 604/510 604/510P 606/200 606/200P



Family:

Publication number	Publication date	Application number	Application date
US10335577 BB	20190702	US20150807359	20150723
US2011288529 AA	20111124	US20110111924	20110519
US2012022579 AA	20120126	US20110190416	20110725
US2015343178 AA	20151203	US20150807359	20150723
US9126016 BB	20150908	US20110111924	20110519
US9561094 BB	20170207	US20110190416	20110725

Priority:

US20100395907P 20100519 US20100400157P 20100723 US20100400593P 20100730
US20110111924 20110519 US20110190416 20110725 US20150807359 20150723

Probable Assignee: NFUSION VASCULAR SYSTEMS LLC
Assignee(s): (std): FULTON RICHARD E ; NFINIUM VASCULAR TECH LLC ; NFUSION VASCULAR SYSTEMS LLC
Assignee(s): COOK MEDICAL TECHNOLOGIES LLC ; NFINIUM VASCULAR TECHNOLOGIES LLC
Inventor(s): (std): FULTON III RICHARD E ; FULTON RICHARD E
Agent(s): WILSON SONSINI GOODRICH AND ROSATI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US10335577 BB	20190702	LSGT	+	granted / extensions (spc, cpc, pte)	
US10335577 BB	20321026	PEXP		Calculated Patent Term Expiry (PTA 526 days)	
US2011288529 AA	20111124	LSPB	+	published / reissued	
US2011288529 AA	20120412	LSAS	AS	ASSIGNMENT	Effective date: 20120406 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FULTON, RICHARD E.;REEL/FRAME:028034/0723 Owner: NFUSION VASCULAR SYSTEMS, LLC, COLORADO PartyType: owner
US2011288529 AA	20150819	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012022579 AA	20120126	LSPB	+	published / reissued	
US2012022579 AA	20130802	LSAS	AS	ASSIGNMENT	Effective date: 20130719 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FULTON, RICHARD E.;REEL/FRAME:030933/0749 Owner: COOK MEDICAL TECHNOLOGIES LLC, INDIANA PartyType: owner
US2012022579 AA	20161208	LSAS	AS	ASSIGNMENT	Effective date: 20150719 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:COOK MEDICAL TECHNOLOGIES

					LLC;REEL/FRAME:040603/0511 Owner: NFINIUM VASCULAR TECHNOLOGIES LLC, COLORADO PartyType: owner
US2012022579 AA	20170118	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015343178 AA	20150827		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2015343178 AA	20151203	LSPB	+	published / reissued	
US2015343178 AA	20160129	LSAS	AS	ASSIGNMENT	Effective date: 20120406 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FULTON, RICHARD E.;REEL/FRAME:037625/0709 Owner: NFUSION VASCULAR SYSTEMS, LLC, COLORADO PartyType: owner
US2015343178 AA	20160316		RFE1	Docketed New Case - Ready for Examination	
US2015343178 AA	20171024	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2015343178 AA	20171025	LSES	NFA1	Non Final Action Mailed	
US2015343178 AA	20180722		FRM2	Final Rejection Counted, Not Yet Mailed	
US2015343178 AA	20180724		FRM1	Final Rejection Mailed	
US2015343178 AA	20190131		RFE1	Docketed New Case - Ready for Examination	
US2015343178 AA	20190211	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015343178 AA	20190317	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2015343178 AA	20190318	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015343178 AA	20190318		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2015343178 AA	20190320	LSAS	AS	ASSIGNMENT	Effective date: 20190320 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NFUSION VASCULAR SYSTEMS, LLC;REEL/FRAME:048647/0523 Owner: NFINIUM VASCULAR TECHNOLOGIES, LLC, COLORADO PartyType: owner
US2015343178 AA	20190513	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015343178 AA	20190513		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2015343178 AA	20190612	LSGT	PAT1	Patented Case	
US2015343178 AA	20190612	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9126016 BB	20150819	LSGT	PAT1	Patented Case	
US9126016 BB	20150908	LSGT	+	granted / extensions (spc, cpc, pte)	
US9126016 BB	20190308	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9126016 BB	20310519	PEXP		Calculated Patent Term Expiry	
US9561094 BB	20150820		RFE1	Docketed New Case - Ready for	

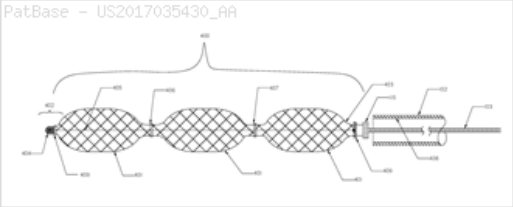
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US9561094 BB	20170118	LSGT	PAT1	Patented Case	
US9561094 BB	20170207	LSGT	+	granted / extensions (spc, cpc, pte)	
US9561094 BB	20200807	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9561094 BB	20311003	PEXP		Calculated Patent Term Expiry (PTA 70 days)	

58) Family number: 64856023 (US2017035430 AA)

Title: DEVICES AND **METHODS** FOR TREATMENT OF ENDOVASCULAR AND NON-ENDOVASCULAR DEFECTS IN HUMANS USING **OCCLUSION** IMPLANTS

Abstract: Devices and **methods** are disclosed for occluding endovascular and non-endovascular defects, including parent artery **occlusions**, aneurysms and other abnormal openings in the body. The devices include one or more expandable braids that may be coupled to one or more helical coils suitable for introduction and **retrieval** from within a treatment area using a delivery **catheter**.

Classifications:
International (IPC 8-9): A61B17/12 A61B18/14 A61B90/00
CPC: A61B17/12109 A61B17/12113 A61B17/1214 A61B17/12145 A61B17/12154 A61B17/12163 A61B17/12172 A61B2017/00526 A61B2017/1205 A61B2017/12054 A61B2090/3966 A61B18/1492 A61B2017/00004 A61B2017/00867 A61B2017/00893 A61B2018/0041 A61B2017/00778 A61B2017/00853 A61B90/39 A61B2017/00845 A61B2017/12063 A61B2017/12068 A61B2017/12095
US: 1/1 606/200 606/41



Family:

Publication number	Publication date	Application number	Application date
US2017035430 AA	20170209	US20160227735	20160803
US2017035437 AA	20170209	US20160227713	20160803
US2018221030 AA	20180809	US20180947842	20180408
US2018317933 AA	20181108	US20180031848	20180710
US2020000477 AA	20200102	US20190566521	20190910

Priority:

US20150282645P 20150805
US20160227735 20160803
US20180947842 20180408
US20190893587P 20190829
US20150283730P 20150909
US20160227713 20160803
US20180673686P 20180518
US20190566521 20190910
US20150285269P 20151024
US20180648739P 20180327
US20180031848 20180710

Probable Assignee: HENRY NITA LLC
Assignee(s): (std): HENRY NITA LLC
Inventor(s): (std): NITA HENRY ; SARGE JEFF

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US2017035430 AA	20160803	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SARGE, JEFF;NITA, HENRY;REEL/FRAME:039335/0375 PartyType: owner Owner: HENRY NITA LLC, CALIFORNIA Effective date: 20160728
US2017035430 AA	20170209	LSPB	+	published / reissued	
US2017035430 AA	20170217		RFE1	Docketed New Case - Ready for Examination	
US2017035430 AA	20180807	LSES	NFA1	Non Final Action Mailed	
US2017035430 AA	20190219	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2017035430 AA	20190219		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2017035437 AA	20160803	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SARGE, JEFF;NITA, HENRY;REEL/FRAME:039335/0290 PartyType: owner Effective date: 20160728 Owner: HENRY NITA LLC, CALIFORNIA
US2017035437 AA	20170209	LSPB	+	published / reissued	
US2017035437 AA	20170217		RFE1	Docketed New Case - Ready for Examination	
US2017035437 AA	20180801	LSES	NFA1	Non Final Action Mailed	
US2017035437 AA	20190301	LSWD	ABD3	Abandoned -- Failure to Respond	

				to an Office Action	
US2017035437 AA	20190301		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2018221030 AA	20180408	LSAS	AS	ASSIGNMENT	Owner: HENRY NITA LLC, CALIFORNIA Effective date: 20180406 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:NITA, HENRY;SARGE, JEFF;REEL/FRAME:045473/0704 PartyType: owner
US2018221030 AA	20180728		RFE1	Docketed New Case - Ready for Examination	
US2018221030 AA	20180728		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018221030 AA	20180809	LSPB	+	published / reissued	
US2018221030 AA	20191002	LSES	NFA1	Non Final Action Mailed	
US2018221030 AA	20191002		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018221030 AA	20200511	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2018221030 AA	20200511		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2018317933 AA	20180710	LSAS	AS	ASSIGNMENT	Owner: HENRY NITA LLC, CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:NITA, HENRY;SARGE, JEFF;REEL/FRAME:046310/0297 Effective date: 20180709
US2018317933 AA	20181108	LSPB	+	published / reissued	
US2018317933 AA	20190102		RFE1	Docketed New Case - Ready for Examination	
US2018317933 AA	20190102		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018317933 AA	20191230	LSES	NFA1	Non Final Action Mailed	
US2018317933 AA	20191230		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018317933 AA	20200717	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2018317933 AA	20200717		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2020000477 AA	20190910	LSAS	AS	ASSIGNMENT	Owner: HENRY NITA LLC, CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:NITA, HENRY;SARGE, JEFF;REEL/FRAME:050331/0060 PartyType: owner Effective date: 20190904
US2020000477 AA	20191227		FRM1	Final Rejection Mailed	
US2020000477 AA	20191227		-STCB	INFORMATION ON STATUS: APPLICATION	Text: FINAL REJECTION MAILED

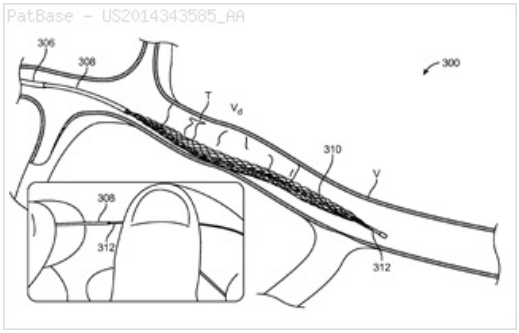
				DISCONTINUATION	
US2020000477 AA	20200102	LSPB	+	published / reissued	
US2020000477 AA	20200717	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2020000477 AA	20200717		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

59) Family number: 54381974 (US2014343585 AA)

Title: METHOD AND APPARATUS FOR OCCLUSION REMOVAL

Abstract: A system for removing a thrombus. The system includes an expandable device that maintains axially fixed engagement with the thrombus. The expandable device applies a first force to the thrombus according to surrounding vessel size. The expandable device applies a second force to the thrombus according to an increased vessel size to maintain axially fixed engagement.

Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B17/3207 A61B17/3209 A61F2/82 A61F2/90 A61F2/91 A61F2/966 A61M29/00
CPC: A61B17/12113 A61B17/12118 A61B17/1214 A61B17/12172 A61B17/22 A61B17/221 A61B17/320725 A61B2017/00778 A61B2017/22034 A61B2017/22045 A61B2017/32096 A61F2/90 A61F2/966 A61F2002/823 A61F2250/0098
US: 606/159 623/1.11



Family:

Publication number	Publication date	Application number	Application date
CN104168845 A	20141126	CN201380012864	20130117
CN104168845 B	20171020	CN201380012864	20130117
CN107432760 A	20171205	CN201710724691	20130117
DK2804548 T3	20190701	DK20130738707T	20130117
EP2804548 A2	20141126	EP20130738707	20130117
EP2804548 A4	20151111	EP20130738707	20130117
EP2804548 B1	20190327	EP20130738707	20130117
ES2728449 T3	20191024	ES20130738707T	20130117
IL233703 A0	20140930	IL20130233703	20130117
IL233703 A1	20200331	IL20130233703	20130117
JP2015506754 T2	20150305	JP20140553409T	20130117
JP2016093542 A2	20160526	JP20160006194	20160115
JP6127164 B2	20170510	JP20160006194	20160115
JP6463132 B2	20190130	JP20140553409T	20130117
PL2804548 T3	20191031	PL20130738707T	20130117
TR201908457 T4	20190722	TR20190008457T	20130117
US10383751 BB	20190820	US20130372778	20130117
US2014343585 AA	20141120	US20130372778	20130117
US2015182361 AA	20150702	US20150658478	20150316
US2019336313 AA	20191107	US20190459654	20190702
WO13109756 A2	20130725	WO2013US21942	20130117
WO13109756 A3	20141030	WO2013US21942	20130117
WO13109756 A8	20141127	WO2013US21942	20130117

Priority:

US201205876 17P	20120117	US201206795 08P	20120803	US201206930 26P	20120824
WO2013US21942	20130117	CN201380012864	20130117	EP20130738707	20130117
JP20140553409T	20130117	US20130372778	20130117	US20140372778	20140717
US20150658478	20150316	JP20160006194	20160115	US20190459654	20190702

Probable Assignee: PERFLOW MEDICAL LTD

Assignee(s): (std): ALLON REITER ; AVRAHAM RAPAPORT ; DAVID FERRERA ; GILAD CIBULSKI ; PERFLOW MEDICAL LTD

Assignee(s): N A ; パーフロー メディカル リミテッド ; 珀弗娄医疗有限公司

Inventor(s): (std): ALLON REITER ; AVRAHAM RAPAPORT ; CIBULSKI GILAD ; DAVID FERRERA ; FERRERA DAVID ; GILAD CIBULSKI ; RAPAPORT AVI ; RAPAPORT AVRAHAM ; REITER ALLON

Inventor(s): シブルスキー ジラド ; フェレラ デイビッド ; ラパポート アブラハム ; レイター アロン ; 亚伯拉罕 拉帕波特 ; 亚伯拉罕·拉帕波特 ; 吉拉德西布尔斯基 ; 吉拉德·西布尔斯基 ; 大卫 费雷拉 ; 大卫·费雷拉 ; 艾伦 瑞特 ; 艾伦·瑞特

Agent(s): DENNEMEYER AND ASSOCIATES SA; ESER SIPAHIOGLU; GE EHRLICH 1995 LTD; GE EHRLICH 1995 LTD ET AL; LOOS BRADLEY J ET AL; PONS ARINO ANGEL; גיאיארליך בע מ 1995; 北京京万通知识产权代理有限公司 11440; 鷲田 公一; 齐晓静

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)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
CN104168845 A	20141126	LSPB	+	published / reissued	
CN104168845 A	20141126	LSPB	+C06	PUBLICATION	
CN104168845 A	20141224		C10	ENTRY INTO SUBSTANTIVE	

				EXAMINATION	
CN104168845 B	20171020	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104168845 B	20171020	LSGT	+GR01	PATENT GRANT	
CN104168845 B	20330117	PEXP		Calculated Patent Term Expiry	
CN107432760 A	20171205	LSPB	+	published / reissued	
CN107432760 A	20171205	LSPB	PB01	PUBLICATION	
CN107432760 A	20171229		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
DK2804548 T3	20190701	LSGT	+	granted / extensions (spc, cpc, pte)	
DK2804548 T3	20330117	PEXP		Calculated Patent Term Expiry	
EP2804548 A2	20141126	LSPB	+	published / reissued	
EP2804548 A2	20141126	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20140811
EP2804548 A2	20141126		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2804548 A2	20141203	LSES	R17D	DEFERRED SEARCH REPORT PUBLISHED (CORRECTED)	Effective date: 20141030
EP2804548 A2	20151007		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2804548 A4	20151111	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20151008
EP2804548 A4	20151111		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20151002BHEP
EP2804548 A4	20170517	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20170418
EP2804548 A4	20190109	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20181210
EP2804548 A4	20190109		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: FERRERA, DAVID
EP2804548 A4	20190109		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: REITER, ALLON
EP2804548 A4	20190109		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: CIBULSKI, GILAD
EP2804548 A4	20190109		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: RAPAPORT, AVRAHAM
EP2804548 B1	20190327	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2804548 B1	20190327		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2804548 B1	20190327	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: PERFLOW MEDICAL LTD. PartyType: owner
EP2804548 B1	20190327	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D

EP2804548 B1	20190329	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP2804548 B1	20190415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 1112063 Kind code of Ref document: T Effective date: 20190415 Ref legal event code: REF Ref country code: AT Country of Ref document: AT
EP2804548 B1	20190417	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP2804548 B1	20190418	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref legal event code: R096 Ref document number: 602013052935 Country of Ref document: DE
EP2804548 B1	20190531		REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: NV PartyType: representative Representative: DENNEMEYER AG, CH
EP2804548 B1	20190626		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FP Ref country code: NL
EP2804548 B1	20190701		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190624 Ref legal event code: T3 Ref country code: DK
EP2804548 B1	20190716		REG	REFERENCE TO A NATIONAL CODE	Ref country code: SE Ref legal event code: TRGR
EP2804548 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190627 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2804548 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP2804548 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190327 Country of Ref document: FI
EP2804548 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2804548 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190627 Country of Ref document: BG
EP2804548 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190327 Country of Ref document: LV
EP2804548 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190628 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2804548 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2804548 B1	20191024	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG2A Ref document number: 2728449

					Effective date: 20191024 Ref country code: ES Kind code of Ref document: T3 Country of Ref document: ES
EP2804548 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190327 Country of Ref document: EE
EP2804548 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190727 Country of Ref document: PT
EP2804548 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190327 Country of Ref document: SK
EP2804548 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190327 Country of Ref document: AL
EP2804548 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2804548 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2804548 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190727 Country of Ref document: IS
EP2804548 B1	20200103	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602013052935 Ref legal event code: R097 Country of Ref document: DE
EP2804548 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20190327 Country of Ref document: SI
EP2804548 B1	20200311	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20200103
EP2804548 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20200429 Country of Ref document: NL
EP2804548 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200428 Year of fee payment: 8 Country of Ref document: ES
EP2804548 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200429 Year of fee payment: 8 Country of Ref document: IE
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				TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200430 Country of Ref document: TR
EP2804548 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200429 Year of fee payment: 9 Country of Ref document: FR
EP2804548 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200429 Year of fee payment: 8 Country of Ref document: DE
EP2804548 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200430 Year of fee payment: 8 Country of Ref document: DK
EP2804548 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20200428 Country of Ref document: CH
EP2804548 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20200615 Country of Ref document: CZ
EP2804548 B1	20330117	PEXP		Calculated Patent Term Expiry	
ES2728449 T3	20191024	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2728449 T3	20330117	PEXP		Calculated Patent Term Expiry	
IL233703 A0	20200730	LSGT	+FF	PATENT GRANTED	
IL233703 A1	20200331	LSPB	+	published / reissued	
JP2015506754 T2	20150305	LSPB	+	published / reissued	
JP2015506754 T2	20160115	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20160115
JP2015506754 T2	20160115	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20160115
JP2015506754 T2	20161118		A977	REPORT ON RETRIEVAL	Effective date: 20161117 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2015506754 T2	20161129	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20161129
JP2015506754 T2	20170214		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20170214
JP2015506754 T2	20170411	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170411 Text: JAPANESE INTERMEDIATE CODE: A523
JP2015506754 T2	20170919	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20170919
JP2015506754 T2	20171212	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20171212 Text: JAPANESE INTERMEDIATE CODE: A523
JP2015506754 T2	20180130	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20180130
JP2015506754 T2	20180427	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20180427
JP2015506754 T2	20180904	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20180904
JP2015506754 T2	20181128	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20181128
JP2015506754 T2	20181129	LSGT	+TRDD	DECISION OF GRANT OR	

				REJECTION WRITTEN	
JP2015506754 T2	20181204	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20181204 Text: JAPANESE INTERMEDIATE CODE: A01
JP2015506754 T2	20190110	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20181228
JP2016093542 A2	20160526	LSPB	+	published / reissued	
JP2016093542 A2	20161025	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20161025 Text: JAPANESE INTERMEDIATE CODE: A131
JP2016093542 A2	20170119	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20170119
JP2016093542 A2	20170316	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2016093542 A2	20170328	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20170328 Text: JAPANESE INTERMEDIATE CODE: A01
JP2016093542 A2	20170413	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20170410 Text: JAPANESE INTERMEDIATE CODE: A61
JP6127164 B2	20170330	LSGT	+A01	特許査定書	
JP6127164 B2	20170411	LSFE	R100	特許料納付書	
JP6127164 B2	20170414	LSGT	+R150	特許証	
JP6127164 B2	20170510	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6127164 B2	20200408	LSFE	R20	特許料納付書	Effective date: 20200407
JP6127164 B2	20200409	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP6127164 B2	20200409	LSFE	+R250	年金領収書, 年金領収書(分納)	Effective date: 20200424
JP6127164 B2	20360115	PEXP		Calculated Patent Term Expiry	
JP6463132 B2	20181206	LSGT	+A01	特許査定書	
JP6463132 B2	20190108	LSFE	R100	特許料納付書	
JP6463132 B2	20190111	LSGT	+R150	特許証	
JP6463132 B2	20190130	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6463132 B2	20330117	PEXP		Calculated Patent Term Expiry	
PL2804548 T3	20191031	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201908457 T4	20190722	LSGT	+	granted / extensions (spc, cpc, pte)	
TR201908457 T4	20330117	PEXP		Calculated Patent Term Expiry	
US10383751 BB	20140813	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: PERFLOW MEDICAL LTD., ISRAEL Effective date: 20140702 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID;RAPAPORT, AVRAHAM;CIBULSKI, GILAD;AND OTHERS;REEL/FRAME:033523/0090
US10383751 BB	20190820	LSGT	+	granted / extensions (spc, cpc, pte)	
US10383751 BB	20340507	PEXP		Calculated Patent Term Expiry (PTA 475 days)	
US2014343585 AA	20141120	LSPB	+	published / reissued	

US2014343585 AA	20141130		RFE1	Docketed New Case - Ready for Examination	
US2014343585 AA	20170405	LSES	NFA1	Non Final Action Mailed	
US2014343585 AA	20170807		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014343585 AA	20171116		FRM1	Final Rejection Mailed	
US2014343585 AA	20180313		RFE1	Docketed New Case - Ready for Examination	
US2014343585 AA	20180806	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2014343585 AA	20180808	LSES	NFA1	Non Final Action Mailed	
US2014343585 AA	20181222		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014343585 AA	20181222		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2014343585 AA	20190423	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014343585 AA	20190423		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2014343585 AA	20190711	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2014343585 AA	20190711		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2014343585 AA	20190731	LSGT	PAT1	Patented Case	
US2014343585 AA	20190731	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015182361 AA	20150401		RFE1	Docketed New Case - Ready for Examination	
US2015182361 AA	20150702	LSPB	+	published / reissued	
US2015182361 AA	20150721	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID;RAPAPORT, AVRAHAM;CIBULSKI, GILAD;AND OTHERS;REEL/FRAME:036139/0290 PartyType: owner Owner: PERFLOW MEDICAL LTD., ISRAEL Effective date: 20140702
US2015182361 AA	20170725	LSES	NFA1	Non Final Action Mailed	
US2015182361 AA	20170813		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015182361 AA	20170905	LSES	NFA1	Non Final Action Mailed	
US2015182361 AA	20180108		FRM2	Final Rejection Counted, Not Yet Mailed	
US2015182361 AA	20180110		FRM1	Final Rejection Mailed	

US2015182361 AA	20180919	LSES	NFA1	Non Final Action Mailed	
US2015182361 AA	20190226		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015182361 AA	20190226		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2015182361 AA	20190531		FRM2	Final Rejection Counted, Not Yet Mailed	
US2015182361 AA	20190604		FRM1	Final Rejection Mailed	
US2015182361 AA	20190604		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2015182361 AA	20191208		RFE1	Docketed New Case - Ready for Examination	
US2015182361 AA	20191208		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2015182361 AA	20191220	LSES	NFA1	Non Final Action Mailed	
US2015182361 AA	20191220		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2015182361 AA	20200729	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2019336313 AA	20190714	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: PERFLOW MEDICAL LTD., ISRAEL Effective date: 20140702 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:FERRERA, DAVID;RAPAPORT, AVRAHAM;CIBULSKI, GILAD;AND OTHERS;REEL/FRAME:049746/0666
US2019336313 AA	20191028		RFE1	Docketed New Case - Ready for Examination	
US2019336313 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019336313 AA	20191107	LSPB	+	published / reissued	
WO13109756 A2	20130725	LSPB	+	published / reissued	
WO13109756 A2	20130911		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 13738707 Country of Ref document: EP
WO13109756 A2	20140717	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2014553409 Country of Ref document: JP
WO13109756 A2	20140717	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO13109756 A2	20140717	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 233703 Country of Ref document: IL
WO13109756 A2	20140717	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 14372778 Country of Ref document: US
WO13109756 A2	20140811	LSNP	+WWE	WIPO INFORMATION:	Ref document number: 2013738707

	ENTRY INTO NATIONAL PHASE	Country of Ref document: EP

60) Family number: 78664306 (WO20087078 A1)

Title: LEFT ATRIAL APPENDAGE **OCCLUSION** DEVICES AND DELIVERY **SYSTEMS** AND **METHODS** OF USING THE SAME

Abstract: Described herein are medical devices and **systems**, and **methods** for using the same. The devices, **systems**, and **methods** described herein may be used, for example, to occlude body cavities, such as a left atrial appendage. In various embodiments, the present devices and **systems** may include, but are not limited to, an implant device including at least one expandable chamber and a hub device, and a delivery **system** for delivering the implant device to a body cavity. In one or more embodiments, the at least one expandable chamber can be controllably expanded to occlude a body cavity.

Classifications:
International (IPC 8-9): A61B17/12
CPC: A61B17/12122 A61B17/12136 A61B2017/1205 A61B2017/12054 A61B2090/3933

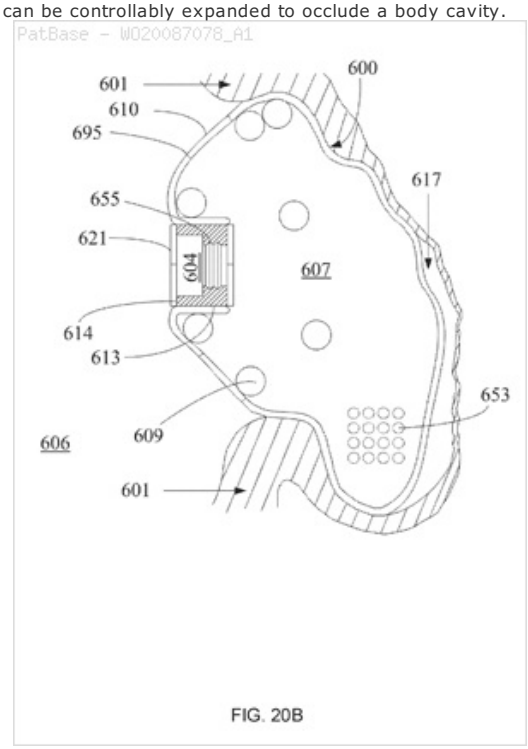


FIG. 20B

Family:

Publication number	Publication date	Application number	Application date
WO20087078 A1	20200430	WO2019US58391	20191028

Priority:
US20180751174P 20181026

Probable Assignee: FLOW MEDTECH INT CORP
Assignee(s): (std): FLOW MEDTECH INT CORP
Inventor(s): (std): CHAKRABORTY ARNAB RANJAN ; KRUPP GERALD LOUIS ; THAMBIDORAI SENTHIL
Agent(s): STEWART BRYAN 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 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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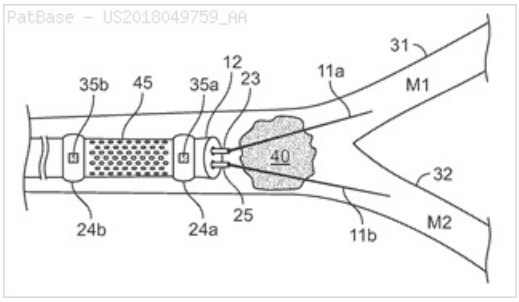
Patent	Date recorded	Event group	Code	Event	Details
WO20087078 A1	20200430	LSPB	+	published / reissued	
WO20087078 A1	20200610		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 19876235 Kind code of Ref document: A1 Country of Ref document: EP

61) Family number: 63677767 (US2018049759 AA)

Title: STROKE **CATHETER** FOR USE IN REVASCULARIZATION PROCEDURES AND **METHOD** OF USING SAME

Abstract: A **method** of **removing** vascular blockage includes providing a **catheter** **system**, comprising an outer **catheter**, a bypass **catheter**, and a guidewire. In the **catheter** **system**, the bypass **catheter** is slidably disposed within the outer **catheter**. The **method** includes positioning a distal end of the **catheter** **system** at a proximal end of an **occlusion** located within a vessel and moving the bypass **catheter** through the **occlusion** so that a medicated treatment solution may be delivered through the bypass **catheter** to an area of the brain or other tissue served by the vessel blocked by the **occlusion**. Both during and after the delivery of medicated treatment solution to the blocked part of the vessel with the bypass **catheter**, the physician may engage the **occlusion** with the perforated segment of the outer **catheter** so that a thrombolytic agent can be delivered at the **occlusion** to disintegrate it and then **removing** at least a portion of the **occlusion** from the vessel.

Classifications:
International (IPC 8-9): A61B17/22 A61M25/00 A61M25/098 A61M25/10
CPC: A61B17/22 A61B2017/22034 A61B2017/22044 A61B2017/22054 A61B2017/22067 A61B2017/22079 A61B2017/22084 A61M2025/0004 A61M2025/0042 A61M2025/1045 A61M2025/1052 A61M25/007 A61M25/1011 A61M25/104
US: 1/1 604/509



Family:

Publication number	Publication date	Application number	Application date
EP3273882 A1	20180131	EP20160769666	20160324
EP3273882 A4	20181010	EP20160769666	20160324
EP3273882 B1	20200805	EP20160769666	20160324
JP2018509232 T2	20180405	JP20170549486T	20160324
US2018049759 AA	20180222	US20160560603	20160324
WO16154403 A1	20160929	WO2016US23957	20160324
WO16154403 A9	20161215	WO2016US23957	20160324

Priority:
US20150138599P 20150326 WO2016US23957 20160324 US20160560603 20160324

Probable Assignee: THOMAS JEFFREY E
Assignee(s): (std): THOMAS JEFFREY E
Assignee(s): トマス ジェフリー イー ; トマス, ジェフリー, イー.
Inventor(s): (std): THOMAS JEFFREY E
Inventor(s): トマス ジェフリー イー ; トマス, ジェフリー, イー.
Agent(s): RICKER MATHIAS; VELAMOOR VANISREE ET AL; 小田 直; 岩堀 明代; 高岡 亮一; 高橋 香元
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
EP3273882 A1	20180131	LSPB	+	published / reissued	
EP3273882 A1	20180131	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20171019
EP3273882 A1	20180131		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3273882 A1	20180131		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3273882 A1	20180131		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3273882 A1	20180704		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3273882 A1	20180704		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3273882 A4	20181010	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND	Effective date: 20180911

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EP3273882 A4	20181010		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/00 20060101ALN20180905BHEP
EP3273882 A4	20181010		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/10 20130101ALI20180905BHEP
EP3273882 A4	20190807	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20190704
EP3273882 A4	20200219		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/10 20130101ALI20200116BHEP
EP3273882 A4	20200219		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/00 20060101ALN20200116BHEP
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EP3273882 A4	20200304		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20200127BHEP
EP3273882 A4	20200304		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/00 20060101ALN20200127BHEP
EP3273882 A4	20200304		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/10 20130101ALI20200127BHEP
EP3273882 A4	20200318	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20200219
EP3273882 B1	20200805	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3273882 B1	20200805		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
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EP3273882 B1	20200814	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP3273882 B1	20200815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20200815 Kind code of Ref document: T Ref country code: AT Ref document number: 1297613 Ref legal event code: REF Country of Ref document: AT
EP3273882 B1	20200827	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602016041438 Ref legal event code: R096 Country of Ref document: DE
EP3273882 B1	20360324	PEXP		Calculated Patent Term Expiry	
JP2018509232 T2	20180116		A632	国内書面	Effective date: 20170921
JP2018509232 T2	20180116		A634	国際出願翻訳文提出書	Effective date: 20171019
JP2018509232 T2	20180206		A231	出願番号特定通知書	Effective date: 20180206
JP2018509232 T2	20180405	LSPB	+	published / reissued	
JP2018509232 T2	20190325	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20190325
JP2018509232 T2	20190325	LSES	+A621	出願審査請求書	Effective date: 20190325
JP2018509232 T2	20200121		A971007	検索報告書	Effective date: 20200117
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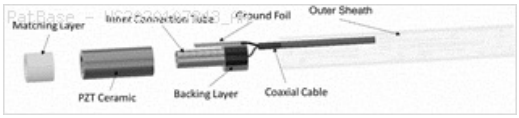
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JP2018509232 T2	20200602		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20200602 Text: JAPANESE INTERMEDIATE CODE: A601
JP2018509232 T2	20200602		A601	期間延長請求書	Effective date: 20200602
JP2018509232 T2	20200730		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20200730
JP2018509232 T2	20200730		A601	期間延長請求書	Effective date: 20200730
JP2018509232 T2	20200831	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20200831
JP2018509232 T2	20200831		A523	手続補正書	Effective date: 20200831
JP2018509232 T2	20200831		A53	意見書	Effective date: 20200831
US2018049759 AA	20180207		RFE1	Docketed New Case - Ready for Examination	
US2018049759 AA	20180222	LSPB	+	published / reissued	
US2018049759 AA	20190205	LSES	NFA1	Non Final Action Mailed	
US2018049759 AA	20190205		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018049759 AA	20190409		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018049759 AA	20190409		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018049759 AA	20190626	LSES	NFA1	Non Final Action Mailed	
US2018049759 AA	20190626		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018049759 AA	20191006		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018049759 AA	20191006		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018049759 AA	20200116		FRM1	Final Rejection Mailed	
US2018049759 AA	20200116		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2018049759 AA	20200327		RFE1	Docketed New Case - Ready for Examination	
US2018049759 AA	20200327		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018049759 AA	20200522	LSES	NFA1	Non Final Action Mailed	
US2018049759 AA	20200711		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
WO16154403 A1	20160929	LSPB	+	published / reissued	
WO16154403 A1	20161109		121	EP: THE EPO HAS	Kind code of Ref document:

				BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	A1 Ref document number: 16769666 Country of Ref document: EP
WO16154403 A9	20170921	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2017549486 Kind code of Ref document: A Country of Ref document: JP
WO16154403 A9	20170922	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 15560603 Country of Ref document: US
WO16154403 A9	20170927	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

62) Family number: 78282694 (US2020107843 AA)

Title: **SYSTEMS** AND **METHODS** FOR TREATING VASCULAR **OCCLUSIONS** WITH **CATHETER** BASED ULTRASOUND

Abstract: A **system** and **method** is provided for generating ultrasound at the tip of an intravascular **catheter**. This may be used for the treatment of vascular **occlusions**, including chronic total **occlusions** (CTOs) and thrombotic **occlusions** (e.g., deep vein thrombosis, stroke, myocardial infarction). For instance, the **systems** and **methods** may be used to induce cavitation to enhance the enzymatic degradation of a vascular **occlusion**. In some configurations, the approach employs a hollow cylindrical transducer, electrically stimulated in the radial direction at a frequency corresponding to the length mode excitation, thereby projecting ultrasound forwards past the **catheter** tip. This design overcomes electrical impedance issues for the generation of low frequencies with a smaller diameter transducer capable of negotiating a coronary artery. The hole within the transducer may accommodate a guidewire to facilitate its placement adjacent to the proximal portion of the **occlusion**.



Classifications:
International (IPC 8-9): A61B17/22 A61B8/12 A61K38/48 A61N7/00
CPC: A61B17/2202 A61B2017/0003 A61B2017/22008 A61B2017/22021 A61B2017/22028 A61B2017/22038 A61B2017/22079 A61B2017/22082 A61B2017/22084 A61B2017/22088 A61B2017/22089 A61B8/12

Family:

Publication number	Publication date	Application number	Application date
CA3055856 AA	20200404	CA20193055856	20190918
US2020107843 AA	20200409	US20190574710	20190918

Priority:
US20180741259P 20181004 US20190574710 20190918

Probable Assignee: SUNNYBROOK RES INST
Assignee(s): (std): SUNNYBROOK RES INST
Assignee(s): GOERTZ DAVID ; HYNYNEN KULLERVO ; SUNNYBROOK RESEARCH INST ; WRIGHT ALEX
Inventor(s): (std): GOERTZ DAVID ; HYNYNEN KULLERVO ; WRIGHT ALEX
Agent(s): GOWLING WLG CANADA LLP

Legal status (INPADOC)

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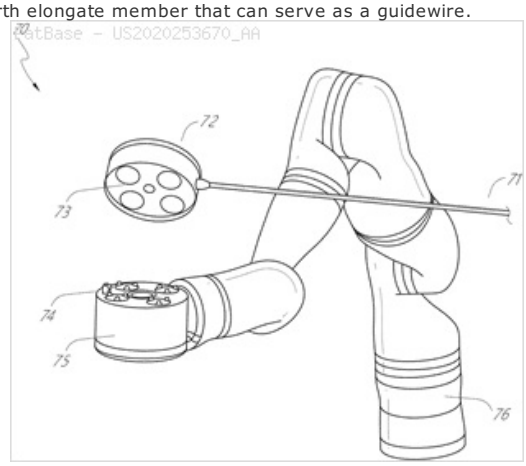
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US2020107843 AA	20200109		RFE1	Docketed New Case - Ready for Examination	
US2020107843 AA	20200409	LSPB	+	published / reissued	

63) Family number: 80421777 (US2020253670 AA)

Title: ROBOTICALLY CONTROLLED **CLOT** MANIPULATION AND **REMOVAL**

Abstract: Certain aspects relate to **systems**, devices, and techniques for **clot** manipulation and **removal**. At least some of the devices for **clot** manipulation and **removal** can be robotically controlled. These devices can include one or more elongate members that can be robotically driven through a patient's vasculature. One such device can include a first elongate member that can serve as an access sheath, a second elongate member that can serve as a **clot** **removal** **catheter**, a third elongate member that can serve as a **clot** disruptor, and a fourth elongate member that can serve as a guidewire.

Classifications:
International (IPC 8-9): A61B17/12 A61B17/32 A61B17/3207 A61B17/34 A61B34/30 A61M25/00 A61M25/01
CPC: A61B17/12136 A61B17/22 A61B17/221 A61B17/3207 A61B2017/22038 A61B2017/22067 A61B2017/22079 A61B2017/320775 A61B2034/301 A61B2034/303 A61B2090/08021 A61B2217/005 A61B34/30 A61G13/00



Family:

Publication number	Publication date	Application number	Application date
US2020253670 AA	20200813	US20200748405	20200121
WO20163076 A1	20200813	WO2020US14438	20200121

Priority:
US20190803328P 20190208 US20200748405 20200121

Probable Assignee: AURIS HEALTH INC

Assignee(s): (std): AURIS HEALTH INC

Inventor(s): (std): DOISNEAU ANNE ; DOISNEAU ANNE DONAHUE ; HASSAN ALEXANDER ; HASSAN ALEXANDER TAREK ; MOLL FREDERIC ; MOLL FREDERIC H

Agent(s): CHRISTENSEN MICHAEL R

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

Legal status (INPADOC)

View legal status timeline

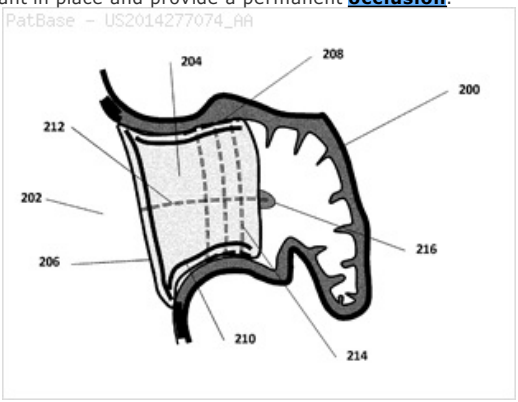
Patent	Date recorded	Event group	Code	Event	Details
US2020253670 AA	20200218		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020253670 AA	20200813	LSPB	+	published / reissued	
WO20163076 A1	20200813	LSPB	+	published / reissued	

64) Family number: 57421670 (US2014277074 AA)

Title: DEVICES AND **METHODS** FOR EXCLUDING THE LEFT ATRIAL APPENDAGE

Abstract: Devices and **methods** for occluding the left atrial appendage (LAA) to prevent blood from **clotting** within the LAA and subsequently embolizing, particularly in patients with atrial fibrillation. A foam implant encapsulated with a tough thromboresistant membrane is placed via transvascular means into the LAA and anchored with adhesives and/or mechanical anchors. Tissue over- and in-growth are optimized to anchor the implant in place and provide a permanent **occlusion**.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/12 A61B17/22 A61B90/00 A61F2/00 A61L29/00 A61M29/02
CPC: A61B17/00491 A61B17/12122 A61B17/12136 A61B17/12145 A61B17/1215 A61B17/12159 A61B17/12172 A61B17/12177 A61B17/12181 A61B2017/00495 A61B2017/1205 A61B2017/22038 A61B2017/22048 A61B2090/064 A61B17/12 A61B17/12022 A61B2017/12054
US: 1/1 606/194 606/198



Family:

Publication number	Publication date	Application number	Application date
CN105246540 A	20160113	CN201480014583	20140310
EP2968878 A1	20160120	EP20140779640	20140310
EP2968878 A4	20161102	EP20140779640	20140310
EP2968878 B1	20200812	EP20140779640	20140310
EP3361961 A1	20180822	EP20160787663	20161011
JP2016518155 T2	20160623	JP20160501092T	20140310
JP2018531772 T2	20181101	JP20180538538T	20161011
JP6423851 B2	20181114	JP20160501092T	20140310
US10617425 BB	20200414	US20160290692	20161011
US2014277074 AA	20140918	US20140203187	20140310
US2017042549 AA	20170216	US20160290692	20161011
US2018000490 AA	20180104	US20170703129	20170913
US9943315 BB	20180417	US20140203187	20140310
WO14164572 A1	20141009	WO2014US22865	20140310
WO17066197 A1	20170420	WO2016US56450	20161011

Priority:

US20130779802P 20130313 WO2014US22865 20140310 US20140203187 20140310
US20150240124P 20151012 WO2016US56450 20161011 US20160290692 20161011
US20170703129 20170913

Probable Assignee: CONFORMAL MEDICAL INC

Assignee(s): (std): CONFORMAL MEDICAL INC ; DEVELLIAN CAROL ; KAPLAN AARON V ; LEVINE ANDY H ; MELANSON DAVID

Assignee(s): アンディ エイチ リーヴァイン ; アンディ・エイチ・リーヴァイン ; アーロン ヴィ カプラン ; アーロン・ヴィ・カプラン ; キャロル デヴェリアン ; キャロル・デヴェリアン ; コンフォーマル メディカル インコーポレイテッド ; コンフォーマル・メディカル・インコーポレイテッド ; デイヴィッド メランソン ; デイヴィッド・メランソン ; 卡罗尔 德韦利安 ; 安迪 H 莱文 ; 戴维 梅兰松 ; 阿龙 V 卡普兰

Inventor(s): (std): CHAMORRO ANDRES ; DEVELLIAN CAROL ; KAPLAN AARON V ; LEVINE ANDY H ; MELANSON DAVID

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Agent(s): HART DANIEL; KNOBBE MARTENS OLSON AND BEAR LLP; MILLER KIMBERLY J; PLOUGMANN AND VINGTOFT A S; PLOUGMANN VINGTOFT A S; 北京康信知识产权代理有限责任公司 11240; 実広 信哉; 李静; 村山 靖彦; 瞿艺; 阿部 達彦

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
CN105246540 A	20160113	LSPB	+	published / reissued	
CN105246540 A	20160113	LSPB	+C06	PUBLICATION	
CN105246540 A	20160210		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN105246540 A	20180403	LSDW	-WD01	INVENTION PATENT APPLICATION DEEMED	

				WITHDRAWN AFTER PUBLICATION	
EP2968878 A1	20160120	LSPB	+	published / reissued	
EP2968878 A1	20160120	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20150824
EP2968878 A1	20160120		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2968878 A1	20160120		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2968878 A1	20160615		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2968878 A1	20160926		REG	REFERENCE TO A NATIONAL CODE	ClassificationSymbol: A61B0017120000 Ref document number: 602014068911 ClassificationScheme: IPC Ref country code: DE Ref legal event code: R079 Text: PREVIOUS MAIN CLASS: A61M0029020000 Country of Ref document: DE
EP2968878 A4	20161102	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20160930
EP2968878 A4	20161102		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/12 20060101AFI20160926BHEP ClassificationScheme: IPC
EP2968878 A4	20170809	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20170706
EP2968878 A4	20200226	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20200131
EP2968878 A4	20200805	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: CONFORMAL MEDICAL, INC.
EP2968878 A4	20200805		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: LEVINE, ANDY H.
EP2968878 A4	20200805		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: KAPLAN, AARON V. PartyType: inventor
EP2968878 A4	20200805		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MELANSON, DAVID PartyType: inventor
EP2968878 A4	20200805		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: DEVELLIAN, CAROL PartyType: inventor
EP2968878 B1	20200812	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2968878 B1	20200812		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2968878 B1	20200814	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2968878 B1	20200903	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602014068911 Ref legal event code: R096 Country of Ref document: DE
EP2968878 B1	20340310	PEXP		Calculated Patent Term Expiry	
EP3361961 A1	20180822	LSPB	+	published / reissued	
EP3361961 A1	20180822	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20180503

EP3361961 A1	20180822		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3361961 A1	20180822		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD
EP3361961 A1	20180822		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3361961 A1	20190116		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3361961 A1	20190116		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3361961 A1	20190821	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20190717
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JP2016518155 T2	20171002	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20171002 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016518155 T2	20180126		A977	REPORT ON RETRIEVAL	Effective date: 20180126 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2016518155 T2	20180205	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20180205
JP2016518155 T2	20180420		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20180420 Text: JAPANESE INTERMEDIATE CODE: A601
JP2016518155 T2	20180703	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180703 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016518155 T2	20180709	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180709 Text: JAPANESE INTERMEDIATE CODE: A523
JP2016518155 T2	20180914	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2016518155 T2	20180921	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20180921
JP2016518155 T2	20181025	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20181019
JP2018531772 T2	20180723	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180612 Text: JAPANESE INTERMEDIATE CODE: A523
JP2018531772 T2	20181101	LSPB	+	published / reissued	
JP2018531772 T2	20191002	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20191002 Text: JAPANESE INTERMEDIATE CODE: A621
JP2018531772 T2	20191002	LSES	+A621	出願審査請求書	Effective date: 20191002
JP6423851 B2	20180927	LSGT	+A01	特許査定書	
JP6423851 B2	20181023	LSFE	R100	特許料納付書	
JP6423851 B2	20181026	LSGT	+R150	特許証	
JP6423851 B2	20181114	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6423851 B2	20340310	PEXP		Calculated Patent Term Expiry	
US10617425 BB	20200325	LSGT	PAT1	Patented Case	
US10617425 BB	20200414	LSGT	+	granted / extensions (spc, cpc, pte)	

US10617425 BB	20341206	PEXP		Calculated Patent Term Expiry (PTA 271 days)	
US2014277074 AA	20140918	LSPB	+	published / reissued	
US2014277074 AA	20150922	LSES	NFA1	Non Final Action Mailed	
US2014277074 AA	20160329	LSAS	AS	ASSIGNMENT	Owner: CONFORMAL MEDICAL, INC., MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KAPLAN, AARON V.;MELANSON, DAVID;DEVELLIAN, CAROL;AND OTHERS;SIGNING DATES FROM 20160323 TO 20160325;REEL/FRAME:038124/0228 PartyType: owner
US2014277074 AA	20170214		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014277074 AA	20170608		FRM1	Final Rejection Mailed	
US2014277074 AA	20170809		RSP1	Response after Final Action Forwarded to Examiner	
US2014277074 AA	20170823	LSES	ADV2	Advisory Action Counted, Not Yet Mailed	
US2014277074 AA	20170830	LSES	ADV1	Advisory Action Mailed	
US2014277074 AA	20170912		RFE1	Docketed New Case - Ready for Examination	
US2014277074 AA	20171016	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2014277074 AA	20171017	LSES	NFA1	Non Final Action Mailed	
US2014277074 AA	20180315	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2014277074 AA	20180328	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017042549 AA	20170216	LSPB	+	published / reissued	
US2017042549 AA	20170217		RFE1	Docketed New Case - Ready for Examination	
US2017042549 AA	20190102	LSES	NFA1	Non Final Action Mailed	
US2017042549 AA	20190102		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017042549 AA	20190409		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017042549 AA	20190409		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017042549 AA	20190703		FRM1	Final Rejection Mailed	
US2017042549 AA	20190703		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017042549 AA	20190909		RSP1	Response after Final Action Forwarded to Examiner	
US2017042549 AA	20190909		STPP	INFORMATION ON STATUS: PATENT	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER

				APPLICATION AND GRANTING PROCEDURE IN GENERAL	
US2017042549 AA	20190920	LSES	ADV1	Advisory Action Mailed	
US2017042549 AA	20190920		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: ADVISORY ACTION MAILED
US2017042549 AA	20191011		RFE1	Docketed New Case - Ready for Examination	
US2017042549 AA	20191011		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017042549 AA	20191220	LSES	NFA1	Non Final Action Mailed	
US2017042549 AA	20191220		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017042549 AA	20200218	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017042549 AA	20200218		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017042549 AA	20200302	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KAPLAN, AARON V.;MELANSON, DAVID;DEVELLIAN, CAROL;AND OTHERS;SIGNING DATES FROM 20161011 TO 20161017;REEL/FRAME:051982/0690 PartyType: owner Owner: CONFORMAL MEDICAL, INC., NEW HAMPSHIRE
US2017042549 AA	20200325	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018000490 AA	20180104	LSPB	+	published / reissued	
US2018000490 AA	20180316		RFE1	Docketed New Case - Ready for Examination	
US2018000490 AA	20180316		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018000490 AA	20190819	LSES	NFA1	Non Final Action Mailed	
US2018000490 AA	20190819		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018000490 AA	20191019		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018000490 AA	20191019		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018000490 AA	20200121	LSES	NFA1	Non Final Action Mailed	
US2018000490 AA	20200121		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND	Text: NON FINAL ACTION MAILED

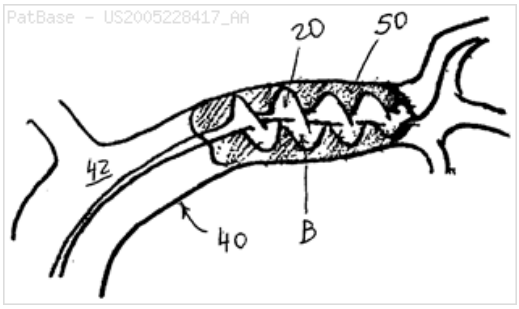
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US2018000490 AA	20200528		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US9943315 BB	20180328	LSGT	PAT1	Patented Case	
US9943315 BB	20180417	LSGT	+	granted / extensions (spc, cpc, pte)	
US9943315 BB	20340310	PEXP		Calculated Patent Term Expiry	
WO14164572 A1	20141009	LSPB	+	published / reissued	
WO14164572 A1	20141203		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 14779640 Country of Ref document: EP
WO14164572 A1	20150824	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2014779640 Country of Ref document: EP
WO14164572 A1	20150911	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2016501092 Kind code of Ref document: A Country of Ref document: JP
WO14164572 A1	20150914	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17066197 A1	20170420	LSPB	+	published / reissued	
WO17066197 A1	20170607		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 16787663 Country of Ref document: EP
WO17066197 A1	20180411	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2018538538 Kind code of Ref document: A Country of Ref document: JP
WO17066197 A1	20180411	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2018538538 Country of Ref document: JP
WO17066197 A1	20180413	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17066197 A1	20180514	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2016787663 Country of Ref document: EP

65) Family number: 32303224 (US2005228417 AA)

Title: DEVICES AND **METHODS** FOR **REMOVING** A MATTER FROM A BODY CAVITY OF A PATIENT

Abstract: Disclosed are devices for **removing** a matter from a body cavity of a patient. One of such devices has an elongated carrier having a distal portion adapted to move through or within the cavity and a proximate portion. A radially expandable polymer is circumferentially attached to the distal portion of the carrier and adapted to enter the matter while in a compressed configuration and capable of transitioning to an expanded configuration while inside the matter to penetrate and engage it from within. **Methods** of **removing** a matter from a body cavity and **methods** of localized delivery of a therapeutic agents also are disclosed.

Classifications:
International (IPC 8-9): A61B17/20 A61B17/22 A61B17/221 A61F2/01 A61M25/00 G06F17/30 G06Q99/00 G07C9/00
International (IPC 1-7): A61B17/22
CPC: A61B17/20 A61B17/22031 A61B17/22032 A61B17/221 A61B2017/00871 A61B2017/22034 A61B2017/22082 A61F2/01 G07C2209/41 G07C9/257 A61B17/3468 A61B2017/00867 A61B2017/2215 A61B2017/2217
US: 1/1 1/1P 604/21 604/21P 604/509 604/509S 606/159 606/159P 707/9 707/999.009 707/999.009S 707/E17.009 707/E17.009S



Family:

Publication number	Publication date	Application number	Application date
AU2005231138 AA	20051020	AU20050231138	20050324
CA2561216 AA	20060925	CA20052561216	20050324
CA2575738 AA	20070131	CA20052575738	20050321
EP1734874 A2	20061227	EP20050729878	20050324
EP1734874 A4	20090826	EP20050729878	20050324
EP1784134 A2	20070516	EP20050726017	20050321
US2005228417 AA	20051013	US20050087780	20050323
US2008045881 AA	20080221	US20070829879	20070727
US2008168062 AA	20080710	US20050536121	20050321
WO05096962 A2	20051020	WO2005US09439	20050321
WO05096962 A3	20070614	WO2005US09439	20050321
WO05096963 A2	20051020	WO2005US09658	20050324
WO05096963 A3	20071101	WO2005US09658	20050324

Priority:

US20040556993P 20040326 US20040611684P 20040920 WO2005US09439 20050321
US20050536121 20050321 US20050087780 20050323 WO2005US09658 20050324
US20060820671P 20060728 US20070829879 20070727

Probable Assignee: SOUTHERN CALIFORNIA UNIV OF

Assignee(s): (std): ASSURETEC SYSTEMS INC ; LARSEN DONALD W ; REEVES ROBERT B ; TEITELBAUM GEORGE P ; UNIV SOUTHERN CALIFORNIA

Assignee(s): OF SOUTHERN CALIFORNIA UNIV ; SOUTHERN CALIFORNIA UNIV ; SOUTHERN CALIFORNIA UNIV OF ; UNIVERSITY OF SOUTHERN CALIFORNIA

Inventor(s): (std): LARSEN DONALD W ; REEVES ROBERT B ; TEITELBAUM GEORGE P

Inventor(s): DONALD W LARSEN ; GEORGE P TEITELBAUM ; LARSEN DONALD ; TEITELBAUM GEORGE

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; HOGAN AND HARTSON LLP; KIRBY EADES GALE BAKER; OYEN WIGGS GREEN AND MUTALA LLP; RAYMOND R MOSER JR ESQ MOSER IP LAW GROUP

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2005231138 AA	20051020	LSPB	+	published / reissued	
AU2005231138 AA	20111201	LSLE	-MK5	APPLICATION LAPSED SECTION 142(2)(E) - PATENT REQUEST AND COMPL. SPECIFICATION NOT ACCEPTED	
CA2561216 AA	20060925	LSPB	+	published / reissued	
CA2561216 AA	20100322	LSES	+EEER	EXAMINATION REQUEST	
CA2561216 AA	20130220	LSLE	-FZDE	DEAD	Effective date: 20121210
CA2575738 AA	20070131	LSPB	+	published / reissued	

CA2575738 AA	20090106	LSES	+EEER	EXAMINATION REQUEST	
CA2575738 AA	20120321	LSLE	-FZDE	DEAD	
EP1734874 A2	20061227	LSPB	+	published / reissued	
EP1734874 A2	20061227	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20061019
EP1734874 A2	20061227		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR
EP1734874 A2	20061227		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR LV MK YU
EP1734874 A2	20070704		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1734874 A2	20080423		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20080314BHEP
EP1734874 A4	20090826	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20090729
EP1734874 A4	20091209	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20091110
EP1734874 A4	20120822	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20120229
EP1784134 A2	20070516	LSPB	+	published / reissued	
EP1784134 A2	20070516	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20070221
EP1784134 A2	20070516		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR
EP1784134 A2	20070516		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR LV MK YU
EP1784134 A2	20070704		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1784134 A2	20070725	LSES	R17D	DEFERRED SEARCH REPORT PUBLISHED (CORRECTED)	Effective date: 20070614
EP1784134 A2	20070808		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G06Q 99/00 20060101AFI20070705BHEP
EP1784134 A2	20110330	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20101001
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US2005228417 AA	20050627	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:TEITELBAUM, GEORGE P.;LARSEN, DONALD W.;REEL/FRAME:016737/0209 Owner: SOUTHERN CALIFORNIA, UNIVERSITY OF, CALIFORNIA Effective date: 20050602 PartyType: owner
US2005228417 AA	20051013	LSPB	+	published / reissued	
US2005228417 AA	20110801	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005228417 AA	20110801		-STCB	INFORMATION ON STATUS:	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

				APPLICATION DISCONTINUATION	
US2008045881 AA	20070921	LSAS	AS	ASSIGNMENT	Owner: UNIVERSITY OF SOUTHERN CALIFORNIA, CALIFORNIA Effective date: 20070912 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:TEITELBAUM, GEORGE P.;LARSEN, DONALD W.;REEL/FRAME:019862/0469
US2008045881 AA	20080221	LSPB	+	published / reissued	
US2008045881 AA	20101122	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
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US2008168062 AA	20080710	LSPB	+	published / reissued	
US2008168062 AA	20100111	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
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WO05096962 A2	20051214		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05096962 A2	20060927	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05096962 A2	20060927	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
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WO05096962 A2	20070131	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2575738 Country of Ref document: CA
WO05096962 A2	20070516	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005726017 Country of Ref document: EP
WO05096962 A3	20071123	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10536121 Country of Ref document: US
WO05096963 A2	20051020	LSPB	+	published / reissued	
WO05096963 A2	20051020		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
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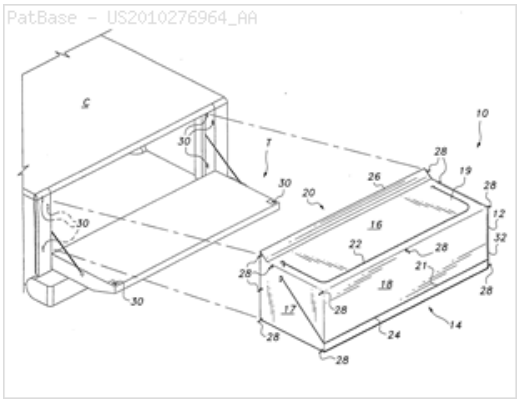
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WO05096963 A2	20060925	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2561216 Country of Ref document: CA
WO05096963 A2	20060926	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005231138 Country of Ref document: AU
WO05096963 A2	20060927	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05096963 A2	20060927	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO05096963 A2	20061018	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005729878 Country of Ref document: EP
WO05096963 A2	20061019	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2005231138 Date of Ref document: 20050324 Kind code of Ref document: A Country of Ref document: AU
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WO05096963 A2	20061227	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2005729878 Country of Ref document: EP
WO05096963 A2	20070727	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 11829879 Country of Ref document: US

66) Family number: 47487624 (US2010276964 AA)

Title: **REMOVABLE** ENCLOSURE FOR REAR OF VEHICLE

Abstract: The **removable** enclosure for the rear of a vehicle provides additional storage space or cover for the open rear end of a vehicle, such as an open tailgate of a pickup truck or the open hatch of an SUV. The **removable** enclosure includes a housing having at least one sidewall and an upper wall defining an open lower end and an open front end. An internal frame is disposed within and supports the housing. The internal frame includes at least one elastic cord extending laterally across the housing. A pair of laterally opposed diagonal supports each extend from an upper edge of the front end of the housing to a lower edge of a rear face of the at least one sidewall. The at least one elastic cord is secured to, and extends between, the pair of laterally opposed diagonal supports.

Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/22 A61B17/221 A61B17/32 A61B17/3207 A61B17/34 A61F2/01 A61F2/06 A61F2/90 A61F2/95 A61F2/962 A61M25/06 A61M29/00 B60P3/345 B60P3/40 B60P7/02 B60P7/08 B60R5/04 B60R9/06 B62D33/027 E04H15/06
International (IPC 1-7): A61B17/22
CPC: A61B17/22 A61B17/22031 A61B17/221 A61B17/3207 A61B17/320758 A61B2017/22001 A61B2017/22034 A61B2017/22084 A61B2017/22094 A61B2017/3435 A61B2560/04 A61F2/01 A61F2/011 A61F2/06 A61F2/95 A61F2/962 A61F2230/0006 A61F2230/0093 B60R5/042 B62D33/0273 E04H15/06 B60P3/40 B60P7/0876 B60R5/041 B60R9/065
US: 1/1 135/88.13 224/403 224/404 296/100.18 296/100.180P 296/26.02 296/26.08 606/127 606/159 606/191 606/194 606/200 623/1.11 623/1.2



Family:

Publication number	Publication date	Application number	Application date
BR112013030183 A2	20171205	BR20131130183	20120523
CA2874586 AA	20141124	CA20122874586	20120523
CA2874586 C	20190709	CA20122874586	20120523
CN103841905 A	20140604	CN201280035540	20120523
CN103841905 B	20170412	CN201280035540	20120523
CN107126244 A	20170905	CN201710183558	20120523
CN107126244 B	20200731	CN201710183558	20120523
DE602012048658 D1	20180816	DE201260048658T	20120523
EP2713909 A1	20140409	EP20120789120	20120523
EP2713909 A4	20141231	EP20120789120	20120523
EP2713909 B1	20180718	EP20120789120	20120523
EP3398539 A1	20181107	EP20180176617	20120523
EP3398539 B1	20200826	EP20180176617	20120523
ES2683178 T3	20180925	ES20120789120T	20120523
HK1198415 A1	20150424	HK20140111909	20141125
HK1198415 B	20180420	HK20140111909	20141125
HK1242935 A1	20180706	HK20180102327	20141125
JP2014522268 T2	20140904	JP20140512087T	20120523
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JP6374577 B2	20180815	JP20170117709	20170615
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SG2014013320 A1	20140730	SG20140013320	20120523
US2010276964 AA	20101104	US20100662687	20100428
US2011175391 AA	20110721	US20110075052	20110329
US2013317589 AA	20131128	US20130959433	20130805
US2013325051 AA	20131205	US20130959409	20130805
US2014291366 AA	20141002	US20140302094	20140611
US2015018929 AA	20150115	US20140446755	20140730
US2016354098 AA	20161208	US20160174016	20160606
US2018221037 AA	20180809	US20180946466	20180405
US2019374239 AA	20191212	US20190530101	20190802
US8317251 BB	20121127	US20100662687	20100428
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US8932319 BB	20150113	US20130959409	20130805
US8979157 BB	20150317	US20140302094	20140611
US9358094 BB	20160607	US20140446755	20140730
US9943323 BB	20180417	US20160174016	20160606
WO12162437 A1	20121129	WO2012US39216	20120523

Priority:

US20090215059P 20090501
US20090283237P 20091130
US20100342805P 20100419
US20100397209P 20100607
US20110489183P 20110523
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JP20140512087T 20120523
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US20160174016 20160606
US20190530101 20190802

Probable Assignee: COVIDIEN LP

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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 QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BR112013030183 A2	20171212		B15I	OTHERS CONCERNING APPLICATIONS: LOSS OF PRIORITY	
BR112013030183 A2	20171212		B15I	OTHERS CONCERNING APPLICATIONS: LOSS OF PRIORITY	Text: PERDA DAS PRIORIDADES US 61/489,183 E US 61/489,254, REIVINDICADAS NO PCT/US2012/039216, CONFORME AS DISPOSICOES PREVISTAS NA LEI 9.279 DE 14/05/1996 (LPI) ART. 16 7O, ITEM 28 DO ATO NORMATIVO 128/97 E NO ART. 29 DA RESOLUCAO INPI-PR 77/2013. ESTAS PERDAS SE DERAM PELO FATO DE O DEPOSITANTE CONSTANTE DA PETICAO DE REQUERIMENTO DO PEDIDO PCT ("LAZARUS EFFECT, INC") SER DISTINTO DAQUELE QUE DEPOSITOU AS PRIORIDADES REIVINDICADAS E NAO FORAM APRESENTADOS OS DOCUMENTOS COMPROBATORIOS DE CESSAO NO PRAZO LEGAL, CONFORME AS DISPOSICOES PREVISTAS NA LEI 9.279 DE 14/05/1996 (LPI) ART. 16 6O, ITEM 27 DO ATO NORMATIVO 128/97 E NO ART. 2 DA RESOLUCAO INPI-PR 179/2017.
BR112013030183 A2	20180130	LSAL	B12F	APPEAL: OTHER APPEALS	
BR112013030183 A2	20180502	LSAS	B25D	REQUESTED CHANGE OF NAME OF APPLICANT APPROVED	PartyType: owner Owner: LAZARUS EFFECT LLC (US)
BR112013030183 A2	20180515	LSAS	B25A	REQUESTED TRANSFER OF RIGHTS APPROVED	PartyType: owner Owner: COVIDIEN LP (US)
BR112013030183 A2	20190312		B06F	OBJECTIONS, DOCUMENTS AND/OR TRANSLATIONS NEEDED AFTER AN EXAMINATION REQUEST ACCORDING ART. 34 INDUSTRIAL PROPERTY LAW	
BR112013030183 A2	20191008		B06U	PRELIMINARY REQUIREMENT: REQUESTS WITH SEARCHES PERFORMED BY OTHER PATENT OFFICES: SUSPENSION OF THE PATENT APPLICATION PROCEDURE	
CA2874586 AA	20141124	LSPB	+	published / reissued	
CA2874586 AA	20170518	LSES	+EEER	EXAMINATION	Effective date: 20170510

				REQUEST	
CA2874586 C	20190709	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2874586 C	20320523	PEXP		Calculated Patent Term Expiry	
CN103841905 A	20140604	LSPB	+	published / reissued	
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CN103841905 B	20170412	LSGT	+	granted / extensions (spc, cpc, pte)	
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CN107126244 A	20170905	LSPB	PB01	PUBLICATION	
CN107126244 A	20170905	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN107126244 A	20170929		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN107126244 A	20170929		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
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EP2713909 A4	20141231		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20141125BHEP
EP2713909 A4	20170322	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: COVIDIEN LP

EP2713909 A4	20180118		REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602012048658 ClassificationSymbol: A61B0017221000 Text: PREVIOUS MAIN CLASS: A61B0017220000 Ref legal event code: R079 ClassificationScheme: IPC Ref country code: DE Country of Ref document: DE
EP2713909 A4	20180221		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101AFI20180118BHEP ClassificationScheme: IPC
EP2713909 A4	20180307	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180207
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EP2713909 B1	20180718		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
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EP2713909 B1	20180808	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
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EP2713909 B1	20180816	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602012048658 Ref legal event code: R096 Country of Ref document: DE
EP2713909 B1	20180925	LSGT	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180925 Kind code of Ref document: T3 Ref country code: ES Ref document number: 2683178 Ref legal event code: FG2A Country of Ref document: ES
EP2713909 B1	20181121		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180718 Ref country code: NL Ref legal event code: MP
EP2713909 B1	20181210	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP2713909 B1	20181215	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180718 Kind code of Ref document: T Ref country code: AT Ref document number: 1018518 Ref legal event code: MK05 Country of Ref document: AT
EP2713909 B1	20181231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
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				INFORMATION FROM NATIONAL OFFICE TO EPO]	OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
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EP2713909 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP2713909 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181018 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2713909 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2713909 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2713909 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181019 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2713909 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP2713909 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2713909 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP2713909 B1	20190423	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602012048658 Ref legal event code: R097 Country of Ref document: DE
EP2713909 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2713909 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2713909 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2713909 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2713909 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2713909 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2713909 B1	20190626	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190423
EP2713909 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190418 Year of fee payment: 8 Country of Ref document: DE
EP2713909 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190603 Year of fee payment: 8 Country of Ref document: ES
EP2713909 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190423 Year of fee payment: 8 Country of Ref document: IE
EP2713909 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190418 Year of fee payment: 8 Country of Ref document: IT
EP2713909 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2713909 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190419 Year of fee payment: 8 Country of Ref document: FR
EP2713909 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190423 Year of fee payment: 8 Country of Ref document: GB
EP2713909 B1	20191230	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2713909 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190531 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP2713909 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2713909 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190531 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP2713909 B1	20200205		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190531 Ref country code: BE Ref legal event code: MM
EP2713909 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED	Lapsed date: 20190523 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Country of Ref document: LU
EP2713909 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2713909 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190531 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP2713909 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181118 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP2713909 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200602 Year of fee payment: 9 Country of Ref document: ES
EP2713909 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200422 Year of fee payment: 9 Country of Ref document: FR
EP2713909 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200421 Year of fee payment: 9 Country of Ref document: DE
EP2713909 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200422 Year of fee payment: 9 Country of Ref document: IE
EP2713909 B1	20320523	PEXP		Calculated Patent Term Expiry	
EP3398539 A1	20181107	LSPB	+	published / reissued	
EP3398539 A1	20181107		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2713909 Country of Ref document: EP
EP3398539 A1	20181107		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3398539 A1	20190515	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20190409
EP3398539 A1	20190515		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3398539 A1	20200429	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20200330
EP3398539 B1	20200826	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3398539 B1	20200826		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2713909 Country of Ref document: EP
EP3398539 B1	20200826		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3398539 B1	20200826	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP3398539 B1	20200831	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP3398539 B1	20200910	LSPB	REG	REFERENCE TO A	Ref document number:

				NATIONAL CODE	602012072046 Ref legal event code: R096 Ref country code: DE Country of Ref document: DE
EP3398539 B1	20320523	PEXP		Calculated Patent Term Expiry	
ES2683178 T3	20180925	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2683178 T3	20320523	PEXP		Calculated Patent Term Expiry	
HK1198415 A1	20150424	LSPB	+	published / reissued	
HK1198415 A1	20341125	PEXP		Calculated Patent Term Expiry	
HK1198415 B	20180420	LSGT	+	granted / extensions (spc, cpc, pte)	
HK1198415 B	20341125	PEXP		Calculated Patent Term Expiry	
HK1242935 A1	20180706	LSPB	+	published / reissued	
JP2014522268 T2	20140904	LSPB	+	published / reissued	
JP2014522268 T2	20150522	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20150522 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014522268 T2	20150522	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20150522 Text: JAPANESE INTERMEDIATE CODE: A621
JP2014522268 T2	20160322		A977	REPORT ON RETRIEVAL	Effective date: 20160322 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2014522268 T2	20160324	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20160324 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014522268 T2	20160512		RD02	NOTIFICATION OF ACCEPTANCE OF POWER OF ATTORNEY	Effective date: 20160512 Text: JAPANESE INTERMEDIATE CODE: A7422
JP2014522268 T2	20160512		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20160512 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2014522268 T2	20160623		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20160623 Text: JAPANESE INTERMEDIATE CODE: A601
JP2014522268 T2	20160808	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20160808 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014522268 T2	20161206	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20161206 Text: JAPANESE INTERMEDIATE CODE: A131
JP2014522268 T2	20161227	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Effective date: 20161227 Text: JAPANESE INTERMEDIATE CODE: A711
JP2014522268 T2	20170306	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20170306 Text: JAPANESE INTERMEDIATE CODE: A523
JP2014522268 T2	20170515	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2014522268 T2	20170517	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20170517 Text: JAPANESE INTERMEDIATE CODE: A01
JP2014522268 T2	20170622	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20170615 Text: JAPANESE INTERMEDIATE CODE: A61
JP2017176881 A2	20171005	LSPB	+	published / reissued	
JP2017176881 A2	20180328	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20180328 Text: JAPANESE INTERMEDIATE CODE: A131
JP2017176881 A2	20180628	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180628 Text: JAPANESE INTERMEDIATE CODE: A523
JP2017176881 A2	20180709	LSGT	+TRDD	DECISION OF	

				GRANT OR REJECTION WRITTEN	
JP2017176881 A2	20180712	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20180712
JP2017176881 A2	20180726	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20180719 Text: JAPANESE INTERMEDIATE CODE: A61
JP6162689 B2	20170525	LSGT	+A01	特許査定書	
JP6162689 B2	20170525	LSGT	+A01	特許査定書	Effective date: 20170517
JP6162689 B2	20170620	LSFE	R100	特許料納付書	
JP6162689 B2	20170620	LSFE	R100	特許料納付書	Effective date: 20170615 Text: 51701273921
JP6162689 B2	20170623	LSGT	+R150	特許証	
JP6162689 B2	20170623	LSGT	+R150	特許証	Effective date: 20170704
JP6162689 B2	20170712	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6162689 B2	20200527	LSFE	R20	特許料納付書	Effective date: 20200526 Text: 52001071240
JP6162689 B2	20200528	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP6162689 B2	20200528	LSFE	+R250	年金領収書, 年金領収書(分納)	Effective date: 20200612
JP6162689 B2	20320523	PEXP		Calculated Patent Term Expiry	
JP6374577 B2	20180719	LSGT	+A01	特許査定書	
JP6374577 B2	20180724	LSFE	R100	特許料納付書	
JP6374577 B2	20180727	LSGT	+R150	特許証	
JP6374577 B2	20180815	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6374577 B2	20370615	PEXP		Calculated Patent Term Expiry	
SG10201500492V A1	20150330	LSPB	+	published / reissued	
SG2014013320 A1	20140730	LSPB	+	published / reissued	
US2010276964 AA	20101104	LSPB	+	published / reissued	
US2010276964 AA	20121107	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011175391 AA	20110721	LSPB	+	published / reissued	
US2011175391 AA	20140630	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2011175391 AA	20140630		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2013317589 AA	20131128	LSPB	+	published / reissued	
US2013317589 AA	20140716	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013325051 AA	20131205	LSPB	+	published / reissued	
US2013325051 AA	20141223	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2014291366 AA	20141002	LSPB	+	published / reissued	
US2014291366 AA	20150225	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015018929 AA	20150115	LSPB	+	published / reissued	
US2015018929 AA	20160518	LSGT	STCF	INFORMATION ON STATUS: PATENT	Text: PATENTED CASE

				GRANT	
US2016354098 AA	20161208	LSPB	+	published / reissued	
US2016354098 AA	20161213		RFE1	Docketed New Case - Ready for Examination	
US2016354098 AA	20180309	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2016354098 AA	20180315	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016354098 AA	20180328	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018221037 AA	20180712	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MARTIN, BRIAN B.;DIECK, MARTIN S.;SIGNING DATES FROM 20130726 TO 20130731;REEL/FRAME:046338/0014 PartyType: owner Owner: LAZARUS EFFECT, INC., CALIFORNIA
US2018221037 AA	20180712	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20160505 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LAZARUS EFFECT LLC;REEL/FRAME:046338/0042 Owner: COVIDIEN LP, MASSACHUSETTS
US2018221037 AA	20180712	LSAS	AS	ASSIGNMENT	Owner: LAZARUS EFFECT LLC, CALIFORNIA Effective date: 20160504 OldParty: CHANGE OF NAME;ASSIGNOR:LAZARUS EFFECT, INC.;REEL/FRAME:046540/0087 PartyType: owner
US2018221037 AA	20180728		RFE1	Docketed New Case - Ready for Examination	
US2018221037 AA	20180728		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018221037 AA	20180809	LSPB	+	published / reissued	
US2018221037 AA	20200124	LSES	NFA1	Non Final Action Mailed	
US2018221037 AA	20200124		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018221037 AA	20200512		FRM1	Final Rejection Mailed	
US2018221037 AA	20200512		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2018221037 AA	20200717	LSES	ADV1	Advisory Action Mailed	
US2018221037 AA	20200717		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: ADVISORY ACTION MAILED
US2018221037 AA	20200820	LSES	NFA1	Non Final Action Mailed	
US2018221037 AA	20200820		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2019374239 AA	20190806	LSAS	AS	ASSIGNMENT	Owner: LAZARUS EFFECT LLC, CALIFORNIA Effective date: 20160504 OldParty: CHANGE OF NAME;ASSIGNOR:LAZARUS EFFECT, INC.;REEL/FRAME:049979/0356 PartyType: owner

US2019374239 AA	20190806	LSAS	AS	ASSIGNMENT	Owner: LAZARUS EFFECT, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MARTIN, BRIAN B.;DIECK, MARTIN S.;SIGNING DATES FROM 20130726 TO 20130731;REEL/FRAME:049978/0692 PartyType: owner
US2019374239 AA	20190806	LSAS	AS	ASSIGNMENT	Effective date: 20160505 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LAZARUS EFFECT LLC;REEL/FRAME:049978/0778 Owner: COVIDIEN LP, MASSACHUSETTS
US2019374239 AA	20191028		RFE1	Docketed New Case - Ready for Examination	
US2019374239 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019374239 AA	20191212	LSPB	+	published / reissued	
US8317251 BB	20121107	LSGT	PAT1	Patented Case	
US8317251 BB	20121127	LSGT	+	granted / extensions (spc, cpc, pte)	
US8317251 BB	20160527	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8317251 BB	20171214	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NELSON, CHARLES R., MR.;REEL/FRAME:044402/0170 PartyType: owner Effective date: 20171213 Owner: RUSSELL BAY SHELTERS, LLP, WISCONSIN
US8317251 BB	20200720	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8317251 BB	20310304	PEXP		Calculated Patent Term Expiry (PTA 310 days)	
US8795305 BB	20130805	LSAS	AS	ASSIGNMENT	Owner: LAZARUS EFFECT, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MARTIN, BRIAN B;DIECK, MARTIN S;SIGNING DATES FROM 20130726 TO 20130731;REEL/FRAME:030944/0399
US8795305 BB	20140716	LSGT	PAT1	Patented Case	
US8795305 BB	20140805	LSGT	+	granted / extensions (spc, cpc, pte)	
US8795305 BB	20150310	LSRE	CC	CERTIFICATE OF CORRECTION	
US8795305 BB	20161025	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20160505 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LAZARUS EFFECT LLC;REEL/FRAME:040120/0772
US8795305 BB	20161025	LSAS	AS	ASSIGNMENT	Effective date: 20160504 OldParty: CHANGE OF NAME;ASSIGNOR:LAZARUS EFFECT, INC.;REEL/FRAME:040477/0604 Owner: LAZARUS EFFECT LLC, CALIFORNIA PartyType: owner
US8795305 BB	20180117	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US8795305 BB	20180205	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8795305 BB	20300523	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	

US8932319 BB	20130805	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DUBOIS, BRIAN B;DIECK, MARTIN S;SIGNING DATES FROM 20130726 TO 20130731;REEL/FRAME:030944/0278 Owner: LAZARUS EFFECT, INC., CALIFORNIA PartyType: owner
US8932319 BB	20141223	LSGT	PAT1	Patented Case	
US8932319 BB	20150113	LSGT	+	granted / extensions (spc, cpc, pte)	
US8932319 BB	20151013	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE FIRST ASSIGNOR NAME PREVIOUSLY RECORDED ON REEL 030944 FRAME 0278. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT;ASSIGNORS:MARTIN, BRIAN B;DIECK, MARTIN S;SIGNING DATES FROM 20130726 TO 20130731;REEL/FRAME:036842/0120 Owner: LAZARUS EFFECT, INC., CALIFORNIA PartyType: owner
US8932319 BB	20161025	LSAS	AS	ASSIGNMENT	Effective date: 20160505 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LAZARUS EFFECT LLC;REEL/FRAME:040120/0772 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner
US8932319 BB	20161025	LSAS	AS	ASSIGNMENT	Effective date: 20160504 OldParty: CHANGE OF NAME;ASSIGNOR:LAZARUS EFFECT, INC.;REEL/FRAME:040477/0604 Owner: LAZARUS EFFECT LLC, CALIFORNIA PartyType: owner
US8932319 BB	20180516	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US8932319 BB	20180622	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8932319 BB	20330805	PEXP		Calculated Patent Term Expiry	
US8979157 BB	20150225	LSGT	PAT1	Patented Case	
US8979157 BB	20150317	LSGT	+	granted / extensions (spc, cpc, pte)	
US8979157 BB	20171214	LSAS	AS	ASSIGNMENT	Owner: RUSSELL BAY SHELTERS, LLP, WISCONSIN PartyType: owner Effective date: 20171213 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:NELSON, CHARLES R., MR.;REEL/FRAME:044402/0416
US8979157 BB	20181105	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8979157 BB	20190422	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
US8979157 BB	20190422	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8979157 BB	20190422	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8979157 BB	20190514	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20190317
US8979157 BB	20200313	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES FILED (ORIGINAL EVENT CODE: PMFP); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8979157 BB	20200313	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8979157 BB	20200713	LSRE	+PRDP	PATENT REINSTATED DUE	Effective date: 20200717

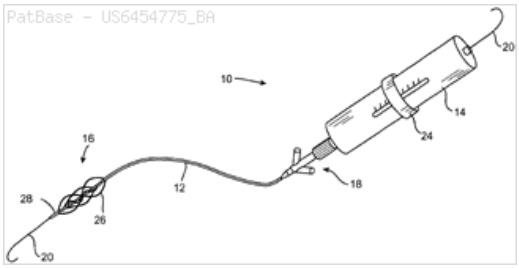
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US8979157 BB	20200717	LSGT	PAT1	Patented Case	
US8979157 BB	20200717	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8979157 BB	20340611	PEXP		Calculated Patent Term Expiry	
US9358094 BB	20140730	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: LAZARUS EFFECT, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MARTIN, BRIAN B.;DIECK, MARTIN S.;SIGNING DATES FROM 20130726 TO 20130731;REEL/FRAME:033422/0782
US9358094 BB	20151118	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9358094 BB	20160518	LSGT	PAT1	Patented Case	
US9358094 BB	20160607	LSGT	+	granted / extensions (spc, cpc, pte)	
US9358094 BB	20161025	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LAZARUS EFFECT LLC;REEL/FRAME:040120/0772 Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20160505
US9358094 BB	20161025	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:LAZARUS EFFECT, INC.;REEL/FRAME:040477/0604 PartyType: owner Owner: LAZARUS EFFECT LLC, CALIFORNIA Effective date: 20160504
US9358094 BB	20190730	LSRE	CC	CERTIFICATE OF CORRECTION	
US9358094 BB	20191121	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9358094 BB	20320523	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9943323 BB	20161025	LSAS	AS	ASSIGNMENT	Effective date: 20160505 PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LAZARUS EFFECT LLC;REEL/FRAME:040120/0772
US9943323 BB	20161025	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20160504 OldParty: CHANGE OF NAME;ASSIGNOR:LAZARUS EFFECT, INC.;REEL/FRAME:040477/0604 Owner: LAZARUS EFFECT LLC, CALIFORNIA
US9943323 BB	20180328	LSGT	PAT1	Patented Case	
US9943323 BB	20180417	LSGT	+	granted / extensions (spc, cpc, pte)	
US9943323 BB	20180716	LSAS	AS	ASSIGNMENT	Owner: LAZARUS EFFECT, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:MARTIN, BRIAN B.;DIECK, MARTIN S.;SIGNING DATES FROM 20130726 TO 20130731;REEL/FRAME:046361/0260 PartyType: owner
US9943323 BB	20321216	PEXP		Calculated Patent Term Expiry (PTA 207 days and a	

				terminal disclaimer has been filed)	
WO12162437 A1	20121129	LSPB	+	published / reissued	
WO12162437 A1	20130116		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 12789120 Country of Ref document: EP
WO12162437 A1	20131125	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2014512087 Country of Ref document: JP
WO12162437 A1	20131125	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO12162437 A1	20141124	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2874586 Country of Ref document: CA
WO12162437 A1	20170808	LSNP	REG	REFERENCE TO NATIONAL CODE	Ref legal event code: B01E Ref country code: BR Ref document number: 112013030183 Country of Ref document: BR
WO12162437 A1	20171205	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 112013030183 Effective date: 20131125 Kind code of Ref document: A2 Country of Ref document: BR

67) Family number: 28310675 (US6454775 BA)

Title: SYSTEMS AND METHODS FOR CLOT DISRUPTION AND RETRIEVAL

Abstract: Thrombectomy and other treatments are achieved using a catheter having a positioning cage and a macerator within the positioning cage. The catheter is introduced to a target body lumen, typically a blood vessel, and a positioning cage deployed at a treatment site. The macerator is then operated to disrupt thrombus, clot, or other occlusive materials at the treatment site, and the catheter is used to collect and remove the disruptive materials from the body lumen. In particular examples, the macerator may be radially expansible and optionally rotated and/or axially translated within the positioning cage to effect disruption of the occlusive material.



Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/26 A61B17/3207 A61M1/00 A61M1/10 A61M25/00 A61M25/14 A61M25/16 A61M29/00 A61M5/178
International (IPC 1-7): A61B1/722 A61B17/00 A61B17/20 A61B17/22 A61M25/00 A61M29/00 F04B1/00 F04B35/04
CPC: A61B17/221 A61B17/320725 A61B2017/00685 A61B2017/2212 A61M1/101 A61M1/1034 A61M1/122 A61M1/125 A61M25/0023 A61M29/02 A61B2017/320775 A61F2/013 A61F2002/016 A61F2002/018 A61F2230/0067 A61F2230/0076 A61F2230/0093
US: 417/410.4 417/410.400S 417/53 417/53P 604/159 604/22 604/540 604/540P 606/110 606/110P 606/128 606/128P 606/159

Family:

Publication number	Publication date	Application number	Application date
AU200077038 A1	20010417	AU20000077038	20000918
AU200077038 A5	20010417	AU20000077038	20000918
AU200119301 A1	20010612	AU20010019301	20001128
AU200119301 A5	20010612	AU20010019301	20001128
AU778076 B2	20041111	AU20000077038	20000918
AU781613 B2	20050602	AU20010019301	20001128
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CA2392207 C	20100413	CA20002392207	20001128
CA2690259 AA	20010607	CA20002690259	20001128
DE60047619 D1	20130103	DE20006047619	20000918
EP1225949 A1	20020731	EP20000966741	20000918
EP1225949 A4	20080611	EP20000966741	20000918
EP1225949 B1	20121107	EP20000966741	20000918
EP1237488 A1	20020911	EP20000982244	20001128
EP1237488 A4	20080611	EP20000982244	20001128
JP2004500171 T2	20040108	JP20010541409T	20001128
US2002151906 AA	20021017	US20020162276	20020603
US2004082962 AA	20040429	US20030680367	20031006
US2004219028 AA	20041104	US20040797482	20040309
US2010185208 AA	20100722	US20090638149	20091215
US2012035594 AA	20120209	US20110278210	20111021
US2012316586 AA	20121213	US20120589431	20120820
US6454775 BA	20020924	US19990454517	19991206
US6660014 BB	20031209	US20020162276	20020603
US6702830 BA	20040309	US20000590915	20000609
US6945977 BB	20050920	US20030680367	20031006
US7655016 BB	20100202	US20040797482	20040309
US8062258 BB	20111122	US20090638149	20091215
US8277470 BB	20121002	US20110278210	20111021
US8545447 BB	20131001	US20120589431	20120820
WO0119444 A1	20010322	WO2000US25581	20000918
WO0139673 A1	20010607	WO2000US32412	20001128

Priority:

US19990154752P 19990917
WO2000US25581 20000918
CA20002392207 20001128
US20040797482 20040309
US20120589431 20120820
US19990454517 19991206
EP20000966741 20000918
US20020162276 20020603
US20090638149 20091215
US20000590915 20000609
WO2000US32412 20001128
US20030680367 20031006
US20110278210 20111021

Probable Assignee: COVIDIEN LP

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Agent(s): ASPEN PHARMA PTY LTD; BARRIGAR INTELLECTUAL PROPERTY LAW; ELSY DAVID; FETHERSTONHAUGH AND CO; MARK J; SPRUSON AND FERGUSON; THOMAS M; TOWNSEND AND TOWNSEND AND CREW LLP

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU200077038 A1	20010417	LSPB	+	published / reissued	
AU200119301 A1	20010612	LSPB	+	published / reissued	
AU778076 B2	20041111	LSGT	+	granted / extensions (spc, cpc, pte)	
AU778076 B2	20200918	PEXP		Calculated Patent Term Expiry	
AU781613 B2	20050602	LSGT	+	granted / extensions (spc, cpc, pte)	
AU781613 B2	20201128	PEXP		Calculated Patent Term Expiry	
CA2386158 AA	20020327	LSPB	+	published / reissued	
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CA2386158 AA	20091008	LSLE	-FZDE	DEAD	
CA2392207 AA	20010607	LSPB	+	published / reissued	
CA2392207 AA	20060203	LSES	+EEER	EXAMINATION REQUEST	
CA2392207 C	20100413	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2392207 C	20150110	LSLE	-MKLA	LAPSED	Effective date: 20141128
CA2392207 C	20201128	PEXP		Calculated Patent Term Expiry	
CA2690259 AA	20010607	LSPB	+	published / reissued	
CA2690259 AA	20100121	LSES	+EEER	EXAMINATION REQUEST	
CA2690259 AA	20140507	LSLE	-FZDE	DEAD	Effective date: 20140311
DE60047619 D1	20120410		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationSymbol: A61B0017320700 Text: PREVIOUS MAIN CLASS: A61M0029000000 ClassificationScheme: IPC
DE60047619 D1	20130125	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	PartyType: Owner Owner: Covidien LP, Mansfield, Mass., US OldParty: Tyco Healthcare Group LP, Mansfield, Mass., US
EP1225949 A1	20020731	LSPB	+	published / reissued	
EP1225949 A1	20020731	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20020417
EP1225949 A1	20020731		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1225949 A1	20020814		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: DEMARAIS, DENISE, M. PartyType: inventor
EP1225949 A1	20020814		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LEEFLANG, STEPHEN A. PartyType: inventor
EP1225949 A1	20020814		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: EVANS, MICHAEL, A. PartyType: inventor
EP1225949 A1	20020814		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: WATANABE, GWENDOLYN, A. PartyType: inventor
EP1225949 A1	20020814		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: TANNER, JOHN, C., III PartyType: inventor
EP1225949 A1	20020814		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: EVERSULL, CHRISTIAN, S. PartyType: inventor
EP1225949 A1	20021002		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: DEMARAIS, DENISE, M.
EP1225949 A1	20021002		RIN1	INFORMATION ON	PartyType: inventor

				INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LEEFLANG, STEPHEN A.
EP1225949 A1	20021002		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: EVANS, MICHAEL, A.
EP1225949 A1	20021002		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: WATANABE, GWENDOLYN, A.
EP1225949 A1	20021002		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: TANNER, JOHN, C., III PartyType: inventor
EP1225949 A1	20021002		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: EVERSULL, CHRISTIAN, S. PartyType: inventor
EP1225949 A1	20070704		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101AFI20070530BHEP ClassificationScheme: IPC
EP1225949 A1	20070704		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 29/00 20060101ALI20070530BHEP
EP1225949 A1	20080611	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20080514
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EP1225949 A1	20080611		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/00 20060101ALI20080507BHEP ClassificationScheme: IPC
EP1225949 A1	20080611		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 1/10 20060101ALI20080507BHEP ClassificationScheme: IPC
EP1225949 A1	20081022	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20080919
EP1225949 A1	20110223	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: TYCO HEALTHCARE GROUP LP
EP1225949 A1	20120410		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R079 ClassificationSymbol: A61B0017320700 Text: PREVIOUS MAIN CLASS: A61M0029000000 ClassificationScheme: IPC Ref document number: 60047619 Ref country code: DE Country of Ref document: DE
EP1225949 A1	20120516		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/3207 20060101AFI20120410BHEP
EP1225949 A1	20120516		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 29/00 20060101ALI20120410BHEP ClassificationScheme: IPC
EP1225949 A1	20120516		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 1/10 20060101ALI20120410BHEP ClassificationScheme: IPC
EP1225949 A1	20120516		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/00 20060101ALI20120410BHEP
EP1225949 A1	20120516	LSRE	RTI1	TITLE (CORRECTION)	Text: MECHANICAL PUMP FOR REMOVAL OF FRAGMENTED MATTER
EP1225949 A1	20121107		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1225949 A1	20121107	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1225949 A1	20121115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP

EP1225949 A1	20121115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20121115 Ref country code: AT Ref document number: 582657 Kind code of Ref document: T Ref legal event code: REF Country of Ref document: AT
EP1225949 A1	20121205	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1225949 A1	20121212	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	PartyType: owner Owner: COVIDIEN LP
EP1225949 A1	20130103	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130103 Ref document number: 60047619 Ref country code: DE Ref legal event code: R096 Country of Ref document: DE
EP1225949 A1	20130315	LSRV	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Ref legal event code: MK05 Ref document number: 582657 Effective date: 20121107 Ref country code: AT Country of Ref document: AT
EP1225949 A1	20130410	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20121107 Ref country code: NL Ref legal event code: VDEP
EP1225949 A1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20121107 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
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EP1225949 A1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20130218 Country of Ref document: ES
EP1225949 A1	20130430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20121107 Country of Ref document: FI
EP1225949 A1	20130531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130208 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1225949 A1	20130531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20130307 Country of Ref document: PT
EP1225949 A1	20130531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20121107 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
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EP1225949 A1	20130628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20121107 Country of Ref document: AT
EP1225949 A1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	Lapsed date: 20121107 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK

				EPO]	
EP1225949 A1	20130830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20121107 Country of Ref document: IT
EP1225949 A1	20131016	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20130808
EP1225949 A1	20131205	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 60047619 Ref legal event code: R097 Effective date: 20130808 Country of Ref document: DE
EP1225949 A1	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20121107 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP1225949 A1	20140430	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1225949 A1	20140528	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20130918
EP1225949 A1	20140627	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: ST Ref country code: FR Effective date: 20140530
EP1225949 A1	20140702	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP1225949 A1	20140710	LSDW	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20140401 Ref country code: DE Ref legal event code: R119 Ref document number: 60047619 Country of Ref document: DE
EP1225949 A1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130918 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1225949 A1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20130930 Country of Ref document: LI
EP1225949 A1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20130930 Country of Ref document: CH
EP1225949 A1	20140731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130918 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1225949 A1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20140401 Country of Ref document: DE
EP1225949 A1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130930 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1225949 A1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130918 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1225949 B1	20121107	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1225949 B1	20200918	PEXP		Calculated Patent	

				Term Expiry	
EP1237488 A1	20020911	LSPB	+	published / reissued	
EP1237488 A1	20020911	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20020607
EP1237488 A1	20020911		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1237488 A1	20030409		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: DEMARAIS, DENISE PartyType: inventor
EP1237488 A1	20030409		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: EVANS, MICHAEL, A.
EP1237488 A1	20030409		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: LEEFLANG, STEPHEN A. PartyType: inventor
EP1237488 A1	20030409		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: EVERSULL, CHRISTIAN, S.
EP1237488 A1	20070704		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101AFI20010614BHEP ClassificationScheme: IPC
EP1237488 A1	20070704		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/00 20060101ALI20070531BHEP ClassificationScheme: IPC
EP1237488 A1	20070704		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 29/00 20060101ALI20070531BHEP
EP1237488 A4	20080611	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20080514
EP1237488 A4	20081126	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20081028
EP1237488 A4	20110223	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: TYCO HEALTHCARE GROUP LP
EP1237488 A4	20121212	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: COVIDIEN LP PartyType: owner
EP1237488 A4	20131113	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20121201
JP2004500171 T2	20040108	LSPB	+	published / reissued	
JP2004500171 T2	20071109	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20071108
JP2004500171 T2	20071109	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20071108
JP2004500171 T2	20080519		A977	REPORT ON RETRIEVAL	Effective date: 20080519 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2004500171 T2	20080523	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20080522
JP2004500171 T2	20081021	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20081020 Text: JAPANESE INTERMEDIATE CODE: A02
US2002151906 AA	20021017	LSPB	+	published / reissued	
US2002151906 AA	20031120	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2004082962 AA	20040429	LSPB	+	published / reissued	
US2004082962 AA	20050831	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2004219028 AA	20041104	LSPB	+	published / reissued	
US2004219028 AA	20100113	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2010185208 AA	20100722	LSPB	+	published / reissued	
US2010185208 AA	20111102	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

US2012035594 AA	20120209	LSPB	+	published / reissued	
US2012035594 AA	20120912	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012316586 AA	20121213	LSPB	+	published / reissued	
US2012316586 AA	20130529	LSAS	AS	ASSIGNMENT	OldParty: MERGER;ASSIGNOR:BACCHUS VASCULAR, INC.;REEL/FRAME:030508/0486 Owner: BACCHUS VASCULAR, LLC, MASSACHUSETTS Effective date: 20090326 PartyType: owner
US2012316586 AA	20130529	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF FORTY NINE PERCENT (49%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, INTEREST;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:030508/0564 Effective date: 20090327 PartyType: owner Owner: VALLEYLAB HOLDING CORPORATION, CONNECTICUT
US2012316586 AA	20130529	LSAS	AS	ASSIGNMENT	Effective date: 20090327 Owner: SHERWOOD MEDICAL COMPANY I, CONNECTICUT OldParty: ASSIGNMENT OF FIFTY ONE PERCENT (51%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, INTEREST;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:030508/0556 PartyType: owner
US2012316586 AA	20130529	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:TYCO HEALTHCARE GROUP LP;REEL/FRAME:030508/0594 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner Effective date: 20120928
US2012316586 AA	20130529	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEMARAIS, DENISE;LEEFLANG, STEPHEN A.;EVANS, MICHAEL A.;AND OTHERS;SIGNING DATES FROM 20040420 TO 20040423;REEL/FRAME:030504/0783 Owner: BACCHUS VASCULAR, INC., CALIFORNIA PartyType: owner
US2012316586 AA	20130529	LSAS	AS	ASSIGNMENT	Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS Effective date: 20090327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VALLEYLAB HOLDING CORPORATION;REEL/FRAME:030505/0435 PartyType: owner
US2012316586 AA	20130529	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SHERWOOD MEDICAL COMPANY I;REEL/FRAME:030505/0398 Effective date: 20090327 Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS PartyType: owner
US2012316586 AA	20130911	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6454775 BA	20000425	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEMARAIS, DENISE;EVANS, MICHAEL A.;LEEFLANG, STEPHEN A.;AND OTHERS;REEL/FRAME:010782/0384 Effective date: 20000320 Owner: BACCHUS VASCULAR, INC., CALIFORNIA
US6454775 BA	20001027	LSAS	AS	ASSIGNMENT	Effective date: 20000925 OldParty: SECURITY INTEREST;ASSIGNOR:BACCHUS VASCULAR, INC.;REEL/FRAME:011213/0373 Owner: IMPERIAL BANK, CALIFORNIA PartyType: owner
US6454775 BA	20020905	LSGT	PAT1	Patented Case	
US6454775 BA	20020905	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6454775 BA	20020924	LSGT	+	granted / extensions (spc, cpc, pte)	
US6454775 BA	20060324	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6454775 BA	20080318	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20080314 OldParty: RELEASE BY SECURED PARTY;ASSIGNOR:COMERICA BANK;REEL/FRAME:020666/0083 Owner: BACCHUS VASCULAR INC., CALIFORNIA

US6454775 BA	20100324	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6454775 BA	20100707	LSAS	AS	ASSIGNMENT	Owner: BACCHUS VASCULAR, LLC, MASSACHUSETTS Effective date: 20090326 PartyType: owner OldParty: MERGER;ASSIGNOR:BACCHUS VASCULAR, INC.;REEL/FRAME:024640/0610
US6454775 BA	20100708	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20090327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SHERWOOD MEDICAL COMPANY I;REEL/FRAME:024651/0242 Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS
US6454775 BA	20100708	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VALLEYLAB HOLDING CORPORATION;REEL/FRAME:024651/0256 Effective date: 20090327 Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS PartyType: owner
US6454775 BA	20100708	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF FIFTY ONE PERCENT (51%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, INTEREST, AND THE GOODWILL;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0280 Owner: SHERWOOD MEDICAL COMPANY I, CONNECTICUT PartyType: owner Effective date: 20090327
US6454775 BA	20100708	LSAS	AS	ASSIGNMENT	Owner: VALLEYLAB HOLDING CORPORATION, CONNECTICUT OldParty: ASSIGNMENT OF FORTY NINE PERCENT (49%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, AND INTEREST;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0309 PartyType: owner Effective date: 20090327
US6454775 BA	20130109	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:TYCO HEALTHCARE GROUP LP;REEL/FRAME:029595/0101 PartyType: owner Effective date: 20120928 Owner: COVIDIEN LP, MASSACHUSETTS
US6454775 BA	20140324	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6454775 BA	20191206	PEXP		Calculated Patent Term Expiry	
US6660014 BB	20031120	LSGT	PAT1	Patented Case	
US6660014 BB	20031209	LSGT	+	granted / extensions (spc, cpc, pte)	
US6660014 BB	20070423	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6660014 BB	20081210	LSAS	AS	ASSIGNMENT	Owner: BACCHUS VASCULAR, INC., CALIFORNIA PartyType: owner Effective date: 20000320 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEMARAIS, DENISE;EVANS, MICHAEL A;LEEFLANG, STEPHEN A;AND OTHERS;REEL/FRAME:021952/0396
US6660014 BB	20100707	LSAS	AS	ASSIGNMENT	OldParty: MERGER;ASSIGNOR:BACCHUS VASCULAR, INC.;REEL/FRAME:024640/0610 Owner: BACCHUS VASCULAR, LLC, MASSACHUSETTS Effective date: 20090326 PartyType: owner
US6660014 BB	20100708	LSAS	AS	ASSIGNMENT	Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS Effective date: 20090327 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SHERWOOD MEDICAL COMPANY I;REEL/FRAME:024651/0242
US6660014 BB	20100708	LSAS	AS	ASSIGNMENT	Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VALLEYLAB HOLDING CORPORATION;REEL/FRAME:024651/0256 PartyType: owner Effective date: 20090327
US6660014 BB	20100708	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF FIFTY ONE PERCENT (51%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, INTEREST, AND THE GOODWILL;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0280 Effective date: 20090327 PartyType: owner Owner: SHERWOOD MEDICAL COMPANY I, CONNECTICUT
US6660014 BB	20100708	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF FORTY NINE PERCENT (49%) OF ASSIGNOR'S ENTIRE

					RIGHT, TITLE, AND INTEREST;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0309 Effective date: 20090327 PartyType: owner Owner: VALLEYLAB HOLDING CORPORATION, CONNECTICUT
US6660014 BB	20110609	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6660014 BB	20130109	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:TYCO HEALTHCARE GROUP LP;REEL/FRAME:029595/0101 PartyType: owner Effective date: 20120928 Owner: COVIDIEN LP, MASSACHUSETTS
US6660014 BB	20150529	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6660014 BB	20220603	PEXP		Calculated Patent Term Expiry	
US6702830 BA	20000927	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: BACCHUS VASCULAR, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEMARAIS, DENISE M.;LEEFLANG, STEPHEN A.;EVANS, MICHAEL A.;AND OTHERS;REEL/FRAME:011179/0819;SIGNING DATES FROM 20000828 TO 20000912
US6702830 BA	20040219	LSGT	PAT1	Patented Case	
US6702830 BA	20040219	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6702830 BA	20040309	LSGT	+	granted / extensions (spc, cpc, pte)	
US6702830 BA	20070910	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6702830 BA	20070917		REMI	MAINTENANCE FEE REMINDER MAILED	
US6702830 BA	20100316	LSRE	CC	CERTIFICATE OF CORRECTION	
US6702830 BA	20100504	LSRE	CC	CERTIFICATE OF CORRECTION	
US6702830 BA	20100707	LSAS	AS	ASSIGNMENT	Owner: BACCHUS VASCULAR, LLC, MASSACHUSETTS PartyType: owner Effective date: 20090326 OldParty: MERGER;ASSIGNOR:BACCHUS VASCULAR, INC.;REEL/FRAME:024640/0610
US6702830 BA	20100708	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SHERWOOD MEDICAL COMPANY I;REEL/FRAME:024651/0242 Effective date: 20090327 PartyType: owner Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS
US6702830 BA	20100708	LSAS	AS	ASSIGNMENT	Effective date: 20090327 Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VALLEYLAB HOLDING CORPORATION;REEL/FRAME:024651/0256
US6702830 BA	20100708	LSAS	AS	ASSIGNMENT	Owner: SHERWOOD MEDICAL COMPANY I, CONNECTICUT PartyType: owner OldParty: ASSIGNMENT OF FIFTY ONE PERCENT (51%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, INTEREST, AND THE GOODWILL;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0280 Effective date: 20090327
US6702830 BA	20100708	LSAS	AS	ASSIGNMENT	Owner: VALLEYLAB HOLDING CORPORATION, CONNECTICUT Effective date: 20090327 OldParty: ASSIGNMENT OF FORTY NINE PERCENT (49%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, AND INTEREST;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0309 PartyType: owner
US6702830 BA	20110909	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6702830 BA	20130109	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS OldParty: CHANGE OF NAME;ASSIGNOR:TYCO HEALTHCARE GROUP LP;REEL/FRAME:029595/0101 Effective date: 20120928
US6702830 BA	20150827	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6702830 BA	20200711	PEXP		Calculated Patent Term Expiry (PTA 32 days)	

US6945977 BB	20050831	LSGT	PAT1	Patented Case	
US6945977 BB	20050920	LSGT	+	granted / extensions (spc, cpc, pte)	
US6945977 BB	20080729	LSRE	CC	CERTIFICATE OF CORRECTION	
US6945977 BB	20081210	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20000320 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEMARAIS, DENISE;EVANS, MICHAEL A;LEEFLANG, STEPHEN A;AND OTHERS;REEL/FRAME:021952/0396 Owner: BACCHUS VASCULAR, INC., CALIFORNIA
US6945977 BB	20090224	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6945977 BB	20100707	LSAS	AS	ASSIGNMENT	OldParty: MERGER;ASSIGNOR:BACCHUS VASCULAR, INC.;REEL/FRAME:024640/0610 PartyType: owner Effective date: 20090326 Owner: BACCHUS VASCULAR, LLC, MASSACHUSETTS
US6945977 BB	20100708	LSAS	AS	ASSIGNMENT	Effective date: 20090327 Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SHERWOOD MEDICAL COMPANY I;REEL/FRAME:024651/0242 PartyType: owner
US6945977 BB	20100708	LSAS	AS	ASSIGNMENT	Effective date: 20090327 Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VALLEYLAB HOLDING CORPORATION;REEL/FRAME:024651/0256 PartyType: owner
US6945977 BB	20100708	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF FIFTY ONE PERCENT (51%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, INTEREST, AND THE GOODWILL;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0280 Effective date: 20090327 Owner: SHERWOOD MEDICAL COMPANY I, CONNECTICUT PartyType: owner
US6945977 BB	20100708	LSAS	AS	ASSIGNMENT	Effective date: 20090327 Owner: VALLEYLAB HOLDING CORPORATION, CONNECTICUT OldParty: ASSIGNMENT OF FORTY NINE PERCENT (49%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, AND INTEREST;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0309 PartyType: owner
US6945977 BB	20130109	LSAS	AS	ASSIGNMENT	Effective date: 20120928 OldParty: CHANGE OF NAME;ASSIGNOR:TYCO HEALTHCARE GROUP LP;REEL/FRAME:029595/0101 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner
US6945977 BB	20130314	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6945977 BB	20170320	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6945977 BB	20231006	PEXP		Calculated Patent Term Expiry	
US7655016 BB	20040604	LSAS	AS	ASSIGNMENT	Owner: BACCHUS VASCULAR, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEMARAIS, DENISE M.;LEEFLANG, STEPHEN A.;EVANS, MICHAEL A.;AND OTHERS;REEL/FRAME:014693/0775;SIGNING DATES FROM 20040420 TO 20040423
US7655016 BB	20040604	LSAS	AS	ASSIGNMENT	Owner: BACCHUS VASCULAR, INC.,CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEMARAIS, DENISE M.;LEEFLANG, STEPHEN A.;EVANS, MICHAEL A.;AND OTHERS;SIGNING DATES FROM 20040420 TO 20040423;REEL/FRAME:014693/0775 PartyType: owner
US7655016 BB	20100113	LSGT	PAT1	Patented Case	
US7655016 BB	20100202	LSGT	+	granted / extensions (spc, cpc, pte)	
US7655016 BB	20100707	LSAS	AS	ASSIGNMENT	OldParty: MERGER;ASSIGNOR:BACCHUS VASCULAR, INC.;REEL/FRAME:024640/0610 PartyType: owner Effective date: 20090326 Owner: BACCHUS VASCULAR, LLC, MASSACHUSETTS

US7655016 BB	20100708	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SHERWOOD MEDICAL COMPANY I;REEL/FRAME:024651/0242 PartyType: owner Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS Effective date: 20090327
US7655016 BB	20100708	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VALLEYLAB HOLDING CORPORATION;REEL/FRAME:024651/0256 Effective date: 20090327
US7655016 BB	20100708	LSAS	AS	ASSIGNMENT	Owner: SHERWOOD MEDICAL COMPANY I, CONNECTICUT OldParty: ASSIGNMENT OF FIFTY ONE PERCENT (51%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, INTEREST, AND THE GOODWILL;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0280 PartyType: owner Effective date: 20090327
US7655016 BB	20100708	LSAS	AS	ASSIGNMENT	Owner: VALLEYLAB HOLDING CORPORATION, CONNECTICUT PartyType: owner OldParty: ASSIGNMENT OF FORTY NINE PERCENT (49%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, AND INTEREST;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0309 Effective date: 20090327
US7655016 BB	20101123	LSRE	CC	CERTIFICATE OF CORRECTION	
US7655016 BB	20120716		+SULP	SURCHARGE FOR LATE PAYMENT	
US7655016 BB	20130109	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:TYCO HEALTHCARE GROUP LP;REEL/FRAME:029595/0101 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner Effective date: 20120928
US7655016 BB	20130314	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7655016 BB	20170802	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7655016 BB	20280929	PEXP		Calculated Patent Term Expiry (PTA 1665 days)	
US8062258 BB	20100330	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: BACCHUS VASCULAR, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEMARAIS, DENISE;LEEFLANG, STEPHEN A.;EVANS, MICHAEL A.;AND OTHERS;SIGNING DATES FROM 20040420 TO 20040423;REEL/FRAME:024163/0589
US8062258 BB	20100617	LSAS	AS	ASSIGNMENT	Owner: BACCHUS VASCULAR, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEMARAIS, DENISE M.;LEEFLANG, STEPHAN A.;EVANS, MICHAEL A.;AND OTHERS;SIGNING DATES FROM 20040420 TO 20040423;REEL/FRAME:024553/0389 PartyType: owner
US8062258 BB	20100707	LSAS	AS	ASSIGNMENT	Effective date: 20090326 OldParty: MERGER;ASSIGNOR:BACCHUS VASCULAR, INC.;REEL/FRAME:024640/0610 PartyType: owner Owner: BACCHUS VASCULAR, LLC, MASSACHUSETTS
US8062258 BB	20100708	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SHERWOOD MEDICAL COMPANY I;REEL/FRAME:024651/0242 PartyType: owner Effective date: 20090327 Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS
US8062258 BB	20100708	LSAS	AS	ASSIGNMENT	Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS Effective date: 20090327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VALLEYLAB HOLDING CORPORATION;REEL/FRAME:024651/0256 PartyType: owner
US8062258 BB	20100708	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF FIFTY ONE PERCENT (51%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, INTEREST, AND THE GOODWILL;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0280 PartyType: owner Effective date: 20090327

					Owner: SHERWOOD MEDICAL COMPANY I, CONNECTICUT
US8062258 BB	20100708	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF FORTY NINE PERCENT (49%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, AND INTEREST;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:024651/0309 Owner: VALLEYLAB HOLDING CORPORATION, CONNECTICUT Effective date: 20090327 PartyType: owner
US8062258 BB	20111102	LSGT	PAT1	Patented Case	
US8062258 BB	20111122	LSGT	+	granted / extensions (spc, cpc, pte)	
US8062258 BB	20130109	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:TYCO HEALTHCARE GROUP LP;REEL/FRAME:029595/0101 PartyType: owner Effective date: 20120928 Owner: COVIDIEN LP, MASSACHUSETTS
US8062258 BB	20150428	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8062258 BB	20190715	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8062258 BB	20191230	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8062258 BB	20191230	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8062258 BB	20191230	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8062258 BB	20200121	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20191122
US8062258 BB	20300202	PEXP		Calculated Patent Term Expiry (PTA 49 days and a terminal disclaimer has been filed)	
US8277470 BB	20120912	LSGT	PAT1	Patented Case	
US8277470 BB	20121002	LSGT	+	granted / extensions (spc, cpc, pte)	
US8277470 BB	20130529	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DEMARAIS, DENISE;LEEFLANG, STEPHEN A.;EVANS, MICHAEL A.;AND OTHERS;SIGNING DATES FROM 20040420 TO 20040423;REEL/FRAME:030504/0783 Owner: BACCHUS VASCULAR, INC., CALIFORNIA PartyType: owner
US8277470 BB	20130529	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:TYCO HEALTHCARE GROUP LP;REEL/FRAME:030508/0594 Owner: COVIDIEN LP, MASSACHUSETTS Effective date: 20120928 PartyType: owner
US8277470 BB	20130529	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: MERGER;ASSIGNOR:BACCHUS VASCULAR, INC.;REEL/FRAME:030508/0486 Owner: BACCHUS VASCULAR, LLC, MASSACHUSETTS Effective date: 20090326
US8277470 BB	20130529	LSAS	AS	ASSIGNMENT	Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VALLEYLAB HOLDING CORPORATION;REEL/FRAME:030505/0435 PartyType: owner Effective date: 20090327
US8277470 BB	20130529	LSAS	AS	ASSIGNMENT	Owner: TYCO HEALTHCARE GROUP LP, MASSACHUSETTS Effective date: 20090327 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:SHERWOOD MEDICAL COMPANY I;REEL/FRAME:030505/0398 PartyType: owner
US8277470 BB	20130529	LSAS	AS	ASSIGNMENT	Effective date: 20090327 Owner: VALLEYLAB HOLDING CORPORATION, CONNECTICUT PartyType: owner OldParty: ASSIGNMENT OF FORTY NINE PERCENT (49%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, INTEREST;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:030508/0564

US8277470 BB	20130529	LSAS	AS	ASSIGNMENT	Effective date: 20090327 PartyType: owner Owner: SHERWOOD MEDICAL COMPANY I, CONNECTICUT OldParty: ASSIGNMENT OF FIFTY ONE PERCENT (51%) OF ASSIGNOR'S ENTIRE RIGHT, TITLE, INTEREST;ASSIGNOR:BACCHUS VASCULAR, LLC;REEL/FRAME:030508/0556
US8277470 BB	20160324	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8277470 BB	20200525	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US8277470 BB	20311021	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US8545447 BB	20130911	LSGT	PAT1	Patented Case	
US8545447 BB	20131001	LSGT	+	granted / extensions (spc, cpc, pte)	
US8545447 BB	20170403	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8545447 BB	20191206	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO0119444 A1	20010322	LSPB	+	published / reissued	
WO0119444 A1	20010322		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AU CA JP
WO0119444 A1	20010322		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
WO0119444 A1	20010516		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0119444 A1	20010614		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0119444 A1	20020327	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2386158 Country of Ref document: CA
WO0119444 A1	20020405	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 77038/00 Country of Ref document: AU
WO0119444 A1	20020417	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2000966741 Country of Ref document: EP
WO0119444 A1	20020731	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2000966741 Country of Ref document: EP
WO0119444 A1	20040623	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO0119444 A1	20050310	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 77038/00 Country of Ref document: AU
WO0139673 A1	20010607	LSPB	+	published / reissued	
WO0139673 A1	20010607		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AU CA JP
WO0139673 A1	20010607		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
WO0139673 A1	20010801		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0139673 A1	20011101		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0139673 A1	20020522	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO	Ref document number: 2392207 Country of Ref document: CA

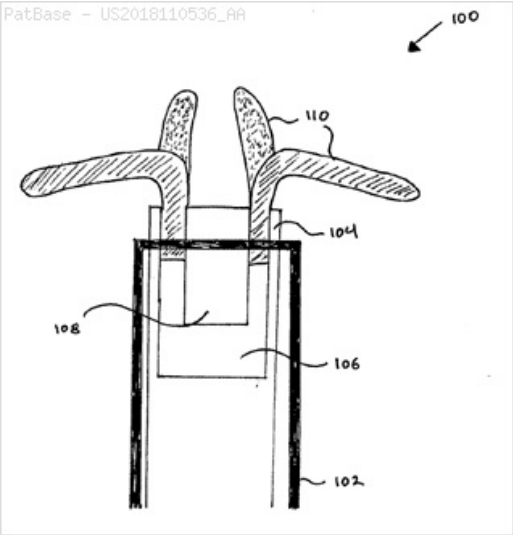
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WO0139673 A1	20020531	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 19301/01 Country of Ref document: AU
WO0139673 A1	20020605	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2001 541409 Country of Ref document: JP
WO0139673 A1	20020607	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2000982244 Country of Ref document: EP
WO0139673 A1	20020911	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2000982244 Country of Ref document: EP
WO0139673 A1	20050915	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 19301/01 Country of Ref document: AU

68) Family number: 69433364 (US2018110536 AA)

Title: ELECTRICALLY CONTROLLABLE SURGICAL TOOLS

Abstract: The present disclosure relates to electrically controllable surgical tools. In general, surgical devices are provided having an electrically controllable, fingered operating end for use in angiography, endovascular and/or neurological surgery. The finger(s) at the operating end can be made from ionic polymer metal composite (IPMC) material to facilitate control of the finger(s).

Classifications:
International (IPC 8-9): A61B17/22 A61B5/02 A61B5/0215 A61B5/026
CPC: A61B17/22012 A61B17/22022 A61B17/22031 A61B17/50 A61B2017/00017 A61B2017/00022 A61B2017/00292 A61B2017/12054 A61B2034/301 A61B34/30 A61B5/02007 A61B5/0215 A61B5/026
US: 1/1 606/159



Family:

Publication number	Publication date	Application number	Application date
US2018110536 AA	20180426	US20170787734	20171019
WO18075707 A1	20180426	WO2017US57285	20171019

Priority:
US20160410830P 20161020 US20170787734 20171019

Probable Assignee: MAINE MEDICAL CENTER RES INST
Assignee(s): (std): MAINE MEDICAL CENTER RES INST
Assignee(s): MAINE MEDICAL CENTER ; MAINE MEDICAL CENTER RESEARCH INST
Inventor(s): (std): ECKER ROBERT ; ECKER ROBERT D ; SHAHINPOOR MOHSEN
Agent(s): CONLIN DAVID G 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
US2018110536 AA	20180316		RFE1	Docketed New Case - Ready for Examination	
US2018110536 AA	20180316		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018110536 AA	20180426	LSPB	+	published / reissued	
US2018110536 AA	20181012	LSAS	AS	ASSIGNMENT	Owner: MAINE MEDICAL CENTER, MAINE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ECKER, ROBERT D.;SHAHINPOOR, MOHSEN;SIGNING DATES FROM 20180919 TO 20181004;REEL/FRAME:047149/0986 PartyType: owner
US2018110536 AA	20191001	LSES	NFA1	Non Final Action Mailed	
US2018110536 AA	20191001		STPP	INFORMATION ON STATUS: PATENT APPLICATION	Text: NON FINAL ACTION MAILED

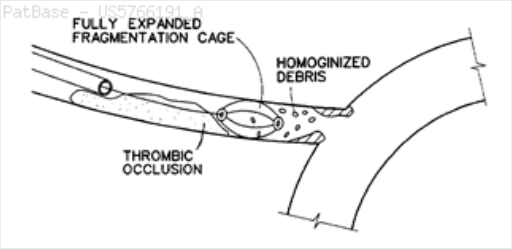
				AND GRANTING PROCEDURE IN GENERAL	
US2018110536 AA	20191015		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018110536 AA	20191015		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018110536 AA	20191126	LSES	NFA1	Non Final Action Mailed	
US2018110536 AA	20191126		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018110536 AA	20200223		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018110536 AA	20200223		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018110536 AA	20200528		FRM1	Final Rejection Mailed	
US2018110536 AA	20200717		RSP1	Response after Final Action Forwarded to Examiner	
US2018110536 AA	20200717		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER
WO18075707 A1	20180426	LSPB	+	published / reissued	
WO18075707 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 17861937 Country of Ref document: EP
WO18075707 A1	20190424	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18075707 A1	20191113	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 17861937 Country of Ref document: EP

69) Family number: 28109380 (US5766191 A)

Title: Percutaneous mechanical fragmentation **catheter** **system**

Abstract: A percutaneous thrombolytic device, also referred to herein as a percutaneous mechanical fragmentation **catheter** **system**, that includes a wire cage or basket attached to a rotational drive motor. The fragmentation basket, ensheathed in an outer **catheter**, is introduced into the **clotted** graft or vessel via an introducer sheath. When deployed, the basket will automatically conform to the inner dimensions of the vessel lumen. The rotating basket is slowly withdrawn through the **clotted** graft, mechanically fragmenting the **clot**. The fragmented, homogenized debris can be flushed into the venous **system** or aspirated.

Classifications:
International (IPC 8-9): A61B17/22 A61B6/00 A61M1/00
International (IPC 1-7): A61B17/22 A61B17/32 A61D1/02
CPC: A61B17/221 A61B17/3207 A61B17/320725 A61B17/320758 A61B2017/22038 A61B2017/2212 A61B2217/005
US: 604/508 606/159 606/159P 606/167 606/180 606/180S



Family:

Publication number	Publication date	Application number	Application date
US2001016751 AA	20010823	US19980057273	19980408
US2003130673 AA	20030710	US20020309323	20021203
US2005125016 AA	20050609	US20040960773	20041007
US5766191 A	19980616	US19960609070	19960229
US6824551 BB	20041130	US20020309323	20021203
US7108704 BB	20060919	US20040960773	20041007
WO9319679 A1	19931014	WO1993US03213	19930407

Priority:

US19920864714 19920407 US19960609070 19960229 US19980057273 19980408
US20020309323 20021203 US20040960773 20041007

Probable Assignee: JOHNS HOPKINS UNIV
Assignee(s): (std): TREROTOLA SCOTT O ; UNIV JOHNS HOPKINS
Assignee(s): JOHNS HOPKINS UNIV ; JOHNS HOPKINS UNIVERSITY ; THE JOHNS HOPKINS UNIVERSITY
Inventor(s): (std): TERERROTOLA SCOTT O ; TREROTOLA SCOTT O
Inventor(s): SCOTT O TREROTOLA ; TREROTOLA SCOTT
Agent(s): ALAN D MILLER AMSTER ROTHSTEIN AND EBENSTEIN LLP; AMSTER ROTHSTEIN AND EBENSTEIN LLP
Designated states: AT BE CA CH DE DK ES 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
US2001016751 AA	20010823	LSPB	+	published / reissued	
US2001016751 AA	20030324	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2001016751 AA	20030324		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2003130673 AA	20030710	LSPB	+	published / reissued	
US2005125016 AA	20050609	LSPB	+	published / reissued	
US5766191 A	19960424	LSAS	AS	ASSIGNMENT	Effective date: 19960319 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:TREROTOLA, SCOTT O.;REEL/FRAME:007962/0152 Owner: JOHNS HOPKINS UNIVERSITY, MARYLAND PartyType: owner
US5766191 A	19980603	LSGT	PAT1	Patented Case	
US5766191 A	19980603	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US5766191 A	19980616	LSGT	+	granted / extensions (spc, cpc, pte)	
US5766191 A	20010928	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US5766191 A	20051123	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8

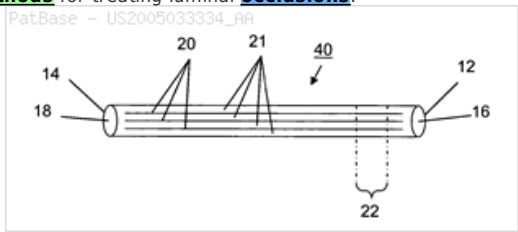
US5766191 A	20091216	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US5766191 A	20160229	PEXP		Calculated Patent Term Expiry	
US6824551 BB	20041111	LSGT	PAT1	Patented Case	
US6824551 BB	20041130	LSGT	+	granted / extensions (spc, cpc, pte)	
US6824551 BB	20080530	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6824551 BB	20120530	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6824551 BB	20160708		REMI	MAINTENANCE FEE REMINDER MAILED	
US6824551 BB	20161130	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6824551 BB	20161226	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US6824551 BB	20161226	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US6824551 BB	20170117	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20161130
US6824551 BB	20221203	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US7108704 BB	20060919	LSGT	+	granted / extensions (spc, cpc, pte)	
US7108704 BB	20100319	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7108704 BB	20140502		REMI	MAINTENANCE FEE REMINDER MAILED	
US7108704 BB	20140919	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7108704 BB	20141020	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7108704 BB	20141020	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7108704 BB	20141111	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20140919
US7108704 BB	20250302	PEXP		Calculated Patent Term Expiry (PTA 146 days and a terminal disclaimer has been filed)	
WO9319679 A1	19931014	LSPB	+	published / reissued	
WO9319679 A1	19931014		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: CA JP
WO9319679 A1	19931014		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
WO9319679 A1	19940112		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9319679 A1	19941109	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO9319679 A1	19950207	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: CA

70) Family number: 31388471 (US2005033334 AA)

Title: DEVICES AND **METHODS** FOR DISRUPTION AND **REMOVAL** OF LUMINAL **OCCLUSIONS**

Abstract: The subject invention pertains to an elastic sheath, device, and **methods** for disrupting and/or **removing** **occlusive** material from lumens, particularly biological lumens, such as the vasculature, ureter, urethra, fallopian tubes, bile duct, intestines, and the like. The subject invention provides for effective disruption and **removal** of **occlusive** material, such as a thrombus, from the body lumen with minimal risk of injury to the lumen wall. Advantageously, the invention can be used to achieve a high degree of **removal** while minimizing the amount of **occlusive** material that is released into the body lumen. The subject invention further pertains to **methods** for disrupting and **removing** **occlusive** material from a biological lumen. In another aspect, the present invention concerns a device useful as an in vitro model of luminal **occlusion** and **methods** for using the device to test the efficacy of devices and **methods** for treating luminal **occlusions**.

Classifications:
International (IPC 8-9): A61B A61B17/22 A61M29/00
International (IPC 1-7): A61B A61B17/22
CPC: A61B17/221 A61B17/320725 A61B2017/2212
US: 606/159 606/159P 606/200



Family:

Publication number	Publication date	Application number	Application date
US2005033334 AA	20050210	US20040844737	20040512
US2010023038 AA	20100128	US20090574103	20091006
US7618434 BB	20091117	US20040844737	20040512
WO04100772 A2	20041125	WO2004US14929	20040512
WO04100772 A3	20070524	WO2004US14929	20040512

Priority:

US20030470067P 20030512 US20040844737 20040512 US20090574103 20091006

Probable Assignee: OF FLORIDA RESEARCH FOUNDATION INC UNIV

Assignee(s): (std): BATICH CHRISTOPHER D ; ESKIOGLU ERIC ; MERICLE ROBERT A ; SANTRA SWADESHMUKUL ; STANLEY JESSIE T ; UNIV FLORIDA

Assignee(s): OF FLORIDA RESEARCH FOUNDATION INC UNIV ; OF FLORIDA UNIV ; UNIVERSITY OF FLORIDA ; UNIVERSITY OF FLORIDA RESEARCH FOUNDATION INC

Inventor(s): (std): BATICH CHRISTOPHER D ; ESKIOGLU ERIC ; MERICLE ROBERT A ; SANTRA SWADESHMUKUL ; STANLEY JESSIE T

Inventor(s): BATICH CHRISTOPHER ; MERICLE ROBERT ; STANLEY JESSIE

Agent(s): SALIWANCHIK LLOYD AND SALIWANCHIK; SALIWANCHIK LLOYD AND SALIWANCHIK A PROFESSIONAL ASSOCIATION; SALIWANCHIK LLOYD AND SALIWANCHIK,A PROFESSIONAL ASSOCIATION

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

Legal status (INPADOC)

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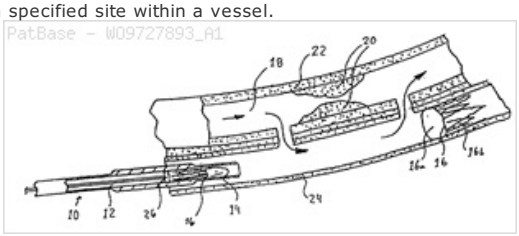
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US2010023038 AA	20100128	LSPB	+	published / reissued	
US2010023038 AA	20121104	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2010023038 AA	20121104		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US7618434 BB	20091117	LSGT	+	granted / extensions (spc, cpc, pte)	
US7618434 BB	20100105	LSRE	CC	CERTIFICATE OF CORRECTION	
US7618434 BB	20130628		REMI	MAINTENANCE FEE REMINDER MAILED	
US7618434 BB	20131117	LSLE	-LAPS	LAPSE FOR FAILURE	

				TO PAY MAINTENANCE FEES	
US7618434 BB	20131216	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7618434 BB	20131216	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7618434 BB	20140107	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20131117
US7618434 BB	20240512	PEXP		Calculated Patent Term Expiry	
WO04100772 A2	20041125	LSPB	+	published / reissued	
WO04100772 A2	20041125		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
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WO04100772 A2	20050119		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO04100772 A2	20060802	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO

71) Family number: 33467123 (WO9727893 A1)

Title: **METHODS** AND APPARATUS FOR BLOCKING FLOW THROUGH BLOOD VESSELS

Abstract: This invention is **methods** and apparatus for occluding blood flow within a blood vessel (22). In a first series of embodiments, the present invention comprises a plurality of embolic devices (16) deployable through the lumen (12) of a conventional **catheter** (10) such that when deployed, said embolic devices (16) remain resident and occlude blood flow at a specific site within the lumen of the blood vessel (22). Such embolic devices (16) comprise either mechanical embolic devices that become embedded within or compress against the lumen of the vessel or chemical vaso-**occlusive** agents that seal off blood flow at a given site. A second embodiment of the present invention comprises utilization of a vacuum/cauterizing device capable of sucking in the lumen of the vessel about the device to maintain the vessel in a closed condition where there is then applied a sufficient amount of energy to cause the tissue collapsed about the device to denature into a closure. In a third series of embodiments, the present invention comprises the combination of an embolization facilitator coupled with the application of an energy force to form an intraluminal closure at a specified site within a vessel.



Classifications:
International (IPC 8-9): A61B1/313 A61B17/00 A61B17/064 A61B17/11 A61B17/12 A61B17/22 A61B17/30 A61B17/34 A61B18/00 A61B18/14 A61B18/24 A61B19/00 A61F2/00 A61F2/02 A61F2/06 A61F2/82 A61F2/90 A61M25/00 A61M25/12 A61M29/00
International (IPC 1-7): A61B17/00 A61B17/11 A61B17/12 A61B17/34 A61B17/36 A61F2/06 A61M19/00 A61M25/12 A61M29/00 A61M29/02
CPC: A61B1/3137 A61B17/00234 A61B17/00491 A61B17/0643 A61B17/11 A61B18/00 A61B18/1445 A61B18/1477 A61B18/1492 A61B18/24 A61B2017/00243 A61B2017/00247 A61B2017/00252 A61B2017/00504 A61B2017/0641 A61B2017/0647 A61B2017/0649 A61B2017/1107 A61B2017/1139 A61B2017/22038 A61B2017/22077 A61B2018/00392 A61B2018/00404 A61B2018/00869 A61B2018/1425 A61B2018/1475 A61B2090/378 A61B2090/3925 A61B2090/3929 A61B2090/3958 A61B90/361 A61B90/40 A61F2/07 A61F2/2493 A61F2/90 A61F2/95 A61F2/958 A61F2002/30079 A61F2002/8486 A61F2210/009 A61F2230/001 A61M2025/0076 A61M2025/0096 A61M2025/1052 A61B17/12022 A61B17/12045 A61B17/12109 A61B17/12131 A61B17/12136 A61B17/12159 A61B17/12172 A61B17/12186 A61B17/1219 A61B17/3417 A61B17/3496 A61B2017/1205 A61B2017/12127 A61B2017/306 A61B2017/347 A61B2017/3488 A61F2002/075

Family:

Publication number	Publication date	Application number	Application date
AU199718473 A1	19970822	AU19970018473	19970131
AU723785 B2	20000907	AU19970018473	19970131
AU733332 B2	20010510	AU19970018472	19970131
CA2244079 AA	19980724	CA19972244079	19970131
CA2244080 AA	19980724	CA19972244080	19970131
CN1216929 A	19990519	CN19971093313	19970131
CN1218414 A	19990602	CN19971093245	19970131
EP0879068 A1	19981125	EP19970904084	19970131
EP0879068 A4	19990421	EP19970904084	19970131
EP0932426 A1	19990804	EP19970904086	19970131
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IL125416 A0	19990312	IL19970125416	19970131
IL125417 A0	19990312	IL19970125417	19970131
IL125417 A1	20040328	IL19970125417	19970131
JP2000504594 T2	20000418	JP19970527807T	19970131
JP2000505316 T2	20000509	JP19970527810T	19970131
WO9727893 A1	19970807	WO1997US01463	19970131
WO9727898 A1	19970807	WO1997US01468	19970131

Priority:

US19960010614P 19960202 US19960730327 19961011 US19960730496 19961011
WO1997US01468 19970131 WO1997US01463 19970131

Probable Assignee: TRANSVASCULAR INC

Assignee(s): (std): EVARD PHILIP C ; FLAHERTY J C ; GARIBOTTO JOHN T ; JENSEN MARC ; MACAULAY PATRICK E ; MACHOLD TIMOTHY R ; MAKOWER JOSHUA ; ROTH ALEX T ; TRANSVASCULAR INC ; WHITT JASON B

Assignee(s): FLAHERTY J ; FLAHERTY JCHRISTOPHER ; 血管转换公司

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Inventor(s): ALEX T ROTH ; A·T·罗斯 ; FLAHERTY J ; FLAHERTY JCHRISTOPHER ; J C FLAHERTY ; J C FLUHETI ; J T CRIPTO ; J T GARIBOTTO ; JASON B WHITT ; JOHN T GARIBOTTO ; JOSHUA MAKOWER ; J·B·惠特 ; J·C·弗拉赫蒂 ; J·T·加里博托 ; J·马科韦 ; MARC JENSEN ; M·詹森 ; P C EVARD ; PATRICK E MACAULAY ; PHILIP C EVARD ; P·C·伊瓦德 ; P·E·麦考莱 ; TIMOTHY R MACHOLD ; T·R·马肖德 ; イエンセン、マーク ; ウィット、ジェイソン ビー. ; エバード、フィリップ シー. ; エバード. フィリップ シー. ; ガリボットー、ジョン ティー. ; フラハティ、ジェイ. シー. ; マコールド、ティモシー アール. ; マコーレー、パトリック イー. ; マコーワー、ジョシュア ; ロス、アレックス ティー.

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; GOWLING LAFLEUR HENDERSON LLP; GOWLING WLG CANADA LLP; WOLFF BREGMAN AND GOLLER; וולף ברגמן וגולר

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

Legal status (INPADOC)

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AU723785 B2	20000907	LSGT	+	granted / extensions (spc, cpc, pte)	

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AU733332 B2	20010510	LSGT	+	granted / extensions (spc, cpc, pte)	
AU733332 B2	20010906	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU733332 B2	20170131	PEXP		Calculated Patent Term Expiry	
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CN1216929 A	19990519	LSPB	+C06	PUBLICATION	
CN1216929 A	19990526		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN1216929 A	20041006	LSDW	-C02	DEEMED WITHDRAWAL OF PATENT APPLICATION AFTER PUBLICATION (PATENT LAW 2001)	
CN1218414 A	19990602	LSPB	+	published / reissued	
CN1218414 A	19990602	LSPB	+C06	PUBLICATION	
CN1218414 A	19990609		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
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EP0879068 A1	19981125	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 19980902
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EP0879068 A4	19990421	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 19990308
EP0879068 A4	19990421		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A4 Country of Ref document: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
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EP0879068 A4	20060118	LSRE	RTI1	TITLE (CORRECTION)	Text: APPARATUS FOR BLOCKING FLOW THROUGH BLOOD VESSELS
EP0879068 A4	20061206	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20060603
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EP0932426 A4	20050302	LSES	+17Q	FIRST EXAMINATION	Effective date: 20050112

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JP2000504594 T2	20040205	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20040113 Text: JAPANESE INTERMEDIATE CODE: A621
JP2000504594 T2	20051108	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20051108 Text: JAPANESE INTERMEDIATE CODE: A131
JP2000504594 T2	20060302		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20060208 Text: JAPANESE INTERMEDIATE CODE: A601
JP2000504594 T2	20060327		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20060327 Text: JAPANESE INTERMEDIATE CODE: A602
JP2000504594 T2	20060713	LSRV	-A313	FINAL DECISION OF REJECTION WITHOUT A DISSENTING RESPONSE FROM THE APPLICANT	Effective date: 20060626 Text: JAPANESE INTERMEDIATE CODE: A313
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WO9727893 A1	19980730	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: PA/a/1998/006137 Country of Ref document: MX
WO9727893 A1	19980902	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1997904084 Country of Ref document: EP
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WO9727893 A1	19981203	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
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WO9727893 A1	20060603	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 1997904084 Country of Ref document: EP
WO9727898 A1	19970131	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 97193245.X Country of Ref document: CN
WO9727898 A1	19970807	LSPB	+	published / reissued	
WO9727898 A1	19970807		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG US UZ VN
WO9727898 A1	19970807		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AT BE BF BJ CF CG CH DE DK ES FI FR GB GR IE IT KE LS LU MC MW NL PT SD SE SZ UG
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WO9727898 A1	20060404	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Ref document number: 1997904086 Country of Ref document: EP

72) Family number: 77530325 (WO20028426 A1)

Title: DIFFUSION ENHANCING COMPOUNDS AND THEIR USE WITH THROMBECTOMY AND EMBOLECTOMY AND OTHER VASCULAR DISEASE PROCEDURES

Abstract: The subject invention relates to novel **methods** for the rapid treatment of disorders resulting from thrombosis or embolism such as a myocardial infarction or stroke. Specifically, the invention relates to diffusion enhancing compounds and their use with embolectomy and thrombectomy, or other procedures for the treatment of ischemia.

Classifications:
International (IPC 8-9): A61B18/00 A61K31/202 A61K31/203 A61K31/205 A61P9/10 C07C57/13
CPC: A61K31/202 A61K38/49 A61K9/0019 A61P9/10

Family:

Publication number	Publication date	Application number	Application date
WO20028426 A1	20200206	WO2019US44232	20190730

Priority:

US20180712012P 20180730

Probable Assignee: DIFFUSION PHARMACEUTICALS LLC

Assignee(s): (std): DIFFUSION PHARMACEUTICALS LLC

Inventor(s): (std): BYRNE THOMAS ; KALERGIS DAVID G

Agent(s): JONES MARYA K

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC 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)

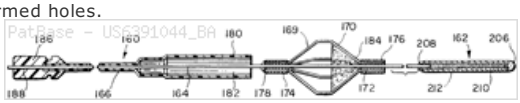
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WO20028426 A1	20200318		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 19843559 Country of Ref document: EP

73) Family number: 30111253 (US6391044 BA)

Title: VASCULAR FILTER **SYSTEM**

Abstract: A **removable** vascular filter **system** for blocking micro- and macro-emboli while allowing the continued perfusion of blood comprises a filter membrane positioned on a guidewire, wherein a free end of the membrane sits tightly against the guidewire when the filter membrane is in a collapsed state and wherein the filter has a means for deploying the filter membrane to assume a position substantially normal to the longitudinal axis of the guidewire. The filter membrane is comprised of a fine mesh material which has a pore size capable of blocking emboli while allowing continued blood flow, a preferred embodiment of which comprises regularly spaced, laser-formed holes.



Classifications:
International (IPC 8-9): A61B17/00 A61B17/12 A61B17/22 A61F2/01 A61F2/958 A61L29/00 A61M1/34 A61M25/00 A61M25/01 A61M25/10 A61M31/00 B01D39/16
International (IPC 1-7): A61B17/00 A61B17/12 A61B17/22 A61F2/01 A61L29/00 A61M1/34 A61M2/900 A61M25/00 A61M25/01 A61M25/09 A61M25/10 A61M29/00 A61M31/00 B01D39/16
CPC: A61B17/22 A61F2/011 A61F2/013 A61F2002/016 A61F2002/018 A61F2230/0006 A61F2230/0067 A61F2230/0071 A61F2230/008 A61F2230/0093 A61M2025/09125 A61F2/01
US: 606/200 606/200P

Family:

Publication number	Publication date	Application number	Application date
AR018689 AA	20011128	AR1999P103739	19990728
AR037262 AA	20041103	AR2002P104237	20021106
AT349971 E	20070115	AT20020257674T	20021106
AT499053 E	20110315	AT19990935303T	19990720
AT555747 E	20120515	AT20030251440T	20030311
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Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CY CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HR HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AR018689 AA	20011128	LSPB	+	published / reissued	
AR018689 AA	20071025	LSGT	+FG	GRANT, REGISTRATION	
AR037262 AA	20041103	LSPB	+	published / reissued	
AR037262 AA	20101230	LSGT	+FG	GRANT, REGISTRATION	
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AT499053 E	20110315	LSGT	+	granted / extensions (spc, cpc, pte)	
AT499053 E	20110815	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT499053 E	20190720	PEXP		Calculated Patent Term Expiry	
AT555747 E	20120515	LSGT	+	granted / extensions (spc, cpc, pte)	
AT555747 E	20230311	PEXP		Calculated Patent Term Expiry	
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AU199950810 A1	20000410	LSPB	+	published / reissued	
AU199950810 A1	20040422	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	PartyType: owner OldParty: THE FORMER OWNER WAS: ANGIOGUARD, INC. Owner: CORDIS CORPORATION
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AU773427 B2	20040527	LSGT	+	granted / extensions (spc, cpc, pte)	
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BRPI0206890 A	20160927	LSLE	-B21F	LAPSE ACC. ART. 78, ITEM IV - ON NON-PAYMENT OF THE ANNUAL FEES IN TIME	Text: REFERENTE A 14A ANUIDADE.
BRPI0206890 A	20170117	LSLE	-B24J	LAPSE BECAUSE OF NON-PAYMENT OF ANNUAL FEES (DEFINITIVELY: ART 78 IV LPI, RESOLUTION 113/2013 ART. 12)	Text: EM VIRTUDE DA EXTINCAO PUBLICADA NA RPI 2386 DE 27-09-2016 E CONSIDERANDO AUSENCIA DE MANIFESTACAO DENTRO DOS PRAZOS LEGAIS, INFORMO QUE CABE SER MANTIDA A EXTINCAO DA PATENTE E SEUS CERTIFICADOS, CONFORME O DISPOSTO NO ARTIGO 12, DA RESOLUCAO 113/2013.
BRPI0206890 B1	20221107	PEXP		Calculated Patent Term Expiry	
BRPI9915760 A	20011211	LSPB	+	published / reissued	
BRPI9915760 A	20070123	LSES	B07A	TECHNICAL EXAMINATION (OPINION): PUBLICATION OF TECHNICAL EXAMINATION	

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BRPI9915760 A	20071002	LSRV	B09B	DECISION: REFUSAL	Text: INDEFIRO O PRESENTE PEDIDO COM BASE NOS ARTIGOS 8O E 11 EM VISTA DO 13 DA LEI DE PROPRIEDADE INDUSTRIAL NO 9.279 DE 14/05/96.
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EP0938276 B1	20030815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
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EP0938276 B1	20030915		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref country code: CH Ref legal event code: NV Representative: ARNOLD & SIEDSMA AG
EP0938276 B1	20030918		REF	CORRESPONDS TO:	Date of Ref document: 20030918 Kind code of Ref document: P Ref document number: 69817146 Country of Ref document: DE
EP0938276 B1	20040401	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2202809 Ref legal event code: FG2A Country of Ref document: ES
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EP0938276 B1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100204 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: SE
EP0938276 B1	20160217	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 19 Country of Ref document: FR
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EP0938276 B1	20180203	PEXP		Calculated Patent Term Expiry	
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EP0938276 B1	20180207		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180202 Ref country code: NL Ref legal event code: MK
EP0938276 B1	20180215	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP0938276 B1	20180228	LSLE	REG	REFERENCE TO A NATIONAL CODE	Expiry date: 20180202 Ref country code: GB Ref legal event code: PE20
EP0938276 B1	20180307		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180203 Ref country code: BE Ref legal event code: MK
EP0938276 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180202 NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Country of Ref document: GB
EP0938276 B1	20180525	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180525 Ref country code: ES Ref legal event code: FD2A
EP0938276 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180204 NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Country of Ref document: ES
EP1043954 A1	20001018	LSPB	+	published / reissued	
EP1043954 A1	20001018	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20000621
EP1043954 A1	20001018		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1043954 A1	20160930	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160726 Year of fee payment: 18 Country of Ref document: NL
EP1043954 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160722 Year of fee payment: 18 Country of Ref document: IT
EP1043954 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160726 Year of fee payment: 18 Country of Ref document: DE
EP1043954 A1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160727 Year of fee payment: 18 Country of Ref document: GB
EP1043954 A1	20161130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160726 Year of fee payment: 18 Country of Ref document: FR
EP1043954 A4	20021127	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20021011
EP1043954 A4	20021127		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A4 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

EP1043954 A4	20021127		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	Text: 7A 61B 17/22 A, 7A 61F 2/01 B
EP1043954 A4	20071114	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20071015
EP1043954 B1	20110223	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1043954 B1	20110223		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1043954 B1	20110223	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP1043954 B1	20110228	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1043954 B1	20110330	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP1043954 B1	20110407		REF	CORRESPONDS TO:	Ref document number: 69943211 Kind code of Ref document: P Date of Ref document: 20110407 Country of Ref document: DE
EP1043954 B1	20110407	LSPB	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20110407 Ref legal event code: R096 Ref country code: DE Ref document number: 69943211 Country of Ref document: DE
EP1043954 B1	20110601	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: T3 Ref country code: NL
EP1043954 B1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110223 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1043954 B1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110623 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP1043954 B1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110524 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1043954 B1	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110603 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: ES
EP1043954 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110223 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1043954 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110223 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1043954 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110223 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1043954 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20110223 Country of Ref document: BE
EP1043954 B1	20111031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20110223 Country of Ref document: DK

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EP1043954 B1	20120201	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20111124
EP1043954 B1	20120229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20110731 Country of Ref document: MC
EP1043954 B1	20120229	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP1043954 B1	20120322	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R097 Effective date: 20111124 Ref country code: DE Ref document number: 69943211 Country of Ref document: DE
EP1043954 B1	20120430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1043954 B1	20120430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20110731 Country of Ref document: LI
EP1043954 B1	20130531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110720 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1043954 B1	20160726	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 18 Ref legal event code: PLFP Ref country code: FR Country of Ref document: FR
EP1043954 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160726 Year of fee payment: 18 Country of Ref document: IE
EP1043954 B1	20170726	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PLFP Ref country code: FR Year of fee payment: 19
EP1043954 B1	20170929	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 19 Payment date: 20170726 Country of Ref document: NL
EP1043954 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 19 Payment date: 20170726 Country of Ref document: FR
EP1043954 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 19 Payment date: 20170725 Country of Ref document: IT
EP1043954 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 19 Payment date: 20170727 Country of Ref document: DE
EP1043954 B1	20171031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 19 Payment date: 20170727 Country of Ref document: GB
EP1043954 B1	20171130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 19 Payment date: 20170728 Country of Ref document: IE
EP1043954 B1	20180726	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PLFP Ref country code: FR Year of fee payment: 20
EP1043954 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20180719 Country of Ref document: IT
EP1043954 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Year of fee payment: 20 Payment date: 20180726 Country of Ref document: IE

				NATIONAL OFFICE TO EPO]	
EP1043954 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180726 Year of fee payment: 20 Country of Ref document: FR
EP1043954 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20180726 Country of Ref document: NL
EP1043954 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20180727 Country of Ref document: DE
EP1043954 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 20 Payment date: 20180727 Country of Ref document: GB
EP1043954 B1	20190719	PEXP		Calculated Patent Term Expiry	
EP1043954 B1	20190720	PEXP		Calculated Patent Term Expiry	
EP1043954 B1	20190720	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 69943211 Ref legal event code: R071 Country of Ref document: DE
EP1043954 B1	20190724		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MK Ref country code: NL Effective date: 20190719
EP1043954 B1	20190814	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: PE20 Expiry date: 20190719
EP1043954 B1	20190821	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MK9A
EP1043954 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Lapsed date: 20190720 Country of Ref document: IE
EP1043954 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Lapsed date: 20190719 Country of Ref document: GB
EP1226796 A2	20020731	LSPB	+	published / reissued	
EP1226796 A2	20020731		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Ref document number: 938276 Country of Ref document: EP
EP1226796 A2	20020731		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: BE CH DE ES FR GB IT LI NL SE
EP1226796 A2	20020821		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YADAV, JAY, S. PartyType: inventor
EP1226796 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160225 Year of fee payment: 19 Country of Ref document: NL
EP1226796 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160223 Year of fee payment: 19 Country of Ref document: IT
EP1226796 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160226 Year of fee payment: 19 Country of Ref document: CH
EP1226796 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160226 Year of fee payment: 19 Country of Ref document: ES
EP1226796 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	Payment date: 20160226 Year of fee payment: 19 Country of Ref document: DE

				EPO]	
EP1226796 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160226 Year of fee payment: 19 Country of Ref document: BE
EP1226796 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160226 Year of fee payment: 19 Country of Ref document: GB
EP1226796 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160217 Year of fee payment: 19 Country of Ref document: FR
EP1226796 A3	20040204		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: BE CH DE ES FR GB IT LI NL SE
EP1226796 A3	20040204		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: 7A 61F 2/01 A
EP1226796 A3	20040811	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20040604
EP1226796 A3	20041027	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: BE CH DE ES FR GB IT LI NL SE
EP1226796 B1	20050601	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1226796 B1	20050601		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 0938276 Country of Ref document: EP
EP1226796 B1	20050601		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: BE CH DE ES FR GB IT LI NL SE
EP1226796 B1	20050601	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1226796 B1	20050615	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1226796 B1	20050707		REF	CORRESPONDS TO:	Date of Ref document: 20050707 Kind code of Ref document: P Ref document number: 69830431 Country of Ref document: DE
EP1226796 B1	20050920		REG	REFERENCE TO A NATIONAL CODE	Ref country code: SE Ref legal event code: TRGR
EP1226796 B1	20060101	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2245386 Ref legal event code: FG2A Country of Ref document: ES
EP1226796 B1	20060118	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	Owner: CORDIS CORPORATION PartyType: owner
EP1226796 B1	20060208		REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: 732E
EP1226796 B1	20060215		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref country code: CH Ref legal event code: NV Representative: ARNOLD & SIEDSMA AG
EP1226796 B1	20060215	LSAS	REG	REFERENCE TO A NATIONAL CODE	OldParty: ANGIOGUARD, INC.#735 ARAN DRIVE#ROSWELL, GA 30076 (US) - TRANSFER TO- CORDIS CORPORATION#14201 N. W. 60TH AVENUE#MIAMI LAKES, FL 33014 (US) Owner: CORDIS CORPORATION PartyType: owner Ref country code: CH Ref legal event code: PUE
EP1226796 B1	20060301		NLT2	NL: MODIFICATIONS (OF NAMES), TAKEN FROM THE EUROPEAN PATENT PATENT BULLETIN	Effective date: 20060118 Owner: CORDIS CORPORATION PartyType: owner
EP1226796 B1	20060310		+ET	FR: TRANSLATION FILED	
EP1226796 B1	20060524	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20060302
EP1226796 B1	20071231		BECA	BE: CHANGE OF HOLDER'S ADDRESS	Effective date: 20050601 Owner: *CORTDIS CORP.14201 NW 60TH AVENUE, MIAMI LAKES, F PartyType: owner
EP1226796 B1	20071231	LSAS	BECH	BE: CHANGE OF HOLDER	Effective date: 20050601 Owner: *CORTDIS CORP. PartyType: owner Ref country code: EP

EP1226796 B1	20090831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20090206 Year of fee payment: 12 Country of Ref document: SE
EP1226796 B1	20091102	LSAS	NLS	NL: ASSIGNMENTS OF EP-PATENTS	Effective date: 20090730 Owner: CORDIS CORPORATION PartyType: owner Ref country code: EP
EP1226796 B1	20101005	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	Ref country code: EP
EP1226796 B1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100204 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: SE
EP1226796 B1	20160217	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 19 Country of Ref document: FR
EP1226796 B1	20170223	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 20 Country of Ref document: FR
EP1226796 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170227 Year of fee payment: 20 Country of Ref document: CH
EP1226796 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170227 Year of fee payment: 20 Country of Ref document: DE
EP1226796 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170223 Year of fee payment: 20 Country of Ref document: FR
EP1226796 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170227 Year of fee payment: 20 Country of Ref document: GB
EP1226796 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170227 Year of fee payment: 20 Country of Ref document: BE
EP1226796 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170226 Year of fee payment: 20 Country of Ref document: NL
EP1226796 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170227 Year of fee payment: 20 Country of Ref document: ES
EP1226796 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170223 Year of fee payment: 20 Country of Ref document: IT
EP1226796 B1	20180202	PEXP		Calculated Patent Term Expiry	
EP1226796 B1	20180203	PEXP		Calculated Patent Term Expiry	
EP1226796 B1	20180203	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 69830431 Ref legal event code: R071 Country of Ref document: DE
EP1226796 B1	20180207		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180202 Ref country code: NL Ref legal event code: MK
EP1226796 B1	20180215	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1226796 B1	20180228	LSLE	REG	REFERENCE TO A NATIONAL CODE	Expiry date: 20180202 Ref country code: GB Ref legal event code: PE20
EP1226796 B1	20180307		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180203 Ref country code: BE Ref legal event code: MK
EP1226796 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	Lapsed date: 20180202 NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Country of Ref document: GB
EP1226796 B1	20180525	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180525 Ref country code: ES Ref legal event code: FD2A
EP1226796 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180204 NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Country of Ref document: ES
EP1226797 A2	20020731	LSPB	+	published / reissued	
EP1226797 A2	20020731		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Ref document number: 938276 Country of Ref document: EP
EP1226797 A2	20020731		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: BE CH DE ES FR GB IT LI NL SE
EP1226797 A2	20020821		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: YADAV, JAY S. PartyType: inventor
EP1226797 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160226 Year of fee payment: 19 Country of Ref document: CH
EP1226797 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160226 Year of fee payment: 19 Country of Ref document: DE
EP1226797 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160223 Year of fee payment: 19 Country of Ref document: IT
EP1226797 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160225 Year of fee payment: 19 Country of Ref document: NL
EP1226797 A2	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160226 Year of fee payment: 19 Country of Ref document: ES
EP1226797 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160217 Year of fee payment: 19 Country of Ref document: FR
EP1226797 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160226 Year of fee payment: 19 Country of Ref document: BE
EP1226797 A2	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160226 Year of fee payment: 19 Country of Ref document: GB
EP1226797 A3	20040204		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: BE CH DE ES FR GB IT LI NL SE
EP1226797 A3	20040204		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: 7A 61F 2/01 A ClassificationScheme: IPC
EP1226797 A3	20040811	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20040604
EP1226797 A3	20041027	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: BE CH DE ES FR GB IT LI NL SE
EP1226797 B1	20050525	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1226797 B1	20050525		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 0938276 Country of Ref document: EP
EP1226797 B1	20050525		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: BE CH DE ES FR GB IT LI NL SE

EP1226797 B1	20050525	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1226797 B1	20050531	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1226797 B1	20050630		REF	CORRESPONDS TO:	Date of Ref document: 20050630 Kind code of Ref document: P Ref document number: 69830340 Country of Ref document: DE
EP1226797 B1	20050831		REG	REFERENCE TO A NATIONAL CODE	Ref country code: SE Ref legal event code: TRGR
EP1226797 B1	20060101	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2245387 Ref legal event code: FG2A Country of Ref document: ES
EP1226797 B1	20060118	LSAS	RAP2	RIGHTS OF A PATENT TRANSFERRED	Owner: CORDIS CORPORATION PartyType: owner
EP1226797 B1	20060201		REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: 732E
EP1226797 B1	20060215		REG	REFERENCE TO A NATIONAL CODE	PartyType: representative Ref country code: CH Ref legal event code: NV Representative: ARNOLD & SIEDSMA AG
EP1226797 B1	20060215	LSAS	REG	REFERENCE TO A NATIONAL CODE	OldParty: ANGIOGUARD, INC.#735 ARAN DRIVE#ROSWELL, GA 30076 (US) - TRANSFER TO- CORDIS CORPORATION#14201 N. W. 60TH AVENUE#MIAMI LAKES, FL 33014 (US) Owner: CORDIS CORPORATION PartyType: owner Ref country code: CH Ref legal event code: PUE
EP1226797 B1	20060301		NLT2	NL: MODIFICATIONS (OF NAMES), TAKEN FROM THE EUROPEAN PATENT PATENT BULLETIN	Effective date: 20060118 Owner: CORDIS CORPORATION PartyType: owner
EP1226797 B1	20060310		+ET	FR: TRANSLATION FILED	
EP1226797 B1	20060517	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20060228
EP1226797 B1	20071231		BECA	BE: CHANGE OF HOLDER'S ADDRESS	Effective date: 20050525 Owner: *CORTDIS CORP.14201 NW 60TH AVENUE, MIAMI LAKES, F PartyType: owner
EP1226797 B1	20071231	LSAS	BECH	BE: CHANGE OF HOLDER	Effective date: 20050525 Owner: *CORTDIS CORP. PartyType: owner Ref country code: EP
EP1226797 B1	20090831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20090206 Year of fee payment: 12 Country of Ref document: SE
EP1226797 B1	20091102	LSAS	NLS	NL: ASSIGNMENTS OF EP-PATENTS	Effective date: 20090730 Owner: CORDIS CORPORATION PartyType: owner Ref country code: EP
EP1226797 B1	20101005	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	Ref country code: EP
EP1226797 B1	20120928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100204 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: SE
EP1226797 B1	20160217	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 19 Country of Ref document: FR
EP1226797 B1	20170223	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 20 Country of Ref document: FR
EP1226797 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170223 Year of fee payment: 20 Country of Ref document: FR
EP1226797 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170227 Year of fee payment: 20 Country of Ref document: CH
EP1226797 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20170227 Year of fee payment: 20 Country of Ref document: DE

				NATIONAL OFFICE TO EPO]	
EP1226797 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170227 Year of fee payment: 20 Country of Ref document: GB
EP1226797 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170226 Year of fee payment: 20 Country of Ref document: NL
EP1226797 B1	20170531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170227 Year of fee payment: 20 Country of Ref document: BE
EP1226797 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170227 Year of fee payment: 20 Country of Ref document: ES
EP1226797 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170223 Year of fee payment: 20 Country of Ref document: IT
EP1226797 B1	20180202	PEXP		Calculated Patent Term Expiry	
EP1226797 B1	20180203	PEXP		Calculated Patent Term Expiry	
EP1226797 B1	20180203	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 69830340 Ref legal event code: R071 Country of Ref document: DE
EP1226797 B1	20180207		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180202 Ref country code: NL Ref legal event code: MK
EP1226797 B1	20180215	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1226797 B1	20180228	LSLE	REG	REFERENCE TO A NATIONAL CODE	Expiry date: 20180202 Ref country code: GB Ref legal event code: PE20
EP1226797 B1	20180307		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180203 Ref country code: BE Ref legal event code: MK
EP1226797 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180202 NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Country of Ref document: GB
EP1226797 B1	20180525	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180525 Ref country code: ES Ref legal event code: FD2A
EP1226797 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180204 NotificationOfLapse: LAPSE BECAUSE OF EXPIRATION OF PROTECTION Country of Ref document: ES
EP1310219 A2	20030514	LSPB	+	published / reissued	
EP1310219 A2	20030514		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP1310219 A2	20030514		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1310219 A2	20030604		+AK	DESIGNATED CONTRACTING STATES	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP1310219 A2	20030604		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1310219 A2	20040102	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20031031
EP1310219 A2	20040225	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP1310219 A2	20040825	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20040707
EP1310219 A2	20070103		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP1310219 A2	20070103	LSLE	-PG25	LAPSED IN A	Lapsed date: 20070103

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1310219 A2	20070103	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070103 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1310219 A2	20070103	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070103 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1310219 A2	20070103	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1310219 A2	20070215		REF	CORRESPONDS TO:	Date of Ref document: 20070215 Kind code of Ref document: P Ref document number: 60217264 Country of Ref document: DE
EP1310219 A2	20070221	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1310219 A2	20070403	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070403 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP1310219 A2	20070404	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070404 NotificationOfLapse: LAPSE BECAUSE OF THE APPLICANT RENOUNCES Country of Ref document: BG
EP1310219 A2	20070604	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070604 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP1310219 A2	20070629		+ET	FR: TRANSLATION FILED	
EP1310219 A2	20070816	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2278880 Ref legal event code: FG2A Country of Ref document: ES
EP1310219 A2	20071124	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070103 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP1310219 A2	20071212	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20071005
EP1310219 A2	20080102	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070103 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1310219 A2	20080430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070404 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1310219 A2	20080630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20071130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
EP1310219 A2	20090130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070103 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE

EP1310219 A2	20090731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070103 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1310219 A2	20090831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20071106 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1310219 A2	20090930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20070103 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1310219 A2	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20131112 Year of fee payment: 12 Country of Ref document: IE
EP1310219 A2	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20131108 Year of fee payment: 12 Country of Ref document: FR
EP1310219 A2	20140131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20131112 Year of fee payment: 12 Country of Ref document: CH
EP1310219 A2	20140228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20131109 Year of fee payment: 12 Country of Ref document: NL
EP1310219 A2	20140228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20131113 Year of fee payment: 12 Country of Ref document: BE
EP1310219 A2	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141105 Year of fee payment: 13 Country of Ref document: GB
EP1310219 A2	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141029 Year of fee payment: 13 Country of Ref document: DE
EP1310219 A2	20150130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141013 Year of fee payment: 13 Country of Ref document: ES
EP1310219 A2	20150331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20141117 Year of fee payment: 13 Country of Ref document: IT
EP1310219 A2	20150617	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150601 Ref country code: NL Ref legal event code: V1
EP1310219 A2	20150630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20141130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP1310219 A2	20150630	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP1310219 A2	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20141130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1310219 A2	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20141130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI

EP1310219 A2	20150826	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP1310219 A2	20150828	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20150731 Ref country code: FR Ref legal event code: ST
EP1310219 A2	20150831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20150601 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: NL
EP1310219 A2	20151030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20141106 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1310219 A2	20151130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20141201 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1310219 A2	20160601	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 60217264 Ref legal event code: R119 Country of Ref document: DE
EP1310219 A2	20160727	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20151106 Ref country code: EP
EP1310219 A2	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20151106 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP1310219 A2	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20160601 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: DE
EP1310219 A2	20161031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20151106 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1310219 A2	20170127	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20170127 Ref country code: ES Ref legal event code: FD2A
EP1310219 A2	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20151107 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP1310219 B1	20070103	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1310219 B1	20221106	PEXP		Calculated Patent Term Expiry	
EP1348401 A1	20031001	LSPB	+	published / reissued	
EP1348401 A1	20031001		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
EP1348401 A1	20031001		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK
EP1348401 A1	20040128	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20031127
EP1348401 A1	20040623	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
EP1348401 A1	20071219	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20071115
EP1348401 A1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ

EP1348401 A1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP1348401 A1	20130228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP1348401 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160328 Year of fee payment: 14 Country of Ref document: ES
EP1348401 A1	20160429	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160225 Year of fee payment: 14 Country of Ref document: TR
EP1348401 A1	20160531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160328 Year of fee payment: 14 Country of Ref document: FR
EP1348401 A1	20160729	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160331 Year of fee payment: 14 Country of Ref document: DE
EP1348401 A1	20160831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160323 Year of fee payment: 14 Country of Ref document: IT
EP1348401 B1	20120502	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1348401 B1	20120502		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
EP1348401 B1	20120502	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1348401 B1	20120515	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1348401 B1	20120515	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Ref document number: 555747 Effective date: 20120515 Kind code of Ref document: T Ref legal event code: REF Country of Ref document: AT
EP1348401 B1	20120523	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1348401 B1	20120705	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 60340793 Effective date: 20120705 Ref country code: DE Ref legal event code: R096 Country of Ref document: DE
EP1348401 B1	20120817	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 2386348 Ref country code: ES Ref legal event code: FG2A Kind code of Ref document: T3 Effective date: 20120817 Country of Ref document: ES
EP1348401 B1	20120822	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120502 Ref country code: NL Ref legal event code: VDEP
EP1348401 B1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1348401 B1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP1348401 B1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE

				EPO]	
EP1348401 B1	20121115	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MK05 Kind code of Ref document: T Effective date: 20120502 Ref country code: AT Ref document number: 555747 Country of Ref document: AT
EP1348401 B1	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120903 Country of Ref document: PT
EP1348401 B1	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120803 Country of Ref document: GR
EP1348401 B1	20121130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP1348401 B1	20121231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120502 Country of Ref document: BE
EP1348401 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP1348401 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP1348401 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP1348401 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120502 Country of Ref document: SK
EP1348401 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20120502 Country of Ref document: CZ
EP1348401 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1348401 B1	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20120502 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1348401 B1	20130410	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20130205
EP1348401 B1	20130529	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 60340793 Ref legal event code: R097 Ref country code: DE Effective date: 20130205 Country of Ref document: DE
EP1348401 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	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: 20120802 Country of Ref document: BG
EP1348401 B1	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
EP1348401 B1	20131031	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP1348401 B1	20131127	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Effective date: 20130311 Ref country code: EP
EP1348401 B1	20140101	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM4A Ref country code: IE
EP1348401 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20130311 Country of Ref document: GB
EP1348401 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20130331 Country of Ref document: LI
EP1348401 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20130331 Country of Ref document: CH
EP1348401 B1	20140131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20130311 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1348401 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20130311 Country of Ref document: LU
EP1348401 B1	20150731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20030311 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Country of Ref document: HU
EP1348401 B1	20160328	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PLFP Year of fee payment: 14 Ref country code: FR Country of Ref document: FR
EP1348401 B1	20170327	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PLFP Ref country code: FR Year of fee payment: 15 Country of Ref document: FR
EP1348401 B1	20170428	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 15 Payment date: 20170327 Country of Ref document: FR
EP1348401 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170228 Year of fee payment: 15 Country of Ref document: TR
EP1348401 B1	20170630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 15 Payment date: 20170324 Country of Ref document: IT
EP1348401 B1	20170731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20170329 Year of fee payment: 15 Country of Ref document: DE
EP1348401 B1	20170831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	Year of fee payment: 15 Payment date: 20170328 Country of Ref document: ES

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EP1348401 B1	20180326	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 16 Ref legal event code: PLFP Ref country code: FR
EP1348401 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180322 Year of fee payment: 16 Country of Ref document: IT
EP1348401 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180326 Year of fee payment: 16 Country of Ref document: FR
EP1348401 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180226 Year of fee payment: 16 Country of Ref document: TR
EP1348401 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180328 Year of fee payment: 16 Country of Ref document: DE
EP1348401 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 16 Payment date: 20180402 Country of Ref document: ES
EP1348401 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190322 Year of fee payment: 17 Country of Ref document: IT
EP1348401 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 17 Payment date: 20190325 Country of Ref document: FR
EP1348401 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190327 Year of fee payment: 17 Country of Ref document: DE
EP1348401 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 17 Payment date: 20190301 Country of Ref document: TR
EP1348401 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 17 Payment date: 20190401 Country of Ref document: ES
EP1348401 B1	20200324	LSAS	REG	REFERENCE TO A NATIONAL CODE	Owner: CARDINAL HEALTH SWITZERLAND 515 GMBH Ref country code: ES Effective date: 20200318 Ref legal event code: PC2A PartyType: owner
EP1348401 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200323 Year of fee payment: 18 Country of Ref document: IT
EP1348401 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200327 Year of fee payment: 18 Country of Ref document: DE
EP1348401 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 18 Payment date: 20200325 Country of Ref document: FR
EP1348401 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 18 Payment date: 20200226 Country of Ref document: TR
EP1348401 B1	20200714		REG	REFERENCE TO A NATIONAL CODE	Representative: PROCK, THOMAS, DR., GB Ref legal event code: R082 Ref country code: DE PartyType: representative Ref document number: 60340793 Country of Ref document: DE
EP1348401 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO	Payment date: 20200401 Year of fee payment: 18 Country of Ref document: ES

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EP1348401 B1	20230311	PEXP		Calculated Patent Term Expiry	
ES2202809 T3	20040401	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2202809 T3	20180203	PEXP		Calculated Patent Term Expiry	
ES2245386 T3	20060101	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2245386 T3	20180203	PEXP		Calculated Patent Term Expiry	
ES2245387 T3	20060101	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2245387 T3	20180203	PEXP		Calculated Patent Term Expiry	
ES2278880 T3	20070816	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2278880 T3	20221106	PEXP		Calculated Patent Term Expiry	
ES2386348 T3	20120817	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2386348 T3	20200324	LSAS	+PC2A	TRANSFER OF PATENT	Owner: Cardinal Health Switzerland 515 GmbH Effective date: 20200318
ES2386348 T3	20230311	PEXP		Calculated Patent Term Expiry	
JP2000504263 T2	20000411	LSPB	+	published / reissued	
JP2002165886 A2	20020611	LSPB	+	published / reissued	
JP2002165886 A2	20040226		A977	REPORT ON RETRIEVAL	Text: JAPANESE INTERMEDIATE CODE: A971007 Effective date: 20040226
JP2002165886 A2	20040310	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20040309 Text: JAPANESE INTERMEDIATE CODE: A131
JP2002165886 A2	20040610		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20040609 Text: JAPANESE INTERMEDIATE CODE: A601
JP2002165886 A2	20040615		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20040614 Text: JAPANESE INTERMEDIATE CODE: A602
JP2002165886 A2	20040910	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20040909
JP2002165886 A2	20041215	LSRV	-A02	DECISION OF REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A02 Effective date: 20041214
JP2002165886 A2	20071117		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Text: JAPANESE INTERMEDIATE CODE: A7424 Effective date: 20071116
JP2002165886 A2	20080312		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20080311 Text: JAPANESE INTERMEDIATE CODE: A601
JP2002165886 A2	20080318		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A602 Effective date: 20080317
JP2002165886 A2	20080612	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20080611 Text: JAPANESE INTERMEDIATE CODE: A523
JP2002165886 A2	20090403	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20090402 Text: JAPANESE INTERMEDIATE CODE: A523
JP2002165886 A2	20090430	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2002165886 A2	20090604	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20090527 Text: JAPANESE INTERMEDIATE CODE: A61
JP2002165886 A2	20090605	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP2002526196 T2	20020820	LSPB	+	published / reissued	
JP2002526196 T2	20060704	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20060703 Text: JAPANESE INTERMEDIATE CODE: A621
JP2002526196 T2	20071031	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20071030
JP2002526196 T2	20071204		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Text: JAPANESE INTERMEDIATE CODE: A7424 Effective date: 20071203
JP2002526196 T2	20080131		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20080130 Text: JAPANESE INTERMEDIATE CODE: A601

JP2002526196 T2	20080207		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20080206 Text: JAPANESE INTERMEDIATE CODE: A602
JP2002526196 T2	20080426	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20080425
JP2002526196 T2	20080611	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080610 Text: JAPANESE INTERMEDIATE CODE: A131
JP2002526196 T2	20081112	LSRV	-A02	DECISION OF REFUSAL	Effective date: 20081111 Text: JAPANESE INTERMEDIATE CODE: A02
JP2003220062 A2	20030805	LSPB	+	published / reissued	
JP2003220062 A2	20051102	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20051101 Text: JAPANESE INTERMEDIATE CODE: A621
JP2003220062 A2	20071127		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20071126 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2003220062 A2	20080910	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080909 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003220062 A2	20081210	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20081209 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003220062 A2	20090610	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20090609 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003220062 A2	20090820	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20090819 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003220062 A2	20090907	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003220062 A2	20090916	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20090915 Text: JAPANESE INTERMEDIATE CODE: A01
JP2003220062 A2	20090917	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2003220062 A2	20091008	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20090930 Text: JAPANESE INTERMEDIATE CODE: A61
JP2003220062 A2	20091015	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP2003290231 A2	20031014	LSPB	+	published / reissued	
JP2003290231 A2	20060301	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20060228 Text: JAPANESE INTERMEDIATE CODE: A621
JP2003290231 A2	20071128		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Effective date: 20071127 Text: JAPANESE INTERMEDIATE CODE: A7424
JP2003290231 A2	20090401	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20090331 Text: JAPANESE INTERMEDIATE CODE: A131
JP2003290231 A2	20090609	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20090608 Text: JAPANESE INTERMEDIATE CODE: A523
JP2003290231 A2	20090803	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2003290231 A2	20090812	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20090811 Text: JAPANESE INTERMEDIATE CODE: A01
JP2003290231 A2	20090813	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2003290231 A2	20090903	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20090826 Text: JAPANESE INTERMEDIATE CODE: A61
JP2003290231 A2	20090907	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4318880 B2	20090430	LSGT	+A01	特許査定書	
JP4318880 B2	20090602	LSFE	R100	特許料納付書	
JP4318880 B2	20090605	LSGT	+R150	特許証	
JP4318880 B2	20090826	LSGT	+	granted / extensions (spc, cpc, pte)	

JP4318880 B2	20120531	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP4318880 B2	20120531	LSFE	R20	特許料納付書	
JP4318880 B2	20120605	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4318880 B2	20120605	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4318880 B2	20130530	LSFE	R20	特許料納付書	
JP4318880 B2	20130604	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4318880 B2	20140529	LSFE	R20	特許料納付書	
JP4318880 B2	20140603	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4318880 B2	20140603	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4318880 B2	20150528	LSFE	R20	特許料納付書	
JP4318880 B2	20150602	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4318880 B2	20150602	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4318880 B2	20160526	LSFE	R20	特許料納付書	
JP4318880 B2	20160531	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4318880 B2	20160531	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4318880 B2	20170605	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4318880 B2	20170915	LSRE	R313531	表示変更登録申請書 (住所)	
JP4318880 B2	20170915		S531	WRITTEN REQUEST FOR REGISTRATION OF CHANGE OF DOMICILE	Text: JAPANESE INTERMEDIATE CODE: R313531
JP4318880 B2	20170926	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
JP4318880 B2	20170926	LSAS	R350	移転登録済通知書	
JP4318880 B2	20180501	LSAS	R313113	本権移転登録申請書 (譲渡)	
JP4318880 B2	20180501	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313113
JP4318880 B2	20180521		R360	WRITTEN NOTIFICATION FOR DECLINING OF TRANSFER OF RIGHTS	Text: JAPANESE INTERMEDIATE CODE: R360
JP4318880 B2	20180521		R360	却下理由通知書 (移転)	
JP4318880 B2	20180607		R360	WRITTEN NOTIFICATION FOR DECLINING OF TRANSFER OF RIGHTS	Text: JAPANESE INTERMEDIATE CODE: R360
JP4318880 B2	20180607		R360	却下理由通知書 (移転)	
JP4318880 B2	20180607		R371	TRANSFER WITHDRAWN	Text: JAPANESE INTERMEDIATE CODE: R371
JP4318880 B2	20180607		R371	取下 (移転)	
JP4318880 B2	20211129	PEXP		Calculated Patent Term Expiry	
JP4368601 B2	20090813	LSGT	+A01	特許査定書	
JP4368601 B2	20090813	LSGT	+A01	特許査定書	Effective date: 20090811
JP4368601 B2	20090901	LSFE	R100	特許料納付書	
JP4368601 B2	20090901	LSFE	R100	特許料納付書	Effective date: 20090826 Text: 50901698363
JP4368601 B2	20090904	LSGT	+R150	特許証	
JP4368601 B2	20090904	LSGT	+R150	特許証	Effective date: 20090915
JP4368601 B2	20091118	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4368601 B2	20120830	LSFE	R20	特許料納付書	
JP4368601 B2	20120830	LSFE	R20	特許料納付書	Effective date: 20120824

					Text: 51201798291
JP4368601 B2	20120904	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4368601 B2	20120904	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4368601 B2	20120904	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4368601 B2	20120904	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20120911
JP4368601 B2	20130829	LSFE	R20	特許料納付書	
JP4368601 B2	20130829	LSFE	R20	特許料納付書	Effective date: 20130823 Text: 51301775433
JP4368601 B2	20130903	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4368601 B2	20130903	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4368601 B2	20130903	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20130910
JP4368601 B2	20140828	LSFE	R20	特許料納付書	
JP4368601 B2	20140828	LSFE	R20	特許料納付書	Effective date: 20140827 Text: 51401756265
JP4368601 B2	20140902	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4368601 B2	20140902	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4368601 B2	20140902	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20140909
JP4368601 B2	20150903	LSFE	R20	特許料納付書	
JP4368601 B2	20150903	LSFE	R20	特許料納付書	Effective date: 20150827 Text: 51501708632
JP4368601 B2	20150908	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4368601 B2	20150908	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4368601 B2	20150908	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20150915
JP4368601 B2	20160825	LSFE	R20	特許料納付書	
JP4368601 B2	20160825	LSFE	R20	特許料納付書	Effective date: 20160824 Text: 51601758918
JP4368601 B2	20160830	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4368601 B2	20160830	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4368601 B2	20160830	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20160906
JP4368601 B2	20170831	LSFE	R20	特許料納付書	
JP4368601 B2	20170831	LSFE	R20	特許料納付書	Effective date: 20170825 Text: 51701778590
JP4368601 B2	20170905	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4368601 B2	20170905	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4368601 B2	20170905	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20170912
JP4368601 B2	20170915	LSRE	R313531	表示変更登録申請書 (住所)	
JP4368601 B2	20170915	LSRE	R313531	表示変更登録申請書 (住所)	Effective date: 20170912 Text: 006442 01
JP4368601 B2	20170915		S531	WRITTEN REQUEST FOR REGISTRATION OF CHANGE OF DOMICILE	Text: JAPANESE INTERMEDIATE CODE: R313531
JP4368601 B2	20170926	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
JP4368601 B2	20170926	LSAS	R350	移転登録済通知書	
JP4368601 B2	20170926	LSAS	R350	移転登録済通知書	Effective date: 20171006 Text: 006442 01
JP4368601 B2	20180501	LSAS	R313113	本権移転登録申請書 (譲渡)	
JP4368601 B2	20180501	LSAS	R313113	本権移転登録申請書 (譲渡)	Effective date: 20180413 Text: 002745 01

JP4368601 B2	20180501	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313113
JP4368601 B2	20180521		R360	WRITTEN NOTIFICATION FOR DECLINING OF TRANSFER OF RIGHTS	Text: JAPANESE INTERMEDIATE CODE: R360
JP4368601 B2	20180521		R360	却下理由通知書 (移転)	
JP4368601 B2	20180607		R360	WRITTEN NOTIFICATION FOR DECLINING OF TRANSFER OF RIGHTS	Text: JAPANESE INTERMEDIATE CODE: R360
JP4368601 B2	20180607		R360	却下理由通知書 (移転)	
JP4368601 B2	20180607		R360	却下理由通知書 (移転)	Effective date: 20180529 Text: 002745 01
JP4368601 B2	20180607		R371	TRANSFER WITHDRAWN	Text: JAPANESE INTERMEDIATE CODE: R371
JP4368601 B2	20180607		R371	取下 (移転)	
JP4368601 B2	20180607		R371	取下 (移転)	Effective date: 20180619 Text: 002745 01
JP4368601 B2	20180627	LSAS	R313113	本権移転登録申請書 (譲渡)	
JP4368601 B2	20180627	LSAS	R313113	本権移転登録申請書 (譲渡)	Effective date: 20180622 Text: 005332 01
JP4368601 B2	20180627	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313113
JP4368601 B2	20180705	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
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JP4368601 B2	20180705	LSAS	R350	移転登録済通知書	Effective date: 20180720 Text: 005332 01
JP4368601 B2	20180830	LSFE	R20	特許料納付書	
JP4368601 B2	20180830	LSFE	R20	特許料納付書	Effective date: 20180823 Text: 51801727852
JP4368601 B2	20180904	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4368601 B2	20180904	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4368601 B2	20180904	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20180911
JP4368601 B2	20190829	LSFE	R20	特許料納付書	
JP4368601 B2	20190829	LSFE	R20	特許料納付書	Effective date: 20190823 Text: 51901784155
JP4368601 B2	20190903	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4368601 B2	20190903	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4368601 B2	20190903	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20190913
JP4368601 B2	20200826	LSFE	R20	特許料納付書	Effective date: 20200825 Text: 52001735959
JP4368601 B2	20200827	LSFE	+R250	年金領収書, 年金領収書 (分納)	Effective date: 20200911
JP4368601 B2	20230311	PEXP		Calculated Patent Term Expiry	
JP4387092 B2	20090917	LSGT	+A01	特許査定書	
JP4387092 B2	20091006	LSFE	R100	特許料納付書	
JP4387092 B2	20091009	LSGT	+R150	特許証	
JP4387092 B2	20091216	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4387092 B2	20120927	LSFE	R20	特許料納付書	
JP4387092 B2	20121002	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4387092 B2	20121002	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4387092 B2	20131003	LSFE	R20	特許料納付書	
JP4387092 B2	20131008	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250

JP4387092 B2	20131008	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4387092 B2	20141002	LSFE	R20	特許料納付書	
JP4387092 B2	20141007	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4387092 B2	20141007	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4387092 B2	20151009	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4387092 B2	20221106	PEXP		Calculated Patent Term Expiry	
MXPA02010930 A1	20050826	LSPB	+	published / reissued	
MXPA02010930 A1	20091127	LSGT	+FG	GRANT OR REGISTRATION	
MXPA03002154 A1	20050214	LSPB	+	published / reissued	
MXPA03002154 A1	20061023	LSGT	+FG	GRANT OR REGISTRATION	
US2002103501 AA	20020801	LSPB	+	published / reissued	
US2002103501 AA	20060111	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2002138094 AA	20020603	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BORILLO, THOMAS;MACIEJEWSKI, MARK;SUTTON, GREGG S.;AND OTHERS;REEL/FRAME:012962/0076;SIGNING DATES FROM 20020516 TO 20020521 Owner: CORDIS CORPORATION, FLORIDA PartyType: owner
US2002138094 AA	20020926	LSPB	+	published / reissued	
US2002138094 AA	20040329	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2002138094 AA	20040329		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2003060844 AA	20030327	LSPB	+	published / reissued	
US2003060844 AA	20080625	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6391044 BA	19990419	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:YADAV, JAY S.;SUTTON, GREGG S.;RAATIKKA, AMY;AND OTHERS;REEL/FRAME:009902/0527;SIGNING DATES FROM 19990325 TO 19990403 Owner: ANGIOGUARD, INC., MINNESOTA PartyType: owner
US6391044 BA	20020503	LSGT	PAT1	Patented Case	
US6391044 BA	20020503	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6391044 BA	20020521	LSGT	+	granted / extensions (spc, cpc, pte)	
US6391044 BA	20051026	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6391044 BA	20091021	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6391044 BA	20131023	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6391044 BA	20190212	PEXP		Calculated Patent Term Expiry	
US6755846 BA	19990907	LSAS	AS	ASSIGNMENT	Effective date: 19990219 Owner: ANGIOGUARD, INC., MINNESOTA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:YADAV, JAY S.;REEL/FRAME:010498/0993 PartyType: owner
US6755846 BA	20040610	LSGT	PAT1	Patented Case	
US6755846 BA	20040610	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6755846 BA	20040629	LSGT	+	granted / extensions (spc, cpc, pte)	
US6755846 BA	20071126	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6755846 BA	20110921	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6755846 BA	20151229	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12

US6755846 BA	20181002	PEXP		Calculated Patent Term Expiry	
US6991641 BB	20020312	LSAS	AS	ASSIGNMENT	Effective date: 20020312 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DIAZ, PEDRO;YADAV, JAY S.;REEL/FRAME:012705/0691 Owner: CORDIS CORPORATION, FLORIDA PartyType: owner
US6991641 BB	20060111	LSGT	PAT1	Patented Case	
US6991641 BB	20060131	LSGT	+	granted / extensions (spc, cpc, pte)	
US6991641 BB	20090907		REMI	MAINTENANCE FEE REMINDER MAILED	
US6991641 BB	20090916	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6991641 BB	20090916		+SULP	SURCHARGE FOR LATE PAYMENT	
US6991641 BB	20130313	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6991641 BB	20170331	LSAS	AS	ASSIGNMENT	Effective date: 20170329 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CORDIS CORPORATION;REEL/FRAME:042126/0259 Owner: CARDINAL HEALTH SWITZERLAND 515 GMBH, SWITZERLAND PartyType: owner
US6991641 BB	20170731	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6991641 BB	20230319	PEXP		Calculated Patent Term Expiry (PTA 372 days)	
US7399308 BB	20021104	LSAS	AS	ASSIGNMENT	Effective date: 20021022 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BORILLO, THOMAS;MACIEJEWSKI, MARK;SUTTON, GREGG S.;AND OTHERS;REEL/FRAME:013457/0696 Owner: CORDIS CORPORATION, FLORIDA PartyType: owner
US7399308 BB	20080625	LSGT	PAT1	Patented Case	
US7399308 BB	20080715	LSGT	+	granted / extensions (spc, cpc, pte)	
US7399308 BB	20110921	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7399308 BB	20160115	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7399308 BB	20170331	LSAS	AS	ASSIGNMENT	Effective date: 20170329 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CORDIS CORPORATION;REEL/FRAME:042126/0259 Owner: CARDINAL HEALTH SWITZERLAND 515 GMBH, SWITZERLAND PartyType: owner
US7399308 BB	20200302	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7399308 BB	20200817	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US7399308 BB	20200817	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7399308 BB	20200817	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7399308 BB	20200908	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20200715
US7399308 BB	20220719	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO0016705 A1	20000330	LSPB	+	published / reissued	
WO0016705 A1	20000330		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
WO0016705 A1	20000330		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SL SN SZ TD TG TJ TM UG ZW
WO0016705 A1	20000518	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 50810/99 Country of Ref document: AU
WO0016705 A1	20000519	LSNP	ENP	ENTRY INTO THE	Ref document number: 2310756

				NATIONAL PHASE	Country of Ref document: CA
WO0016705 A1	20000519	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2310756 Country of Ref document: CA
WO0016705 A1	20000522	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2000 573668 Country of Ref document: JP
WO0016705 A1	20000524		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0016705 A1	20000621	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1999935303 Country of Ref document: EP
WO0016705 C2	20000817		+AK	DESIGNATED STATES	Kind code of Ref document: C2 Country of Ref document: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
WO0016705 C2	20000817		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: C2 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM CY DE DK ES FI FR GA GB GH GM GN GR GW IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SL SN SZ TD TG TJ TM UG ZW
WO0016705 C2	20000817		COP	CORRECTED VERSION OF PAMPHLET	Text: PAGES 1/19-19/19, DRAWINGS, REPLACED BY NEW PAGES 1/19-19/19; DUE TO LATE TRANSMITTAL BY THE RECEIVING OFFICE
WO0016705 C2	20001018	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1999935303 Country of Ref document: EP
WO0016705 C2	20010125	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref country code: DE Ref legal event code: 8642
WO0016705 C2	20040909	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 50810/99 Country of Ref document: AU
WO9833443 A1	19980203	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 1998903877 Country of Ref document: EP
WO9833443 A1	19980806	LSPB	+	published / reissued	
WO9833443 A1	19980806		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
WO9833443 A1	19980806		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BJ BY CF CG CH CI CM DE DK ES FI FR GA GB GH GM GN GR IE IT KE KG KZ LS LU MC MD ML MR MW NE NL PT RU SD SE SN SZ TD TG TJ TM UG ZW
WO9833443 A1	19980930	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2250777 Country of Ref document: CA
WO9833443 A1	19980930	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2250777 Country of Ref document: CA
WO9833443 A1	19981002	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 60527/98 Country of Ref document: AU
WO9833443 A1	19981002	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 09155753 Country of Ref document: US
WO9833443 A1	19981230		COP	CORRECTED VERSION OF PAMPHLET	Text: PAGES 1/14-14/14, DRAWINGS, REPLACED BY NEW PAGES 1/14-14/14; DUE TO LATE TRANSMITTAL BY THE RECEIVING OFFICE
WO9833443 A1	19990107		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO9833443 A1	19990602	LSWD	REG	REFERENCE TO NATIONAL CODE	Ref legal event code: 8642 Ref country code: DE
WO9833443 A1	19990901	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 1998903877 Country of Ref document: EP
WO9833443 A1	20020502	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 60527/98 Country of Ref document: AU
WO9833443 A1	20030813	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	Ref document number: 1998903877 Country of Ref document: EP

74) Family number: 48148159 (US2011034832 AA)

Title: USAGE OF EXTRACORPOREAL AND INTRACORPOREAL PRESSURE SHOCK WAVES IN MEDICINE

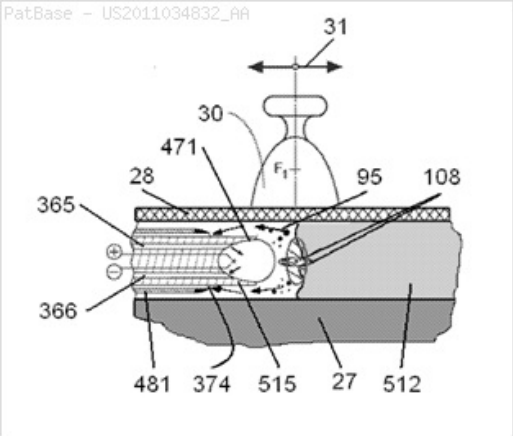
Abstract: A shock wave applicator includes a shock wave generator and an asymmetrical reflector portion in a housing. Asymmetry of the reflector portion is combined with one or more wave generators to produce a variety of focal volumes and wave fronts for medical treatment.

Classifications:

International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B17/225 A61B18/24 A61B18/26 A61H1/00 A61H23/00 A61H9/00 A61N7/00 G06F3/041 G06F3/044 G10K11/28

CPC: A61B17/22 A61B17/22004 A61B17/22012 A61B17/2202 A61B17/22022 A61B17/22029 A61B17/225 A61B17/2255 A61B18/245 A61B18/26 A61B2017/00867 A61B2017/22014 A61B2017/22024 A61B2017/22025 A61B2017/22039 A61B2017/22051 A61B2017/22054 A61B2017/22067 A61B2017/22079 A61B2017/22082 A61B2017/22084 A61B2017/2212 A61B2017/2253 A61H2201/14 A61H2201/1664 A61H23/008 A61H9/0057 A61N2007/0008 G10K11/28 G06F2203/04108 G06F3/0416 G06F3/04166 G06F3/044 G06F3/0446

US: 1/1 345/173 600/439 601/1 601/1P 601/2 601/3 601/4



Family:

Publication number	Publication date	Application number	Application date
DE602010037186 D1	20161124	DE201060037186T	20100708
DE602010056190 D1	20190124	DE201060056190T	20100708
DK3117784 T3	20190408	DK20160186021T	20100708
EP2451422 A1	20120516	EP20100797881	20100708
EP2451422 A4	20140409	EP20100797881	20100708
EP2451422 B1	20161012	EP20100797881	20100708
EP3117784 A1	20170118	EP20160186021	20100708
EP3117784 B1	20181226	EP20160186021	20100708
EP3461438 A1	20190403	EP20180206613	20100708
ES2610134 T3	20170426	ES20100797881T	20100708
ES2717268 T3	20190620	ES20160186021T	20100708
US10058340 BB	20180828	US20140272155	20140507
US10238405 BB	20190326	US20150865744	20150925
US10639051 BB	20200505	US20150874650	20151005
US2011034832 AA	20110210	US20100832932	20100708
US2014088465 AA	20140327	US20130036461	20130925
US2014243715 AA	20140828	US20140272155	20140507
US2015324023 AA	20151112	US20140272455	20140507
US2016000645 AA	20160107	US20150857360	20150917
US2016008016 AA	20160114	US20150865744	20150925
US2016022294 AA	20160128	US20150874650	20151005
US8556813 BB	20131015	US20100832932	20100708
US9161768 BB	20151020	US20130036461	20130925
US9522011 BB	20161220	US20150857360	20150917
US9675368 BB	20170613	US20140272455	20140507
WO11006017 A1	20110113	WO2010US41438	20100708

Priority:

US200902239 19P 20090708 EP20100797881 20100708 WO2010US41438 20100708
EP20160186021 20100708 US20100832932 20100708 US20130036461 20130925
US20140272155 20140507 US20140272455 20140507 US20150857360 20150917
US20150865744 20150925 US20150874650 20151005 EP20160186021 20160826

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Assignee(s): (std): CASHMAN CHRISTOPHER M ; CIOANTA IULIAN ; SANUWAVE INC ; ST MICROELECTRONICS ASIA ; ST MICROELECTRONICS ASIA PACIFIC PTE LTD

Assignee(s): NH EXPANSION CREDIT FUND HOLDINGS LP ; SANUWAVE INC ALPHARETTA

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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
DE602010037186 D1	20160513		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: A61B0017220000 Text: PREVIOUS MAIN CLASS: A61H0001000000
DE602010056190 D1	20180712		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: A61B0017220000 Text: PREVIOUS MAIN CLASS: A61B0017220000
DK3117784 T3	20190408	LSGT	+	granted / extensions (spc, cpc, pte)	
DK3117784 T3	20300708	PEXP		Calculated Patent Term Expiry	
EP2451422 A1	20120516	LSPB	+	published / reissued	
EP2451422 A1	20120516	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20120202
EP2451422 A1	20120516		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP2451422 A1	20121017		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2451422 A4	20140409	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20140307
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EP2451422 A4	20140409		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61H 9/00 20060101ALN20140303BHEP
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EP2451422 A4	20140409		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20140303BHEP
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EP2451422 A4	20160513		REG	REFERENCE TO A NATIONAL CODE	ClassificationScheme: IPC ClassificationSymbol: A61B0017220000 Ref country code: DE Ref document number: 602010037186 Ref legal event code: R079 Text: PREVIOUS MAIN CLASS: A61H0001000000 Country of Ref document: DE
EP2451422 A4	20160615		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61H 23/00 20060101ALN20160512BHEP
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EP2451422 A4	20160622		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20160513BHEP
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EP2451422 A4	20160629		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CIOANTA, IULIAN PartyType: inventor
EP2451422 A4	20160629		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CASHMAN, CHRISTOPHER M. PartyType: inventor
EP2451422 B1	20161012	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2451422 B1	20161012		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
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EP2451422 B1	20161014	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP2451422 B1	20161015	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Effective date: 20161015 Kind code of Ref document: T Ref document number: 835724 Ref legal event code: REF Country of Ref document: AT
EP2451422 B1	20161102	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP2451422 B1	20161124	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602010037186 Ref legal event code: R096 Country of Ref document: DE
EP2451422 B1	20170210	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP2451422 B1	20170215		REG	REFERENCE TO A NATIONAL CODE	Ref country code: NL Ref legal event code: MP Effective date: 20161012
EP2451422 B1	20170228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: LV
EP2451422 B1	20170315	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 835724 Ref legal event code: MK05 Effective date: 20161012 Kind code of Ref document: T Ref country code: AT Country of Ref document: AT
EP2451422 B1	20170426	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 2610134 Ref legal event code: FG2A Ref country code: ES Effective date: 20170426 Kind code of Ref document: T3 Country of Ref document: ES
EP2451422 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: SE

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EP2451422 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: LT
EP2451422 B1	20170428	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20170113 Country of Ref document: GR
EP2451422 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170212 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP2451422 B1	20170531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170213 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
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EP2451422 B1	20170713	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R097 Ref document number: 602010037186 Ref country code: DE Country of Ref document: DE
EP2451422 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
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				OFFICE TO EPO]	Country of Ref document: SK
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EP2451422 B1	20170731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: EE
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EP2451422 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170112 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP2451422 B1	20170831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: SM
EP2451422 B1	20170920	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20170713
EP2451422 B1	20171130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: SI
EP2451422 B1	20171228	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 8
EP2451422 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171219 Year of fee payment: 8 Country of Ref document: DE
EP2451422 B1	20180131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20171228 Country of Ref document: FR
EP2451422 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171221 Year of fee payment: 8 Country of Ref document: ES
EP2451422 B1	20180228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171221 Year of fee payment: 8 Country of Ref document: GB
EP2451422 B1	20180228	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
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EP2451422 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20170708 Country of Ref document: IE
EP2451422 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20170731 Country of Ref document: CH
EP2451422 B1	20180430	LSLE	-PG25	LAPSED IN A CONTRACTING	Lapsed date: 20170731 NotificationOfLapse: LAPSE BECAUSE

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EP2451422 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20171222 Year of fee payment: 8 Country of Ref document: IT
EP2451422 B1	20180629	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170708 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2451422 B1	20180726	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 9 Ref legal event code: PLFP Ref country code: FR
EP2451422 B1	20180928	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170708 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT
EP2451422 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180719 Year of fee payment: 9 Country of Ref document: IT
EP2451422 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180726 Year of fee payment: 9 Country of Ref document: FR
EP2451422 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180727 Year of fee payment: 9 Country of Ref document: DE
EP2451422 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180801 Year of fee payment: 9 Country of Ref document: ES
EP2451422 B1	20181130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20180727 Country of Ref document: GB
EP2451422 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20161012 Country of Ref document: MC
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EP2451422 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CY
EP2451422 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190801 Country of Ref document: ES
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EP2451422 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190726 Year of fee payment: 10 Country of Ref document: IT
EP2451422 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MK
EP2451422 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190729 Year of fee payment: 10 Country of Ref document: GB
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EP2451422 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20161012 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2451422 B1	20300708	PEXP		Calculated Patent Term Expiry	
EP3117784 A1	20170118	LSPB	+	published / reissued	
EP3117784 A1	20170118		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2451422 Country of Ref document: EP
EP3117784 A1	20170118		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP3117784 A1	20170125		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CIOANTA, IULIAN PartyType: inventor
EP3117784 A1	20170125		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CASHMAN, CHRISTOPHER PartyType: inventor
EP3117784 A1	20170823	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20170713
EP3117784 A1	20170823		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
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EP3117784 A1	20180808		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/225 20060101ALN20180705BHEP
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EP3117784 A1	20180808		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20180705BHEP
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EP3117784 A1	20180808		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61H 23/00 20060101ALN20180705BHEP
EP3117784 A1	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/00 20060101ALN20180712BHEP
EP3117784 A1	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/225 20060101ALN20180712BHEP
EP3117784 A1	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: G10K 11/28 20060101ALN20180712BHEP
EP3117784 A1	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61H 9/00 20060101ALN20180712BHEP
EP3117784 A1	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20180712BHEP
EP3117784 A1	20180815		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61H 23/00 20060101ALN20180712BHEP
EP3117784 A1	20180822	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180727
EP3117784 B1	20181226	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3117784 B1	20181226		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2451422 Country of Ref document: EP
EP3117784 B1	20181226		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP3117784 B1	20181226	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP3117784 B1	20181228	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP3117784 B1	20190115	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 1080331 Ref country code: AT Ref legal event code: REF Kind code of Ref document: T Effective date: 20190115 Country of Ref document: AT
EP3117784 B1	20190115	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Text: BERICHTIGUNGEN Ref legal event code: PK
EP3117784 B1	20190123	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP3117784 B1	20190123		RIN2	INFORMATION ON INVENTOR PROVIDED AFTER GRANT (CORRECTED)	Inventor: CIOANTA, DR. IULIAN PartyType: inventor
EP3117784 B1	20190123		RIN2	INFORMATION ON INVENTOR PROVIDED AFTER GRANT (CORRECTED)	PartyType: inventor Inventor: CASHMAN, CHRISTOPHER
EP3117784 B1	20190124	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602010056190 Ref legal event code: R096 Country of Ref document: DE
EP3117784 B1	20190408		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: T3 Ref country code: DK Effective date: 20190404
EP3117784 B1	20190409		REG	REFERENCE TO A NATIONAL CODE	Ref country code: SE Ref legal event code: TRGR
EP3117784 B1	20190424		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FP Ref country code: NL
EP3117784 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE

				INFORMATION FROM NATIONAL OFFICE TO EPO]	PRESCRIBED TIME-LIMIT Lapsed date: 20181226 Country of Ref document: LV
EP3117784 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181226 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP3117784 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190326 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP3117784 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181226 Country of Ref document: LT
EP3117784 B1	20190510	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP3117784 B1	20190520	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20181226 Ref legal event code: T2 Ref country code: NO
EP3117784 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190327 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP3117784 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181226 Country of Ref document: AL
EP3117784 B1	20190615	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20181226 Ref legal event code: MK05 Kind code of Ref document: T Ref country code: AT Ref document number: 1080331 Country of Ref document: AT
EP3117784 B1	20190620	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref document number: 2717268 Effective date: 20190620 Ref country code: ES Ref legal event code: FG2A Country of Ref document: ES
EP3117784 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181226 Country of Ref document: PL
EP3117784 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190426 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP3117784 B1	20190731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181226 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP3117784 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181226 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP3117784 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190426 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP3117784 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE

				INFORMATION FROM NATIONAL OFFICE TO EPO]	PRESCRIBED TIME-LIMIT Lapsed date: 20181226 Country of Ref document: EE
EP3117784 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181226 Country of Ref document: SM
EP3117784 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181226 Country of Ref document: SK
EP3117784 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190722 Country of Ref document: NL
EP3117784 B1	20190927	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602010056190 Ref legal event code: R097 Country of Ref document: DE
EP3117784 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181226 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP3117784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190723 Year of fee payment: 10 Country of Ref document: DK
EP3117784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190723 Country of Ref document: IT
EP3117784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190724 Country of Ref document: FR
EP3117784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190725 Country of Ref document: DE
EP3117784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190801 Country of Ref document: ES
EP3117784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190719 Year of fee payment: 10 Country of Ref document: FI
EP3117784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190729 Country of Ref document: SE
EP3117784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190725 Country of Ref document: IE
EP3117784 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190723 Country of Ref document: NO
EP3117784 B1	20191129	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM	Payment date: 20190722 Year of fee payment: 10 Country of Ref document: BE

				NATIONAL OFFICE TO EPO]	
EP3117784 B1	20191204	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190927
EP3117784 B1	20191231	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 10 Payment date: 20190725 Country of Ref document: GB
EP3117784 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181226 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP3117784 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181226 Country of Ref document: MC
EP3117784 B1	20200228	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP3117784 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181226 Country of Ref document: TR
EP3117784 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190708 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP3117784 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20190731 Country of Ref document: CH
EP3117784 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190731 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP3117784 B1	20300708	PEXP		Calculated Patent Term Expiry	
EP3461438 A1	20190403	LSPB	+	published / reissued	
EP3461438 A1	20190403		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 3117784 Country of Ref document: EP
EP3461438 A1	20190403		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 2451422 Country of Ref document: EP
EP3461438 A1	20190403		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP3461438 A1	20190508		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CASHMAN, CHRISTOPHER M. PartyType: inventor
EP3461438 A1	20190508		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CIOANTA, IULIAN PartyType: inventor
EP3461438 A1	20190605	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20190425
EP3461438 A1	20190605		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP3461438 A1	20190717		RIN1	INFORMATION ON	Inventor: CIOANTA, IULIAN

				INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor
EP3461438 A1	20190717		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: CASHMAN, CHRISTOPHER M. PartyType: inventor
EP3461438 A1	20200219	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20200117
ES2610134 T3	20170426	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2610134 T3	20300708	PEXP		Calculated Patent Term Expiry	
ES2717268 T3	20190620	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2717268 T3	20300708	PEXP		Calculated Patent Term Expiry	
US10058340 BB	20180808	LSGT	PAT1	Patented Case	
US10058340 BB	20180828	LSGT	+	granted / extensions (spc, cpc, pte)	
US10058340 BB	20200807	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NH EXPANSION CREDIT FUND HOLDINGS LP, NEW YORK Effective date: 20200806 OldParty: SECURITY INTEREST;ASSIGNOR:SANUWAVE, INC.;REEL/FRAME:053436/0953
US10058340 BB	20321109	PEXP		Calculated Patent Term Expiry (PTA 855 days)	
US10238405 BB	20150928	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CIOANTA, IULIAN;CASHMAN, CHRISTOPHER M.;SIGNING DATES FROM 20100721 TO 20100722;REEL/FRAME:036701/0632 Owner: SANUWAVE, INC., GEORGIA PartyType: owner
US10238405 BB	20190306	LSGT	PAT1	Patented Case	
US10238405 BB	20190326	LSGT	+	granted / extensions (spc, cpc, pte)	
US10238405 BB	20200807	LSAS	AS	ASSIGNMENT	Effective date: 20200806 OldParty: SECURITY INTEREST;ASSIGNOR:SANUWAVE, INC.;REEL/FRAME:053436/0953 Owner: NH EXPANSION CREDIT FUND HOLDINGS LP, NEW YORK PartyType: owner
US10238405 BB	20320119	PEXP		Calculated Patent Term Expiry (PTA 560 days)	
US10639051 BB	20151019	LSAS	AS	ASSIGNMENT	Owner: SANUWAVE, INC., GEORGIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CIOANTA, IULIAN;CASHMAN, CHRISTOPHER M.;SIGNING DATES FROM 20100721 TO 20100722;REEL/FRAME:036819/0927 PartyType: owner
US10639051 BB	20200505	LSGT	+	granted / extensions (spc, cpc, pte)	
US10639051 BB	20200807	LSAS	AS	ASSIGNMENT	OldParty: SECURITY INTEREST;ASSIGNOR:SANUWAVE, INC.;REEL/FRAME:053436/0953 Owner: NH EXPANSION CREDIT FUND HOLDINGS LP, NEW YORK Effective date: 20200806 PartyType: owner
US10639051 BB	20310929	PEXP		Calculated Patent Term Expiry (PTA 448 days)	
US2011034832 AA	20110210	LSPB	+	published / reissued	
US2011034832 AA	20130925	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE

US2014088465 AA	20140327	LSPB	+	published / reissued	
US2014088465 AA	20150928	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CIOANTA, IULIAN;CASHMAN, CHRISTOPHER M.;SIGNING DATES FROM 20100721 TO 20100722;REEL/FRAME:036701/0804 Owner: SANUWAVE, INC., GEORGIA PartyType: owner
US2014088465 AA	20150930	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2014243715 AA	20140601		RFE1	Docketed New Case - Ready for Examination	
US2014243715 AA	20140828	LSPB	+	published / reissued	
US2014243715 AA	20150928	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: SANUWAVE, INC., GEORGIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CIOANTA, IULIAN;CASHMAN, CHRISTOPHER M.;SIGNING DATES FROM 20100721 TO 20100722;REEL/FRAME:036701/0786
US2014243715 AA	20170306	LSES	NFA1	Non Final Action Mailed	
US2014243715 AA	20170811		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014243715 AA	20170821		FRM2	Final Rejection Counted, Not Yet Mailed	
US2014243715 AA	20170823		FRM1	Final Rejection Mailed	
US2014243715 AA	20180109	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2014243715 AA	20180110	LSES	NFA1	Non Final Action Mailed	
US2014243715 AA	20180423		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2014243715 AA	20180511	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2014243715 AA	20180724	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2014243715 AA	20180725	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2014243715 AA	20180808	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015324023 AA	20151112	LSPB	+	published / reissued	
US2015324023 AA	20170515	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015324023 AA	20170524	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016000645 AA	20160107	LSPB	+	published / reissued	
US2016000645 AA	20161130	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016008016 AA	20160114	LSPB	+	published / reissued	
US2016008016 AA	20160211		RFE1	Docketed New Case - Ready for Examination	
US2016008016 AA	20171208	LSES	NFA1	Non Final Action Mailed	

US2016008016 AA	20180208		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016008016 AA	20180330	LSES	NFA1	Non Final Action Mailed	
US2016008016 AA	20181113	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016008016 AA	20190211	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016008016 AA	20190306	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016022294 AA	20151104		RFE1	Docketed New Case - Ready for Examination	
US2016022294 AA	20160128	LSPB	+	published / reissued	
US2016022294 AA	20171028	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016022294 AA	20180226		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016022294 AA	20180520		FRM2	Final Rejection Counted, Not Yet Mailed	
US2016022294 AA	20181101		RFE1	Docketed New Case - Ready for Examination	
US2016022294 AA	20181101		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2016022294 AA	20190529	LSES	NFA1	Non Final Action Mailed	
US2016022294 AA	20190529		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2016022294 AA	20190905		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016022294 AA	20190905		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2016022294 AA	20191209		FRM1	Final Rejection Mailed	
US2016022294 AA	20191209		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2016022294 AA	20200225		RSP1	Response after Final Action Forwarded to Examiner	
US2016022294 AA	20200225		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER
US2016022294 AA	20200415	LSGT	PAT1	Patented Case	
US2016022294 AA	20200415	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8556813 BB	20100921	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS

					INTEREST;ASSIGNORS:CIOANTA, IULIAN;CASHMAN, CHRISTOPHER M.;SIGNING DATES FROM 20100721 TO 20100722;REEL/FRAME:025020/0937 Owner: SANUWAVE, INC., GEORGIA
US8556813 BB	20130925	LSGT	PAT1	Patented Case	
US8556813 BB	20131015	LSGT	+	granted / extensions (spc, cpc, pte)	
US8556813 BB	20170526		REMI	MAINTENANCE FEE REMINDER MAILED	
US8556813 BB	20171009	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, LARGE ENTITY (ORIGINAL EVENT CODE: M1554)
US8556813 BB	20171009	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8556813 BB	20200807	LSAS	AS	ASSIGNMENT	Effective date: 20200806 PartyType: owner OldParty: SECURITY INTEREST;ASSIGNOR:SANUWAVE, INC.;REEL/FRAME:053436/0953 Owner: NH EXPANSION CREDIT FUND HOLDINGS LP, NEW YORK
US8556813 BB	20310912	PEXP		Calculated Patent Term Expiry (PTA 431 days)	
US9161768 BB	20150930	LSGT	PAT1	Patented Case	
US9161768 BB	20151020	LSGT	+	granted / extensions (spc, cpc, pte)	
US9161768 BB	20190422	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9161768 BB	20200807	LSAS	AS	ASSIGNMENT	Effective date: 20200806 OldParty: SECURITY INTEREST;ASSIGNOR:SANUWAVE, INC.;REEL/FRAME:053436/0953 Owner: NH EXPANSION CREDIT FUND HOLDINGS LP, NEW YORK PartyType: owner
US9161768 BB	20300816	PEXP		Calculated Patent Term Expiry (PTA 39 days)	
US9522011 BB	20150928	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:CIOANTA, IULIAN;CASHMAN, CHRISTOPHER M.;SIGNING DATES FROM 20100721 TO 20100722;REEL/FRAME:036701/0565 PartyType: owner Owner: SANUWAVE, INC., GEORGIA
US9522011 BB	20161130	LSGT	PAT1	Patented Case	
US9522011 BB	20161220	LSGT	+	granted / extensions (spc, cpc, pte)	
US9522011 BB	20200618	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9522011 BB	20200807	LSAS	AS	ASSIGNMENT	Effective date: 20200806 Owner: NH EXPANSION CREDIT FUND HOLDINGS LP, NEW YORK PartyType: owner OldParty: SECURITY INTEREST;ASSIGNOR:SANUWAVE, INC.;REEL/FRAME:053436/0953
US9522011 BB	20300708	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9675368 BB	20140717	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GUO, DIANBO;CHANDRAN, PRAVEESH;KORAPATI, LOKESH KUMAR;REEL/FRAME:033336/0411 PartyType: owner Effective date: 20140619 Owner: STMICROELECTRONICS ASIA PACIFIC PTE LTD., SINGAPOR
US9675368 BB	20151130		FRM1	Final Rejection Mailed	
US9675368 BB	20170524	LSGT	PAT1	Patented Case	
US9675368 BB	20170613	LSGT	+	granted / extensions (spc, cpc, pte)	
US9675368 BB	20340507	PEXP		Calculated Patent	

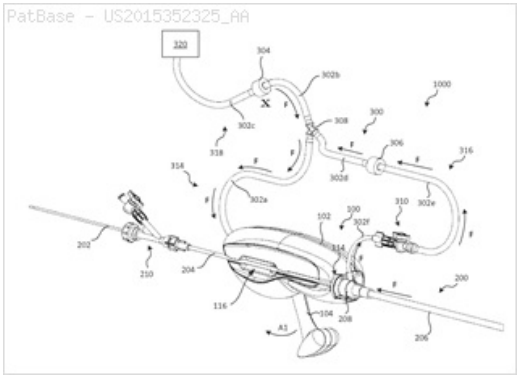
				Term Expiry	
WO11006017 A1	20110113	LSPB	+	published / reissued	
WO11006017 A1	20110302		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 10797881 Country of Ref document: EP
WO11006017 A1	20120109	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO11006017 A1	20120131		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2010797881 Country of Ref document: EP
WO11006017 A1	20120131	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010797881 Country of Ref document: EP

75) Family number: 61061692 (US2015352325 AA)

Title: RETRACTION AND ASPIRATION DEVICE FOR TREATING EMBOLISM AND ASSOCIATED **SYSTEMS** AND **METHODS**

Abstract: Retraction and aspiration devices, **systems**, and **methods** are disclosed herein. One aspect of the present technology, for example, is directed toward an apparatus for use with a **catheter** **system** configured to enable intravascular delivery of an interventional device to a treatment site in a blood vessel. The apparatus can include a housing configured to be releasably coupled to a proximal portion of the **catheter** **system** and an actuation mechanism coupled to the housing. The actuation mechanism can include a lever movably coupled to the housing, a locking portion configured to engage a portion of the **catheter** **system**, and a pressure source coupled to the housing and the actuation mechanism. Movement of the lever simultaneously activates the pressure source to generate pressure, and moves the locking portion to engage and retract at least a portion of the **catheter** **system**.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61F2/95 A61M25/00 A61M25/01 A61M25/10
CPC: A61B17/221 A61B2017/0046 A61B2017/00557 A61B2017/22034 A61B2017/22061 A61B2017/22079 A61B2017/22094 A61B2017/2212 A61B2017/2215 A61B2217/005 A61F2/95 A61F2002/9528 A61M2210/0693 A61M2210/12 A61M25/0082 A61M25/0113 A61M25/0122
US: 1/1 606/127



Family:

Publication number	Publication date	Application number	Application date
AU2015274704 AA	20161020	AU20150274704	20150609
AU2015274704 BB	20180830	AU20150274704	20150609
CA2939315 AA	20160811	CA20152939315	20150609
CA2939315 C	20180911	CA20152939315	20150609
CN106470728 A	20170301	CN201580030865	20150609
EP3094363 A1	20161123	EP20150805810	20150609
EP3094363 A4	20171004	EP20150805810	20150609
JP2017518093 T2	20170706	JP20160564210T	20150609
JP6438495 B2	20181212	JP20160564210T	20150609
US10349960 BB	20190716	US20160366308	20161201
US2015352325 AA	20151210	US20150735110	20150609
US2015360001 AA	20151217	US20150834793	20150825
US2017079672 AA	20170323	US20160366308	20161201
US9526864 BB	20161227	US20150735110	20150609
US9526865 BB	20161227	US20150834793	20150825
WO15191646 A1	20151217	WO2015US34987	20150609

Priority:

US20140009805P 20140609 WO2015US34987 20150609 US20150735110 20150609
US20150834793 20150825 US20160366308 20161201

Probable Assignee: INCEPTUS MEDICAL LLC

Assignee(s): (std): INARI MEDICAL INC ; INCEPTUS MEDICAL LLC

Assignee(s): QUICK RICHARD ; インセプタス メディカル リミテッド ライアビリティ カンパニー ; 因赛普特斯医学有限责任公司

Inventor(s): (std): QUICK RICHARD

Inventor(s): クイック リチャード ; 理查德 奎克 ; 理查德·奎克

Agent(s): DESHIMARU TAKESHI; FB RICE; FB RICE PTY LTD; FOX MARY L ET AL; KURASAWA ICHIRO; MATSUSHITA MITSURU; NISHIJIMA TAKAKI; OYEN WIGGS GREEN AND MUTALA LLP; PERKINS COIE LLP; WALKER ROSS THOMSON; 倉澤 伊知郎; 北京商专永信知识产权代理事务所(普通合伙) 11400; 弟子丸 健; 松下 満; 田中 伸一郎; 磯貝 克臣; 葛强; 西島 孝喜; 邬玥

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
AU2015274704 AA	20161020	LSPB	+	published / reissued	
AU2015274704 AA	20180524	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	PartyType: owner OldParty: FORMER APPLICANT(S): INCEPTUS MEDICAL, LLC Owner: INARI MEDICAL, INC.
AU2015274704 BB	20180830	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2015274704 BB	20190103	LSGT	+FGA	LETTERS PATENT	

				SEALED OR GRANTED (STANDARD PATENT)	
AU2015274704 BB	20350609	PEXP		Calculated Patent Term Expiry	
CA2939315 AA	20160811	LSPB	+	published / reissued	
CA2939315 AA	20160831	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20160811
CA2939315 C	20180911	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2939315 C	20350609	PEXP		Calculated Patent Term Expiry	
CN106470728 A	20170301	LSPB	+	published / reissued	
CN106470728 A	20170301	LSPB	PB01	PUBLICATION	
CN106470728 A	20170301	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN106470728 A	20170329		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN106470728 A	20170329		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN106470728 A	20200103	LSDW	-WD01	INVENTION PATENT APPLICATION DEEMED WITHDRAWN AFTER PUBLICATION	
CN106470728 A	20200103	LSDW	-WD01	发明专利申请公布后的视为撤回	Text: 发明专利申请公布后的视为撤回 (After the publication of the patent application for invention shall be deemed to have been withdrawn)
EP3094363 A1	20161123	LSPB	+	published / reissued	
EP3094363 A1	20161123	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20160819
EP3094363 A1	20161123		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3094363 A1	20161123		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA
EP3094363 A1	20161123		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3094363 A1	20170913		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3094363 A1	20170913		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3094363 A4	20171004	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20170904
EP3094363 A4	20171004		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALI20170829BHEP
EP3094363 A4	20171004		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/00 20060101AFI20170829BHEP
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EP3094363 A4	20171004		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/10 20130101ALI20170829BHEP
EP3094363 A4	20180711	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: INARI MEDICAL, INC.
EP3094363 A4	20190501		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/01 20060101ALI20190322BHEP ClassificationScheme: IPC
EP3094363 A4	20190501		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101AFI20190322BHEP
EP3094363 A4	20190501		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101ALI20190322BHEP
EP3094363 A4	20190522	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20190424
EP3094363 A4	20200311	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20190905
JP2017518093 T2	20170425		RD04	NOTIFICATION OF RESIGNATION OF POWER OF ATTORNEY	Text: JAPANESE INTERMEDIATE CODE: A7424 Effective date: 20170425
JP2017518093 T2	20170706	LSPB	+	published / reissued	
JP2017518093 T2	20170904	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20170904 Text: JAPANESE INTERMEDIATE CODE: A131
JP2017518093 T2	20171204		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20171204
JP2017518093 T2	20180202	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20180202
JP2017518093 T2	20180528	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20180528 Text: JAPANESE INTERMEDIATE CODE: A131
JP2017518093 T2	20180827	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20180827
JP2017518093 T2	20181023	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2017518093 T2	20181101	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20181101 Text: JAPANESE INTERMEDIATE CODE: A01
JP2017518093 T2	20181122	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20181116
JP6438495 B2	20181108	LSGT	+A01	特許査定書	
JP6438495 B2	20181120	LSFE	R100	特許料納付書	
JP6438495 B2	20181122	LSGT	+R150	特許証	
JP6438495 B2	20181212	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6438495 B2	20350609	PEXP		Calculated Patent Term Expiry	
US10349960 BB	20161201	LSAS	AS	ASSIGNMENT	Owner: INCEPTUS MEDICAL, LLC, CALIFORNIA Effective date: 20151202 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:QUICK, RICHARD;REEL/FRAME:040483/0897 PartyType: owner

US10349960 BB	20190626	LSGT	PAT1	Patented Case	
US10349960 BB	20190716	LSGT	+	granted / extensions (spc, cpc, pte)	
US10349960 BB	20351207	PEXP		Calculated Patent Term Expiry (PTA 181 days and a terminal disclaimer has been filed)	
US2015352325 AA	20151210	LSPB	+	published / reissued	
US2015352325 AA	20161207	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015360001 AA	20151217	LSPB	+	published / reissued	
US2015360001 AA	20161026	LSAS	AS	ASSIGNMENT	Effective date: 20150120 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:QUICK, RICHARD;REEL/FRAME:040141/0984 Owner: INCEPTUS MEDICAL, LLC, CALIFORNIA
US2015360001 AA	20161207	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017079672 AA	20161213		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2017079672 AA	20161213		RFE1	Docketed New Case - Ready for Examination	
US2017079672 AA	20170323	LSPB	+	published / reissued	
US2017079672 AA	20180427	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:INCEPTUS MEDICAL, LLC;REEL/FRAME:045654/0944 Owner: INARI MEDICAL, INC., CALIFORNIA Effective date: 20180417 PartyType: owner
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US2017079672 AA	20190209		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017079672 AA	20190311	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017079672 AA	20190328	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017079672 AA	20190328	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017079672 AA	20190328		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP., ISSUE FEE NOT PAID
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US2017079672 AA	20190530	LSFE	PPV1	Publications -- Issue Fee Payment Verified	

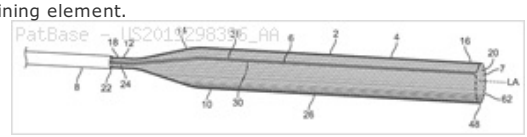
US2017079672 AA	20190530		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017079672 AA	20190626	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9526864 BB	20151104		RFE1	Docketed New Case - Ready for Examination	
US9526864 BB	20151203	LSAS	AS	ASSIGNMENT	Owner: INCEPTUS MEDICAL, LLC, CALIFORNIA PartyType: owner Effective date: 20151202 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:QUICK, RICHARD;REEL/FRAME:037205/0868
US9526864 BB	20151215	LSES	NFA1	Non Final Action Mailed	
US9526864 BB	20161207	LSGT	PAT1	Patented Case	
US9526864 BB	20161227	LSGT	+	granted / extensions (spc, cpc, pte)	
US9526864 BB	20171024	LSRE	CC	CERTIFICATE OF CORRECTION	
US9526864 BB	20180427	LSAS	AS	ASSIGNMENT	Effective date: 20180417 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:INCEPTUS MEDICAL, LLC;REEL/FRAME:045654/0944 Owner: INARI MEDICAL, INC., CALIFORNIA PartyType: owner
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US9526864 BB	20350609	PEXP		Calculated Patent Term Expiry	
US9526865 BB	20151214	LSES	NFA1	Non Final Action Mailed	
US9526865 BB	20161207	LSGT	PAT1	Patented Case	
US9526865 BB	20161227	LSGT	+	granted / extensions (spc, cpc, pte)	
US9526865 BB	20170829	LSRE	CC	CERTIFICATE OF CORRECTION	
US9526865 BB	20180427	LSAS	AS	ASSIGNMENT	Effective date: 20180417 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:INCEPTUS MEDICAL, LLC;REEL/FRAME:045654/0944 Owner: INARI MEDICAL, INC., CALIFORNIA
US9526865 BB	20200817	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9526865 BB	20350609	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
WO15191646 A1	20151217	LSPB	+	published / reissued	
WO15191646 A1	20160127		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 15805810 Kind code of Ref document: A1 Country of Ref document: EP
WO15191646 A1	20160811	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2939315 Country of Ref document: CA
WO15191646 A1	20160819		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN	Ref document number: 2015805810 Country of Ref document: EP

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WO15191646 A1	20160819	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2015805810 Country of Ref document: EP
WO15191646 A1	20161020	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Date of Ref document: 20150609 Kind code of Ref document: A Ref document number: 2015274704 Country of Ref document: AU
WO15191646 A1	20161024	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2016564210 Country of Ref document: JP
WO15191646 A1	20161209	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

76) Family number: 75911095 (US2019298396 AA)

Title: DEVICES AND **METHODS** FOR **REMOVING** MATERIAL FROM A PATIENT

Abstract: A containing element is used to capture material in a blood vessel for **removal**. The containing element is positioned within a constraining **catheter** while it is advanced through the blood vessel. A filament is coupled to the containing element which assists in opening and/or closing the containing element.



Classifications:
International (IPC 8-9): A61B17/12 A61B17/22 A61B17/221 A61B17/3205 A61M25/00 A61M25/04
CPC: A61B17/221 A61B2017/00358 A61B2017/22034 A61B2017/2215

Family:

Publication number	Publication date	Application number	Application date
US10624659 BB	20200421	US20190443820	20190617
US2019298396 AA	20191003	US20190443820	20190617
US2020253624 AA	20200813	US20200790268	20200213
WO19178165 A1	20190919	WO2019US21943	20190312

Priority:

US20180641948P 20180312 US20190793498P 20190117 WO2019US21943 20190312
US20190443820 20190617 US20200790268 20200213

Probable Assignee: XTRACT MEDICAL INC

Assignee(s): (std): XTRACT MEDICAL ; XTRACT MEDICAL INC

Inventor(s): (std): GAMBA JORGE ; SAUVAGEAU ERIC ; SCHALLER MICHAEL

Agent(s): HOEKENDIJK JENS; POLSINELLI PC

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE 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
US10624659 BB	20190617	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10624659 BB	20190625	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10624659 BB	20190918		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US10624659 BB	20200401	LSGT	PAT1	Patented Case	
US10624659 BB	20200421	LSGT	+	granted / extensions (spc, cpc, pte)	
US10624659 BB	20390312	PEXP		Calculated Patent Term Expiry	
US2019298396 AA	20190918	LSES	NFA1	Non Final Action Mailed	
US2019298396 AA	20191003	LSPB	+	published / reissued	
US2019298396 AA	20191205		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2019298396 AA	20191205		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2019298396 AA	20191230	LSES	NAM1	Notice of Allowance Mailed -- Application Received in	

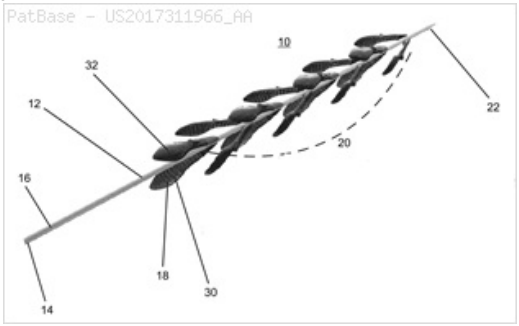
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US2019298396 AA	20191230		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2019298396 AA	20200212	LSAS	AS	ASSIGNMENT	Owner: XTRACT MEDICAL, INC., COLORADO PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:GAMBA, JORGE;SAUVAGEAU, ERIC;SCHALLER, MICHAEL;SIGNING DATES FROM 20200115 TO 20200122;REEL/FRAME:051802/0366
US2019298396 AA	20200401	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2020253624 AA	20200506		RFE1	Docketed New Case - Ready for Examination	
US2020253624 AA	20200813	LSPB	+	published / reissued	
WO19178165 A1	20190919	LSPB	+	published / reissued	
WO19178165 A1	20191030		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 19767116 Country of Ref document: EP
WO19178165 A1	20200830	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 277002 Country of Ref document: IL

77) Family number: 63048371 (US2017311966 AA)

Title: DEVICE AND **METHOD** FOR **REMOVING** **OCCLUSIONS** IN A BIOLOGICAL VESSEL

Abstract: A device for use within an occluded biological vessel and a **method** of using same to **remove** **occlusion** material from a vessel are provided. The device includes an elongated body configured for delivering extensions arranged around a distal portion thereof into the biological vessel. Each of the extensions includes an array of projections spaced apart to match openings in a biological mesh forming a part of the **occlusion** material.

Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/22 A61B17/221 A61B17/32
CPC: A61B17/22031 A61B2017/00858 A61B2017/22034 A61B2017/320012
US: 1/1 606/127



Family:

Publication number	Publication date	Application number	Application date
CA2973125 AA	20170705	CA20162973125	20160125
CN107405140 A	20171128	CN201680019053	20160125
EP3250132 A2	20171206	EP20160742884	20160125
EP3250132 A4	20180926	EP20160742884	20160125
IL252225 A0	20170731	IL20160252225	20160125
JP2018503465 T2	20180208	JP20170540079T	20160125
JP6741674 B2	20200819	JP20170540079T	20160125
US10772647 BB	20200915	US20160528110	20160125
US2017311966 AA	20171102	US20160528110	20160125
WO16120864 A2	20160804	WO2016IL50073	20160125
WO16120864 A3	20160922	WO2016IL50073	20160125

Priority:
US20150108602P 20150128 WO2016IL50073 20160125 US20160528110 20160125

Probable Assignee: TRITICUM LTD

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Inventor(s): (std): BEN AMI DORON JACOB ; DORON JACOB BEN AMI

Inventor(s): ベン アミ ドロン ヤコブ ; ベン−アミ，ドロン ヤコブ ; 多隆雅各 班 阿米 ; 多隆雅各·班-阿米

Agent(s): EHRLICH GAL ET AL; HOEIBERG P S; INTEGRAL IP; 中国专利代理(香港)有限公司 72001; 初明明; 浅野 典子; 風早 信昭; 黄念

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
CA2973125 AA	20170705	LSPB	+	published / reissued	
CN107405140 A	20171128	LSPB	+	published / reissued	
CN107405140 A	20171128	LSPB	PB01	PUBLICATION	
CN107405140 A	20171222		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
EP3250132 A2	20171206	LSPB	+	published / reissued	
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EP3250132 A2	20171206		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
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EP3250132 A2	20180502		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
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EP3250132 A4	20180926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/00 20060101AFI20180820BHEP ClassificationScheme: IPC
EP3250132 A4	20180926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101ALI20180820BHEP ClassificationScheme: IPC
EP3250132 A4	20180926		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/32 20060101ALN20180820BHEP
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JP2018503465 T2	20190830	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20190830
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JP2018503465 T2	20190903		A971007	検索報告書	Effective date: 20190830
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JP2018503465 T2	20200213		A53	意見書	Effective date: 20200213
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JP2018503465 T2	20200707	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20200707 Text: JAPANESE INTERMEDIATE CODE: A01
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				extensions (spc, cpc, pte)	
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US2017311966 AA	20170814		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2017311966 AA	20171102	LSPB	+	published / reissued	
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US2017311966 AA	20181128		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017311966 AA	20190118		FRM1	Final Rejection Mailed	
US2017311966 AA	20190220		RSP1	Response after Final Action Forwarded to Examiner	
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US2017311966 AA	20190309		RFE1	Docketed New Case - Ready for Examination	
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US2017311966 AA	20190424	LSES	NFA1	Non Final Action Mailed	
US2017311966 AA	20190424		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017311966 AA	20190601		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
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US2017311966 AA	20190715		FRM1	Final Rejection Mailed	
US2017311966 AA	20190715		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2017311966 AA	20190810		RSP1	Response after Final Action Forwarded to Examiner	
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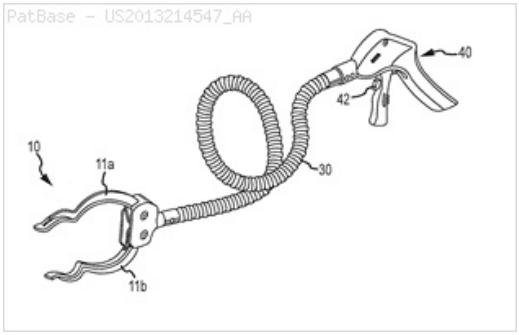
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US2017311966 AA	20190902		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
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US2017311966 AA	20190924		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
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US2017311966 AA	20191114		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
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US2017311966 AA	20200114		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
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US2017311966 AA	20200213		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: ADVISORY ACTION MAILED
US2017311966 AA	20200316		RFE1	Docketed New Case - Ready for Examination	
US2017311966 AA	20200316		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
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US2017311966 AA	20200616		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017311966 AA	20200616		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017311966 AA	20200709	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017311966 AA	20200817	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017311966 AA	20200817		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
WO16120864 A2	20160804	LSPB	+	published / reissued	
WO16120864 A2	20160914		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP	Kind code of Ref document: A2 Ref document number: 16742884

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WO16120864 A3	20170510	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 252225 Country of Ref document: IL
WO16120864 A3	20170705	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2973125 Country of Ref document: CA
WO16120864 A3	20170713		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2016742884 Country of Ref document: EP
WO16120864 A3	20170728	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2017540079 Kind code of Ref document: A Country of Ref document: JP
WO16120864 A3	20170729	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO16120864 A3	20170823		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 16742884 Country of Ref document: EP

78) Family number: 54581549 (US2013214547 AA)

Title: SELECTIVELY BENDABLE REMOTE GRIPPING TOOL

Abstract: A hand-held remote access device, such as a gripping tool, includes a jaw portion having a pair of jaws movable relative to each other between fully clamped and fully opened positions thereof, a handle portion spaced apart from the jaw portion by a bendable central portion that has a hollow, corrugated member having alternating ridges and grooves that is bendable so as to attain a predetermined shape.



Classifications:
International (IPC 8-9): A01G3/025 A01K15/00 A01K27/00 A01K29/00 A01K63/00 A01K77/00 A47F13/06 A61B1/00 A61B1/04 A61B1/05 A61B1/06 A61B1/24 A61B17/00 A61B17/22 A61B17/221 A61B17/285 A61B17/29 A61B17/32 A61B17/3201 A61B17/3205 A61B17/3207 A61B17/50 A61C1/08 A61C1/18 A61C3/02 A61C3/14 B25J1/00 B25J1/02 B25J1/04 B26B17/02 E01H1/12
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US: 1/1 119/796 294/1.4 294/111 294/19.2 294/198 294/209 294/210 294/74 30/123 30/173 43/11 43/8 433/144 433/157 433/29 600/104 600/106 600/249 606/113 606/174 606/207 606/208 D8/51
Locarno class: 08/05

Family:

Publication number	Publication date	Application number	Application date
CN302935213 S	20140910	CN201430025487F	20140208
US10226266 BB	20190312	US20170431044	20170213
US2013214547 AA	20130822	US20130771813	20130220
US2014062113 AA	20140306	US20130078830	20131113
US2014137811 AA	20140522	US20140163521	20140124
US2014290116 AA	20141002	US20140290207	20140529
US2015052798 AA	20150226	US20140539021	20141112
US2015080904 AA	20150319	US20140535539	20141107
US2015230811 AA	20150820	US20150684000	20150410
US2015366574 AA	20151224	US20150822238	20150810
US2017150980 AA	20170601	US20170431044	20170213
US2019201015 AA	20190704	US20190295214	20190307
US8585114 BB	20131119	US20130771813	20130220
US8807615 BB	20140819	US20130078830	20131113
US8833817 BB	20140916	US20140163521	20140124
US8985659 BB	20150324	US20140290207	20140529
US9095127 BB	20150804	US20140535539	20141107
US9592066 BB	20170314	US20150684000	20150410
US9832980 BB	20171205	US20140539021	20141112
US9901245 BB	20180227	US20150822238	20150810
USD780547 S1	20170307	US20160558227F	20160316
WO14130076 A1	20140828	WO2013US54275	20130809

Priority:

US20120601789P 20120222
WO2013US54275 20130809
US20140290207 20140529
US20150684000 20150410
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US20160558227F 20160316

Probable Assignee: KOVARIK CARTER J
Assignee(s): (std): KOVARIK CARTER J ; KOVARIK JOSEPH E
Assignee(s): C J 科瓦里克 ; J E 科瓦里克
Inventor(s): (std): KOVARIK CARTER J ; KOVARIK JOSEPH E
Inventor(s): C J 科瓦里克 ; J E 科瓦里克
Agent(s): KOVARIK JOSEPH E; SHERIDAN ROSS PC; 冯晓燕; 北京市柳沈律师事务所 11105; 马涛
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW 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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CN302935213 S	20240208	PEXP		Calculated Patent	

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US10226266 BB	20370828	PEXP		Calculated Patent Term Expiry (PTA 196 days and a terminal disclaimer has been filed)	
US2013214547 AA	20130822	LSPB	+	published / reissued	
US2013214547 AA	20131030	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2014062113 AA	20140306	LSPB	+	published / reissued	
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US2014137811 AA	20140522	LSPB	+	published / reissued	
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US2014290116 AA	20141002	LSPB	+	published / reissued	
US2014290116 AA	20150304	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
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US2015230811 AA	20150820	LSPB	+	published / reissued	
US2015230811 AA	20170222	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
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US2015366574 AA	20171020	LSES	ALW2	Allowed -- Notice of	

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US2017150980 AA	20170426		RFE1	Docketed New Case - Ready for Examination	
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US8833817 BB	20340124	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
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US8985659 BB	20150324	LSGT	+	granted / extensions (spc, cpc, pte)	
US8985659 BB	20181112	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8985659 BB	20190318	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY

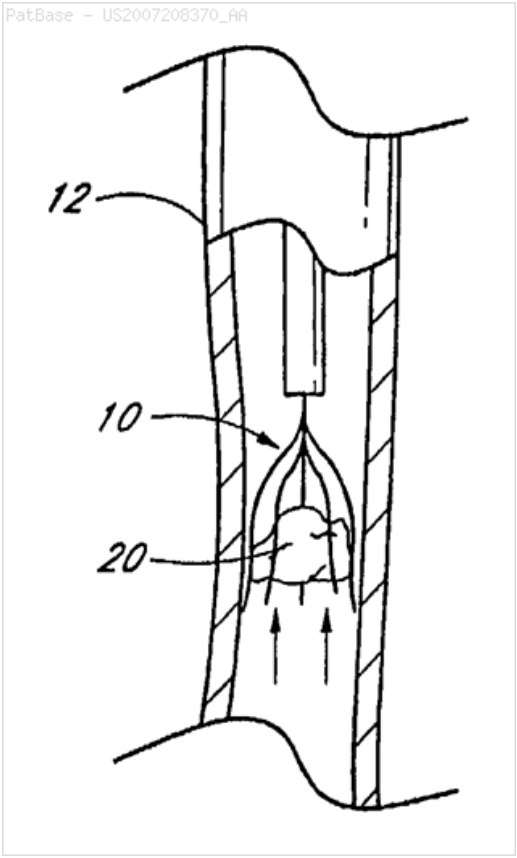
US8985659 BB	20190318	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8985659 BB	20340529	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9095127 BB	20150715	LSGT	PAT1	Patented Case	
US9095127 BB	20150804	LSGT	+	granted / extensions (spc, cpc, pte)	
US9095127 BB	20190325	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9095127 BB	20190726	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9095127 BB	20190726	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9095127 BB	20341107	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9592066 BB	20150529		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US9592066 BB	20170222	LSGT	PAT1	Patented Case	
US9592066 BB	20170314	LSGT	+	granted / extensions (spc, cpc, pte)	
US9592066 BB	20350611	PEXP		Calculated Patent Term Expiry (PTA 62 days)	
US9832980 BB	20141208		RFE1	Docketed New Case - Ready for Examination	
US9832980 BB	20171115	LSGT	PAT1	Patented Case	
US9832980 BB	20171205	LSGT	+	granted / extensions (spc, cpc, pte)	
US9832980 BB	20350630	PEXP		Calculated Patent Term Expiry (PTA 230 days and a terminal disclaimer has been filed)	
US9901245 BB	20180123	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US9901245 BB	20180207	LSGT	PAT1	Patented Case	
US9901245 BB	20180227	LSGT	+	granted / extensions (spc, cpc, pte)	
US9901245 BB	20360715	PEXP		Calculated Patent Term Expiry (PTA 340 days and a terminal disclaimer has been filed)	
USD780547 S1	20170215	LSGT	PAT1	Patented Case	
USD780547 S1	20170307	LSGT	+	granted / extensions (spc, cpc, pte)	
USD780547 S1	20320307	PEXP		Calculated Patent Term Expiry	
WO14130076 A1	20140828	LSPB	+	published / reissued	
WO14130076 A1	20141015		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 13875672 Kind code of Ref document: A1 Country of Ref document: EP
WO14130076 A1	20150820	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO14130076 A1	20160316	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 13875672 Country of Ref document: EP

79) Family number: 32289023 (US2007208370 AA)

Title: VASCULAR FILTER DEVICE

Abstract: A vascular filter for capturing and breaking apart particles in the blood. The vascular filter includes a filter body and an agitation member disposed within the filter body. Movement of the agitation member acts on particles trapped within the filter body for enhancing the dissolution of the particles, thereby reducing the likelihood of filter **occlusion** and improving the flow of blood through the vessel. The vascular filter is preferably collapsible for percutaneous delivery to a treatment site. The agitation member is preferably rotatably coupled to the filter body and a flow receiving member is provided for causing the agitation member to rotate. A clutch mechanism may be provided such that the agitation member only rotates when a particle, such as a blood **clot**, is trapped within the filter body.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61B17/225 A61B17/3207 A61F2/01 A61M29/00
International (IPC 1-7): A61M29/00
CPC: A61B17/22012 A61B17/221 A61B17/225 A61B17/320758 A61B2017/22001 A61B2017/2212 A61B2017/320775 A61F2/01 A61F2/013 A61F2002/016 A61F2002/018 A61F2230/0006 A61F2230/006 A61F2230/0067 A61F2230/008 A61F2230/0093
US: 1/1 128/898 606/128 606/128P 606/159 606/200 606/200S



Family:

Publication number	Publication date	Application number	Application date
US10016266 BB	20180710	US20170834869	20171207
US10695159 BB	20200630	US20190726651	20191224
US2007208370 AA	20070906	US20050594198	20050325
US2010185210 AA	20100722	US20100749233	20100329
US2013053881 AA	20130228	US20120597118	20120828
US2015157443 AA	20150611	US20150623425	20150216
US2018104041 AA	20180419	US20170834869	20171207
US2018325647 AA	20181115	US20180030622	20180709
US2020129282 AA	20200430	US20190726651	20191224
US7686825 BB	20100330	US20050594198	20050325
US8252020 BB	20120828	US20100749233	20100329
US8956386 BB	20150217	US20120597118	20120828
US9848975 BB	20171226	US20150623425	20150216
WO05094283 A2	20051013	WO2005US10160	20050325
WO05094283 A3	20060420	WO2005US10160	20050325

Priority:

US20040556152P 20040325 WO2005US10160 20050325 US20050594198 20050325
WO2005US10160 20051013 US20060594198 20060925 US20100749233 20100329
US20120597118 20120828 US20150623425 20150216 US20170834869 20171207
US20180030622 20180709 US20190726651 20191224

Probable Assignee: HAUSER DAVID L

Assignee(s): (std): HAUSER DAVID L ; HO PUI T ; HO PUI TONG

Inventor(s): (std): HAUSER DAVID L ; HO PUI T ; HO PUI TONG

Inventor(s): HAUSER DAVID ; HO PUI

Agent(s): DAVID L HAUSER; PUI TONG HO

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL 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
US10016266 BB	20180620	LSGT	PAT1	Patented Case	
US10016266 BB	20180710	LSGT	+	granted / extensions (spc, cpc, pte)	
US10016266 BB	20250325	PEXP		Calculated Patent Term Expiry	
US10695159 BB	20191224	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10695159 BB	20200116	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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US10695159 BB	20391224	PEXP		Calculated Patent Term Expiry	
US2007208370 AA	20070906	LSPB	+	published / reissued	
US2010185210 AA	20100722	LSPB	+	published / reissued	
US2010185210 AA	20120808	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2013053881 AA	20130228	LSPB	+	published / reissued	
US2013053881 AA	20150127	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015157443 AA	20150611	LSPB	+	published / reissued	
US2015157443 AA	20170309	LSES	NFA1	Non Final Action Mailed	
US2015157443 AA	20170531		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015157443 AA	20170801		FRM1	Final Rejection Mailed	
US2015157443 AA	20170906		RSP1	Response after Final Action Forwarded to Examiner	
US2015157443 AA	20170927	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015157443 AA	20171010	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2015157443 AA	20171010	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015157443 AA	20171114	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2015157443 AA	20171115	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
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US2015157443 AA	20171206	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018104041 AA	20180312		RSP3	Response to Ex parte Quayle Action Entered and Forwarded to Examiner	
US2018104041 AA	20180419	LSPB	+	published / reissued	

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US2018104041 AA	20180620	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018325647 AA	20181115	LSPB	+	published / reissued	
US2018325647 AA	20190102		RFE1	Docketed New Case - Ready for Examination	
US2018325647 AA	20190102		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018325647 AA	20200303	LSES	NFA1	Non Final Action Mailed	
US2018325647 AA	20200607		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018325647 AA	20200607		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2018325647 AA	20200807		FRM1	Final Rejection Mailed	
US2020129282 AA	20200430	LSPB	+	published / reissued	
US2020129282 AA	20200518	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2020129282 AA	20200518		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2020129282 AA	20200610	LSGT	PAT1	Patented Case	
US2020129282 AA	20200610	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7686825 BB	20100310	LSGT	PAT1	Patented Case	
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US7686825 BB	20180430	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US7686825 BB	20180430	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US7686825 BB	20180522	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20180330
US7686825 BB	20251103	PEXP		Calculated Patent Term Expiry (PTA 223 days)	
US8252020 BB	20120808	LSGT	PAT1	Patented Case	
US8252020 BB	20120828	LSGT	+	granted / extensions (spc, cpc, pte)	

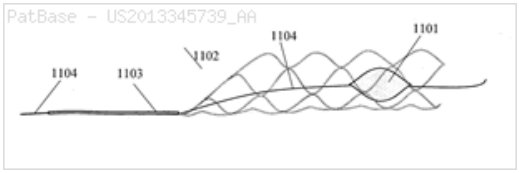
US8252020 BB	20160408		REMI	MAINTENANCE FEE REMINDER MAILED	
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US8252020 BB	20200226	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8252020 BB	20300814	PEXP		Calculated Patent Term Expiry (PTA 138 days and a terminal disclaimer has been filed)	
US8956386 BB	20150127	LSGT	PAT1	Patented Case	
US8956386 BB	20150217	LSGT	+	granted / extensions (spc, cpc, pte)	
US8956386 BB	20180717	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8956386 BB	20250920	PEXP		Calculated Patent Term Expiry (PTA 179 days)	
US9848975 BB	20150401		RFE1	Docketed New Case - Ready for Examination	
US9848975 BB	20171226	LSGT	+	granted / extensions (spc, cpc, pte)	
US9848975 BB	20260209	PEXP		Calculated Patent Term Expiry (PTA 321 days)	
WO05094283 A2	20051013	LSPB	+	published / reissued	
WO05094283 A2	20051013		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05094283 A2	20051013		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05094283 A3	20060925	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 10594198 Country of Ref document: US
WO05094283 A3	20060925	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007208370 Country of Ref document: US
WO05094283 A3	20060926	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05094283 A3	20060926	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO05094283 A3	20070307		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05094283 A3	20070627	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO05094283 A3	20070906	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 10594198 Country of Ref document: US

80) Family number: 51895982 (US2013345739 AA)

Title: CLOT RETRIEVAL DEVICE FOR REMOVING OCCLUSIVE CLOT FROM A BLOOD VESSEL

Abstract: A clot retrieval device (9501) for removing occlusive clot from a blood vessel comprises an inner elongate body (9503) and an outer elongate body (9504) at least partially overlying the inner elongate body (9503). The device also comprises an elongate member or shaft (9502) having a proximal end which extends exterior of a patient so that a user can retrieve the stent-basket device and captured clot by retracting the shaft (9502). The outer elongate body (9504) and the inner elongate body (9503) are connected to the distal end of the shaft (9502) and are expandable relative to the shaft (9502) from a collapsed delivery configuration to an expanded deployed configuration. The outer elongate body (9504) is expandable relative to the inner elongate body (9503) to a radial extent which is greater than the radial extent of the inner body (9503) in the deployed configuration.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/08 A61B17/14 A61B17/22 A61B17/221 A61B17/3207 A61F2/01
CPC: A61B17/22031 A61B17/221 A61B17/320725 A61B2017/00292 A61B2017/00526 A61B2017/00867 A61B2017/22034 A61B2017/22094 A61B2017/2212 A61B2017/2215 A61F2/011 A61F2/013 A61F2002/016 A61F2002/018 A61F2230/0069 A61F2230/008 A61F2230/0091 A61F2230/0093 A61F2002/011
US: 1/1 606/114 606/159 606/200



Family:

Publication number	Publication date	Application number	Application date
EP2683309 A2	20140115	EP20120711696	20120309
US10034680 BB	20180731	US20150986357	20151231
US10292722 BB	20190521	US20150986323	20151231
US10299811 BB	20190528	US20150930167	20151102
US10588649 BB	20200317	US20150986332	20151231
US10743894 BB	20200818	US20170399453	20170105
US2013345739 AA	20131226	US20120823060	20120309
US2014200608 AA	20140717	US20140158390	20140117
US2016120558 AA	20160505	US20150930167	20151102
US2016192953 AA	20160707	US20150986323	20151231
US2016192954 AA	20160707	US20150986332	20151231
US2016192955 AA	20160707	US20150986357	20151231
US2016192956 AA	20160707	US20150986412	20151231
US2017112515 AA	20170427	US20170399453	20170105
US2018344338 AA	20181206	US20180997335	20180604
US2019239907 AA	20190808	US20190385718	20190416
US8852205 BB	20141007	US20140158390	20140117
US9301769 BB	20160405	US20120823060	20120309
US9642639 BB	20170509	US20150986412	20151231
WO12120490 A2	20120913	WO2012IE00011	20120309
WO12120490 A3	20121213	WO2012IE00011	20120309

Priority:

US20110450810P	20110309	US20110552130P	20111027	US20110552150P	20111027
WO2012IE00011	20120309	US20120823060	20120309	US20130823060	20130313
US20140158390	20140117	US20150930167	20151102	US20150986357	20151231
US20150986323	20151231	US20150986332	20151231	US20150986412	20151231
US20170399453	20170105	US20180997335	20180604	US20190385718	20190416

Probable Assignee: NEURAVI LTD

Assignee(s): (std): BRADY EAMON ; CASEY BRENDAN ; GILVARRY MICHAEL ; GRIFFIN PATRICK ; MCNAMARA JASON ; NEURAVI LTD ; RAZAVI MAHMOOD ; RAZAVI MAHMOOD K ; VALE DAVID

Assignee(s): NEURAVI LIMITED

Inventor(s): (std): BRADY EAMON ; CASEY BRENDAN ; GILVARRY MICHAEL ; GRIFFIN PATRICK ; MCNAMARA JASON ; RAZAVI MAHMOOD ; RAZAVI MAHMOOD K ; VALE DAVID

Agent(s): BOOKOFF MCANDRES PLLC; BOOKOFF MCANDREWS PLLC; O BRIEN JOHN A ET AL; OBRIEN JOHN AUGUSTINE; TROUTMAN PEPPER HAMILTON SANDERS LLP; TROUTMAN SANDERS LLP

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP2683309 A2	20140115	LSPB	+	published / reissued	
EP2683309 A2	20140115	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20130902
EP2683309 A2	20140115		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2683309 A2	20140618		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN	

				PATENT (DELETED)	
EP2683309 A2	20160113	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: NEURAVI LIMITED PartyType: owner
EP2683309 A2	20170816	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20170713
EP2683309 A2	20200624	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20200529
US10034680 BB	20160518	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K.;AND OTHERS;SIGNING DATES FROM 20160316 TO 20160505;REEL/FRAME:038636/0384 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US10034680 BB	20180711	LSGT	PAT1	Patented Case	
US10034680 BB	20180731	LSGT	+	granted / extensions (spc, cpc, pte)	
US10034680 BB	20320309	PEXP		Calculated Patent Term Expiry	
US10292722 BB	20160518	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K.;AND OTHERS;SIGNING DATES FROM 20160316 TO 20160505;REEL/FRAME:038636/0272 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US10292722 BB	20190501	LSGT	PAT1	Patented Case	
US10292722 BB	20190521	LSGT	+	granted / extensions (spc, cpc, pte)	
US10292722 BB	20330121	PEXP		Calculated Patent Term Expiry (PTA 318 days)	
US10299811 BB	20190508	LSGT	PAT1	Patented Case	
US10299811 BB	20190528	LSGT	+	granted / extensions (spc, cpc, pte)	
US10299811 BB	20330604	PEXP		Calculated Patent Term Expiry (PTA 452 days)	
US10588649 BB	20160518	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K.;AND OTHERS;SIGNING DATES FROM 20160316 TO 20160505;REEL/FRAME:038636/0370 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US10588649 BB	20200317	LSGT	+	granted / extensions (spc, cpc, pte)	
US10588649 BB	20330321	PEXP		Calculated Patent Term Expiry (PTA 377 days)	
US10743894 BB	20170210	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K.;AND OTHERS;SIGNING DATES FROM 20160316 TO 20160506;REEL/FRAME:041222/0598 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US10743894 BB	20200729	LSGT	PAT1	Patented Case	
US10743894 BB	20200818	LSGT	+	granted / extensions (spc, cpc, pte)	
US10743894 BB	20320501	PEXP		Calculated Patent Term Expiry (PTA 53 days)	
US2013345739 AA	20131226	LSPB	+	published /	

				reissued	
US2013345739 AA	20160316	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2014200608 AA	20140717	LSPB	+	published / reissued	
US2014200608 AA	20140917	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016120558 AA	20160312		RFE1	Docketed New Case - Ready for Examination	
US2016120558 AA	20160505	LSPB	+	published / reissued	
US2016120558 AA	20160516	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K.;AND OTHERS;SIGNING DATES FROM 20160127 TO 20160311;REEL/FRAME:038605/0097 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US2016120558 AA	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2016120558 AA	20180107	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2016120558 AA	20180109	LSES	NFA1	Non Final Action Mailed	
US2016120558 AA	20180601		FRM1	Final Rejection Mailed	
US2016120558 AA	20190109	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016120558 AA	20190109		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016120558 AA	20190409	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2016120558 AA	20190409		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT RECEIVED
US2016120558 AA	20190411	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016120558 AA	20190411		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2016120558 AA	20190508	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016192953 AA	20160415		RFE1	Docketed New Case - Ready for Examination	
US2016192953 AA	20160707	LSPB	+	published / reissued	
US2016192953 AA	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2016192953 AA	20180108	LSES	NFA2	Non Final Action	

				Counted, Not Yet Mailed	
US2016192953 AA	20180110	LSES	NFA1	Non Final Action Mailed	
US2016192953 AA	20180626		FRM2	Final Rejection Counted, Not Yet Mailed	
US2016192953 AA	20180629		FRM1	Final Rejection Mailed	
US2016192953 AA	20190108		RFE1	Docketed New Case - Ready for Examination	
US2016192953 AA	20190131	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016192953 AA	20190131		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2016192953 AA	20190409	LSFE	PPR1	Publications -- Issue Fee Payment Received	
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US2016192953 AA	20190410	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016192953 AA	20190410		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2016192953 AA	20190501	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016192954 AA	20160415		RFE1	Docketed New Case - Ready for Examination	
US2016192954 AA	20160707	LSPB	+	published / reissued	
US2016192954 AA	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
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US2016192954 AA	20180810		FRM2	Final Rejection Counted, Not Yet Mailed	
US2016192954 AA	20181218		RFE1	Docketed New Case - Ready for Examination	
US2016192954 AA	20190225	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
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US2016192954 AA	20190227		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2016192954 AA	20190527		RSP4	Response to Non-Final Office Action Entered and	

				Forwarded to Examiner	
US2016192954 AA	20190527		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2016192954 AA	20190730	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
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US2016192954 AA	20191016		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2016192954 AA	20191118	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
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US2016192954 AA	20200226	LSGT	PAT1	Patented Case	
US2016192954 AA	20200226	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016192955 AA	20160707	LSPB	+	published / reissued	
US2016192955 AA	20161222		RFE1	Docketed New Case - Ready for Examination	
US2016192955 AA	20170619	LSES	NFA1	Non Final Action Mailed	
US2016192955 AA	20171013		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016192955 AA	20171204	LSES	ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016192955 AA	20171204	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016192955 AA	20180223		RFE1	Docketed New Case - Ready for	

				Examination	
US2016192955 AA	20180327	LSES	ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2016192955 AA	20180328	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2016192955 AA	20180702	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2016192955 AA	20180703	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2016192955 AA	20180711	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016192956 AA	20160707	LSPB	+	published / reissued	
US2016192956 AA	20170419	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017112515 AA	20170130		RFE1	Docketed New Case - Ready for Examination	
US2017112515 AA	20170427	LSPB	+	published / reissued	
US2017112515 AA	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
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US2017112515 AA	20190218		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017112515 AA	20190218		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017112515 AA	20190513	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017112515 AA	20190513		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017112515 AA	20190811		RFE1	Docketed New Case - Ready for Examination	
US2017112515 AA	20190811		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017112515 AA	20190925	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017112515 AA	20190925		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS

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US2017112515 AA	20191016		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2017112515 AA	20191125	LSES	NFA1	Non Final Action Mailed	
US2017112515 AA	20191125		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017112515 AA	20200203		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017112515 AA	20200203		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017112515 AA	20200407	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017112515 AA	20200407		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017112515 AA	20200709	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018344338 AA	20181206	LSPB	+	published / reissued	
US2018344338 AA	20181211		RFE1	Docketed New Case - Ready for Examination	
US2018344338 AA	20181211		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018344338 AA	20190806	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K;AND OTHERS;SIGNING DATES FROM 20160316 TO 20160505;REEL/FRAME:049971/0770 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US2018344338 AA	20200225	LSES	NFA1	Non Final Action Mailed	
US2018344338 AA	20200225		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018344338 AA	20200529		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018344338 AA	20200731	LSES	NAM1	Notice of	

				Allowance Mailed -- Application Received in Office of Publications	
US2019239907 AA	20190808	LSPB	+	published / reissued	
US2019239907 AA	20190812	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K;AND OTHERS;SIGNING DATES FROM 20160127 TO 20160311;REEL/FRAME:050022/0671 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US8852205 BB	20140404	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD;AND OTHERS;SIGNING DATES FROM 20140312 TO 20140401;REEL/FRAME:032600/0458 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US8852205 BB	20140917	LSGT	PAT1	Patented Case	
US8852205 BB	20141007	LSGT	+	granted / extensions (spc, cpc, pte)	
US8852205 BB	20150217	LSRE	CC	CERTIFICATE OF CORRECTION	
US8852205 BB	20171226	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US8852205 BB	20180323	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8852205 BB	20340117	PEXP		Calculated Patent Term Expiry	
US9301769 BB	20130320	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K.;AND OTHERS;SIGNING DATES FROM 20130210 TO 20130314;REEL/FRAME:030047/0010 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US9301769 BB	20151209		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US9301769 BB	20151218	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US9301769 BB	20160316	LSGT	PAT1	Patented Case	
US9301769 BB	20160405	LSGT	+	granted / extensions (spc, cpc, pte)	
US9301769 BB	20160830	LSRE	CC	CERTIFICATE OF CORRECTION	
US9301769 BB	20180208	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US9301769 BB	20190920	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9301769 BB	20320309	PEXP		Calculated Patent Term Expiry	
US9642639 BB	20160518	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K.;AND OTHERS;SIGNING DATES FROM 20160316 TO 20160506;REEL/FRAME:038636/0404 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US9642639 BB	20170419	LSGT	PAT1	Patented Case	

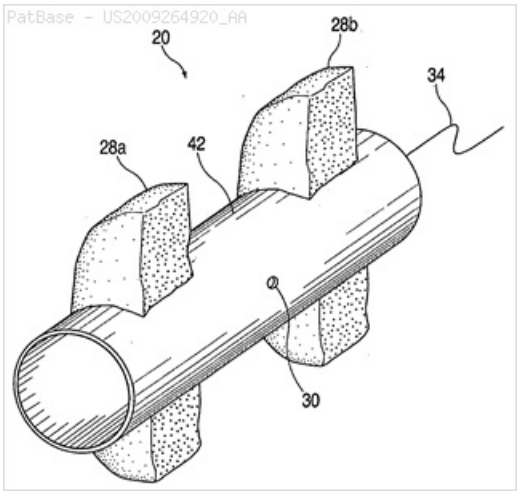
US9642639 BB	20170509	LSGT	+	granted / extensions (spc, cpc, pte)	
US9642639 BB	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US9642639 BB	20320309	PEXP		Calculated Patent Term Expiry	
WO12120490 A2	20120913	LSPB	+	published / reissued	
WO12120490 A2	20121031		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 12711696 Country of Ref document: EP
WO12120490 A3	20130313	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13823060 Country of Ref document: US
WO12120490 A3	20130909	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

81) Family number: 43811684 (US2009264920 AA)

Title: **CATHETER** -BASED SEPTAL **OCCLUSION** DEVICE AND ADHESIVE DELIVERY **SYSTEM**

Abstract: A **catheter** -based **occlusion** device for sealing tissue openings comprises a guiding **catheter**, a **catheter**, and a septal occluder including a first disk-like member for deployment proximate to a first side of a tissue opening, a second disk-like member for deployment proximate a second side of a tissue opening, and a connector portion for connecting the first and second disk-like members, wherein the connector portion includes at least one aperture effective to dispense an adhesive. The **occlusion** device can then be detached.

Classifications:
International (IPC 8-9): A61B17/03 A61B17/08
CPC: A61B17/00491 A61B17/0057 A61B2017/00004 A61B2017/00243 A61B2017/00575 A61B2017/00592 A61B2017/00606 A61B2017/00623 A61B2017/00831
US: 606/213



Family:

Publication number	Publication date	Application number	Application date
US2009264920 AA	20091022	US20090415231	20090331
WO09124058 A1	20091008	WO2009US38966	20090331

Priority:
US20080040809P 20080331 US20090415231 20090331

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

Legal status (INPADOC)

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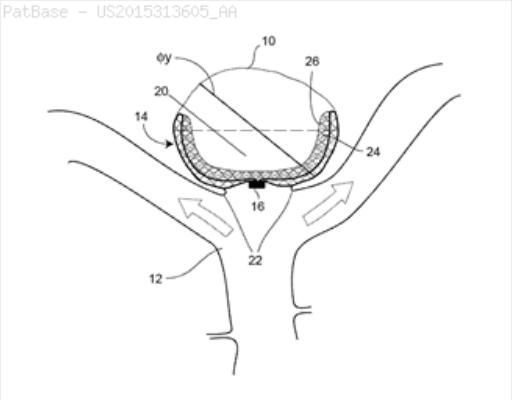
Patent	Date recorded	Event group	Code	Event	Details
US2009264920 AA	20091022	LSPB	+	published / reissued	
US2009264920 AA	20121203	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009264920 AA	20121203		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
WO09124058 A1	20091008	LSPB	+	published / reissued	
WO09124058 A1	20091202		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 09727183 Kind code of Ref document: A1 Country of Ref document: EP
WO09124058 A1	20101001	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09124058 A1	20110420		-32PN	EP: PUBLIC NOTIFICATION IN THE EP BULLETIN AS ADDRESS OF THE ADRESSEE CANNOT BE ESTABLISHED	Text: NOTING OF LOSS OF RIGHTS PURSUANT TO RULE 112(1) EPC (EPO FORM 1205A DATED 9.12.2010)
WO09124058 A1	20110914	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 09727183 Country of Ref document: EP

82) Family number: 60721379 (US2015313605 AA)

Title: **OCCLUSION** DEVICE

Abstract: Provided herein is an **occlusion** device for intrasaccular implantation and/or vascular **occlusion** comprising: (a) a substantially solid marker having a proximal end, and a distal end; and (b) a low profile resilient mesh body attached to the distal end of the marker, the body having a delivery shape and a deployed shape capable of conforming to aneurysm walls; wherein the body has a diameter greater than a diameter of an aneurysm to be treated. Also provided herein is a kit comprising the **occlusion** device disclosed herein and a means for delivery thereof. **Methods** of manufacture and use of the **occlusion** device disclosed herein are also disclosed.

Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/12 A61B19/00 A61B90/00 A61M29/00
CPC: A61B17/12 A61B17/12031 A61B17/12113 A61B17/12168 A61B17/12172 A61B2017/00867 A61B2017/1205 A61B2017/12063 A61B2090/3937 A61B90/39
US: 1/1 606/200



Family:

Publication number	Publication date	Application number	Application date
CA2946078 AA	20161017	CA20152946078	20150429
CN106456183 A	20170222	CN201580035663	20150429
CN106456183 B	20190920	CN201580035663	20150429
DE602015028441 D1	20190509	DE201560028441T	20150429
EP3136986 A1	20170308	EP20150720947	20150429
EP3136986 B1	20190417	EP20150720947	20150429
EP3510945 A1	20190717	EP20190159876	20150429
ES2732752 T3	20191125	ES20150720947T	20150429
HK1234631 A1	20180223	HK20170108420	20170822
IL248515 A0	20161229	IL20150248515	20150429
IL248515 A1	20190430	IL20150248515	20150429
JP2017516605 T2	20170622	JP20170508761T	20150429
JP2019205893 A2	20191205	JP20190145966	20150429
JP6571760 B2	20190904	JP20170508761T	20150429
MX2016014236 A1	20170530	MX20160014236	20150429
US10130372 BB	20181120	US20150699188	20150429
US2015313605 AA	20151105	US20150699188	20150429
US2019059909 AA	20190228	US20180172157	20181026
US2020038035 AA	20200206	US20190590821	20191002
WO15166013 A1	20151105	WO2015EP59429	20150429

Priority:

US20140986369P 20140430 US20140083672P 20141124 WO2015EP59429 20150429
EP20150720947 20150429 JP20170508761T 20150429 US20150699188 20150429
US20180172157 20181026 JP20190145966 20190808 US20190590821 20191002

Probable Assignee: CERUS ENDOVASCULAR LTD

Assignee(s): (std): CERUS ENDOVASCULAR LTD

Assignee(s): CERUS ENDOVASCULAR OXFORD LTD ; CERUS血管内設備有限公司 ; CERUS血管内设备有限公司 ; GRIFFIN STEPHEN ; シーラス エンドバスキュラー リミテッド

Inventor(s): (std): GRIFFIN STEPHEN ; STEPHEN GRIFFIN

Inventor(s): GRIFFIN STEPHEN SAN JOSE ; S 格里芬 ; S·格里芬 ; グリフィン スティーブン ; グリフィン, スティーブン ; 格里芬

Agent(s): COLOMBO STEFANO PAOLO; CONROY JOHN; FISH AND RICHARDSON PC; KAWAGUCHI YOSHIYUKI; PIETRA GIULIA; REITSTOETTER KINZEBACH; ROBIC; SANFORD TCOLB AND CO; סנפורד ושות קולב ט; 今堀 克彦; 刘新宇; 北京林达刘知识产权代理事务所 普通合伙 11277; 北京林达刘知识产权代理事务所(普通合伙) 11277; 川口 嘉之; 平川 明; 张会华; 范紀羅江律師行

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
CA2946078 AA	20161017	LSPB	+	published / reissued	
CA2946078 AA	20200521	LSES	+EEER	EXAMINATION REQUEST	Effective date: 20200420

CN106456183 A	20170222	LSPB	+	published / reissued	
CN106456183 A	20170222	LSPB	+C06	PUBLICATION	
CN106456183 A	20170222	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN106456183 A	20170322		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN106456183 A	20170322		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN106456183 A	20180223		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1234631 Ref legal event code: DE Country of Ref document: HK
CN106456183 B	20190920	LSGT	+	granted / extensions (spc, cpc, pte)	
CN106456183 B	20190920	LSGT	+GR01	PATENT GRANT	
CN106456183 B	20190920	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN106456183 B	20350429	PEXP		Calculated Patent Term Expiry	
DE602015028441 D1	20181001		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationScheme: IPC ClassificationSymbol: A61B0017120000 Text: PREVIOUS MAIN CLASS: A61B0017120000
EP3136986 A1	20170308	LSPB	+	published / reissued	
EP3136986 A1	20170308	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20161103
EP3136986 A1	20170308		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3136986 A1	20170308		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA
EP3136986 A1	20170308		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3136986 A1	20170809		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3136986 A1	20170809		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3136986 A1	20180425	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20180326
EP3136986 A1	20181031		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/00 20060101ALN20180927BHEP
EP3136986 A1	20181031		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/12 20060101AFI20180927BHEP
EP3136986 A1	20181107		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/12 20060101AFI20181001BHEP ClassificationScheme: IPC
EP3136986 A1	20181107		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/00 20060101ALN20181001BHEP
EP3136986 A1	20181205	LSGT	+INTG	INTENTION TO GRANT	Effective date: 20181102

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EP3136986 B1	20190417	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3136986 B1	20190417		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3136986 B1	20190417	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP3136986 B1	20190430	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP3136986 B1	20190509	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602015028441 Ref legal event code: R096 Country of Ref document: DE
EP3136986 B1	20190515	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP3136986 B1	20190515	LSNP	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190515 Kind code of Ref document: T Ref country code: AT Ref document number: 1120700 Ref legal event code: REF Country of Ref document: AT
EP3136986 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190614 Year of fee payment: 5 Country of Ref document: DE
EP3136986 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190531 Year of fee payment: 5 Country of Ref document: ES
EP3136986 B1	20190731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190624 Year of fee payment: 5 Country of Ref document: IT
EP3136986 B1	20190821		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190417 Ref country code: NL Ref legal event code: MP
EP3136986 B1	20190830	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190528 Year of fee payment: 5 Country of Ref document: FR
EP3136986 B1	20190910	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
EP3136986 B1	20190930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP3136986 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HR
EP3136986 B1	20191031	LSLE	-PG25	LAPSED IN A	Lapsed date: 20190417

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LT
EP3136986 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP3136986 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190817 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP3136986 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP3136986 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP3136986 B1	20191031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SE
EP3136986 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190613 Year of fee payment: 5 Country of Ref document: GB
EP3136986 B1	20191125	LSGT	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20191125 Kind code of Ref document: T3 Ref country code: ES Ref document number: 2732752 Ref legal event code: FG2A Country of Ref document: ES
EP3136986 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190718 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP3136986 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL

				OFFICE TO EPO]	
EP3136986 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: LV
EP3136986 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP3136986 B1	20191129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190717 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BG
EP3136986 B1	20191129	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP3136986 B1	20191215	LSRV	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190417 Kind code of Ref document: T Ref country code: AT Ref document number: 1120700 Ref legal event code: MK05 Country of Ref document: AT
EP3136986 B1	20191219		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20190430 Ref country code: BE Ref legal event code: MM
EP3136986 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190429 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP3136986 B1	20191231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190817 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IS
EP3136986 B1	20200120	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602015028441 Ref legal event code: R097 Country of Ref document: DE
EP3136986 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP3136986 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT

EP3136986 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP3136986 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP3136986 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP3136986 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP3136986 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP3136986 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190430 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP3136986 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190430 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP3136986 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP3136986 B1	20200228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190430 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP3136986 B1	20200325	LSGT	+26N	NO	Effective date: 20200120

				OPPOSITION FILED	
EP3136986 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP3136986 B1	20200501	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190429 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP3136986 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190417 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP3136986 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200504 Year of fee payment: 6 Country of Ref document: ES
EP3136986 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200427 Year of fee payment: 6 Country of Ref document: FR
EP3136986 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200429 Year of fee payment: 6 Country of Ref document: DE
EP3136986 B1	20350429	PEXP		Calculated Patent Term Expiry	
EP3510945 A1	20190717	LSPB	+	published / reissued	
EP3510945 A1	20190717		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 3136986 Country of Ref document: EP
EP3510945 A1	20190717		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3510945 A1	20200219	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20200113
EP3510945 A1	20200219		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3510945 A1	20200415	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20200311
EP3510945 A1	20200717		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: DE Ref country code: HK Ref document number: 40011380 Country of Ref document: HK
ES2732752 T3	20191125	LSGT	+	granted / extensions (spc, cpc, pte)	

ES2732752 T3	20350429	PEXP		Calculated Patent Term Expiry	
HK1234631 A1	20180223	LSPB	+	published / reissued	
IL248515 A0	20190829	LSGT	+FF	PATENT GRANTED	
IL248515 A0	20190926	LSFE	+KB	PATENT RENEWED	
IL248515 A1	20190430	LSPB	+	published / reissued	
JP2017516605 T2	20170622	LSPB	+	published / reissued	
JP2017516605 T2	20180201	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20180201
JP2017516605 T2	20181127	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20181127
JP2017516605 T2	20181204		A977	REPORT ON RETRIEVAL	Effective date: 20181130 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2017516605 T2	20190227	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20190227
JP2017516605 T2	20190319	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20190319
JP2017516605 T2	20190617	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190617 Text: JAPANESE INTERMEDIATE CODE: A523
JP2017516605 T2	20190701	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2017516605 T2	20190709	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01 Effective date: 20190709
JP2017516605 T2	20190815	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20190808 Text: JAPANESE INTERMEDIATE CODE: A61
JP2019205893 A2	20190909	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190909 Text: JAPANESE INTERMEDIATE CODE: A523
JP2019205893 A2	20190909	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20190909 Text: JAPANESE INTERMEDIATE CODE: A621
JP2019205893 A2	20191205	LSPB	+	published / reissued	
JP2019205893 A2	20200901	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A131 Effective date: 20200901
JP2019205893 A2	20200901	LSES	-A131	拒絶理由通知書	Effective date: 20200901
JP6571760 B2	20190711	LSGT	+A01	特許査定書	
JP6571760 B2	20190813	LSFE	R100	特許料納付書	
JP6571760 B2	20190816	LSGT	+R150	特許証	
JP6571760 B2	20190904	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6571760 B2	20350429	PEXP		Calculated Patent Term Expiry	
MX2016014236 A1	20170530	LSPB	+	published / reissued	
US10130372 BB	20150429	LSAS	AS	ASSIGNMENT	Effective date: 20150421 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GRIFFIN, STEPHEN;REEL/FRAME:035548/0033 Owner: CERUS ENDOVASCULAR LIMITED, UNITED KINGDOM

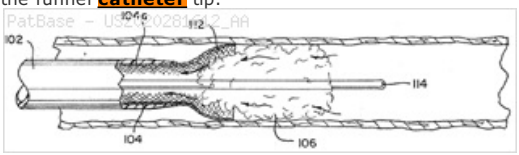
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US10130372 BB	20181031	LSGT	PAT1	Patented Case	
US10130372 BB	20181120	LSGT	+	granted / extensions (spc, cpc, pte)	
US10130372 BB	20350429	PEXP		Calculated Patent Term Expiry	
US2015313605 AA	20150810		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2015313605 AA	20151105	LSPB	+	published / reissued	
US2015313605 AA	20170306	LSES	NFA1	Non Final Action Mailed	
US2015313605 AA	20170825		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015313605 AA	20170921		FRM1	Final Rejection Mailed	
US2015313605 AA	20180315	LSES	NFA1	Non Final Action Mailed	
US2015313605 AA	20180518	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015313605 AA	20180810	LSES	ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2015313605 AA	20181031	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019059909 AA	20181026	LSAS	AS	ASSIGNMENT	Effective date: 20150421 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GRIFFIN, STEPHEN;REEL/FRAME:047346/0255 Owner: CERUS ENDOVASCULAR LIMITED, GREAT BRITAIN PartyType: owner
US2019059909 AA	20190228	LSPB	+	published / reissued	
US2019059909 AA	20190306		RFE1	Docketed New Case - Ready for Examination	
US2019059909 AA	20190306		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019059909 AA	20200709	LSES	NFA1	Non Final Action Mailed	
US2020038035 AA	20191002	LSAS	AS	ASSIGNMENT	Effective date: 20150421 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GRIFFIN, STEPHEN;REEL/FRAME:050610/0651 Owner: CERUS ENDOVASCULAR LIMITED, GREAT BRITAIN PartyType: owner
US2020038035 AA	20200123		RFE1	Docketed New Case - Ready for Examination	
US2020038035 AA	20200123		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020038035 AA	20200206	LSPB	+	published / reissued	

WO15166013 A1	20151105	LSPB	+	published / reissued	
WO15166013 A1	20151216		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 15720947 Kind code of Ref document: A1 Country of Ref document: EP
WO15166013 A1	20161017	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2946078 Country of Ref document: CA
WO15166013 A1	20161026	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 248515 Country of Ref document: IL
WO15166013 A1	20161028	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2016/014236 Country of Ref document: MX
WO15166013 A1	20161031	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2017508761 Country of Ref document: JP
WO15166013 A1	20161031	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO15166013 A1	20161103		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2015720947 Country of Ref document: EP
WO15166013 A1	20161103	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2015720947 Country of Ref document: EP

83) Family number: 80905273 (US2020281612 AA)

Title: FUNNEL ACTUATION **SYSTEMS**

Abstract: According to the present disclosure, there is provided a device which can have a funnel **catheter** having an expandable distal tip. The funnel **catheter** can originally be placed in a collapsed configuration for delivery through vasculature to a target thrombus location. Once positioned, the expandable tip can be radially expanded to create a funnel for aspirating or **retrieving** **clots** from a vessel. The funnel **catheter** can be at least partially enclosed by an outer sheath for purposes of delivery to the target site or to assist in expansion of the funnel **catheter** tip.



Classifications:
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61M25/00 A61M25/01 A61M29/00
CPC: A61B17/12036 A61B17/1204 A61B17/12109 A61B17/12131 A61B17/221 A61B2017/00323 A61B2017/00336 A61B2017/00477 A61B2017/00876 A61B2017/22044 A61B2017/22094 A61B2017/2212 A61B2017/2215 A61B2217/005 A61M2205/0272 A61M29/00 A61B2017/00778 A61M2025/0096 A61M25/0074 A61M25/0082 A61M25/0158

Family:

Publication number	Publication date	Application number	Application date
CN111643153 A	20200911	CN202010142830	20200304
EP3705067 A2	20200909	EP20200160688	20200303
JP2020142076 A2	20200910	JP20200036569	20200304
KR20200106848 A	20200915	KR20200027056	20200304
US2020281612 AA	20200910	US20200809117	20200304

Priority:
US20190813718P 20190304

Probable Assignee: NEURAVI LTD
Assignee(s): (std): NEURAVI LTD
Assignee(s): ニューラヴィ リミテッド ; 尼尔拉维有限公司 ; 뉴라비 리미티드
Inventor(s): (std): KEATING KARL ; KELLY RONALD
Inventor(s): K 基廷 ; R 凯莉 ; カール キーティング ; ロナルド ケリー ; 켈리 로날드 ; 키팅 칼
Agent(s): SMALL GARY JAMES; 中国专利代理 香港 有限公司 72001; 加藤 公延; 大島 孝文; 杨忠; 金飞; 장훈
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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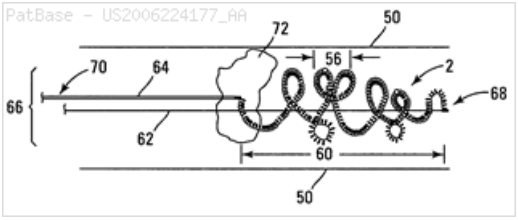
Patent	Date recorded	Event group	Code	Event	Details
CN111643153 A	20200911	LSPB	+	published / reissued	
CN111643153 A	20200911	LSPB	PB01	公开	Text: 公开 (Disclosure)
EP3705067 A2	20200909	LSPB	+	published / reissued	
EP3705067 A2	20200909		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3705067 A2	20200909		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
JP2020142076 A2	20200910	LSPB	+	published / reissued	
KR20200106848 A	20200915	LSPB	+	published / reissued	
US2020281612 AA	20200910	LSPB	+	published / reissued	

84) Family number: 33435293 (US2006224177 AA)

Title: THROMBUS **REMOVAL** **SYSTEM** AND PROCESS

Abstract: A device captures and assists in the **removal** of a thrombus in arteries, even in small arteries. The device uses a soft coil mesh to engage the surface of a thrombus, and a guidewire is used to retract the soft coil mesh with the captured thrombus. The soft coil is formed by an elongated microcoil element that forms the helical elements of a macrocoil element. The microcoil element provides a relatively elastic effect to the helical element forming the macrocoil and allows for control of gripping forces on the thrombus while reducing non-rigid contact of the device with arterial walls.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61B17/3207 A61F2/01 A61M29/00
CPC: A61B17/12022 A61B17/12145 A61B17/1215 A61B17/1219 A61B17/221 A61B17/32056 A61B2017/22034 A61B2017/2212 A61F2/01 A61F2002/016 A61F2230/0078 A61F2230/0091 A61B17/3207 A61B2017/2215 A61B2017/2217 A61B17/22
US: 1/1 606/127 606/159 606/159P 606/200 606/200P



Family:

Publication number	Publication date	Application number	Application date
CA2603544 AA	20061012	CA20062603544	20060327
CA2603544 C	20160816	CA20062603544	20060327
DE602006043634 D1	20141224	DE200660043634T	20060327
EP1871455 A2	20080102	EP20060739763	20060327
EP1871455 A4	20110105	EP20060739763	20060327
EP1871455 B1	20141112	EP20060739763	20060327
US2006224177 AA	20061005	US20050097354	20050401
US2006224179 AA	20061005	US20060356321	20060216
US2008091223 AA	20080417	US20070974490	20071012
US2011230908 AA	20110922	US20110151954	20110602
US2011230909 AA	20110922	US20110152004	20110602
US2016220265 AA	20160804	US20160094188	20160408
US7955344 BB	20110607	US20050097354	20050401
US7955345 BB	20110607	US20060356321	20060216
US8449566 BB	20130528	US20110151954	20110602
US8480697 BB	20130709	US20110152004	20110602
US8603122 BB	20131210	US20070974490	20071012
USRE47376 E	20190507	US20160050442	20160222
WO06107641 A2	20061012	WO2006US11158	20060327
WO06107641 A3	20071206	WO2006US11158	20060327

Priority:

US20050097354 20050401 US20060356321 20060216 WO2006US11158 20060327
EP20060739763 20060327 US20060851699P 20061013 US20070974490 20071012
US20100340910P 20100324 US20110151954 20110602 US20110152004 20110602
US20160050442 20160222 US20160094188 20160408

Probable Assignee: NEXGEN MEDICAL SYSTEMS INC

Assignee(s): (std): FINITSIS STEPHANOS ; KUCHARCZYK JOHN ; NEXGEN MEDICAL SYSTEMS INC ; POKORNEY JAMES L ; STEPHANOS FINITSIS

Assignee(s): LIFETECH DEVELOPMENTS FUND I LP ; NEXGEN MEDICAL SYSTEMS INC DAVIS

Inventor(s): (std): FINITSIS STEPHANOS ; KUCHARCZYK JOHN ; POKORNEY JAMES ; POKORNEY JAMES L ; STEPHANOS FINITSIS

Inventor(s): KUCHARCZYK JOHN RENO ; STEPHANOS FINITSIS F 54000 RESIDENCE LE PYGMALION

Agent(s): MARK A LITMAN AND ASSOCIATES P A; MARK A LITMAN AND ASSOCIATES PA; MARK A LITMAN AND ASSOCIATES PA YORK BUSINESS CENTER; MARK A LITMAN AND ASSOCIATES PA YORK BUSINESS CENTER SUITE 205; MARK A LITMAN AND ASSOCIATES YORK BUSINESS CENTER; MARKS AND CLERK LUXEMBOURG LLP; MAURY RICHARD PHILIP; RICHES MCKENZIE AND HERBERT LLP; SEAGER TUFTE AND WICKHEM LLP; WALDREN ROBIN MICHAEL

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC 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
CA2603544 AA	20061012	LSPB	+	published / reissued	
CA2603544 AA	20110324	LSES	+EEER	EXAMINATION REQUEST	
CA2603544 C	20160816	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2603544 C	20260327	PEXP		Calculated Patent Term Expiry	
DE602006043634 D1	20130823		R079	AMENDMENT OF IPC	ClassificationSymbol: A61B0017221000

				MAIN CLASS	Text: PREVIOUS MAIN CLASS: A61M0029000000 ClassificationScheme: IPC
DE602006043634 D1	20171003	LSDW	-R119	APPLICATION DEEMED WITHDRAWN, OR IP RIGHT LAPSED, DUE TO NON-PAYMENT OF RENEWAL FEE	
DE602006043634 D1	20180105		+R073	RE-ESTABLISHMENT REQUESTED	
DE602006043634 D1	20180504	LSRE	+R074	RE-ESTABLISHMENT ALLOWED	
DE602006043634 D1	20180507	LSRE	+R074	RE-ESTABLISHMENT ALLOWED	
EP1871455 A2	20080102	LSPB	+	published / reissued	
EP1871455 A2	20080102	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20071031
EP1871455 A2	20080102		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR
EP1871455 A2	20080102		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR MK YU
EP1871455 A2	20080116	LSES	R17D	DEFERRED SEARCH REPORT PUBLISHED (CORRECTED)	Effective date: 20071206
EP1871455 A2	20080709		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1871455 A2	20080709		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: DE FR GB
EP1871455 A4	20110105	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20101206
EP1871455 A4	20130823		REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602006043634 Ref country code: DE ClassificationScheme: IPC Text: PREVIOUS MAIN CLASS: A61M0029000000 ClassificationSymbol: A61B0017221000 Ref legal event code: R079 Country of Ref document: DE
EP1871455 A4	20131002		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/22 20060101ALI20130823BHEP
EP1871455 A4	20131002		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101AFI20130823BHEP ClassificationScheme: IPC
EP1871455 A4	20131030	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20131003
EP1871455 B1	20141112	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1871455 B1	20141112		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: DE FR GB
EP1871455 B1	20141112	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP1871455 B1	20141224	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Effective date: 20141224 Ref document number: 602006043634 Ref legal event code: R096 Country of Ref document: DE
EP1871455 B1	20150813	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602006043634 Ref legal event code: R097 Country of Ref document: DE
EP1871455 B1	20151021	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20150813
EP1871455 B1	20161003	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 11 Country of Ref document: FR

EP1871455 B1	20161031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160930 Year of fee payment: 11 Country of Ref document: GB
EP1871455 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 11 Payment date: 20161003 Country of Ref document: FR
EP1871455 B1	20170131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20160930 Year of fee payment: 11 Country of Ref document: DE
EP1871455 B1	20171003	LSDW	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602006043634 Ref legal event code: R119 Country of Ref document: DE
EP1871455 B1	20171129	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20170327
EP1871455 B1	20171220	LSRE	REG	REFERENCE TO A NATIONAL CODE	Text: REQUEST FILED; REQUEST FOR CORRECTION UNDER SECTION 117 FILED ON 2 NOVEMBER 2017 Ref legal event code: S117 Ref country code: GB
EP1871455 B1	20171229	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20171130 Ref legal event code: ST Ref country code: FR
EP1871455 B1	20180105		REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602006043634 Ref legal event code: R073 Ref country code: DE Country of Ref document: DE
EP1871455 B1	20180108	LSFE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: FR Ref legal event code: PLFP Year of fee payment: 12
EP1871455 B1	20180117	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: S117 Text: REQUEST FOR OPPOSITION; CLAIM 1, LINE 3 INSERT CHARACTERIZED BY AFTER DISTAL END CLAIM 1, LINE 4 INSERT (62) AFTER WIRE CLAIM 1, LINE 5 INSERT (68) AFTER END CLAIM 1, LINE 6 INSERT (64) AFTER WIRE CLAIM 1, LINE 9 DELETE MAXIMUM AFTER A DELETE LESS THAN INSERT AT LEAST AFTER OF
EP1871455 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20171003 Country of Ref document: DE
EP1871455 B1	20180131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170331 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1871455 B1	20180207	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: S28 Text: APPLICATION FILED Ref country code: GB
EP1871455 B1	20180228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20170327 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1871455 B1	20180302	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: RN Ref country code: FR Effective date: 20180131
EP1871455 B1	20180328	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: S117 Text: CORRECTIONS ALLOWED; REQUEST FOR CORRECTION UNDER SECTION 117 FILED ON 02 NOVEMBER 2017 ALLOWED ON 27 FEBRUARY 2018
EP1871455 B1	20180502	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: S28 Text: RESTORATION ALLOWED Effective date: 20180411 Ref country code: GB
EP1871455 B1	20180504	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602006043634 Ref legal event code: R074

					Country of Ref document: DE
EP1871455 B1	20180507	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602006043634 Ref legal event code: R074 Country of Ref document: DE
EP1871455 B1	20180622	LSRE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180517 Ref country code: FR Ref legal event code: FC
EP1871455 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20171003 Country of Ref document: DE
EP1871455 B1	20180731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 12 Payment date: 20180105 Country of Ref document: DE
EP1871455 B1	20180731	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Reinstated date: 20180611 Country of Ref document: DE
EP1871455 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20170331 Country of Ref document: FR
EP1871455 B1	20180831	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180108 Year of fee payment: 12 Country of Ref document: FR
EP1871455 B1	20180831	LSRE	+PGRI	PATENT REINSTATED IN CONTRACTING STATE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Reinstated date: 20180517 Country of Ref document: FR
EP1871455 B1	20180927	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 13 Ref country code: FR Ref legal event code: PLFP
EP1871455 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 13 Payment date: 20180912 Country of Ref document: DE
EP1871455 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180409 Year of fee payment: 13 Country of Ref document: GB
EP1871455 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 13 Payment date: 20180927 Country of Ref document: FR
EP1871455 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 14 Payment date: 20190325 Country of Ref document: FR
EP1871455 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 14 Payment date: 20190327 Country of Ref document: DE
EP1871455 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190404 Year of fee payment: 14 Country of Ref document: GB
EP1871455 B1	20260327	PEXP		Calculated Patent Term Expiry	
US2006224177 AA	20061005	LSPB	+	published / reissued	
US2006224177 AA	20110428	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FINITSIS,

					STEPHANOS;REEL/FRAME:026196/0141 PartyType: owner Effective date: 20110428 Owner: NEXGEN MEDICAL SYSTEMS, INC., NEVADA
US2006224179 AA	20061005	LSPB	+	published / reissued	
US2008091223 AA	20080417	LSPB	+	published / reissued	
US2008091223 AA	20131120	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2011230908 AA	20110922	LSPB	+	published / reissued	
US2011230909 AA	20110922	LSPB	+	published / reissued	
US2011230909 AA	20130619	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016220265 AA	20160503		RFE1	Docketed New Case - Ready for Examination	
US2016220265 AA	20160804	LSPB	+	published / reissued	
US2016220265 AA	20170307	LSES	NFA1	Non Final Action Mailed	
US2016220265 AA	20170731		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2016220265 AA	20171107		FRM1	Final Rejection Mailed	
US2016220265 AA	20180530	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2016220265 AA	20180530		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US7955344 BB	20110607	LSGT	+	granted / extensions (spc, cpc, pte)	
US7955344 BB	20150116		REMI	MAINTENANCE FEE REMINDER MAILED	
US7955344 BB	20150607	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7955344 BB	20150607	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US7955344 BB	20150728	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150607
US7955344 BB	20150803	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7955344 BB	20150803	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	Effective date: 20150804
US7955344 BB	20150804	LSGT	PAT1	Patented Case	
US7955344 BB	20150804	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7955344 BB	20170518	LSAS	AS	ASSIGNMENT	OldParty: SECURITY INTEREST;ASSIGNOR:NEXGEN MEDICAL SYSTEMS, INC.;REEL/FRAME:042429/0735 Owner: LIFETECH DEVELOPMENTS, FUND I L.P., DELAWARE PartyType: owner Effective date: 20150106
US7955344 BB	20181207	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7955344 BB	20300407	PEXP		Calculated Patent Term Expiry (PTA 1832 days)	
US7955345 BB	20060515	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KUCHARCZYK, JOHN;FINITSIS, STEPHANOS;REEL/FRAME:017865/0352;SIGNING

					DATES FROM 20060328 TO 20060509 Owner: NEXGEN MEDICAL SYSTEMS, INCORPORATED, CALIFORNIA PartyType: owner
US7955345 BB	20060515	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KUCHARCZYK, JOHN;FINITSIS, STEPHANOS;SIGNING DATES FROM 20060328 TO 20060509;REEL/FRAME:017865/0352 Owner: NEXGEN MEDICAL SYSTEMS, INCORPORATED, CALIFORNIA PartyType: owner
US7955345 BB	20110607	LSGT	+	granted / extensions (spc, cpc, pte)	
US7955345 BB	20150116		REMI	MAINTENANCE FEE REMINDER MAILED	
US7955345 BB	20150607	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US7955345 BB	20150607	LSRE	+REIN	REINSTATEMENT AFTER MAINTENANCE FEE PAYMENT CONFIRMED	
US7955345 BB	20150728	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150607
US7955345 BB	20150803	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7955345 BB	20150803	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A LATE MAINTENANCE FEE	Effective date: 20150804
US7955345 BB	20150804	LSGT	PAT1	Patented Case	
US7955345 BB	20150804	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US7955345 BB	20170518	LSAS	AS	ASSIGNMENT	OldParty: SECURITY INTEREST;ASSIGNOR:NEXGEN MEDICAL SYSTEMS, INC.;REEL/FRAME:042429/0735 Owner: LIFETECH DEVELOPMENTS, FUND I L.P., DELAWARE PartyType: owner Effective date: 20150106
US7955345 BB	20181207	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US7955345 BB	20300407	PEXP		Calculated Patent Term Expiry (PTA 1511 days)	
US8449566 BB	20110607	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20110428 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:FINITSIS, STEPHANOS;REEL/FRAME:026399/0446 Owner: NEXGEN MEDICAL SYSTEMS, INC., NEVADA
US8449566 BB	20130508	LSGT	PAT1	Patented Case	
US8449566 BB	20130528	LSGT	+	granted / extensions (spc, cpc, pte)	
US8449566 BB	20170106		REMI	MAINTENANCE FEE REMINDER MAILED	
US8449566 BB	20170518	LSAS	AS	ASSIGNMENT	Owner: LIFETECH DEVELOPMENTS, FUND I L.P., DELAWARE OldParty: SECURITY INTEREST;ASSIGNOR:NEXGEN MEDICAL SYSTEMS, INC.;REEL/FRAME:042429/0735 PartyType: owner Effective date: 20150106
US8449566 BB	20170528	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8449566 BB	20170626	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8449566 BB	20170718	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20170528
US8449566 BB	20171023	LSRE	+PRDP	PATENT REINSTATED DUE TO THE ACCEPTANCE OF A	Effective date: 20171024

				LATE MAINTENANCE FEE	
US8449566 BB	20171024	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES FILED (ORIGINAL EVENT CODE: PMFP)
US8449566 BB	20171024	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: PETITION RELATED TO MAINTENANCE FEES GRANTED (ORIGINAL EVENT CODE: PMFG)
US8449566 BB	20171024	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE, PETITION TO ACCEPT PYMT AFTER EXP, UNINTENTIONAL. (ORIGINAL EVENT CODE: M2558); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US8449566 BB	20171024	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8449566 BB	20171024	LSGT	PAT1	Patented Case	
US8449566 BB	20171024	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8449566 BB	20310602	PEXP		Calculated Patent Term Expiry	
US8480697 BB	20110607	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:KUCHARCZYK, JOHN;FINITSIS, STEPHANOS;SIGNING DATES FROM 20060328 TO 20060509;REEL/FRAME:026399/0371 Owner: NEXGEN MEDICAL SYSTEMS, INC., NEVADA PartyType: owner
US8480697 BB	20130619	LSGT	PAT1	Patented Case	
US8480697 BB	20130709	LSGT	+	granted / extensions (spc, cpc, pte)	
US8480697 BB	20170217		REMI	MAINTENANCE FEE REMINDER MAILED	
US8480697 BB	20170310	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8480697 BB	20170310		+SULP	SURCHARGE FOR LATE PAYMENT	
US8480697 BB	20170518	LSAS	AS	ASSIGNMENT	OldParty: SECURITY INTEREST;ASSIGNOR:NEXGEN MEDICAL SYSTEMS, INC.;REEL/FRAME:042429/0735 Effective date: 20150106 Owner: LIFETECH DEVELOPMENTS, FUND I L.P., DELAWARE PartyType: owner
US8480697 BB	20310602	PEXP		Calculated Patent Term Expiry	
US8603122 BB	20071227	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:POKOMEY, JAMES;FINITSIS, STEPHANOS;KUCHARCZYK, JOHN;REEL/FRAME:020310/0024;SIGNING DATES FROM 20071001 TO 20071227 PartyType: owner Owner: NEXGEN MEDICAL SYSTEMS, INCORPORATED, CALIFORNIA
US8603122 BB	20071227	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:POKOMEY, JAMES;FINITSIS, STEPHANOS;KUCHARCZYK, JOHN;SIGNING DATES FROM 20071001 TO 20071227;REEL/FRAME:020310/0024 Owner: NEXGEN MEDICAL SYSTEMS, INCORPORATED, CALIFORNIA
US8603122 BB	20131120	LSGT	PAT1	Patented Case	
US8603122 BB	20131210	LSGT	+	granted / extensions (spc, cpc, pte)	
US8603122 BB	20160607		RF	REISSUE APPLICATION FILED	Effective date: 20160222
US8603122 BB	20170518	LSAS	AS	ASSIGNMENT	Effective date: 20150106 PartyType: owner OldParty: SECURITY INTEREST;ASSIGNOR:NEXGEN MEDICAL SYSTEMS, INC.;REEL/FRAME:042429/0735 Owner: LIFETECH DEVELOPMENTS, FUND I L.P., DELAWARE
US8603122 BB	20170522	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8603122 BB	20311210	PEXP		Calculated Patent Term Expiry (PTA 1520 days)	
USRE47376 E	20190417	LSGT	PAT1	Patented Case	
WO06107641 A2	20061012	LSPB	+	published / reissued	
WO06107641 A2	20061129		121	EP: THE EPO HAS BEEN INFORMED BY	

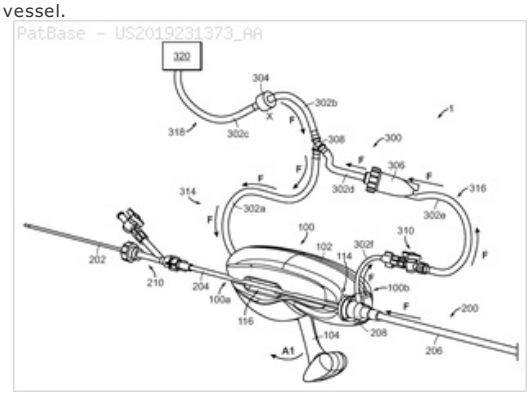
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WO06107641 A2	20070928	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2603544 Country of Ref document: CA
WO06107641 A2	20071002	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO06107641 A2	20071031	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006739763 Country of Ref document: EP
WO06107641 A2	20071101	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: RU

85) Family number: 75288713 (US2019231373 AA)

Title: SINGLE INSERTION DELIVERY **SYSTEM** FOR TREATING EMBOLISM AND ASSOCIATED **SYSTEMS** AND **METHODS**

Abstract: **Systems** and **methods** for the intravascular treatment of **clot** material within a blood vessel of a human patient are disclosed herein. A **method** in accordance with embodiments of the present technology can include, for example, engaging an interventional device of a **catheter** **system** with **clot** material in a blood vessel and withdrawing the interventional device and the portion of the **clot** material through a guide **catheter**. In some embodiments, the **catheter** **system** can include an attachment/valve member coupled to a proximal portion of the guide **catheter**, and the **method** can include unsealing the attachment/valve member to facilitate withdrawing the interventional device through the attachment/valve member without significant retention of **clot** material within the attachment/valve member. The **method** can further include resealing and aspirating the guide **catheter** before advancing another interventional device to the **clot** material to again engage and **remove** **clot** material from the blood vessel.

Classifications:
International (IPC 8-9): A61B17/22 A61M25/00
CPC: A61B17/22 A61B17/22031 A61B17/221 A61B2017/00907 A61B2017/22034 A61B2017/22042 A61B2017/22079 A61B2017/22094 A61B2217/005 A61M2210/12 A61M25/0082 A61M39/06



Family:

Publication number	Publication date	Application number	Application date
US2019231373 AA	20190801	US20190258344	20190125

Priority:
US20180622691P 20180126 US20190258344 20190125

Probable Assignee: INARI MEDICAL INC
Assignee(s): (std): INARI MEDICAL INC
Assignee(s): INCEPTUS MEDICAL LLC
Inventor(s): (std): QUICK RICHARD

Legal status (INPADOC)

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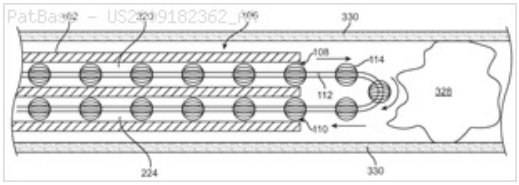
Patent	Date recorded	Event group	Code	Event	Details
US2019231373 AA	20190315	LSAS	AS	ASSIGNMENT	Effective date: 20180417 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:INCEPTUS MEDICAL, LLC;REEL/FRAME:048613/0234 Owner: INARI MEDICAL, INC., CALIFORNIA PartyType: owner
US2019231373 AA	20190315	LSAS	AS	ASSIGNMENT	Effective date: 20180129 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:QUICK, RICHARD;REEL/FRAME:048613/0066 Owner: INCEPTUS MEDICAL, LLC, CALIFORNIA PartyType: owner
US2019231373 AA	20190801	LSPB	+	published / reissued	

86) Family number: 43506170 (US2009182362 AA)

Title: OBSTRUCTION **REMOVAL** **SYSTEM**

Abstract: An obstruction **removal** **system** for percutaneous **removal** of **clots** or obstructions within the vascular **system** is disclosed. The obstruction **removal** **system** includes a multi-lumen **catheter** with a plurality of circulating capture devices attached to or integral with a drive belt. The circulating capture or interference devices affect **removal** of the **clot** or obstruction bit-by-bit through a series of passes. The obstruction **removal** **system** may include one or more drive mechanisms, such as a pulley **system** and/or a vacuum source and/or a pressurization source, on its proximal end for driving the drive belt and capture devices through the **catheter** in a circulating manner. The obstruction **removal** **system** may also include one or more cleaning mechanisms, such as a vacuum chamber and/or a fluid rinse chamber, for **removing** the captured **clot** pieces from the capture devices.

Classifications:
International (IPC 8-9): A61B10/02 A61B17/00 A61B17/22 A61B17/32
CPC: A61B10/0266 A61B17/320708 A61B17/320725 A61B17/320758 A61B2010/0225 A61B2017/00345 A61B2017/00398 A61B2017/00867 A61B2017/320008 A61B2017/320012 A61B2017/32006 A61B2017/320064 A61B2017/320741
US: 606/128 606/159 606/159P 606/170



Family:

Publication number	Publication date	Application number	Application date
EP2249713 A2	20101117	EP20080869656	20081223
JP2011509148 T2	20110324	JP20100542250T	20081223
US2009182362 AA	20090716	US20080972744	20080111
US8021380 BB	20110920	US20080972744	20080111
WO09088783 A2	20090716	WO2008US88234	20081223
WO09088783 A3	20090903	WO2008US88234	20081223

Priority:
US20080972744 20080111 WO2008US88234 20081223

Probable Assignee: MEDTRONIC INC

Assignee(s): (std): JOHNSON JEREMY ; MACAULAY PATRICK ; MAUCH KEVIN ; MEDTRONIC INC ; MEDTRONIC VASCULAR INC ; PERKINS D H ; SILVER MICHELE ; THOMPSON DUSTIN

Assignee(s): メドトロニック ヴァスキュラー インコーポレイテッド

Inventor(s): (std): JOHNSON JEREMY ; MACAULAY PATRICK ; MAUCH KEVIN ; PERKINS D H ; SILVER MICHELE ; THOMPSON DUSTIN

Inventor(s): シルヴァー ミッシェル ; ジョンソン ジェレミー ; トンプソン ダスティン ; パーキンズ ディー エイチ ; マウフ ケヴィン ; マコーレー パトリック

Agent(s): HAYNES WILLIAM; MEDTRONIC VASCULAR INC IP LEGAL DEPARTMENT; ZIMMERMANN AND PARTNER

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI 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
EP2249713 A2	20101117	LSPB	+	published / reissued	
EP2249713 A2	20101117	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20100811
EP2249713 A2	20101117		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
EP2249713 A2	20101117		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA MK RS
EP2249713 A2	20110420		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2249713 A2	20130731	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20130702
EP2249713 A2	20150617	LSWD	-18W	APPLICATION WITHDRAWN	Effective date: 20150512
JP2011509148 T2	20110324	LSPB	+	published / reissued	
US2009182362 AA	20090716	LSPB	+	published / reissued	
US8021380 BB	20080111	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:THOMPSON, DUSTIN;PERKINS, D.H.;JOHNSON,

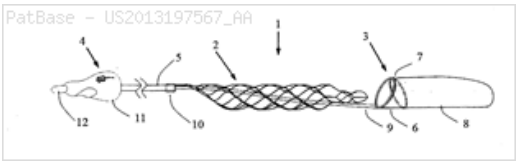
					JEREMY;AND OTHERS;REEL/FRAME:020354/0037 Owner: MEDTRONIC VASCULAR, INC., CALIFORNIA Effective date: 20080110 PartyType: owner
US8021380 BB	20110920	LSGT	+	granted / extensions (spc, cpc, pte)	
US8021380 BB	20150501		REMI	MAINTENANCE FEE REMINDER MAILED	
US8021380 BB	20150920	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US8021380 BB	20151019	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
US8021380 BB	20151019	LSLE	-STCH	INFORMATION ON STATUS: PATENT DISCONTINUATION	Text: PATENT EXPIRED DUE TO NONPAYMENT OF MAINTENANCE FEES UNDER 37 CFR 1.362
US8021380 BB	20151110	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20150920
US8021380 BB	20290204	PEXP		Calculated Patent Term Expiry (PTA 390 days)	
WO09088783 A2	20090716	LSPB	+	published / reissued	
WO09088783 A3	20090916		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 08869656 Country of Ref document: EP
WO09088783 A3	20100709	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2010542250 Country of Ref document: JP
WO09088783 A3	20100713	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO09088783 A3	20100811	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2008869656 Country of Ref document: EP

87) Family number: 50961651 (US2013197567 AA)

Title: CLOT ENGAGEMENT AND REMOVAL SYSTEM

Abstract: A clot retrieval apparatus 1 comprises a clot engaging device 2 and a capture basket 3. The clot engaging device 2 has a collapsed delivery configuration and an expanded deployment configuration. The clot engaging device has a proximal end and a distal end and an elongate body between the proximal end and the distal end. The capture basket 3 has a collapsed delivery configuration and an expanded deployment configuration. The capture basket 3 has a proximal mouth which is open when the capture basket 3 is in the deployment configuration. The clot engaging device 2 is axially movable relative to the capture basket for capture of a clot.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61M29/00
CPC: A61B17/221 A61B2017/22034 A61B2017/22094 A61B2017/2212 A61B2017/2217
US: 1/1 606/114 606/200



Family:

Publication number	Publication date	Application number	Application date
EP2629684 A1	20130828	EP20110779490	20111021
EP2629684 B1	20180725	EP20110779490	20111021
ES2683943 T3	20180928	ES20110779490T	20111021
US10292723 BB	20190521	US20160254133	20160901
US2013197567 AA	20130801	US20110823048	20111021
US2015374393 AA	20151231	US20150849294	20150909
US2017086863 AA	20170330	US20160254133	20160901
US2019239908 AA	20190808	US20190385841	20190416
US9351749 BB	20160531	US20150849294	20150909
US9463036 BB	20161011	US20110823048	20111021
WO12052982 A1	20120426	WO2011IE00057	20111021

Priority:

US20100344848P 20101022 WO2011IE00057 20111021 EP20110779490 20111021
US20110823048 20111021 US20130823048 20130313 US20150849294 20150909
US20160254133 20160901 US20190385841 20190416

Probable Assignee: NEURAVI LTD

Assignee(s): (std): BRADY EAMON ; GILVARRY MICHAEL ; NEURAVI LTD ; RAZAVI MAHMOOD K ; VALE DAVID

Assignee(s): NEURAVI LIMITED

Inventor(s): (std): BRADY EAMON ; GILVARRY MICHAEL ; RAZAVI MAHMOOD K ; VALE DAVID

Agent(s): BOOKOFF MCANDREWS PLLC; CARPMAELS AND RANSFORD LLP; IZQUIERDO MARIA ALICIA; O BRIEN JOHN A ET AL; OBRIEN JOHN AUGUSTINE; TROUTMAN SANDERS LLP

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
EP2629684 A1	20130828	LSPB	+	published / reissued	
EP2629684 A1	20130828	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20130319
EP2629684 A1	20130828		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2629684 A1	20140129		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2629684 A1	20160113	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: NEURAVI LIMITED
EP2629684 A1	20170322	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20170221
EP2629684 A1	20180228	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180202
EP2629684 B1	20180725	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2629684 B1	20180725		+AK	DESIGNATED	Kind code of Ref document: B1

				CONTRACTING STATES	Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2629684 B1	20180725	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP2629684 B1	20180731	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP2629684 B1	20180815	LSNP	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Ref document number: 1020902 Effective date: 20180815 Ref legal event code: REF Ref country code: AT Country of Ref document: AT
EP2629684 B1	20180822	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP2629684 B1	20180823	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Ref country code: DE Ref document number: 602011050377 Country of Ref document: DE
EP2629684 B1	20180928	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 8 Ref legal event code: PLFP Ref country code: FR
EP2629684 B1	20180928	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2683943 Ref legal event code: FG2A Effective date: 20180928 Country of Ref document: ES
EP2629684 B1	20181031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20180928 Country of Ref document: FR
EP2629684 B1	20181128		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180725 Ref country code: NL Ref legal event code: MP
EP2629684 B1	20181210	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: LT Ref legal event code: MG4D
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EP2629684 B1	20190115	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Kind code of Ref document: T Ref legal event code: MK05 Effective date: 20180725 Ref document number: 1020902 Country of Ref document: AT
EP2629684 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: LT
EP2629684 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: SE
EP2629684 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: AT

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EP2629684 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180725 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2629684 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181125 Country of Ref document: IS
EP2629684 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180725 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2629684 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181026 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2629684 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181025 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2629684 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20181025 Country of Ref document: BG
EP2629684 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180725 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP2629684 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181009 Year of fee payment: 8 Country of Ref document: DE
EP2629684 B1	20190131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20181009 Country of Ref document: IE
EP2629684 B1	20190228	LSLE	-PG25	LAPSED IN A	NotificationOfLapse: LAPSE BECAUSE

				CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: HR
EP2629684 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: LV
EP2629684 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180725 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2629684 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181017 Year of fee payment: 8 Country of Ref document: GB
EP2629684 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20181102 Country of Ref document: ES
EP2629684 B1	20190228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20181018 Year of fee payment: 8 Country of Ref document: IT
EP2629684 B1	20190426	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R097 Ref document number: 602011050377 Ref country code: DE Country of Ref document: DE
EP2629684 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: RO
EP2629684 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: CZ
EP2629684 B1	20190430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180725 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP2629684 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING	Lapsed date: 20180725 NotificationOfLapse: LAPSE BECAUSE

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2629684 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: SM
EP2629684 B1	20190531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180725 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2629684 B1	20190531	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP2629684 B1	20190626		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20181031 Ref country code: BE Ref legal event code: MM
EP2629684 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180725 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2629684 B1	20190628	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20181021 Country of Ref document: LU
EP2629684 B1	20190703	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20190426
EP2629684 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20181031 Country of Ref document: CH
EP2629684 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20181031 Country of Ref document: LI
EP2629684 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: SI
EP2629684 B1	20190830	LSLE	-PG25	LAPSED IN A CONTRACTING	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181031 Country of Ref document: BE
EP2629684 B1	20191031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20190913 Country of Ref document: FR
EP2629684 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20181021 Country of Ref document: MT
EP2629684 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20191008 Country of Ref document: DE
EP2629684 B1	20200131	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20191010 Country of Ref document: IE
EP2629684 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20191104 Country of Ref document: ES
EP2629684 B1	20200228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20191009 Year of fee payment: 9 Country of Ref document: IT
EP2629684 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180725 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2629684 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 9 Payment date: 20191018 Country of Ref document: GB
EP2629684 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: PT
EP2629684 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	Lapsed date: 20180725 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Country of Ref document: MK
EP2629684 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180725 Country of Ref document: CY
EP2629684 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Lapsed date: 20111021 Country of Ref document: HU
EP2629684 B1	20311021	PEXP		Calculated Patent Term Expiry	
ES2683943 T3	20180928	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2683943 T3	20311021	PEXP		Calculated Patent Term Expiry	
US10292723 BB	20190501	LSGT	PAT1	Patented Case	
US10292723 BB	20190521	LSGT	+	granted / extensions (spc, cpc, pte)	
US10292723 BB	20320728	PEXP		Calculated Patent Term Expiry (PTA 281 days)	
US2013197567 AA	20130801	LSPB	+	published / reissued	
US2013197567 AA	20160921	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015374393 AA	20151231	LSPB	+	published / reissued	
US2015374393 AA	20160511	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017086863 AA	20170130		RFE1	Docketed New Case - Ready for Examination	
US2017086863 AA	20170330	LSPB	+	published / reissued	
US2017086863 AA	20170406	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NEURAVI LIMITED, IRELAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K.;AND OTHERS;SIGNING DATES FROM 20170217 TO 20170307;REEL/FRAME:041886/0913
US2017086863 AA	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: LARGE ENTITY
US2017086863 AA	20180802	LSES	NFA2	Non Final Action Counted, Not Yet Mailed	
US2017086863 AA	20190110	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	

US2017086863 AA	20190110		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NOTICE OF ALLOWANCE MAILED -- APPLICATION RECEIVED IN OFFICE OF PUBLICATIONS
US2017086863 AA	20190415	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017086863 AA	20190415		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017086863 AA	20190501	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019239908 AA	20190808	LSPB	+	published / reissued	
US2019239908 AA	20190812	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K;AND OTHERS;SIGNING DATES FROM 20170217 TO 20170307;REEL/FRAME:050021/0896 Owner: NEURAVI LIMITED, IRELAND PartyType: owner
US9351749 BB	20151216	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NEURAVI LIMITED, IRELAND OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K.;AND OTHERS;SIGNING DATES FROM 20151207 TO 20151214;REEL/FRAME:037307/0074
US9351749 BB	20160428	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US9351749 BB	20160511	LSGT	PAT1	Patented Case	
US9351749 BB	20160531	LSGT	+	granted / extensions (spc, cpc, pte)	
US9351749 BB	20171003	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US9351749 BB	20191115	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9351749 BB	20311021	PEXP		Calculated Patent Term Expiry	
US9463036 BB	20130318	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BRADY, EAMON;GILVARRY, MICHAEL;RAZAVI, MAHMOOD K.;AND OTHERS;SIGNING DATES FROM 20130210 TO 20130304;REEL/FRAME:030027/0722 PartyType: owner Owner: NEURAVI LIMITED, IRELAND
US9463036 BB	20151116		FRM1	Final Rejection Mailed	
US9463036 BB	20160921	LSGT	PAT1	Patented Case	
US9463036 BB	20161011	LSGT	+	granted / extensions (spc, cpc, pte)	
US9463036 BB	20161227	LSRE	CC	CERTIFICATE OF CORRECTION	
US9463036 BB	20180208	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US9463036 BB	20200326	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9463036 BB	20320705	PEXP		Calculated Patent Term Expiry (PTA 258 days)	
WO12052982 A1	20120426	LSPB	+	published /	

				reissued	
WO12052982 A1	20120613		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 11779490 Kind code of Ref document: A1 Country of Ref document: EP
WO12052982 A1	20130313	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13823048 Country of Ref document: US
WO12052982 A1	20130319	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2011779490 Country of Ref document: EP
WO12052982 A1	20130422	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE

88) Family number: 57231573 (WO14127738 A1)

Title: THROMBECTOMY DEVICE AND THROMBECTOMY EQUIPMENT

Abstract: A thrombectomy device (300) and thrombectomy equipment (1) particularly adapted for thrombectomies in intracranial blood vessels. The thrombectomy device (300) is a mesh structure defining a tubular cavity and which can transform between a retracted position and a deployed position; the mesh structure of said thrombectomy device (300) is provided with a plurality of concave stems (321) having three-dimensional contours and projecting into the tubular cavity, either end of each such concave stem (321) being fixed to said mesh structure. The thrombectomy equipment (1) comprises a guide wire, an insertion rod (100), an outer sheath (2) and an internal tube (4) movable relative to same; the guide wire passes through the internal tube (4), which is sheathed within the outer sheath (2); said internal tube (4) is movable along the guide wire. The present thrombectomy equipment (1) further comprises an insertion rod (100) connected to the thrombectomy device (300). The present thrombectomy device (300) and thrombectomy equipment (1) are able, after capture of a thrombus and during **retrieval** thereof, firmly to retain same, thus improving capture stability and preventing the thrombus from slipping away, thus avoiding such problems as distant blood vessels again being blocked by vascular plaque or broken fragments of thrombus. The equipment is compact and flexible.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61B17/32
CPC: A61B17/22 A61B17/22012 A61B17/221 A61B2017/00778 A61B2017/00831 A61B2017/22035 A61B2017/22038 A61B2017/22045 A61B2017/2212 A61B2017/2215



图4 / Fig.4

Family:

Publication number	Publication date	Application number	Application date
CN104000635 A	20140827	CN201310056463	20130221
CN104000635 B	20180216	CN201310056463	20130221
DE602014020962 D1	20180315	DE201460020962T	20140221
EP2959853 A1	20151230	EP20140754828	20140221
EP2959853 A4	20151230	EP20140754828	20140221
EP2959853 B1	20180214	EP20140754828	20140221
WO14127738 A1	20140828	WO2014CN072387	20140221

Priority:
CN201310056463 20130221 EP20140754828 20140221 WO2014CN072387 20140221

Probable Assignee: MICROPORT NEURO TECH SHANGHAI CO LTD

Assignee(s): (std): MICROPORT NEURO TECH SHANGHAI CO LTD

Assignee(s): MICROPORT NEURO TECH SHANGHAI CO ; MINIMALLY INVASIVE MEDICAL TECHNOLOGY CO LTD SHANGHAI SHENTONG ; 微创神通医疗科技 上海 有限公司 ; 微创神通医疗科技(上海)有限公司

Inventor(s): (std): FAN YINPING ; JI JIE ; JIE JI ; JIN QIAORONG ; LUO QIYI ; NI ZUNZHANG ; QIAORONG JIN ; QINGSHUN XU ; QIYI LUO ; XIE ZHIYONG ; XU QINGSHUN ; YINPING FAN ; YU ZHANG ; ZHANG YU ; ZHIYONG XIE ; ZUNZHANG NI

Inventor(s): 倪尊张 ; 季杰 ; 张宇 ; 徐庆顺 ; 罗七 ; 罗七一 ; 范银苹 ; 谢志永 ; 金巧蓉

Agent(s): CHINA SINDA INTELLECTUAL PROPERTY LTD; LAVOIX; TISCHNER OLIVER; 中原信达知识产权代理有限责任公司 11219; 蔡石蒙; 车文

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
CN104000635 A	20140827	LSPB	+	published / reissued	
CN104000635 A	20140827	LSPB	+C06	PUBLICATION	
CN104000635 A	20140924		C10	ENTRY INTO SUBSTANTIVE EXAMINATION	
CN104000635 B	20180216	LSGT	+	granted / extensions (spc, cpc, pte)	
CN104000635 B	20180216	LSGT	+GR01	PATENT GRANT	
CN104000635 B	20330221	PEXP		Calculated Patent Term Expiry	
DE602014020962 D1	20170711		R079	AMENDMENT OF IPC MAIN CLASS	ClassificationSymbol: A61B0017221000 ClassificationScheme: IPC Text: PREVIOUS MAIN CLASS:

					A61B0017220000
EP2959853 A1	20151230	LSPB	+	published / reissued	
EP2959853 A1	20151230	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20150921
EP2959853 A1	20151230	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20151123
EP2959853 A1	20151230		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2959853 A1	20151230		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP2959853 A1	20160525		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2959853 A1	20161109	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20161011
EP2959853 A1	20170711		REG	REFERENCE TO A NATIONAL CODE	ClassificationScheme: IPC Ref legal event code: R079 ClassificationSymbol: A61B0017221000 Ref document number: 602014020962 Text: PREVIOUS MAIN CLASS: A61B0017220000 Ref country code: DE Country of Ref document: DE
EP2959853 A1	20170816		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20170711BHEP
EP2959853 A1	20170920	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20170824
EP2959853 B1	20180214	LSGT	+	granted / extensions (spc, cpc, pte)	
EP2959853 B1	20180214		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP2959853 B1	20180214	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: GB
EP2959853 B1	20180215	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP2959853 B1	20180307	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP2959853 B1	20180312	LSFE	REG	REFERENCE TO A NATIONAL CODE	Year of fee payment: 5 Ref legal event code: PLFP Ref country code: FR
EP2959853 B1	20180315	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: AT Effective date: 20180315 Kind code of Ref document: T Ref document number: 969356 Ref legal event code: REF Country of Ref document: AT
EP2959853 B1	20180315	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Ref document number: 602014020962 Ref country code: DE Country of Ref document: DE
EP2959853 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 5 Payment date: 20180322 Country of Ref document: DE
EP2959853 B1	20180430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20180321 Year of fee payment: 5 Country of Ref document: GB
EP2959853 B1	20180531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL	Payment date: 20180312 Year of fee payment: 5 Country of Ref document: FR

				OFFICE TO EPO]	
EP2959853 B1	20180620		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180214 Ref country code: NL Ref legal event code: MP
EP2959853 B1	20180715	LSRV	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T Ref country code: AT Effective date: 20180214 Ref document number: 969356 Ref legal event code: MK05 Country of Ref document: AT
EP2959853 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180214 Country of Ref document: ES
EP2959853 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180514 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP2959853 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180214 Country of Ref document: HR
EP2959853 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180214 Country of Ref document: CY
EP2959853 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180214 Country of Ref document: LT
EP2959853 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NL
EP2959853 B1	20180731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: FI
EP2959853 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180515 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP2959853 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP2959853 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180214 Country of Ref document: LV
EP2959853 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY

				POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180214 Country of Ref document: SE
EP2959853 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180514 Country of Ref document: BG
EP2959853 B1	20180831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180214 Country of Ref document: AT
EP2959853 B1	20180914	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: PL
EP2959853 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: IT
EP2959853 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180214 Country of Ref document: EE
EP2959853 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AL
EP2959853 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180214 Country of Ref document: PL
EP2959853 B1	20181031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP2959853 B1	20181115	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 602014020962 Ref country code: DE Ref legal event code: R097 Country of Ref document: DE
EP2959853 B1	20181129		REG	REFERENCE TO A NATIONAL CODE	Effective date: 20180228 Ref legal event code: MM Ref country code: BE
EP2959853 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20180228 Country of Ref document: LI
EP2959853 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: MC
EP2959853 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180228 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH

EP2959853 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP2959853 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP2959853 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180221 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP2959853 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SM
EP2959853 B1	20181130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP2959853 B1	20181212	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MM4A Ref country code: IE
EP2959853 B1	20190123	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20181115
EP2959853 B1	20190131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20180221 Country of Ref document: IE
EP2959853 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20180228 Country of Ref document: BE
EP2959853 B1	20190228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SI
EP2959853 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190219 Year of fee payment: 6 Country of Ref document: DE
EP2959853 B1	20190430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190218 Year of fee payment: 6 Country of Ref document: GB
EP2959853 B1	20190531	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20190220 Year of fee payment: 6 Country of Ref document: FR
EP2959853 B1	20200131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180221 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MT

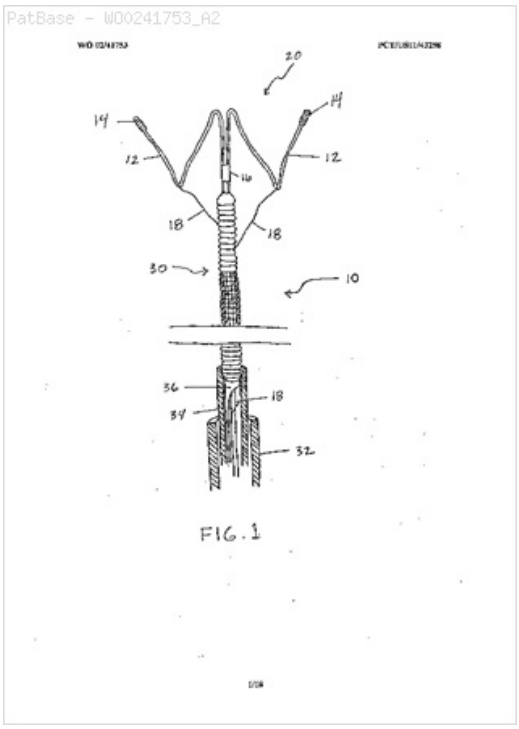
EP2959853 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP2959853 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200219 Year of fee payment: 7 Country of Ref document: DE
EP2959853 B1	20200501	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200219 Year of fee payment: 7 Country of Ref document: GB
EP2959853 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180214 Country of Ref document: PT
EP2959853 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180214 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MK
EP2959853 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT; INVALID AB INITIO Lapsed date: 20140221 Country of Ref document: HU
EP2959853 B1	20200630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20200219 Country of Ref document: FR
EP2959853 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20180614 Country of Ref document: IS
EP2959853 B1	20340221	PEXP		Calculated Patent Term Expiry	
WO14127738 A1	20140828	LSPB	+	published / reissued	
WO14127738 A1	20141015		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 14754828 Kind code of Ref document: A1 Country of Ref document: EP
WO14127738 A1	20150821	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO14127738 A1	20150921	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2014754828 Country of Ref document: EP

89) Family number: 23136246 (WO0241753 A2)

Title: **OCCLUSION** DEVICES

Abstract: **Occlusion** devices that include anchors having variable shapes and occluders, such as coils, that are attached to the anchors. The **occlusion** devices are **retrievable** by virtue of the shapes and by virtue, in some cases, of filaments that can be manipulated to alter the variable shapes of the anchors.

Classifications:
International (IPC 8-9): A61B17/12 A61F A61F2/06
International (IPC 1-7): A61B17/12 A61F2/06
CPC: A61B17/12022 A61B17/12109 A61B17/12145 A61B17/1215 A61B17/12172 A61B17/12177



Family:

Publication number	Publication date	Application number	Application date
AT407642 E	20080915	AT20010997248T	20011120
AU200217781 A1	20020603	AU20020017781	20011120
AU200217781 A5	20020603	AU20020017781	20011120
AU2002217781 AA	20020603	AU20020217781	20011120
DE60135778 D1	20081023	DE20016035778T	20011120
DK1345556 T3	20081215	DK20010997248T	20011120
EP1345556 A2	20030924	EP20010997248	20011120
EP1345556 A4	20041006	EP20010997248	20011120
EP1345556 B1	20080910	EP20010997248	20011120
ES2312497 T3	20090301	ES20010997248T	20011120
HK1059371 A1	20040702	HK20040102109	20040323
HK1059371 A3	20040702	HK20040102109	20040323
PT1345556 T	20081216	PT20010997248T	20011120
WO0241753 A2	20020530	WO2001US43298	20011120
WO0241753 A3	20021017	WO2001US43298	20011120
WO0241753 C2	20030918	WO2001US43298	20011120

Priority:

US20000722206 20001125 WO2001US43298 20011120

Probable Assignee: UNIV TEXAS

Assignee(s): (std): REGENTS BOARD OF ; UNIV TEXAS

Assignee(s): BOARD OF REGENTS ; BOARD OF REGENTS THE UNIVERSITY OF TEXAS SYSTEM ; BOARD OF REGENTS UNIV OF TEXAS SYSTEM ; BOARD OF REGENTS UNIV OF TEXAS SYSTEM 201 WEST ; THE BOARD OF REGENTS THE UNIVERSITY OF TEXAS SYSTEM

Inventor(s): (std): KONYA ANDRAS ; WRIGHT KENNETH ; WRIGHT KENNETH C

Inventor(s): ANDRAS KONYA ; KENNETH C WRIGHT

Agent(s): DEHMEL ALBRECHT; WENPING AND CO 17 F TUNG WAI COMMERCIAL BUILDING 111 GLOUCESTER ROAD

Designated states: AT AU BE CA CH CY DE DK ES FI FR GB GH GM GR IE IT JP KE LI LS LU MC MW MZ NL PT SD SE SL SZ TR TZ UG ZM ZW

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT407642 E	20080915	LSGT	+	granted / extensions (spc, cpc, pte)	
AT407642 E	20090515	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN	Ref document number: 1345556

				PATENT SPECIFICATION	Country of Ref document: EP
AT407642 E	20100815	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT407642 E	20211120	PEXP		Calculated Patent Term Expiry	
AU200217781 A1	20020603	LSPB	+	published / reissued	
AU2002217781 AA	20020603	LSPB	+	published / reissued	
DE60135778 D1	20091001	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60135778 D1	20091001	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60135778 D1	20100916	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE60135778 D1	20100916	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DK1345556 T3	20081215	LSGT	+	granted / extensions (spc, cpc, pte)	
DK1345556 T3	20211120	PEXP		Calculated Patent Term Expiry	
EP1345556 A2	20030924	LSPB	+	published / reissued	
EP1345556 A2	20030924	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20030624
EP1345556 A2	20030924		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1345556 A2	20040702		REG	REFERENCE TO A NATIONAL CODE	Ref document number: 1059371 Ref legal event code: DE Ref country code: HK Country of Ref document: HK
EP1345556 A2	20041006	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20040820
EP1345556 A2	20041006		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: 7A 61F 2/06 A ClassificationScheme: IPC
EP1345556 A2	20041006		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: 7A 61B 17/12 B ClassificationScheme: IPC
EP1345556 A2	20070425	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20060504
EP1345556 A2	20080326	LSRE	RTI1	TITLE (CORRECTION)	Text: OCCLUSION DEVICE
EP1345556 A2	20080910		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1345556 A2	20080910	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1345556 A2	20080915	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref country code: CH Ref legal event code: EP
EP1345556 A2	20081015	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP1345556 A2	20081023		REF	CORRESPONDS TO:	Kind code of Ref document: P Ref document number: 60135778 Date of Ref document: 20081023 Country of Ref document: DE
EP1345556 A2	20081202		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: TRGR Ref country code: SE
EP1345556 A2	20081215		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: NV PartyType: representative Ref country code: CH

					Representative: ALDO ROEMPLER PATENTANWALT
EP1345556 A2	20081215		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: T3 Ref country code: DK
EP1345556 A2	20081216		REG	REFERENCE TO A NATIONAL CODE	Ref country code: PT Effective date: 20081203 Text: AVAILABILITY OF NATIONAL TRANSLATION Ref legal event code: SC4A
EP1345556 A2	20090120	LSRE	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 20080403378 Ref country code: GR Ref legal event code: EP Country of Ref document: GR
EP1345556 A2	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20081130 Country of Ref document: CH
EP1345556 A2	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081114 Year of fee payment: 8 Country of Ref document: DE
EP1345556 A2	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081114 Year of fee payment: 8 Country of Ref document: DK
EP1345556 A2	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081114 Year of fee payment: 8 Country of Ref document: IE
EP1345556 A2	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20081203 Country of Ref document: LU
EP1345556 A2	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081112 Year of fee payment: 8 Country of Ref document: MC
EP1345556 A2	20090130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20081103 Country of Ref document: NL
EP1345556 A2	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081112 Year of fee payment: 8 Country of Ref document: AT
EP1345556 A2	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20081216 Country of Ref document: ES
EP1345556 A2	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20081112 Country of Ref document: FI
EP1345556 A2	20090227	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20081209 Country of Ref document: PT
EP1345556 A2	20090301	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 2312497 Kind code of Ref document: T3 Ref legal event code: FG2A Ref country code: ES Country of Ref document: ES
EP1345556 A2	20090331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20081107 Country of Ref document: SE
EP1345556 A2	20090331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	Payment date: 20081126

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Country of Ref document: IT
EP1345556 A2	20090331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20081117 Country of Ref document: BE
EP1345556 A2	20090430	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20081112 Country of Ref document: FR
EP1345556 A2	20090630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 8 Payment date: 20081119 Country of Ref document: GB
EP1345556 A2	20090630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081204 Year of fee payment: 8 Country of Ref document: GR
EP1345556 A2	20090819	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20090611
EP1345556 A2	20091030	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081128 Year of fee payment: 8 Country of Ref document: CY
EP1345556 A2	20100527	LSLE	REG	REFERENCE TO A NATIONAL CODE	Text: LAPSE DUE TO NON-PAYMENT OF FEES Effective date: 20100520 Ref legal event code: MM4A Ref country code: PT
EP1345556 A2	20100531	LSLE	-BERE	BE: LAPSED	Effective date: 20091130 Owner: BOARD OF REGENTS, THE UNIVERSITY OF TEXAS SYSTEM Ref country code: EP PartyType: owner
EP1345556 A2	20100623	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: V1 Effective date: 20100601 Ref country code: NL
EP1345556 A2	20100629	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	Ref country code: EP
EP1345556 A2	20100630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
EP1345556 A2	20100630	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP1345556 A2	20100702	LSWD	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: WD Ref document number: 1059371 Ref country code: HK Country of Ref document: HK
EP1345556 A2	20100719	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EBP Ref country code: DK
EP1345556 A2	20100728	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20091120
EP1345556 A2	20100730	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100520 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: PT
EP1345556 A2	20100827	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: ST Effective date: 20100730 Ref country code: FR
EP1345556 A2	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES

				EPO]	Lapsed date: 20091120 Country of Ref document: AT
EP1345556 A2	20100831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091120 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FI
EP1345556 A2	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP1345556 A2	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20091130 Country of Ref document: CH
EP1345556 A2	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091120 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CY
EP1345556 A2	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091130 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: FR
EP1345556 A2	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091120 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1345556 A2	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20091130 Country of Ref document: LI
EP1345556 A2	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20100601 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: NL
EP1345556 A2	20101130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20100601 Country of Ref document: DE
EP1345556 A2	20101231	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091120 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1345556 A2	20110131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20091130 Country of Ref document: DK
EP1345556 A2	20110315	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20110303 Ref country code: ES Ref legal event code: FD2A
EP1345556 A2	20110331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091120 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: IT
EP1345556 A2	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION	Lapsed date: 20091120 NotificationOfLapse: LAPSE BECAUSE OF

				FROM NATIONAL OFFICE TO EPO]	NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1345556 A2	20110531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091121 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: SE
EP1345556 A2	20110729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20110301 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP1345556 A2	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091121 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: ES
EP1345556 A2	20111031	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20081111 Year of fee payment: 8 Country of Ref document: TR
EP1345556 A2	20130131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20091120 Country of Ref document: TR
EP1345556 A2	20130301	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130104 Ref country code: GR Ref document number: 20080403378 Ref legal event code: ML Country of Ref document: GR
EP1345556 A2	20130531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20130204 Country of Ref document: GR
EP1345556 A2	20140430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20091130 Country of Ref document: GR
EP1345556 B1	20080910	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1345556 B1	20211120	PEXP		Calculated Patent Term Expiry	
ES2312497 T3	20090301	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2312497 T3	20211120	PEXP		Calculated Patent Term Expiry	
HK1059371 A1	20040702	LSPB	+	published / reissued	
HK1059371 A3	20040702	LSPB	+	published / reissued	
PT1345556 T	20081216	LSGT	+	granted / extensions (spc, cpc, pte)	
PT1345556 T	20211120	PEXP		Calculated Patent Term Expiry	
WO0241753 A2	20020530	LSPB	+	published / reissued	
WO0241753 A2	20020530		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AU CA JP
WO0241753 A2	20020530		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL PT SD SE SL SZ TR TZ UG ZM ZW
WO0241753 A3	20021017		+AK	DESIGNATED STATES	Kind code of Ref document: A3 Country of Ref document: AU CA JP

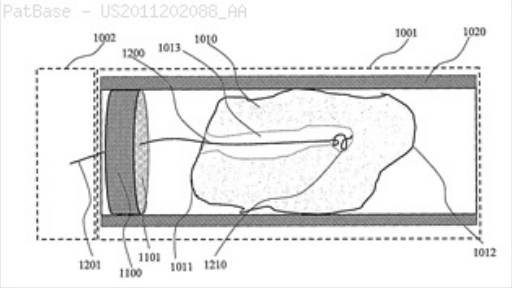
WO0241753 A3	20021017		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A3 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL PT SD SE SL SZ TR TZ UG ZM ZW
WO0241753 A3	20021106		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0241753 A3	20030130		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
WO0241753 A3	20030624	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2001997248 Country of Ref document: EP
WO0241753 C2	20030918		COP	CORRECTED VERSION OF PAMPHLET	Text: PAGES 1/18-18/18, DRAWINGS, REPLACED BY NEW PAGES 1/15-15/15; DUE TO LATE TRANSMITTAL BY THE RECEIVING OFFICE
WO0241753 C2	20030924	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2001997248 Country of Ref document: EP
WO0241753 C2	20060117	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO0241753 C2	20060117	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP

90) Family number: 44936392 (US2011202088 AA)

Title: EMBOLECTOMY DEVICE WITH OPTIONAL VIBRATOR

Abstract: The present invention provides an embolectomy device for **removal** of **clots** from vasculature, said device comprising: a proximal effecter characterized by a non-expanded configuration and an expanded configuration; a distal effecter characterized by a non-expanded configuration and an expanded configuration; said proximal effecter, in said expanded configuration is adapted for grasping a proximal portion of the target embolus; said proximal effecter, in said expanded configuration is adapted for grasping a distal portion of said target embolus; wherein both said effecters, when expanded, are oppositely positioned and are adapted to operate in concert, for trapping said **clot** such that said **clot** is (i) manipulatable along and/or around the main longitudinal axis of said vasculature in a predetermined set of motions; (ii) extracted out of said vasculature.

Classifications:
International (IPC 8-9)**:** A61B A61B17/22 A61B17/221 A61B17/32 A61B17/3207 A61F2/01
CPC: A61B17/22032 A61B17/221 A61B17/32075 A61B2017/2212 A61B2017/2217
US: 606/200 606/200P



Family:

Publication number	Publication date	Application number	Application date
EP2349027 A1	20110803	EP20090764899	20091022
IL212494 A0	20110630	IL20090212494	20091022
US2011202088 AA	20110818	US20090125324	20091022
WO10046897 A1	20100429	WO2009IL00992	20091022

Priority:

US20080108238P 20081024 WO2009IL00992 20091022 US20090125324 20091022 IL20110212494 20110426

Probable Assignee: RAPID MEDICAL LTD

Assignee(s): (std)**:** ECKHOUSE RONEN ; ECKHOUSE SHIMON ; RAPID MEDICAL LTD ; RONEN ECKHOUSE ; SHIMON ECKHOUSE

Inventor(s): (std)**:** ECKHOUSE RONEN ; ECKHOUSE SHIMON ; ECKOUSE SHIMON

Inventor(s): RONEN ECKHOUSE ; SHIMON ECKHOUSE

Agent(s): DR EYAL BRESSLER LTD; LECOMTE DIDIER

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 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
EP2349027 A1	20110803	LSPB	+	published / reissued	
EP2349027 A1	20110803	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20110510
EP2349027 A1	20110803		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP2349027 A1	20120201		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2349027 A1	20120926	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20120822
EP2349027 A1	20130828	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20130302
US2011202088 AA	20110502	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ECKHOUSE, RONEN;ECKHOUSE, SHIMON;SIGNING DATES FROM 20110316 TO 20110320;REEL/FRAME:026212/0043 Owner: RAPID MEDICAL LTD., ISRAEL
US2011202088 AA	20110818	LSPB	+	published / reissued	

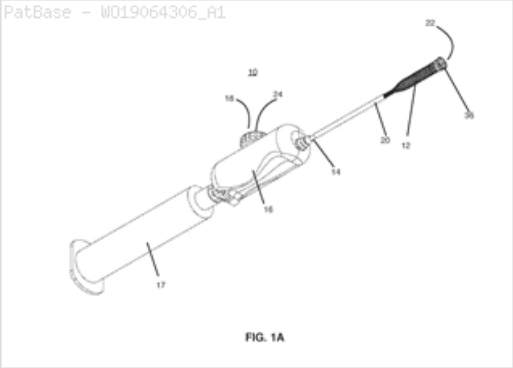
US2011202088 AA	20131212	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
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WO10046897 A1	20100429	LSPB	+	published / reissued	
WO10046897 A1	20100616		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 09764899 Kind code of Ref document: A1 Country of Ref document: EP
WO10046897 A1	20110421	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13125324 Country of Ref document: US
WO10046897 A1	20110426	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10046897 A1	20110426	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 212494 Country of Ref document: IL
WO10046897 A1	20110510	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009764899 Country of Ref document: EP

91) Family number: 73838334 (WO19064306 A1)

Title: **RETRIEVAL** **SYSTEM**

Abstract: A **system** for **retrieving** material or objects from a biological vessel is provided. the **system** includes an elongated braid structure configured for transitioning between collapsed and expanded states, the elongated braid structure surrounding a lumen having a distal opening when in the expanded state. The **system** further includes a closure wire positioned along a length of the elongated braid structure, the closure wire being actuatable to pull inward a distal portion of the elongated braid structure and thereby at least partially close the distal opening.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61B17/3207 A61F2/01
CPC: A61B17/221 A61B2017/2215 A61F2/013 A61F2002/016



Family:

Publication number	Publication date	Application number	Application date
CN111511296 A	20200807	CN201880063532	20180928
EP3687424 A1	20200805	EP20180862174	20180928
IL273642 AA	20200531	IL20180273642	20180928
WO19064306 A1	20190404	WO2018IL51074	20180928

Priority:
US20170566388P 20170930 US20180676993P 20180527 WO2018IL51074 20180928

Probable Assignee: CERETRIVE LTD

Assignee(s): (std): CERETRIVE LTD ; MAYSA MUSTAFA ; SHAHAR HARARI ; TANHUM FELD

Assignee(s): 赛瑞特锐弗有限公司

Inventor(s): (std): FELD TANHUM ; HARARI SHAHAR ; MAYSA MUSTAFA ; MUSTAFA MAYSA ; SHAHAR HARARI ; TANHUM FELD

Inventor(s): M 穆斯塔法 ; M·穆斯塔法 ; S 哈拉里 ; S·哈拉里 ; T 菲尔德 ; T·菲尔德

Agent(s): GLUECK KRITZENBERGER PATENTANWAELTE PARTGMBB; KOTLIZKY GUY; PATENTICK IP PORTFOLIO MANAGEMENT; פטנתיק ניהול תיקי קנין רוחני; 余姚德盛专利代理事务所 普通合伙 33239; 周积德

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
CN111511296 A	20200807	LSPB	+	published / reissued	
CN111511296 A	20200807	LSPB	PB01	PUBLICATION	
CN111511296 A	20200807	LSPB	PB01	公开	Text: 公开 (Disclosure)
EP3687424 A1	20200805	LSPB	+	published / reissued	
EP3687424 A1	20200805	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20200331
EP3687424 A1	20200805		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3687424 A1	20200805		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: KH MA MD TN
EP3687424 A1	20200805		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
WO19064306 A1	20190404	LSPB	+	published / reissued	
WO19064306 A1	20190515		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 18862174 Country of Ref document: EP

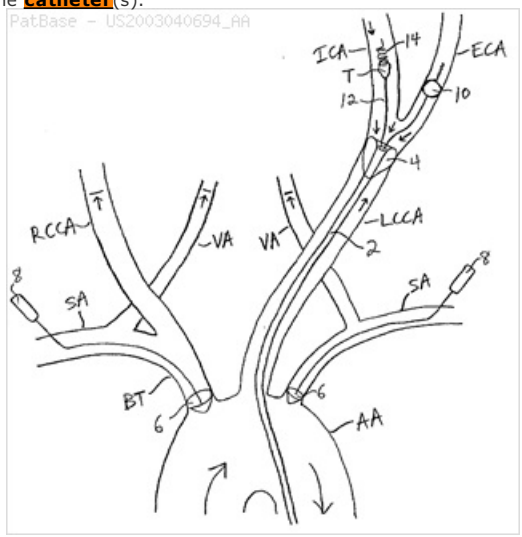
WO19064306 A1	20200318	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2020517175 Country of Ref document: JP
WO19064306 A1	20200326	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 273642 Country of Ref document: IL
WO19064306 A1	20200331	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO19064306 A1	20200430	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2018862174 Country of Ref document: EP
WO19064306 A1	20200501	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2018862174 Effective date: 20200430 Country of Ref document: EP

92) Family number: 30143220 (US2003040694 AA)

Title: APPARATUS AND **METHODS** FOR TREATING STROKE AND CONTROLLING CEREBRAL FLOW CHARACTERISTICS

Abstract: Apparatus and **methods** for treatment of stroke are provided. In a preferred embodiment, the present invention disposes at least one **catheter** having a distal **occlusive** member in either the common carotid artery (CCA) or both the vertebral artery (VA) and the CCA on the hemisphere of the cerebral **occlusion**. Blood flow in the opposing carotid and/or vertebral arteries may be inhibited. Retrograde or antegrade flow may be provided through either **catheter** independently to effectively control cerebral flow characteristics. Under such controlled flow conditions, a thrombectomy device may be used to treat the **occlusion**, and any emboli generated are directed into the **catheter**(s).

Classifications:
International (IPC 8-9): A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B17/3207 A61B17/34 A61F2/958 A61M A61M25/00 A61M25/01 A61M25/09 A61M25/10 A61M29/00 A61M31/00
International (IPC 1-7): A61B17/00 A61B17/22 A61M25/00 A61M25/01 A61M29/00 A61M31/00 A61M37/00 A61M5/00 A61N1/362
CPC: A61B17/12022 A61B17/12109 A61B17/12136 A61B17/22 A61B17/22031 A61B17/221 A61B17/3207 A61B2017/22034 A61B2017/3435 A61M2025/09008 A61M2025/09083 A61M2025/09166 A61M2025/1052 A61M25/1002 A61B17/12036 A61B17/12045 A61B17/12145 A61B17/12172 A61B2017/2217 A61B2017/2212 A61B2017/22044 A61B2017/22094
US: 600/16 600/16P 604/101.04 604/101.040P 604/102.02 604/102.020P 604/104 604/104P 604/22 604/4.01 604/40.1 604/500 604/500P 604/509 604/509P 604/509S 604/523 604/6.16 604/61.6 604/8 604/8P 604/8S 604/9 604/915 604/96.01 604/96.010S 606/159 606/159P 606/194 606/200 606/200P 606/200S



Family:

Publication number	Publication date	Application number	Application date
AU2002332670 AA	20030310	AU20020332670	20020822
AU2002336389 AA	20030310	AU20020336389	20020822
AU2009202365 AA	20090716	AU20090202365	20090612
AU2009202365 BB	20120503	AU20090202365	20090612
AU2012209037 AA	20120823	AU20120209037	20120801
AU2012209037 BB	20131212	AU20120209037	20120801
AU2013266995 AA	20140109	AU20130266995	20131203
CA2458148 AA	20040220	CA20022458148	20020822
CA2458148 C	20100323	CA20022458148	20020822
CA2689644 AA	20030306	CA20022689644	20020822
CA2689644 C	20131126	CA20022689644	20020822
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EP1425061 A4	20060607	EP20020773236	20020822
EP2286866 A2	20110223	EP20100012036	20020822
EP2286866 A3	20130403	EP20100012036	20020822
EP2286867 A2	20110223	EP20100012362	20020822
EP2286867 A3	20130403	EP20100012362	20020822
EP2305342 A2	20110406	EP20100012035	20020822
EP2305342 A3	20130403	EP20100012035	20020822
HK1148968 A1	20110923	HK20110103022	20110325
HK1148969 A1	20110923	HK20110103023	20110325
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JP2005500138 T2	20050106	JP20030522599T	20020822
JP2009142677 A2	20090702	JP20090055526	20090309
JP2013017833 A2	20130131	JP20120229471	20121017
JP4313197 B2	20090812	JP20030522599T	20020822
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US2003040704 AA	20030227	US20010972225	20011004
US2003040705 AA	20030227	US20020115333	20020401
US2003040762 AA	20030227	US20010972112	20011004
US2003158518 AA	20030821	US20020278183	20021021
US2005124973 AA	20050609	US20050039607	20050120
US2005267323 AA	20051201	US20050146636	20050606
US2005277979 AA	20051215	US20050204891	20050815
US2006064073 AA	20060323	US20050273899	20051114
US6902540 BB	20050607	US20010972231	20011004
US6929634 BB	20050816	US20020115333	20020401
US7029488 BB	20060418	US20020278183	20021021
US7063714 BB	20060620	US20010972225	20011004
WO03018085 A2	20030306	WO2002US26784	20020822
WO03018085 A3	20031113	WO2002US26784	20020822
WO03018086 A2	20030306	WO2002US27153	20020822
WO03018086 A3	20030814	WO2002US27153	20020822

Priority:

US20010314269P 20010822 US20010972225 20011004 US20010972112 20011004
US20010972231 20011004 US20020115333 20020401 WO2002US27153 20020822

WO2002US26784	20020822	AU20020336389	20020822	CA20022458148	20020822
CA20022689644	20020822	EP20020773236	20020822	JP20030522599	20020822
JP20030522599T	20020822	JP20090055526	20020822	US20020278183	20021021
US20050039607	20050120	US20050146636	20050606	US20050204891	20050815
US20050273899	20051114	AU20090202365	20090612	CA20102458148	20100129
AU20120209037	20120801	AU20130266995	20131203		

Probable Assignee: W L GORE AND ASSOCIATES INC

Assignee(s): (std): ARTERIA MEDICAL SCIENCE INC ; BATES MARK C ; DORROS GERALD ; GORE AND ASS ; GORE ENTERP HOLDINGS INC ; GORE ENTERPRISE HOLDINGS INC ; HOGENDIJK MICHAEL ; PARODI JUAN C ; SCHOENHOLZ CLAUDIO JAVIER ; SCHONHOLZ CLAUDIO J ; W L GORE AND ASSOCIATES INC

Assignee(s): ARTERIA MEDICAL INC ; DORROS GERALD NMI ; PARODI JUAN CARLOS ; SCHONHOLZ CLAUDIO JAVIER ; アルテリア メディカル サイエンス，インコーポレイテッド ; ゴア エンタープライズ ホールディングス インコーポレイティド ; ゴア エンタープライズ ホールディングス，インコーポレイティド

Inventor(s): (std): BATES MARK C ; DORROS GERALD ; DORROS GERALD NMI ; HOGENDIJK MICHAEL ; PARODI JUAN C ; PARODI JUAN CARLOS ; SCHOENHOLZ CLAUDIO JAVIER ; SCHONHOLZ CLAUDIO J ; SCHONHOLZ CLAUDIO JAVIER

Inventor(s): BATES MARK ; CLAUDIO JAVIER SCHONHOLZ ; GERALD DORROS ; GERALD NMI DORROS ; JUAN CARLOS PARODI ; MARK C BATES ; MICHAEL HOGENDIJK ; PARODI JUAN ; SCHONHOLZ CLAUDIO ; シェーンホルツ クラウディオ ジャビエル ; シェーンホルツ，クラウディオ ジャビエル ; ドロス ジェラルド ; ドロス，ジェラルド ; パロディ ホアン カルロス ; パロディ，ホアン カルロス ; ベイツ マーク シー ; ベイツ，マーク シー． ; ホーゲンダイク マイケル ; ホーゲンダイク，マイケル

Agent(s): AOKI ATSUSHI; GORE ENTERPRISE HOLDINGS INC; GOWLING LAFLEUR HENDERSON LLP; GRIFFITH HACK; ISHIDA TAKASHI; KEVIN J; KOGA TETSUJI; MARKS AND CLERK; SHANKS ANDREW; 出野 知; 古賀 哲次; 永坂 友康; 石田 敬; 蛯谷 厚志; 青木 篤

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU2002332670 AA	20030310	LSPB	+	published / reissued	
AU2002332670 AA	20040506	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
AU2002336389 AA	20030310	LSPB	+	published / reissued	
AU2009202365 AA	20090716	LSPB	+	published / reissued	
AU2009202365 BB	20120503	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2009202365 BB	20120830	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2009202365 BB	20151203	LSAS	PC	ASSIGNMENT REGISTERED	OldParty: FORMER OWNER WAS: GORE ENTERPRISE HOLDINGS, INC. PartyType: owner Owner: W. L. GORE & ASSOCIATES, INC.
AU2009202365 BB	20290612	PEXP		Calculated Patent Term Expiry	
AU2012209037 AA	20120823	LSPB	+	published / reissued	
AU2012209037 BB	20131212	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2012209037 BB	20140410	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2012209037 BB	20151203	LSAS	PC	ASSIGNMENT REGISTERED	Owner: W. L. GORE & ASSOCIATES, INC. OldParty: FORMER OWNER WAS: GORE ENTERPRISE HOLDINGS, INC. PartyType: owner
AU2012209037 BB	20320801	PEXP		Calculated Patent Term Expiry	
AU2013266995 AA	20140109	LSPB	+	published / reissued	
AU2013266995 AA	20151203	LSAS	PC1	ASSIGNMENT BEFORE GRANT (SECT. 113)	PartyType: owner OldParty: FORMER APPLICANT(S): GORE ENTERPRISE HOLDINGS, INC. Owner: W. L. GORE & ASSOCIATES, INC.
AU2013266995 AA	20160317	LSLE	-MK4	APPLICATION LAPSED SECTION	

				142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION	
CA2458148 AA	20040220	LSPB	+	published / reissued	
CA2458148 AA	20070612	LSES	+EEER	EXAMINATION REQUEST	
CA2458148 C	20100323	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2458148 C	20220822	PEXP		Calculated Patent Term Expiry	
CA2689644 AA	20030306	LSPB	+	published / reissued	
CA2689644 AA	20091231	LSES	+EEER	EXAMINATION REQUEST	
CA2689644 C	20131126	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2689644 C	20220822	PEXP		Calculated Patent Term Expiry	
EP1425061 A2	20040609	LSPB	+	published / reissued	
EP1425061 A2	20040609	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20040316
EP1425061 A2	20040609		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP1425061 A2	20040609		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1425061 A2	20050316	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: W.L. GORE & ASSOCIATES, INC. PartyType: owner
EP1425061 A2	20050608	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: GORE ENTERPRISE HOLDINGS, INC. PartyType: owner
EP1425061 A4	20060607	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20060504
EP1425061 A4	20061115	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20061016
EP1425061 A4	20151021	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: W.L. GORE & ASSOCIATES, INC.
EP1425061 A4	20160210	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20150910
EP2286866 A2	20110223	LSPB	+	published / reissued	
EP2286866 A2	20110223		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 1425061 Country of Ref document: EP
EP2286866 A2	20110223		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP2286866 A2	20110323		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: DORROS, GERALD PartyType: inventor
EP2286866 A2	20110323		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PARODI, JUAN CARLOS PartyType: inventor
EP2286866 A2	20110323		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: SCHONHOLZ, CLAUDIO JAVIER
EP2286866 A2	20110323		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HOGENDIJK, MICHAEL PartyType: inventor

EP2286866 A2	20110323		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: BATES, MARK, C. PartyType: inventor
EP2286866 A2	20110427		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: DORROS, GERALD PartyType: inventor
EP2286866 A2	20110427		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PARODI, JUAN CARLOS PartyType: inventor
EP2286866 A2	20110427		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SCHONHOLZ, CLAUDIO JAVIER PartyType: inventor
EP2286866 A2	20110427		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: HOGENDIJK, MICHAEL
EP2286866 A2	20110427		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: BATES, MARK, C.
EP2286866 A2	20110923		REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1148968 Ref legal event code: DE Country of Ref document: HK
EP2286866 A3	20130403		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP2286866 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/12 20060101ALI20130225BHEP ClassificationScheme: IPC
EP2286866 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 29/00 20060101AFI20130225BHEP
EP2286866 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/3207 20060101ALI20130225BHEP
EP2286866 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101ALI20130225BHEP
EP2286866 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101ALI20130225BHEP ClassificationScheme: IPC
EP2286866 A3	20131106	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20130924
EP2286866 A3	20131106		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP2286866 A3	20141022	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20140918
EP2286866 A3	20150902	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20150331
EP2286866 A3	20180323	LSWD	REG	REFERENCE TO A NATIONAL CODE	Ref country code: HK Ref document number: 1148968 Ref legal event code: WD Country of Ref document: HK
EP2286867 A2	20110223	LSPB	+	published / reissued	
EP2286867 A2	20110223		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Ref document number: 1425061 Kind code of Ref document: P Country of Ref document: EP
EP2286867 A2	20110223		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP2286867 A2	20110923		REG	REFERENCE TO A NATIONAL CODE	Ref document number: 1148969 Ref legal event code: DE

					Ref country code: HK Country of Ref document: HK
EP2286867 A3	20130403		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP2286867 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/3207 20060101ALN20130225BHEP
EP2286867 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/00 20060101ALI20130225BHEP ClassificationScheme: IPC
EP2286867 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101ALN20130225BHEP ClassificationScheme: IPC
EP2286867 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/12 20060101ALN20130225BHEP ClassificationScheme: IPC
EP2286867 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 29/00 20060101AFI20130225BHEP ClassificationScheme: IPC
EP2286867 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101ALN20130225BHEP ClassificationScheme: IPC
EP2286867 A3	20131106	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20130924
EP2286867 A3	20131106		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP2286867 A3	20150225	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20150121
EP2286867 A3	20151021	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: W.L. GORE & ASSOCIATES, INC. PartyType: owner
EP2286867 A3	20160106	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20150801
EP2286867 A3	20180323	LSWD	REG	REFERENCE TO A NATIONAL CODE	Ref document number: 1148969 Ref legal event code: WD Ref country code: HK Country of Ref document: HK
EP2305342 A2	20110406	LSPB	+	published / reissued	
EP2305342 A2	20110406		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 1425061 Country of Ref document: EP
EP2305342 A2	20110406		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP2305342 A2	20110427		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: DORROS, GERALD PartyType: inventor
EP2305342 A2	20110427		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: PARODI, JUAN CARLOS PartyType: inventor
EP2305342 A2	20110427		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: SCHONHOLZ, CLAUDIO JAVIER PartyType: inventor
EP2305342 A2	20110427		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: HOGENDIJK, MICHAEL PartyType: inventor
EP2305342 A2	20110427		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: BATES, MARK, C.
EP2305342 A2	20120224		REG	REFERENCE TO A	Ref document number: 1152261

				NATIONAL CODE	Ref legal event code: DE Ref country code: HK Country of Ref document: HK
EP2305342 A3	20130403		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP2305342 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/12 20060101ALI20130225BHEP ClassificationScheme: IPC
EP2305342 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101ALI20130225BHEP ClassificationScheme: IPC
EP2305342 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/3207 20060101ALI20130225BHEP ClassificationScheme: IPC
EP2305342 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 29/00 20060101AFI20130225BHEP
EP2305342 A3	20130403		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101ALI20130225BHEP ClassificationScheme: IPC
EP2305342 A3	20131106	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20130925
EP2305342 A3	20131106		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR
EP2305342 A3	20150225		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101ALI20150122BHEP ClassificationScheme: IPC
EP2305342 A3	20150225		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/34 20060101AFI20150122BHEP
EP2305342 A3	20150225		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/12 20060101ALI20150122BHEP
EP2305342 A3	20150225		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61M 25/09 20060101ALI20150122BHEP ClassificationScheme: IPC
EP2305342 A3	20150225		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61M 25/10 20130101ALI20150122BHEP
EP2305342 A3	20150225		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/3207 20060101ALI20150122BHEP ClassificationScheme: IPC
EP2305342 A3	20150225		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101ALI20150122BHEP ClassificationScheme: IPC
EP2305342 A3	20150318	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20150219
EP2305342 A3	20151021	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: W.L. GORE & ASSOCIATES, INC. PartyType: owner
EP2305342 A3	20151230	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20150630
EP2305342 A3	20180323	LSWD	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: WD Ref document number: 1152261 Ref country code: HK Country of Ref document: HK
HK1148968 A1	20110923	LSPB	+	published / reissued	
HK1148969 A1	20110923	LSPB	+	published / reissued	
HK1152261 A1	20120224	LSPB	+	published / reissued	
JP2005500138 T2	20050106	LSPB	+	published / reissued	
JP2005500138 T2	20050408	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Text: JAPANESE INTERMEDIATE CODE: A711 Effective date: 20050407

JP2005500138 T2	20050720	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20050719
JP2005500138 T2	20080910	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20080909 Text: JAPANESE INTERMEDIATE CODE: A131
JP2005500138 T2	20081209		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20081208
JP2005500138 T2	20081216		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20081215 Text: JAPANESE INTERMEDIATE CODE: A602
JP2005500138 T2	20090310	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20090309 Text: JAPANESE INTERMEDIATE CODE: A523
JP2005500138 T2	20090407	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2005500138 T2	20090415	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20090414 Text: JAPANESE INTERMEDIATE CODE: A01
JP2005500138 T2	20090416	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Text: JAPANESE INTERMEDIATE CODE: A01
JP2005500138 T2	20090521	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20090514 Text: JAPANESE INTERMEDIATE CODE: A61
JP2005500138 T2	20090522	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 3
JP2009142677 A2	20090409	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20090408 Text: JAPANESE INTERMEDIATE CODE: A523
JP2009142677 A2	20090409	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Text: JAPANESE INTERMEDIATE CODE: A621 Effective date: 20090408
JP2009142677 A2	20090702	LSPB	+	published / reissued	
JP2009142677 A2	20110622	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20110621 Text: JAPANESE INTERMEDIATE CODE: A131
JP2009142677 A2	20110921		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20110920
JP2009142677 A2	20110927		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A602 Effective date: 20110926
JP2009142677 A2	20111222	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20111221 Text: JAPANESE INTERMEDIATE CODE: A523
JP2009142677 A2	20120620	LSRV	-A02	DECISION OF REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A02 Effective date: 20120619
JP2009142677 A2	20121018	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20121017
JP2009142677 A2	20121205	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Text: JAPANESE INTERMEDIATE CODE: A911 Effective date: 20121204
JP2009142677 A2	20130212	LSAL	-A912	REMOVAL OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	Effective date: 20130208 Text: JAPANESE INTERMEDIATE CODE: A912
JP2009142677 A2	20130521		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20130520
JP2009142677 A2	20130524		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20130523 Text: JAPANESE INTERMEDIATE CODE: A602
JP2009142677 A2	20131221		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20131220 Text: JAPANESE INTERMEDIATE CODE: A601

JP2009142677 A2	20131227		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A602 Effective date: 20131226
JP2013017833 A2	20121117	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20121116 Text: JAPANESE INTERMEDIATE CODE: A523
JP2013017833 A2	20121117	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20121116 Text: JAPANESE INTERMEDIATE CODE: A621
JP2013017833 A2	20130131	LSPB	+	published / reissued	
JP2013017833 A2	20140205		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20140204 Text: JAPANESE INTERMEDIATE CODE: A601
JP2013017833 A2	20140210		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A602 Effective date: 20140207
JP2013017833 A2	20140806	LSRV	-A02	DECISION OF REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A02 Effective date: 20140805
JP4313197 B2	20090416	LSGT	+A01	特許査定書	
JP4313197 B2	20090519	LSFE	R100	特許料納付書	
JP4313197 B2	20090522	LSGT	+R150	特許証	
JP4313197 B2	20090812	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4313197 B2	20120510	LSFE	R20	特許料納付書	
JP4313197 B2	20120515	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	Year of fee payment: 4
JP4313197 B2	20120515	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4313197 B2	20130516	LSFE	R20	特許料納付書	
JP4313197 B2	20130521	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4313197 B2	20130521	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4313197 B2	20140515	LSFE	R20	特許料納付書	
JP4313197 B2	20140520	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4313197 B2	20140520	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4313197 B2	20150521	LSFE	R20	特許料納付書	
JP4313197 B2	20150526	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4313197 B2	20150526	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4313197 B2	20150629	LSAS	R313113	本権移転登録申請書 (譲渡)	
JP4313197 B2	20150629	LSAS	S111	REQUEST FOR CHANGE OF OWNERSHIP OR PART OF OWNERSHIP	Text: JAPANESE INTERMEDIATE CODE: R313113
JP4313197 B2	20150707	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
JP4313197 B2	20150707	LSAS	R350	移転登録済通知書	
JP4313197 B2	20160506	LSFE	R20	特許料納付書	
JP4313197 B2	20160510	LSFE	+R250	RECEIPT OF ANNUAL FEES	Text: JAPANESE INTERMEDIATE CODE: R250
JP4313197 B2	20160510	LSFE	+R250	年金領収書, 年金領収書 (分納)	
JP4313197 B2	20170522	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP4313197 B2	20220822	PEXP		Calculated Patent Term Expiry	
US2003040694 AA	20030227	LSPB	+	published / reissued	
US2003040694 AA	20050407	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ARTERIA MEDICAL

					SCIENCE, INC.;REEL/FRAME:016526/0319 Effective date: 20041118 PartyType: owner Owner: GORE ENTERPRISE HOLDINGS, INC., DELAWARE
US2003040694 AA	20050518	LSGT	PAT1	Patented Case	
US2003040694 AA	20050518	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2003040704 AA	20030227	LSPB	+	published / reissued	
US2003040704 AA	20050407	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20041118 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ARTERIA MEDICAL SCIENCE, INC.;REEL/FRAME:016526/0319 Owner: GORE ENTERPRISE HOLDINGS, INC., DELAWARE
US2003040704 AA	20060531	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2003040705 AA	20030227	LSPB	+	published / reissued	
US2003040705 AA	20050407	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20041118 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ARTERIA MEDICAL SCIENCE, INC.;REEL/FRAME:016526/0319 Owner: GORE ENTERPRISE HOLDINGS, INC., DELAWARE
US2003040705 AA	20050727	LSGT	PAT1	Patented Case	
US2003040705 AA	20050727	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2003040762 AA	20011226	LSAS	AS	ASSIGNMENT	Owner: ARTERIA MEDICAL INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DORROS, GERALD;PARODI, JUAN CARLOS;SCHONHOLZ, CLAUDIO JAVIER;AND OTHERS;REEL/FRAME:012414/0487;SIGNING DATES FROM 20011105 TO 20011127
US2003040762 AA	20030227	LSPB	+	published / reissued	
US2003040762 AA	20060501	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2003040762 AA	20060501		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2003040762 AA	20120214	LSAS	AS	ASSIGNMENT	Effective date: 20120130 Owner: W. L. GORE & ASSOCIATES, INC., DELAWARE PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.;REEL/FRAME:027906/0508
US2003158518 AA	20030821	LSPB	+	published / reissued	
US2003158518 AA	20041103	LSAS	AS	ASSIGNMENT	Effective date: 20041101 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:SCHONHOLZ, CLAUDIO JAVIER;DORROS, GERALD;HOGENDIK, MICHAEL;REEL/FRAME:015337/0658 PartyType: owner Owner: ARTERIA MEDICAL SCIENCE, INC., CALIFORNIA
US2003158518 AA	20050407	LSAS	AS	ASSIGNMENT	Owner: GORE ENTERPRISE HOLDINGS, INC., DELAWARE PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ARTERIA MEDICAL SCIENCE, INC.;REEL/FRAME:016526/0319 Effective date: 20041118
US2003158518 AA	20060329	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2005124973 AA	20050609	LSPB	+	published / reissued	
US2005124973 AA	20090526	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005124973 AA	20090526		-STCB	INFORMATION ON STATUS: APPLICATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

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US2005124973 AA	20120214	LSAS	AS	ASSIGNMENT	Effective date: 20120130 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.;REEL/FRAME:027906/0508 Owner: W. L. GORE & ASSOCIATES, INC., DELAWARE PartyType: owner
US2005267323 AA	20051201	LSPB	+	published / reissued	
US2005267323 AA	20071221	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005267323 AA	20071221		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005267323 AA	20120214	LSAS	AS	ASSIGNMENT	Effective date: 20120130 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.;REEL/FRAME:027906/0508 PartyType: owner Owner: W. L. GORE & ASSOCIATES, INC., DELAWARE
US2005277979 AA	20051215	LSPB	+	published / reissued	
US2005277979 AA	20111128	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005277979 AA	20111128		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005277979 AA	20120214	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.;REEL/FRAME:027906/0508 Effective date: 20120130 Owner: W. L. GORE & ASSOCIATES, INC., DELAWARE PartyType: owner
US2006064073 AA	20060323	LSPB	+	published / reissued	
US2006064073 AA	20120214	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: W. L. GORE & ASSOCIATES, INC., DELAWARE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.;REEL/FRAME:027906/0508 Effective date: 20120130
US2006064073 AA	20140305	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2006064073 AA	20140305		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US6902540 BB	20011226	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: ARTERIA MEDICAL SCIENCE, INC., CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DORROS, GERALD;PARODI, JUAN CARLOS;SCHONHOLZ, CLAUDIO JAVIER;AND OTHERS;REEL/FRAME:012403/0849;SIGNING DATES FROM 20011105 TO 20011127
US6902540 BB	20020724	LSAS	AS	ASSIGNMENT	Effective date: 20020620 Owner: ARTERIA MEDICAL SCIENCE, INC., CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BATES, MARK C.;REEL/FRAME:013115/0683
US6902540 BB	20050607	LSGT	+	granted / extensions (spc, cpc, pte)	
US6902540 BB	20081208	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6902540 BB	20120214	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: W. L. GORE & ASSOCIATES, INC., DELAWARE Effective date: 20120130 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.;REEL/FRAME:027906/0508
US6902540 BB	20121207	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6902540 BB	20161129	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6902540 BB	20220623	PEXP		Calculated Patent Term Expiry (PTA	

US6929634 BB	20020614	LSAS	AS	262 days) ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DORROS, GERALD NMI;PARODI, JUAN CARLOS;BATES, MARK C.;REEL/FRAME:012990/0001;SIGNING DATES FROM 20020426 TO 20020428 PartyType: owner Owner: ARTERIA MEDICAL SCIENCE INC., CALIFORNIA
US6929634 BB	20050816	LSGT	+	granted / extensions (spc, cpc, pte)	
US6929634 BB	20090217	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6929634 BB	20120214	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: W. L. GORE & ASSOCIATES, INC., DELAWARE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.;REEL/FRAME:027906/0508 Effective date: 20120130
US6929634 BB	20130219	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6929634 BB	20170126	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 12
US6929634 BB	20220401	PEXP		Calculated Patent Term Expiry	
US7029488 BB	20060329	LSGT	PAT1	Patented Case	
US7029488 BB	20060418	LSGT	+	granted / extensions (spc, cpc, pte)	
US7029488 BB	20060808	LSRE	CC	CERTIFICATE OF CORRECTION	
US7029488 BB	20091019	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7029488 BB	20120214	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.;REEL/FRAME:027906/0508 Owner: W. L. GORE & ASSOCIATES, INC., DELAWARE PartyType: owner Effective date: 20120130
US7029488 BB	20131018	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7029488 BB	20170925	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7029488 BB	20221021	PEXP		Calculated Patent Term Expiry	
US7063714 BB	20011226	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:DORROS, GERALD NMI;PARODI, JUAN CARLOS;SCHONHOLZ, CLAUDIO JAVIER;AND OTHERS;REEL/FRAME:012403/0795;SIGNING DATES FROM 20011105 TO 20011127 Owner: ARTERIA MEDICAL SCIENCE, INC., CALIFORNIA PartyType: owner
US7063714 BB	20060531	LSGT	PAT1	Patented Case	
US7063714 BB	20060620	LSGT	+	granted / extensions (spc, cpc, pte)	
US7063714 BB	20070313	LSRE	CC	CERTIFICATE OF CORRECTION	
US7063714 BB	20091221	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7063714 BB	20120214	LSAS	AS	ASSIGNMENT	Effective date: 20120130 PartyType: owner Owner: W. L. GORE & ASSOCIATES, INC., DELAWARE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GORE ENTERPRISE HOLDINGS, INC.;REEL/FRAME:027906/0508
US7063714 BB	20131220	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7063714 BB	20171120	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7063714 BB	20230410	PEXP		Calculated Patent Term Expiry (PTA 553 days)	
WO03018085 A2	20030306	LSPB	+	published / reissued	
WO03018085 A2	20030306		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
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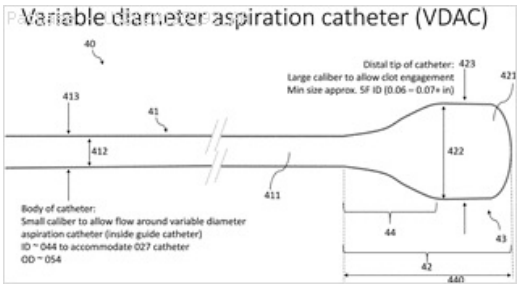
				PATENTS	SZ TD TG TJ TM TR TZ UG ZM ZW
WO03018085 A2	20030502		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO03018085 A3	20040220	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2458148 Country of Ref document: CA
WO03018085 A3	20040223	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002336389 Country of Ref document: AU
WO03018085 A3	20040223	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2003522599 Country of Ref document: JP
WO03018085 A3	20040316	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2002773236 Country of Ref document: EP
WO03018085 A3	20040609	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2002773236 Country of Ref document: EP
WO03018086 A2	20030306	LSPB	+	published / reissued	
WO03018086 A2	20030306		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
WO03018086 A2	20030306		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW IE IT KE KG KZ LS LU MC MD ML MR MW MZ NE NL PT RU SD SE SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO03018086 A2	20030502		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO03018086 A3	20040929	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref country code: WO
WO03018086 A3	20060512	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO03018086 A3	20060512	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: JP

93) Family number: 78657425 (US2020129192 AA)

Title: NOVEL ENHANCED ENDOVASCULAR MECHANICAL THROMBECTOMY DEVICES AND TECHNIQUES

Abstract: A novel variable diameter aspiration **catheter** (VDAC) device and **method** for an enhanced endovascular mechanical thrombectomy technique is disclosed. In an aspect, the use of a VDAC allows endovascular mechanical thrombectomy techniques to be performed with "full flow control".

Classifications:
International (IPC 8-9): A61B17/22
CPC: A61B17/22 A61B17/221 A61B2017/22051 A61B2017/22079 A61B2090/3966 A61M2025/0059 A61M2205/0216 A61M25/0108



Family:

Publication number	Publication date	Application number	Application date
US2020129192 AA	20200430	US20190661301	20191023

Priority:

US20180749744P 20181024 US20190661301 20191023

Probable Assignee: LAMBERT RADIOLOGY MEDICAL GROUP

Assignee(s): (std)**:** LAMBERT RADIOLOGY MEDICAL GROUP

Inventor(s): (std)**:** LIN SHAO POW

Legal status (INPADOC)

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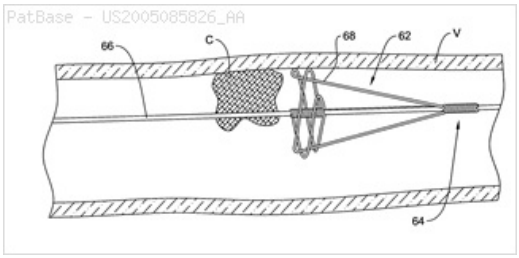
Patent	Date recorded	Event group	Code	Event	Details
US2020129192 AA	20191023	LSAS	AS	ASSIGNMENT	Effective date: 20191022 Owner: LAMBERT RADIOLOGY MEDICAL GROUP, CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:LIN, SHAO-POW, DR.;REEL/FRAME:050802/0826 PartyType: owner
US2020129192 AA	20191204		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2020129192 AA	20200430	LSPB	+	published / reissued	

94) Family number: 31843949 (US2005085826 AA)

Title: UNFOLDING BALLOON **CATHETER** FOR PROXIMAL EMBOLUS PROTECTION

Abstract: Devices, **systems** and **methods** for **removing** foreign bodies within a body lumen are disclosed. An unfolding balloon **catheter** may include an elongated shaft having an intussuscepting balloon that can be actuated within a body lumen to capture and **retrieve** an intravascular device. The balloon may be configured to radially and/or axially expand when inflated, enveloping the intravascular device. In certain embodiments, the balloon may be formed by folding the ends of a distensible member inwardly, and then bonding the ends of the distensible member to the elongated shaft to form an expandable sleeve. An adhesive layer located along a portion of the elongated shaft may be used to temporarily secure the balloon to the elongated shaft.

Classifications:
International (IPC 8-9): A61B17/22 A61B17/221 A61B17/32 A61B17/34 A61D1/02 A61M1/00 A61M25/00 A61M29/00
International (IPC 1-7): A61B17/22 A61B17/24
CPC: A61B17/22032 A61B17/221 A61B2017/2212 A61B2017/2215 A61B2017/3435
US: 604/35 604/96.01 604/96.010 606/113 606/159



Family:

Publication number	Publication date	Application number	Application date
AT428358 E	20090515	AT20040795787T	20041021
CA2543211 AA	20060421	CA20042543211	20041021
DE602004020651 D1	20090528	DE200460020651T	20041021
EP1684647 A1	20060802	EP20040795787	20041021
EP1684647 B1	20090415	EP20040795787	20041021
ES2324915 T3	20090819	ES20040795787T	20041021
JP2007508903 T2	20070412	JP20060536740T	20041021
US2005085826 AA	20050421	US20030690004	20031021
US2007249998 AA	20071025	US20070770023	20070628
US8444661 BB	20130521	US20070770023	20070628
WO05041788 A1	20050512	WO2004US34674	20041021

Priority:
US20030690004 20031021 WO2004US34674 20041021 US20070770023 20070628

Probable Assignee: STRYKER CORP

Assignee(s): (std): BOSTON SCIENT LTD ; BOSTON SCIENT SCIMED INC ; BOSTON SCIENTIFIC LIMITED ; LE MAGGIE ; NAIR AJITKUMAR B ; NGO TRA HUONG ; NGUYEN HIEU T ; RAMZIPOOR KAMAL ; SCIMED LIFE SYSTEMS INC ; STRYKER CORP ; STRYKER NV OPERATIONS LTD ; STRYKER OPERATIONS LTD NV

Assignee(s): BOSTON SCIENTIFIC LTD ; BOSTON SCIENTIFIC SCIMED INC ; STRYKER CORPORATION ; STRYKER EUROPEAN HOLDINGS I LLC ; STRYKER EUROPEAN HOLDINGS III LLC ; STRYKER EUROPEAN OPERATIONS HOLDINGS LLC ; STRYKER MEDTECH LTD ; STRYKER NV OPERATIONS LIMITED ; ボストン サイエンティフィック リミテッド

Inventor(s): (std): LE MAGGIE ; NAIR AJITKUMAR ; NAIR AJITKUMAR B ; NGO TRA ; NGO TRA H ; NGO TRA HUONG ; NGUYEN HIEU ; NGUYEN HIEU T ; RAMZIPOOR KAMAL

Inventor(s): グエン ヒュー ティ ; ゴ チャ フオン ; ナイール アジットクマール ビー ; ラムジプール カマル ; リー マギー

Agent(s): CROMPTON SEAGER AND TUFTE LLC; OYEN WIGGS GREEN AND MUTALA LLP; VISTA IP LAW GROUP LLP; VOSSIUS AND PARTNER

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT428358 E	20090515	LSGT	+	granted / extensions (spc, cpc, pte)	
AT428358 E	20091015	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
AT428358 E	20241021	PEXP		Calculated Patent Term Expiry	
CA2543211 AA	20060421	LSPB	+	published / reissued	
CA2543211 AA	20081021	LSLE	-FZDE	DEAD	
DE602004020651 D1	20090319	LSAS	R081	CHANGE OF APPLICANT/PATENTEE	OldParty: Scimed Life Systems, Inc., Maple Grove, Minn., US PartyType: Owner
DE602004020651 D1	20100506	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
EP1684647 A1	20060802	LSPB	+	published / reissued	

EP1684647 A1	20060802	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060518
EP1684647 A1	20060802		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
EP1684647 A1	20061108	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: BOSTON SCIENTIFIC LIMITED
EP1684647 A1	20061220	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20061116
EP1684647 A1	20070124		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP1684647 B1	20090415	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1684647 B1	20090415		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
EP1684647 B1	20090415	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP1684647 B1	20090415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: EP Ref country code: CH
EP1684647 B1	20090513	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP1684647 B1	20090528		REF	CORRESPONDS TO:	Ref document number: 602004020651 Date of Ref document: 20090528 Kind code of Ref document: P Country of Ref document: DE
EP1684647 B1	20090819	LSGT	REG	REFERENCE TO A NATIONAL CODE	Kind code of Ref document: T3 Ref country code: ES Ref document number: 2324915 Ref legal event code: FG2A Country of Ref document: ES
EP1684647 B1	20091001	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
EP1684647 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: AT
EP1684647 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20090415 Country of Ref document: FI
EP1684647 B1	20091030	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090915 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP1684647 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20090415 Country of Ref document: NL
EP1684647 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PL
EP1684647 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20090715 Country of Ref document: SE
EP1684647 B1	20091130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20090415 Country of Ref document: SI

				EPO]	
EP1684647 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CZ
EP1684647 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: DK
EP1684647 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: EE
EP1684647 B1	20100129	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RO
EP1684647 B1	20100226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: SK
EP1684647 B1	20100226	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: BE
EP1684647 B1	20100324	LSGT	+26N	NO OPPOSITION FILED	Effective date: 20100118
EP1684647 B1	20100331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20090715 Country of Ref document: BG
EP1684647 B1	20100531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: MC
EP1684647 B1	20100531	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: PL Ref country code: CH
EP1684647 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: CH
EP1684647 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091031 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LI
EP1684647 B1	20101029	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090716 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: GR
EP1684647 B1	20101029	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20100928 Country of Ref document: IE
EP1684647 B1	20101130	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 7 Payment date: 20101004 Country of Ref document: FR
EP1684647 B1	20101231	LSFE	+PGFP	ANNUAL FEE PAID TO	Year of fee payment: 7

				NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20100923 Country of Ref document: GB
EP1684647 B1	20110228	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20101029 Year of fee payment: 7 Country of Ref document: DE
EP1684647 B1	20110331	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20101030 Year of fee payment: 7 Country of Ref document: IT
EP1684647 B1	20110429	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091021 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: LU
EP1684647 B1	20110630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20091016 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: HU
EP1684647 B1	20110630	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20101014 Year of fee payment: 7 Country of Ref document: ES
EP1684647 B1	20110831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP1684647 B1	20110930	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20090415 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: CY
EP1684647 B1	20120627	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	Ref country code: EP Effective date: 20111021
EP1684647 B1	20120720	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120629 Ref country code: FR Ref legal event code: ST
EP1684647 B1	20120731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20120501 Country of Ref document: DE
EP1684647 B1	20120801	LSLE	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: MM4A
EP1684647 B1	20120816	LSDW	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20120501 Ref document number: 602004020651 Ref legal event code: R119 Ref country code: DE Country of Ref document: DE
EP1684647 B1	20120831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20111102 Country of Ref document: FR
EP1684647 B1	20120831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20111021 Country of Ref document: IT
EP1684647 B1	20120831	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20111021 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: GB
EP1684647 B1	20121031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE	Lapsed date: 20111021 NotificationOfLapse: LAPSE BECAUSE OF

				[ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NON-PAYMENT OF DUE FEES Country of Ref document: IE
EP1684647 B1	20130530	LSLE	REG	REFERENCE TO A NATIONAL CODE	Effective date: 20130530 Ref country code: ES Ref legal event code: FD2A
EP1684647 B1	20130731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Lapsed date: 20111022 Country of Ref document: ES
EP1684647 B1	20241021	PEXP		Calculated Patent Term Expiry	
ES2324915 T3	20090819	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2324915 T3	20241021	PEXP		Calculated Patent Term Expiry	
JP2007508903 T2	20070412	LSPB	+	published / reissued	
US2005085826 AA	20031021	LSAS	AS	ASSIGNMENT	Owner: SCIMED LIFE SYSTEMS, INC., MINNESOTA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:NAIR, AJITKUMAR B.;RAMZIPOOR, KAMAL;NGO, TRA HUONG;AND OTHERS;REEL/FRAME:014632/0437;SIGNING DATES FROM 20031016 TO 20031017
US2005085826 AA	20050421	LSPB	+	published / reissued	
US2005085826 AA	20061106	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20050101 Owner: BOSTON SCIENTIFIC SCIMED, INC., MINNESOTA OldParty: CHANGE OF NAME;ASSIGNOR:SCIMED LIFE SYSTEMS, INC.;REEL/FRAME:018505/0868
US2005085826 AA	20061106	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20050101 Owner: BOSTON SCIENTIFIC SCIMED, INC.,MINNESOTA OldParty: CHANGE OF NAME;ASSIGNOR:SCIMED LIFE SYSTEMS, INC.;REEL/FRAME:018505/0868
US2005085826 AA	20071204	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2005085826 AA	20071204		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2005085826 AA	20151123	LSAS	AS	ASSIGNMENT	Owner: STRYKER MEDTECH LIMITED, MALTA OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:037153/0034 Effective date: 20151013 PartyType: owner
US2005085826 AA	20151123	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:037153/0241 Effective date: 20151013 PartyType: owner Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN
US2005085826 AA	20151124	LSAS	AS	ASSIGNMENT	Owner: STRYKER NV OPERATIONS LIMITED, IRELAND PartyType: owner Effective date: 20110103 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BOSTON SCIENTIFIC LIMITED;REEL/FRAME:037156/0336
US2005085826 AA	20151124	LSAS	AS	ASSIGNMENT	Owner: STRYKER CORPORATION, MICHIGAN OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BOSTON SCIENTIFIC LIMITED;REEL/FRAME:037156/0336 PartyType: owner Effective date: 20110103
US2005085826 AA	20160308	LSAS	AS	ASSIGNMENT	Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT LISTED SERIAL NOS. 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0241. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT EFFECTIVE DATE 9/29/2014;ASSIGNOR:STRYKER MEDTECH

					LIMITED;REEL/FRAME:038043/0011 Effective date: 20151013
US2005085826 AA	20160308	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT SERIAL # 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0034. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:038039/0001 Owner: STRYKER MEDTECH LIMITED, MALTA Effective date: 20151013
US2005085826 AA	20200607	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:STRYKER EUROPEAN HOLDINGS III, LLC;REEL/FRAME:052860/0716 Owner: STRYKER EUROPEAN OPERATIONS HOLDINGS LLC, MICHIGAN PartyType: owner Effective date: 20190226
US2005085826 AA	20200607	LSAS	AS	ASSIGNMENT	OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER EUROPEAN HOLDINGS I, LLC;REEL/FRAME:052861/0001 Effective date: 20200519 PartyType: owner Owner: STRYKER EUROPEAN HOLDINGS III, LLC, DELAWARE
US2007249998 AA	20071025	LSPB	+	published / reissued	
US2007249998 AA	20110223	LSAS	AS	ASSIGNMENT	Effective date: 20010103 PartyType: owner Owner: STRYKER CORPORATION, MICHIGAN OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BOSTON SCIENTIFIC SCIMED, INC.;REEL/FRAME:025853/0548
US2007249998 AA	20110223	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BOSTON SCIENTIFIC SCIMED, INC.;REEL/FRAME:025853/0548 Effective date: 20010103 Owner: STRYKER NV OPERATIONS LIMITED, IRELAND PartyType: owner
US2007249998 AA	20130501	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8444661 BB	20130501	LSGT	PAT1	Patented Case	
US8444661 BB	20130521	LSGT	+	granted / extensions (spc, cpc, pte)	
US8444661 BB	20141111	LSRE	CC	CERTIFICATE OF CORRECTION	
US8444661 BB	20151123	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:037153/0241 Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN Effective date: 20151013
US8444661 BB	20151123	LSAS	AS	ASSIGNMENT	Effective date: 20151013 OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:037153/0034 PartyType: owner Owner: STRYKER MEDTECH LIMITED, MALTA
US8444661 BB	20160308	LSAS	AS	ASSIGNMENT	Effective date: 20151013 OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT LISTED SERIAL NOS. 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0241. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT EFFECTIVE DATE 9/29/2014;ASSIGNOR:STRYKER MEDTECH LIMITED;REEL/FRAME:038043/0011 Owner: STRYKER EUROPEAN HOLDINGS I, LLC, MICHIGAN PartyType: owner
US8444661 BB	20160308	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20151013 Owner: STRYKER MEDTECH LIMITED, MALTA OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE INCORRECT SERIAL # 09/905,670 AND 07/092,079 PREVIOUSLY RECORDED AT REEL: 037153 FRAME: 0034. ASSIGNOR(S) HEREBY CONFIRMS THE NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER NV OPERATIONS LIMITED;REEL/FRAME:038039/0001
US8444661 BB	20161006	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE EXECUTION

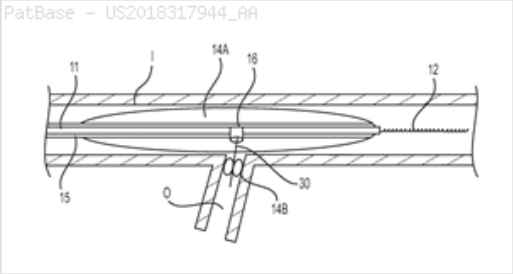
					DATE;ASSIGNOR:BOSTON SCIENTIFIC SCIMED, INC.;REEL/FRAME:040249/0296 Owner: STRYKER CORPORATION, MICHIGAN Effective date: 20110103
US8444661 BB	20161006	LSAS	AS	ASSIGNMENT	OldParty: CORRECTIVE ASSIGNMENT TO CORRECT THE EXECUTION DATE;ASSIGNOR:BOSTON SCIENTIFIC SCIMED, INC.;REEL/FRAME:040249/0296 PartyType: owner Effective date: 20110103 Owner: STRYKER NV OPERATIONS LIMITED, IRELAND
US8444661 BB	20161110	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8444661 BB	20200607	LSAS	AS	ASSIGNMENT	Effective date: 20190226 OldParty: CHANGE OF NAME;ASSIGNOR:STRYKER EUROPEAN HOLDINGS III, LLC;REEL/FRAME:052860/0716 Owner: STRYKER EUROPEAN OPERATIONS HOLDINGS LLC, MICHIGAN PartyType: owner
US8444661 BB	20200607	LSAS	AS	ASSIGNMENT	Effective date: 20200519 Owner: STRYKER EUROPEAN HOLDINGS III, LLC, DELAWARE PartyType: owner OldParty: NUNC PRO TUNC ASSIGNMENT;ASSIGNOR:STRYKER EUROPEAN HOLDINGS I, LLC;REEL/FRAME:052861/0001
US8444661 BB	20310215	PEXP		Calculated Patent Term Expiry (PTA 1328 days)	
WO05041788 A1	20050512	LSPB	+	published / reissued	
WO05041788 A1	20050512		+AK	DESIGNATED STATES	Kind code of Ref document: A1 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05041788 A1	20050512		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A1 Country of Ref document: AM AT AZ BE BF BG BJ BW BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GH GM GN GQ GR GW HU IE IT KE KG KZ LS LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05041788 A1	20050706		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05041788 A1	20060421	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2006536740 Country of Ref document: JP
WO05041788 A1	20060421	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2543211 Country of Ref document: CA
WO05041788 A1	20060518	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2004795787 Country of Ref document: EP
WO05041788 A1	20060802	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2004795787 Country of Ref document: EP

95) Family number: 71790810 (US2018317944 AA)

Title: DEVICES AND **METHODS** FOR TREATING AN ARTERY

Abstract: A **method** for treating tissue of at least one of an internal carotid artery, an ophthalmic artery, or an ostium between the internal carotid artery and the ophthalmic artery of a subject may include expanding a first expandable device of a first device in the internal carotid artery. The **method** also may include delivering a second device in the ophthalmic artery via the first device and expanding a second expandable device of the second device in the ophthalmic artery. Further, the **method** may include adjusting a radial position of the second expandable device relative to the first expandable device.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B17/3207 A61B3/16 A61F2/01 A61F9/007 A61M25/10
CPC: A61B17/12045 A61B17/12109 A61B17/12136 A61B17/22 A61B17/320783 A61B2017/00358 A61B2017/12127 A61B2017/22001 A61B2017/22038 A61B2017/22039 A61B2017/22041 A61B2017/22048 A61B2017/22052 A61B2017/22054 A61B2017/22067 A61B2017/22069 A61B2017/22071 A61B2017/22079 A61B2017/22084 A61F9/007 A61M2025/1015 A61B3/16 A61M2025/1045 A61M25/0155
US: 1/1 606/159



Family:

Publication number	Publication date	Application number	Application date
US10772645 BB	20200915	US20190571848	20190916
US2018317944 AA	20181108	US20180993359	20180530
US2020022713 AA	20200123	US20190571848	20190916
WO18208622 A1	20181115	WO2018US31229	20180504

Priority:

US20170502733P 20170507 US20170513383P 20170531 US20170523724P 20170622
WO2018US31229 20180504 US20180993359 20180530 US20190571848 20190916

Probable Assignee: OCUDYNE INC

Assignee(s): (std): J D FRANCO AND CO ; J D FRANCO AND CO LLC

Assignee(s): OCUDYNE INC

Inventor(s): (std): CALHOUN MICHAEL ; VIDLUND ROBERT

Agent(s): BOOKOFF MCANDREWS PLLC; WINCHESTER JESSICA 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)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
US10772645 BB	20200915	LSGT	+	granted / extensions (spc, cpc, pte)	
US10772645 BB	20390916	PEXP		Calculated Patent Term Expiry	
US2018317944 AA	20181108	LSPB	+	published / reissued	
US2018317944 AA	20181211		RFE1	Docketed New Case - Ready for Examination	
US2018317944 AA	20181211		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2018317944 AA	20190314	LSAS	AS	ASSIGNMENT	Effective date: 20180605 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:VIDLUND, ROBERT;REEL/FRAME:048594/0728 Owner: OCUDYNE, INC., TEXAS PartyType: owner
US2018317944 AA	20191220	LSAS	AS	ASSIGNMENT	Effective date: 20180605 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:CALHOUN, MICHAEL;REEL/FRAME:051342/0672 Owner: OCUDYNE, INC., TEXAS PartyType: owner
US2018317944 AA	20200113	LSES	NFA1	Non Final Action Mailed	

US2018317944 AA	20200113		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018317944 AA	20200220	LSAS	AS	ASSIGNMENT	Effective date: 20180720 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:OCUDYNE, INC.;REEL/FRAME:051879/0711 Owner: J.D. FRANCO & CO., LLC, TEXAS PartyType: owner
US2018317944 AA	20200428	LSES	NFA1	Non Final Action Mailed	
US2018317944 AA	20200428		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2018317944 AA	20200802		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2020022713 AA	20191218	LSAS	AS	ASSIGNMENT	Effective date: 20180605 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:VIDLUND, ROBERT M.;CALHOUN, MICHAEL;REEL/FRAME:051320/0908 Owner: OCUDYNE, INC., TEXAS PartyType: owner
US2020022713 AA	20200111		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2020022713 AA	20200111		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2020022713 AA	20200123	LSPB	+	published / reissued	
US2020022713 AA	20200220	LSAS	AS	ASSIGNMENT	Effective date: 20180720 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:OCUDYNE, INC.;REEL/FRAME:051879/0711 Owner: J.D. FRANCO & CO., LLC, TEXAS PartyType: owner
US2020022713 AA	20200311	LSES	NFA1	Non Final Action Mailed	
US2020022713 AA	20200617		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2020022713 AA	20200617		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2020022713 AA	20200709	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2020022713 AA	20200814	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2020022713 AA	20200814		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
WO18208622 A1	20181115	LSPB	+	published / reissued	

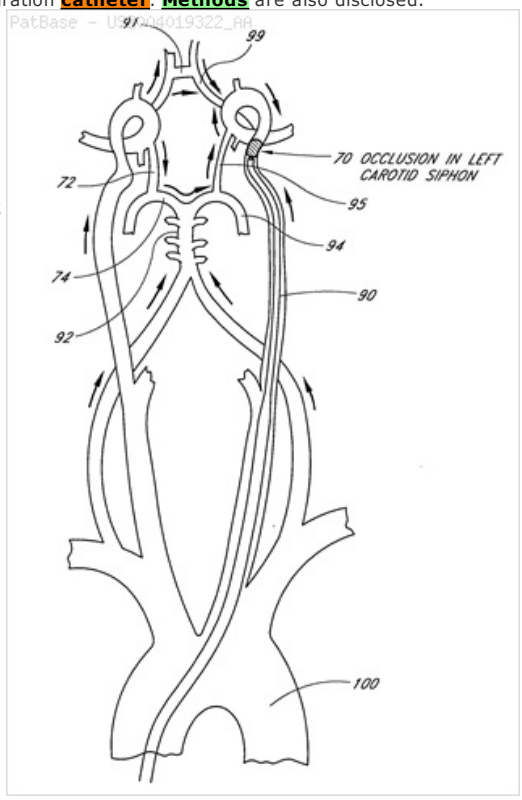
WO18208622 A1	20181226		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 18798057 Country of Ref document: EP
WO18208622 A1	20191108	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18208622 A1	20200812	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 18798057 Country of Ref document: EP

96) Family number: 30226897 (US2004019322 AA)

Title: INTRACRANIAL ASPIRATION **CATHETER**

Abstract: Disclosed is an access **catheter**, having a distal segment which is moveable from a reduced outside diameter for positioning at a target site, and an enlarged outside diameter to create an enlarged internal working lumen. In one application, the **catheter** is configured for use as an intracranial aspiration **catheter**. **Methods** are also disclosed.

Classifications:
International (IPC 8-9): A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B17/3207 A61B17/34 A61B5/00 A61F2/82 A61F2/958 A61M1/00 A61M25/00 A61M25/01 A61M25/092 A61M25/10 A61M25/14 A61M27/00 A61M29/00 A61M31/00
International (IPC 1-7): A61M29/00
CPC: A61B17/12118 A61B17/1214 A61B17/12186 A61B17/22 A61B17/221 A61B17/320725 A61B17/3439 A61B2017/00867 A61B2017/12054 A61B2017/22001 A61B2017/22041 A61B2017/22042 A61B2017/22044 A61B2017/22094 A61B2017/2212 A61B2217/005 A61B5/6858 A61M2025/0024 A61M25/0021 A61M25/0023 A61M25/0026 A61M25/0043 A61M25/0074 A61M27/002
US: 1/1 600/585 604/103.09 604/104 604/104S 604/508 604/509 604/509P 604/523 604/524 604/525 604/525S 604/526 604/95.04 604/96.01 604/96.010P 606/159 606/159P 606/192 606/192S 606/198 606/200 606/200S



Family:

Publication number	Publication date	Application number	Application date
EP2381997 A2	20111102	EP20090835870	20091223
JP2012513294 T2	20120614	JP20110543692T	20091223
US10722255 BB	20200728	US20150745572	20150622
US2004019322 AA	20040129	US20030623875	20030721
US2008065045 AA	20080313	US20070936632	20071107
US2010114017 AA	20100506	US20080343374	20081223
US2012101510 AA	20120426	US20090141177	20091223
US2012283633 AA	20121108	US20120549857	20120716
US2015359549 AA	20151217	US20150745572	20150622
US7309334 BB	20071218	US20030623875	20030721
US8231600 BB	20120731	US20070936632	20071107
US8425549 BB	20130423	US20080343374	20081223
US8939931 BB	20150127	US20120549857	20120716
US9078682 BB	20150714	US20090141177	20091223
WO10075565 A2	20100701	WO2009US69498	20091223
WO10075565 A3	20101028	WO2009US69498	20091223

Priority:

US20020398071P 20020723 US20030623875 20030721 US20070936632 20071107
US20080343374 20081223 WO2009US69498 20091223 US20090141177 20091223
US20120141177 20120111 US20120549857 20120716 US20150745572 20150622

Probable Assignee: COVIDIEN LP

Assignee(s): (std): COVIDIEN LP ; LENKER JAY A ; ONSET MEDICAL CORP ; REVERSE MEDICAL CORP ; SHIMADA LYNN MIYEKO ; STRAUSS BRIAN M ; STRAUSS BRIAN MICHAEL ; VON HOFFMAN GERARD ; VON HOFFMANN GERARD

Assignee(s): HOFFMANN GERARD VON ; REVERSE MEDICAL LLC ; リバース メディカル コーポレーション

Inventor(s): (std): HOFFMANN GERARD VON ; LENKER JAY ; LENKER JAY A ; SHIMADA LYNN ; SHIMADA LYNN MIYEKO ; STRAUSS BRIAN ; STRAUSS BRIAN M ; STRAUSS BRIAN MICHAEL ; VON HOFFMAN GERARD ; VON HOFFMANN GERARD

Inventor(s): GERARD VON HOFFMANN ; ジェイ エー レンカー ; ジェラード ヴォン ホフマン ; ブライアン マイケル ストラス ; リン ミエコ シマダ

Agent(s): BUYAN ROBERT D; CROCKETT AND CROCKETT PC; FORTEM IP LLP; FOX MARY; INSKEEP IP GROUP INC; K DAVID; KNOBBE MARTENS OLSON AND BEAR LLP; MARK J; STOUT UXA BUYAN AND MULLINS LLP; VAN WALSTIJN BARTHOLOMEUS G G

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 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
EP2381997 A2	20111102	LSPB	+	published / reissued	
EP2381997 A2	20111102	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20110725
EP2381997 A2	20111102		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR
EP2381997 A2	20120328		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP2381997 A2	20141231	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20140701
JP2012513294 T2	20120614	LSPB	+	published / reissued	
JP2012513294 T2	20121222	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20121221 Text: JAPANESE INTERMEDIATE CODE: A621
JP2012513294 T2	20130823	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20130822 Text: JAPANESE INTERMEDIATE CODE: A523
JP2012513294 T2	20131028		A977	REPORT ON RETRIEVAL	Text: JAPANESE INTERMEDIATE CODE: A971007 Effective date: 20131025
JP2012513294 T2	20140220		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20140219 Text: JAPANESE INTERMEDIATE CODE: A601
JP2012513294 T2	20140227		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20140226 Text: JAPANESE INTERMEDIATE CODE: A602
JP2012513294 T2	20140320		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20140319 Text: JAPANESE INTERMEDIATE CODE: A601
JP2012513294 T2	20140328		A602	WRITTEN PERMISSION OF EXTENSION OF TIME	Effective date: 20140327 Text: JAPANESE INTERMEDIATE CODE: A602
JP2012513294 T2	20140702	LSRV	-A02	DECISION OF REFUSAL	Text: JAPANESE INTERMEDIATE CODE: A02 Effective date: 20140701
US10722255 BB	20200708	LSGT	PAT1	Patented Case	
US10722255 BB	20200728	LSGT	+	granted / extensions (spc, cpc, pte)	
US10722255 BB	20300926	PEXP		Calculated Patent Term Expiry (PTA 642 days)	
US2004019322 AA	20040129	LSPB	+	published / reissued	
US2004019322 AA	20071128	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2008065045 AA	20080313	LSPB	+	published / reissued	
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US2008065045 AA	20120711	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2010114017 AA	20100506	LSPB	+	published / reissued	
US2010114017 AA	20111116	LSAS	AS	ASSIGNMENT	Owner: REVERSE MEDICAL CORPORATION, CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LENKER, JAY A.;STRAUSS, BRIAN MICHAEL;SIGNING DATES FROM 20090610 TO 20090611;REEL/FRAME:027239/0562
US2010114017 AA	20130403	LSGT	STCF	INFORMATION ON	Text: PATENTED CASE

				STATUS: PATENT GRANT	
US2012101510 AA	20120426	LSPB	+	published / reissued	
US2012101510 AA	20150311	LSAS	AS	ASSIGNMENT	Effective date: 20140927 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:REVERSE MEDICAL LLC;REEL/FRAME:035143/0782 PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS
US2012101510 AA	20150311	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:REVERSE MEDICAL CORPORATION;REEL/FRAME:035188/0429 Owner: REVERSE MEDICAL LLC, CALIFORNIA Effective date: 20140926
US2012101510 AA	20150624	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2012283633 AA	20121108	LSPB	+	published / reissued	
US2012283633 AA	20150107	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015359549 AA	20150915		RFE1	Docketed New Case - Ready for Examination	
US2015359549 AA	20151217	LSPB	+	published / reissued	
US2015359549 AA	20170707	LSES	NFA1	Non Final Action Mailed	
US2015359549 AA	20180127		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015359549 AA	20180427		FRM1	Final Rejection Mailed	
US2015359549 AA	20180705	LSES	ADV2	Advisory Action Counted, Not Yet Mailed	
US2015359549 AA	20180709	LSES	ADV1	Advisory Action Mailed	
US2015359549 AA	20180724		RFE1	Docketed New Case - Ready for Examination	
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US2015359549 AA	20190318		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2015359549 AA	20190625		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2015359549 AA	20190625		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2015359549 AA	20190815		FRM1	Final Rejection Mailed	
US2015359549 AA	20190815		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: FINAL REJECTION MAILED
US2015359549 AA	20191023		RSP1	Response after Final Action Forwarded to Examiner	
US2015359549 AA	20191023		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE AFTER FINAL ACTION FORWARDED TO EXAMINER
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US2015359549 AA	20191119		STPP	INFORMATION ON	Text: ADVISORY ACTION MAILED

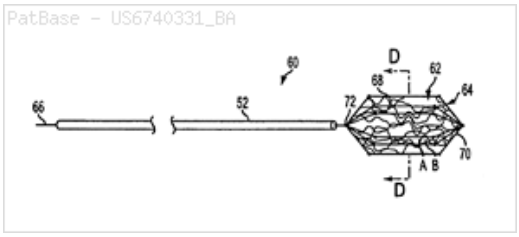
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US2015359549 AA	20191223		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2015359549 AA	20200313	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015359549 AA	20200325	LSAS	AS	ASSIGNMENT	Owner: REVERSE MEDICAL CORPORATION, CALIFORNIA OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LENKER, JAY A.;STRAUSS, BRIAN M.;SHIMADA, LYNN MIYEKO;SIGNING DATES FROM 20111223 TO 20120103;REEL/FRAME:052227/0120 PartyType: owner
US2015359549 AA	20200325	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:REVERSE MEDICAL LLC;REEL/FRAME:052227/0174 Effective date: 20140927 Owner: COVIDIEN LP, MASSACHUSETTS PartyType: owner
US2015359549 AA	20200325	LSAS	AS	ASSIGNMENT	OldParty: CHANGE OF NAME;ASSIGNOR:REVERSE MEDICAL CORPORATION;REEL/FRAME:052229/0893 Owner: REVERSE MEDICAL LLC, CALIFORNIA Effective date: 20140926 PartyType: owner
US2015359549 AA	20200619	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015359549 AA	20200619		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US7309334 BB	20071128	LSGT	PAT1	Patented Case	
US7309334 BB	20071218	LSGT	+	granted / extensions (spc, cpc, pte)	
US7309334 BB	20080708	LSRE	CC	CERTIFICATE OF CORRECTION	
US7309334 BB	20100910	LSAS	AS	ASSIGNMENT	Owner: ONSET MEDICAL CORPORATION, CALIFORNIA Effective date: 20100910 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:HOFFMANN, GERARD VON;REEL/FRAME:024964/0956
US7309334 BB	20110520	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7309334 BB	20150526	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US7309334 BB	20190520	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 12
US7309334 BB	20240413	PEXP		Calculated Patent Term Expiry (PTA 267 days)	
US8231600 BB	20120711	LSGT	PAT1	Patented Case	
US8231600 BB	20120731	LSGT	+	granted / extensions (spc, cpc, pte)	
US8231600 BB	20151229	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8231600 BB	20200124	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 8
US8231600 BB	20271107	PEXP		Calculated Patent Term Expiry	
US8425549 BB	20130403	LSGT	PAT1	Patented Case	
US8425549 BB	20130423	LSGT	+	granted / extensions (spc, cpc, pte)	
US8425549 BB	20150311	LSAS	AS	ASSIGNMENT	Effective date: 20140927 OldParty: ASSIGNMENT OF ASSIGNORS

					INTEREST;ASSIGNOR:REVERSE MEDICAL LLC;REEL/FRAME:035143/0782 PartyType: owner Owner: COVIDIEN LP, MASSACHUSETTS
US8425549 BB	20150311	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: CHANGE OF NAME;ASSIGNOR:REVERSE MEDICAL CORPORATION;REEL/FRAME:035188/0429 Effective date: 20140926 Owner: REVERSE MEDICAL LLC, CALIFORNIA
US8425549 BB	20161024	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US8425549 BB	20310215	PEXP		Calculated Patent Term Expiry (PTA 784 days)	
US8939931 BB	20150107	LSGT	PAT1	Patented Case	
US8939931 BB	20150127	LSGT	+	granted / extensions (spc, cpc, pte)	
US8939931 BB	20180704	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8939931 BB	20230721	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9078682 BB	20120113	LSAS	AS	ASSIGNMENT	Owner: REVERSE MEDICAL CORPORATION, CALIFORNIA PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:LENKER, JAY A.;STRAUSS, BRIAN M.;SHIMADA, LYNN MIYEKO;SIGNING DATES FROM 20111223 TO 20120103;REEL/FRAME:027529/0086
US9078682 BB	20150624	LSGT	PAT1	Patented Case	
US9078682 BB	20150714	LSGT	+	granted / extensions (spc, cpc, pte)	
US9078682 BB	20181219	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9078682 BB	20311122	PEXP		Calculated Patent Term Expiry (PTA 699 days)	
WO10075565 A2	20100701	LSPB	+	published / reissued	
WO10075565 A2	20100818		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A2 Ref document number: 09835870 Country of Ref document: EP
WO10075565 A3	20110623	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2011543692 Kind code of Ref document: A Country of Ref document: JP
WO10075565 A3	20110623	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO10075565 A3	20110719	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2009835870 Country of Ref document: EP
WO10075565 A3	20120111	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 13141177 Country of Ref document: US

97) Family number: 20748908 (US6740331 BA)

Title: Apparatus for the delivery of drugs or gene therapy into a patient's vasculature and **methods** of use

Abstract: **Methods** and apparatus are provided for delivering drugs or gene therapy within a patient's vessel. In a preferred embodiment, the apparatus comprises a material eluting a bioactive substance held in place within the patient's vessel by an anchor. The anchor and eluting material are sized and/or collapsible from a delivery configuration, in which the anchor and material may be delivered into the patient's vasculature within a delivery sheath, to a deployed configuration, wherein the anchor engages an interior wall of the patient's vessel. The eluting material may elute recombinant genes, drugs, or any other bioactive substance.



Classifications:
International (IPC 8-9): A61B17/12 A61F2/02 A61F2/04 A61F2/06 A61F2/86 A61K9/00 A61K9/22 A61L29/00 A61L29/16 A61L31/00 A61L31/16 A61M25/02 A61M25/04 A61M31/00 A61M36/04
International (IPC 1-7): A61F2/02 A61K48/00 A61K9/22 A61M31/00 A61M5/00
CPC: A61B17/12109 A61B17/12172 A61B17/12177 A61B17/12181 A61B17/1219 A61B2017/00889 A61B2017/1205 A61L2300/258 A61L2300/45 A61L29/16 A61M25/04 A61M31/002 A61F2/022 A61F2/86 A61L2300/252 A61L2300/406 A61L2300/416 A61L2300/42 A61L2300/43 A61L2300/64 A61L31/16
US: 424/422 424/423 424/423P 424/426 514/44 514/44.00RS 514/44R 604/104 604/500 604/500P 604/890.1 604/890.100S 604/891.1 604/93.01

Family:

Publication number	Publication date	Application number	Application date
AU2001285481 AA	20020304	AU20010285481	20010820
EP1381411 A2	20040121	EP20010964644	20010820
EP1381411 A4	20070509	EP20010964644	20010820
EP1761204 A2	20070314	EP20050757409	20050607
EP1761204 A4	20140820	EP20050757409	20050607
JP2008502446 T2	20080131	JP20070527641T	20050607
JP5097546 B2	20121212	JP20070527641T	20050607
US2004193137 AA	20040930	US20040822037	20040408
US2005064009 AA	20050324	US20040864936	20040609
US6740331 BA	20040525	US20000648257	20000825
US7648495 BB	20100119	US20040822037	20040408
US7651696 BB	20100126	US20040864936	20040609
WO0215962 A2	20020228	WO2001US41857	20010820
WO0215962 A3	20031030	WO2001US41857	20010820
WO05123044 A2	20051229	WO2005US19934	20050607
WO05123044 A3	20060824	WO2005US19934	20050607

Priority:

US20000648257 20000825 WO2001US41857 20010820 US20040822037 20040408
US20040864936 20040609 WO2005US19934 20050607

Probable Assignee: NEXEON MEDSYSTEMS INC

Assignee(s): (std): BATES MARK C ; GLOBAL GENE THERAPIES INC ; NEXEON MEDICAL SYSTEMS INC ; NEXEON MEDSYSTEMS INC ; PARAGON INTELLECTUAL PROPERTIE ; SAN FRANCISCO SCIENCE INC

Assignee(s): PARAGON INTELLECTUAL PROPERTIES LLC ; PARAGON INTELLECTUAL PROPERTY PROPERTIES LLC ; ネグゼオン メドシステムズ インコーポレイテッド

Inventor(s): (std): BATES MARK C ; HORZEWSKI MICHAEL J

Inventor(s): BATES MARK ; MARK C BATES ; MICHAEL J HORZEWSKI ; ベイツ マーク シー

Agent(s): JAIME D; JONES DAY; LUCE FORWARD HAMILTON AND SCRIPPS LLP; NICOLA A; 安村 高明; 山本 秀策; 森下 夏樹

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2001285481 AA	20020304	LSPB	+	published / reissued	
EP1381411 A2	20040121	LSPB	+	published / reissued	
EP1381411 A2	20040121	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20030715
EP1381411 A2	20040121		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR
EP1381411 A2	20040121		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL LT LV MK RO SI
EP1381411 A2	20050810	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	PartyType: owner Owner: PARAGON INTELLECTUAL PROPERTIES, LLC

EP1381411 A4	20070509	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20070405
EP1381411 A4	20071121	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20071022
EP1381411 A4	20090408	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: NEXEON MEDSYSTEMS, INC. PartyType: owner
EP1381411 A4	20160803	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20160301
EP1761204 A2	20070314	LSPB	+	published / reissued	
EP1761204 A2	20070314	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20061214
EP1761204 A2	20070314		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU MC NL PL PT RO SE SI SK TR
EP1761204 A2	20070314		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: AL BA HR LV MK YU
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EP1761204 A2	20090408	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: NEXEON MEDSYSTEMS, INC. PartyType: owner
EP1761204 A4	20140820	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20140717
EP1761204 A4	20140820		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61F 2/02 20060101AFI20140711BHEP
EP1761204 A4	20150708	LSDW	-18D	APPLICATION DEEMED TO BE WITHDRAWN	Effective date: 20141016
JP2008502446 T2	20080131	LSPB	+	published / reissued	
JP2008502446 T2	20080522	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20080521 Text: JAPANESE INTERMEDIATE CODE: A621
JP2008502446 T2	20110210	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20110209 Text: JAPANESE INTERMEDIATE CODE: A131
JP2008502446 T2	20110416	LSAS	A711	NOTIFICATION OF CHANGE IN APPLICANT	Effective date: 20110415 Text: JAPANESE INTERMEDIATE CODE: A712
JP2008502446 T2	20110510	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20110415 Text: JAPANESE INTERMEDIATE CODE: A821
JP2008502446 T2	20110510	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20110509 Text: JAPANESE INTERMEDIATE CODE: A523
JP2008502446 T2	20111111	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	Effective date: 20111110 Text: JAPANESE INTERMEDIATE CODE: A131
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JP2008502446 T2	20120823	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
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JP5097546 B2	20120925	LSFE	R100	特許料納付書	
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JP5097546 B2	20121212	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5097546 B2	20150928	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
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US2004193137 AA	20040930	LSPB	+	published / reissued	
US2004193137 AA	20050609	LSAS	AS	ASSIGNMENT	Owner: PARAGON INTELLECTUAL PROPERTY PROPERTIES, LLC, WES OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BATES, MARK C.;REEL/FRAME:016319/0779 PartyType: owner Effective date: 20050323
US2004193137 AA	20090123	LSAS	AS	ASSIGNMENT	OldParty: MERGER;ASSIGNOR:PARAGON INTELLECTUAL PROPERTIES, LLC;REEL/FRAME:022137/0876 Owner: NEXEON MEDSYSTEMS, INC., WEST VIRGINIA PartyType: owner Effective date: 20081031
US2004193137 AA	20090123	LSAS	AS	ASSIGNMENT	Effective date: 20081031 OldParty: MERGER;ASSIGNOR:PARAGON INTELLECTUAL PROPERTIES, LLC;REEL/FRAME:022137/0876 Owner: NEXEON MEDSYSTEMS, INC.,WEST VIRGINIA PartyType: owner
US2005064009 AA	20050324	LSPB	+	published / reissued	
US2005064009 AA	20050609	LSAS	AS	ASSIGNMENT	Owner: PARAGON INTELLECTUAL PROPERTIES, LLC, WEST VIRGINI Effective date: 20050523 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:BATES, MARK C.;REEL/FRAME:016319/0785 PartyType: owner
US2005064009 AA	20090123	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: NEXEON MEDSYSTEMS, INC., WEST VIRGINIA Effective date: 20081031 OldParty: MERGER;ASSIGNOR:PARAGON INTELLECTUAL PROPERTIES, LLC;REEL/FRAME:022137/0876
US2005064009 AA	20090123	LSAS	AS	ASSIGNMENT	OldParty: MERGER;ASSIGNOR:PARAGON INTELLECTUAL PROPERTIES, LLC;REEL/FRAME:022137/0876 Owner: NEXEON MEDSYSTEMS, INC.,WEST VIRGINIA Effective date: 20081031 PartyType: owner
US6740331 BA	20001120	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:BATES, MARK C.;HORZEWSKI, MICHAEL J.;REEL/FRAME:011317/0937;SIGNING DATES FROM 20001102 TO 20001113 Owner: SAN FRANCISCO SCIENCE, INC., CALIFORNIA PartyType: owner
US6740331 BA	20040329	LSAS	AS	ASSIGNMENT	Effective date: 20040310 OldParty: QUITCLAIM ASSIGNMENT;ASSIGNOR:SAN FRANCISCO SCIENCE, INC.;REEL/FRAME:015149/0506 Owner: GLOBAL GENE THERAPIES, INC., WEST VIRGINIA PartyType: owner
US6740331 BA	20040506	LSGT	PAT1	Patented Case	

US6740331 BA	20040506	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US6740331 BA	20040525	LSGT	+	granted / extensions (spc, cpc, pte)	
US6740331 BA	20050609	LSAS	AS	ASSIGNMENT	Owner: PARAGON INTELLECTUAL PROPERTIES, LLC, WEST VIRGINI PartyType: owner Effective date: 20050523 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:GLOBAL GENE THERAPIES, INC.;REEL/FRAME:016309/0830
US6740331 BA	20071123	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US6740331 BA	20090123	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20081031 OldParty: MERGER;ASSIGNOR:PARAGON INTELLECTUAL PROPERTIES, LLC;REEL/FRAME:022137/0876 Owner: NEXEON MEDSYSTEMS, INC., WEST VIRGINIA
US6740331 BA	20090123	LSAS	AS	ASSIGNMENT	Effective date: 20081031 Owner: NEXEON MEDSYSTEMS, INC.,WEST VIRGINIA PartyType: owner OldParty: MERGER;ASSIGNOR:PARAGON INTELLECTUAL PROPERTIES, LLC;REEL/FRAME:022137/0876
US6740331 BA	20111026	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 8
US6740331 BA	20151231		REMI	MAINTENANCE FEE REMINDER MAILED	
US6740331 BA	20210711	PEXP		Calculated Patent Term Expiry (PTA 320 days)	
US7648495 BB	20091230	LSGT	PAT1	Patented Case	
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US7648495 BB	20130619	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7648495 BB	20170904	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
US7648495 BB	20180219	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	Text: PATENT EXPIRED FOR FAILURE TO PAY MAINTENANCE FEES (ORIGINAL EVENT CODE: EXP.)
US7648495 BB	20180219	LSLE	PEX1	Patent Expired Due to NonPayment of Maintenance Fees Under 37 CFR 1.362	
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US7648495 BB	20180313	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	Effective date: 20180119
US7648495 BB	20251220	PEXP		Calculated Patent Term Expiry (PTA 621 days)	
US7651696 BB	20100106	LSGT	PAT1	Patented Case	
US7651696 BB	20100126	LSGT	+	granted / extensions (spc, cpc, pte)	
US7651696 BB	20130626	LSFE	+FPAY	FEE PAYMENT	Year of fee payment: 4
US7651696 BB	20170911	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: MAINTENANCE FEE REMINDER MAILED (ORIGINAL EVENT CODE: REM.)
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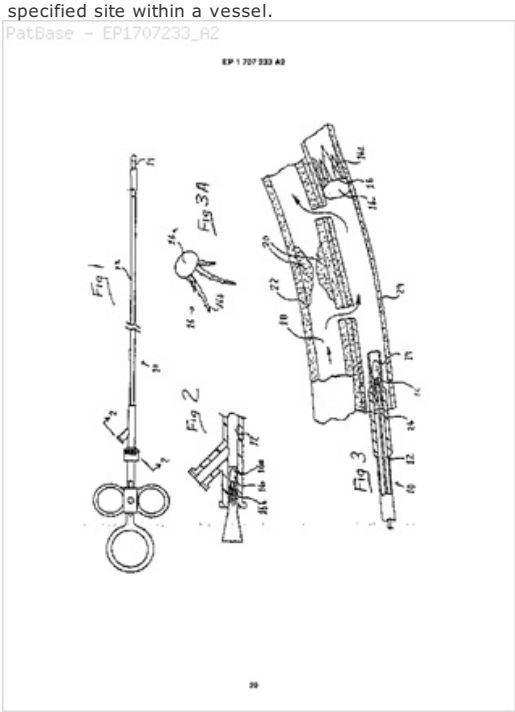
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WO0215962 A2	20020424		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO0215962 A2	20020801		DFPE	REQUEST FOR PRELIMINARY EXAMINATION FILED PRIOR TO EXPIRATION OF 19TH MONTH FROM PRIORITY DATE (PCT APPLICATION FILED BEFORE 20040101)	
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WO0215962 A2	20030715		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2001964644 Country of Ref document: EP
WO0215962 A2	20030715	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2001964644 Country of Ref document: EP
WO0215962 A2	20040121	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	Ref document number: 2001964644 Country of Ref document: EP
WO0215962 A2	20050607	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: JP
WO05123044 A2	20051229	LSPB	+	published / reissued	
WO05123044 A2	20051229		+AK	DESIGNATED STATES	Kind code of Ref document: A2 Country of Ref document: AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NG NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SM SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW
WO05123044 A2	20051229		+AL	DESIGNATED COUNTRIES FOR REGIONAL PATENTS	Kind code of Ref document: A2 Country of Ref document: AM AT AZ BE BF BG BJ BY CF CG CH CI CM CY CZ DE DK EE ES FI FR GA GB GM GN GQ GR GW HU IE IS IT KE KG KZ LS LT LU MC MD ML MR MW MZ NA NE NL PL PT RO RU SD SE SI SK SL SN SZ TD TG TJ TM TR TZ UG ZM ZW
WO05123044 A2	20060222		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	
WO05123044 A3	20061208	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2007527641 Country of Ref document: JP
WO05123044 A3	20061212	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO05123044 A3	20061212	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	Text: DE
WO05123044 A3	20061214	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2005757409 Country of Ref document: EP
WO05123044 A3	20070314	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN	Ref document number: 2005757409 Country of Ref document: EP

98) Family number: 33467433 (EP1707233 A2)

Title: APPARATUS FOR BLOCKING FLOW THROUGH BLOOD VESSELS

Abstract: This invention is **methods** and apparatus for occluding blood flow within a blood vessel (22). In a first series of embodiments, the present invention comprises a plurality of embolic devices (16) deployable through the lumen (12) of a conventional **catheter** (10) such that when deployed, said embolic devices (16) remain resident and occlude blood flow at a specific site within the lumen of the blood vessel (22). Such embolic devices (16) comprise either mechanical embolic devices that become embedded within or compress against the lumen of the vessel or chemical vaso-**occlusive** agents that seal off blood flow at a given site. A second embodiment of the present invention comprises utilization of a vacuum/cauterizing device capable of sucking in the lumen of the vessel about the device to maintain the vessel in a closed condition where there is then applied a sufficient amount of energy to cause the tissue collapsed about the device to denature into a closure. In a third series of embodiments, the present invention comprises the combination of an embolization facilitator coupled with the application of an energy force to form an intraluminal closure at a specified site within a vessel.

Classifications:
International (IPC 8-9): A61B1/313 A61B17/00 A61B17/064 A61B17/11 A61B17/12 A61B17/22 A61B17/30 A61B17/34 A61B18/00 A61B18/14 A61B18/24 A61B19/00 A61F2/00 A61F2/02 A61F2/06 A61F2/07 A61F2/82 A61F2/848 A61F2/90 A61F2/95 A61M19/00 A61M25/00
CPC: A61B1/3137 A61B17/00234 A61B17/00491 A61B17/0643 A61B17/11 A61B17/12022 A61B17/12045 A61B17/12109 A61B17/12136 A61B17/12159 A61B17/12172 A61B17/1219 A61B17/3417 A61B17/3496 A61B18/00 A61B18/1445 A61B18/1477 A61B18/1492 A61B18/24 A61B2017/00243 A61B2017/00247 A61B2017/00252 A61B2017/00504 A61B2017/0641 A61B2017/1107 A61B2017/1139 A61B2017/12054 A61B2017/12068 A61B2017/12127 A61B2017/22038 A61B2017/22077 A61B2017/306 A61B2017/347 A61B2017/3488 A61B2018/00392 A61B2018/00404 A61B2018/00869 A61B2018/1425 A61B2018/1475 A61B2090/037 A61B2090/378 A61B2090/3925 A61B2090/3929 A61B2090/3958 A61B90/361 A61B90/40 A61F2/07 A61F2/2493 A61F2/90 A61F2/95 A61F2002/075 A61F2002/30079 A61F2002/8486 A61F2210/009 A61M2025/0076 A61M2025/0096 A61M2025/1052



Family:

Publication number	Publication date	Application number	Application date
EP1707233 A2	20061004	EP20060011428	19970131
EP1707233 A3	20061220	EP20060011428	19970131

Priority:

US19960010614P 19960202 US19960730327 19961011 US19960730496 19961011 EP19970904084 19970131

Probable Assignee: MEDTRONIC INC

Assignee(s): (std): MEDTRONIC INC ; MEDTRONIC VASCULAR INC ; TRANSVASCULAR INC

Inventor(s): (std): EVARD PHILIPP C ; FLAHERTY J C ; GARIBOTTO JOHN T ; JENSEN MARC ; MACAULAY PATRICK E ; MACHOLD TIMOTHY R ; MAKOWER JOSHUA ; WHITT JASON B

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
EP1707233 A2	20061004	LSPB	+	published / reissued	
EP1707233 A2	20061004	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20060623
EP1707233 A2	20061004		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 0879068 Country of Ref document: EP
EP1707233 A2	20061004		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A2 Country of Ref document: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1707233 A2	20061213	LSAS	RAP1	RIGHTS OF AN APPLICATION TRANSFERRED	Owner: MEDTRONIC VASCULAR, INC. PartyType: owner
EP1707233 A3	20061220		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A3 Country of Ref document:

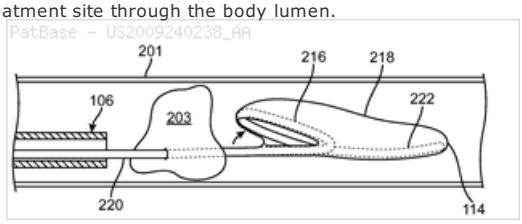
					AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
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EP1707233 A3	20061227		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: FLAHERTY, J.C.
EP1707233 A3	20061227		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MACHOLD, TIMOTHY R. PartyType: inventor
EP1707233 A3	20061227		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: WHITT, JASON B.
EP1707233 A3	20061227		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: EVARD, PHILIPP C. PartyType: inventor
EP1707233 A3	20061227		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	Inventor: MACAULAY, PATRICK E. PartyType: inventor
EP1707233 A3	20061227		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: GARIBOTTO, JOHN T.
EP1707233 A3	20061227		RIN1	INFORMATION ON INVENTOR PROVIDED BEFORE GRANT (CORRECTED)	PartyType: inventor Inventor: JENSEN, MARC
EP1707233 A3	20070516	LSES	+17Q	FIRST EXAMINATION REPORT DESPATCHED	Effective date: 20070417
EP1707233 A3	20070829	LSFE	+AKX	DESIGNATION FEES PAID	Country of Ref document: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
EP1707233 A3	20071003	LSES	+R17C	FIRST EXAMINATION REPORT DESPATCHED (CORRECTED)	Effective date: 20070829
EP1707233 A3	20091021	LSRV	-18R	APPLICATION REFUSED	Effective date: 20090512

99) Family number: 43753445 (US2009240238 AA)

Title: **CLOT** **RETRIEVAL** MECHANISM

Abstract: A **clot** **retrieval** device for **removing** thrombi or other emboli from a body lumen is disclosed. The **clot** **retrieval** device includes an elongate shaft portion, a self-expanding snare disposed at a distal end of the shaft portion and a flexible bag portion attached to the self-expanding snare. The snare may be a loop or circlet formed in a distal end of the elongate shaft portion or may be a separate component attached thereto. An opening of the bag portion for receiving the thrombi or emboli there through faces proximally when the snare is fully deployed. The bag portion is made of a flexible, non-porous material, such as a balloon-type or elastomeric material, that is foldable or otherwise collapsible to achieve a low-profile while the **clot** **retrieval** device is being tracked to the treatment site through the body lumen.

Classifications:
International (IPC 8-9): A61B17/24 A61M1/00
CPC: A61B17/221 A61B2017/2212 A61B2017/2217
US: 604/540 606/113



Family:

Publication number	Publication date	Application number	Application date
US2009240238 AA	20090924	US20080054170	20080324

Priority:

US20080054170 20080324

Probable Assignee: MEDTRONIC INC
Assignee(s): (std): MEDTRONIC INC ; MEDTRONIC VASCULAR INC
Inventor(s): (std): BERGLUND JOSEPH ; GRODRIAN TODD
Agent(s): MEDTRONIC VASCULAR INC IP LEGAL DEPARTMENT

Legal status (INPADOC)

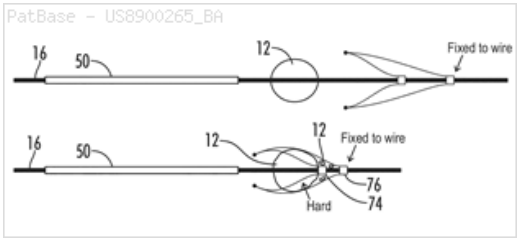
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Patent	Date recorded	Event group	Code	Event	Details
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US2009240238 AA	20090924	LSPB	+	published / reissued	
US2009240238 AA	20110128	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2009240238 AA	20110128		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION

100) Family number: 57887196 (US8900265 BA)

Title: CLOT RETRIEVAL SYSTEM

Abstract: The present invention relates to a **system** for **removing** obstructions and other objects within a blood vessel or other interior lumen of an animal. The **system** may be deployed in the lumen from a **catheter** and includes a pull wire having a proximal end and a distal end, and a distal body. Optionally, the distal body includes a plurality of memory metal strips that form a closeable claw that is used to capture the obstruction. Optionally, the memory metal strips are connected to a proximal hub that is slideable along at least a segment of the pull wire and the memory metal strips are moved towards each other and towards the pull wire by moving the proximal hub distally towards a stationary distal hub, which in turn, causes the claw to close and capture the obstruction. The present invention also relates to **methods** of making and using such **systems**.



Classifications:
International (IPC 8-9): A61B A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B17/3207 A61B6/00 A61B6/12 A61B90/00 A61D1/00 A61F2/00 A61F2/01 A61L31/02 A61L31/04 A61M25/00 A61M25/01 A61M29/00 A61M5/00 B21D39/03 B23K1/00 B23K101/06 B23K26/38 B23K26/40 B23K31/02 B23P11/00 B23P15/00
CPC: A61B17/221 A61B2017/2212 A61B2090/3966 A61B2017/00477 A61B2017/22034 A61B2017/22084 A61F2/013 A61F2002/016 A61F2230/0067 A61F2230/0093 A61B2017/00526 A61B2017/00867 A61B2017/22079 A61B2017/2215 A61B90/39 A61F2/011 A61M2025/0042 A61M25/0009 A61M5/007 B23K2101/06 B23K26/38 B23K26/40 A61B2090/3937 A61B2217/005 A61D1/005 A61L31/022 A61L31/048 A61B17/00234 A61B2017/00323 A61B2017/00778 A61B17/12036 A61B17/12109 A61B17/12172 A61B2017/00893 A61B2017/12054 A61B2017/22082 A61B6/12 A61M25/0108 A61B17/22032 A61B2017/22038 A61F2230/0023 A61F2230/0058 A61F2250/0023 A61F2250/0039 B23K1/0008 B23K31/02 A61B17/1204 A61F2250/0017 A61M25/0147 B23K2103/14 B23K2103/26 A61B2017/00469 A61B2017/22094 A61B2090/064 A61F2240/001 B23P11/00
US: 1/1 29/451 600/424 606/114 606/127 606/130 606/159 606/200

Family:

Publication number	Publication date	Application number	Application date
AU2015264434 AA	20170105	AU20150264434	20150518
AU2015264434 BB	20190131	AU20150264434	20150518
AU2018212810 AA	20190815	AU20180212810	20180126
BR112016026974 A2	20170815	BR20161126974	20150518
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CA2947201 AA	20161101	CA20152947201	20150518
CA2947201 C	20190924	CA20152947201	20150518
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CA3051584 AA	20190725	CA20183051584	20180126
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CN106659513 B	20200828	CN201580037755	20150518
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DK3145424 T3	20181008	DK20150796711T	20150518
DK3378419 T3	20200420	DK20180172665T	20150518
EA033045 B1	20190830	EA20160092112	20150518
EA201692112 A1	20170531	EA20160092112	20150518
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EP3685773 A1	20200729	EP20200159390	20150518
ES2688187 T3	20181031	ES20150796711T	20150518
ID201712136 A	20171110	ID2016P0008680	20150518
IL248776 A1	20180329	IL20150248776	20150518
IL257857 A0	20180430	IL20150257857	20150518
IN201617041878 A	20170310	IN201617041878	20161207
JP2017515611 T2	20170615	JP20160568975T	20150518
JP2019141660 A2	20190829	JP20190079156	20150518
JP2020510462 T2	20200409	JP20190540527T	20180126
JP6517838 B2	20190522	JP20160568975T	20150518
JP6741821 B2	20200819	JP20190079156	20190418
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MX2016014437 A1	20170406	MX20160014437	20150518
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SG11201609354S A1	20161229	SG20161109354	20150518
US10194929 BB	20190205	US20180995997	20180601
US10226268 BB	20190312	US20170852285	20171222
US10258356 BB	20190416	US20180947955	20180409
US10258358 BB	20190416	US20180995901	20180601
US10278719 BB	20190507	US20180880936	20180126
US10321925 BB	20190618	US20180215841	20181211
US10357266 BB	20190723	US20150311849	20150518

US10420572 BB	20190924	US20190385862	20190416	
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Priority:

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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 WS ZA ZM ZW

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU2015264434 AA	20170105	LSPB	+	published / reissued	
AU2015264434 BB	20190131	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2015264434 BB	20190530	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2015264434 BB	20350518	PEXP		Calculated Patent Term Expiry	
AU2018212810 AA	20190815	LSPB	+	published / reissued	
CA2947201 AA	20161101	LSPB	+	published / reissued	
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CA3051584 AA	20190725	LSPB	+	published / reissued	
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CN106659513 A	20170510	LSPB	PB01	PUBLICATION	
CN106659513 A	20170510	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN106659513 A	20170606		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
CN106659513 A	20170606		SE01	实质审查请求的生效	Text: 实质审查的生效 (Force of substantive review)
CN106659513 B	20200828	LSGT	+	granted / extensions (spc, cpc, pte)	
CN106659513 B	20200828	LSGT	+GR01	PATENT GRANT	
CN106659513 B	20200828	LSGT	+GR01	授权	Text: 授权 (Authorization)
CN106659513 B	20350518	PEXP		Calculated Patent Term Expiry	
CN111012443 A	20200417	LSPB	+	published / reissued	
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CN111012443 A	20200417	LSPB	PB01	公开	Text: 公开 (Disclosure)
CN111012443 A	20200512		SE01	ENTRY INTO FORCE OF REQUEST FOR SUBSTANTIVE EXAMINATION	
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EA033045 B1	20190830	LSGT	+	granted / extensions (spc, cpc, pte)	
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EA201692112 A1	20170531	LSPB	+	published / reissued	
EP3145424 A2	20170329	LSPB	+	published / reissued	
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EP3145424 A2	20170329		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
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EP3145424 A4	20170503		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20170325BHEP
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EP3145424 A4	20170823		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3145424 A4	20170823		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3145424 A4	20180124		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 90/00 20160101ALN20171218BHEP
EP3145424 A4	20180124		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101AFI20171218BHEP ClassificationScheme: IPC
EP3145424 A4	20180207	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20180112
EP3145424 B1	20180627	LSGT	+	granted / extensions (spc, cpc, pte)	
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EP3145424 B1	20180725	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: IE Ref legal event code: FG4D
EP3145424 B1	20180726	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref country code: DE Ref document number: 602015012840 Ref legal event code: R096 Country of Ref document: DE
EP3145424 B1	20181008		REG	REFERENCE TO A NATIONAL CODE	Ref country code: DK Effective date: 20181001 Ref legal event code: T3

EP3145424 B1	20181010		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FP Ref country code: NL
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EP3145424 B1	20200205		REG	REFERENCE TO A NATIONAL CODE	Ref country code: BE Ref legal event code: MM Effective date: 20190531
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EP3145424 B1	20200331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20180627 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: TR
EP3145424 B1	20200529	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20190531 NotificationOfLapse: LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES Country of Ref document: BE
EP3145424 B1	20200630	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20181029 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: PT
EP3145424 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200601 Year of fee payment: 6 Country of Ref document: ES
EP3145424 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20200519 Country of Ref document: NL
EP3145424 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200519 Year of fee payment: 6 Country of Ref document: FR
EP3145424 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE	Payment date: 20200526 Year of fee payment: 6 Country of Ref document: DK

				[ANNOUNCED FROM NATIONAL OFFICE TO EPO]	
EP3145424 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20200520 Country of Ref document: DE
EP3145424 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200519 Year of fee payment: 6 Country of Ref document: IE
EP3145424 B1	20350518	PEXP		Calculated Patent Term Expiry	
EP3378419 A1	20180926	LSPB	+	published / reissued	
EP3378419 A1	20180926		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Ref document number: 3145424 Kind code of Ref document: P Country of Ref document: EP
EP3378419 A1	20180926		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3378419 A1	20190501	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20190325
EP3378419 A1	20190501		+RBV	DESIGNATED CONTRACTING STATES (CORRECTED)	Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3378419 A1	20190710		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 90/00 20160101ALN20190605BHEP
EP3378419 A1	20190710		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20190605BHEP
EP3378419 A1	20190731	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20190701
EP3378419 A1	20191009		INTC	INTENTION TO GRANT ANNOUNCED (DELETED)	
EP3378419 A1	20191030	LSGT	+INTG	INTENTION TO GRANT ANNOUNCED	Effective date: 20191007
EP3378419 A1	20191030		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 90/00 20160101ALN20190923BHEP ClassificationScheme: IPC
EP3378419 A1	20191030		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/221 20060101AFI20190923BHEP
EP3378419 B1	20200325	LSGT	+	granted / extensions (spc, cpc, pte)	
EP3378419 B1	20200325		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Ref document number: 3145424 Kind code of Ref document: P Country of Ref document: EP
EP3378419 B1	20200325		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: B1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3378419 B1	20200325	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref country code: GB Ref legal event code: FG4D
EP3378419 B1	20200415	LSGT	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FG4D Ref country code: IE
EP3378419 B1	20200415	LSNP	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: REF Ref country code: AT Effective date: 20200415 Ref document number: 1247653 Kind code of Ref document: T Country of Ref document: AT
EP3378419 B1	20200416	LSPB	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: R096 Ref document number: 602015049656 Ref country code: DE

EP3378419 B1	20200420		REG	REFERENCE TO A NATIONAL CODE	Country of Ref document: DE Ref legal event code: T3 Ref country code: DK Effective date: 20200417
EP3378419 B1	20200429		REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: FP Ref country code: NL
EP3378419 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200325 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: RS
EP3378419 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Lapsed date: 20200325 Country of Ref document: FI
EP3378419 B1	20200731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE [ANNOUNCED VIA POSTGRANT INFORMATION FROM NATIONAL OFFICE TO EPO]	Lapsed date: 20200625 NotificationOfLapse: LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT Country of Ref document: NO
EP3378419 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Year of fee payment: 6 Payment date: 20200519 Country of Ref document: NL
EP3378419 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200519 Year of fee payment: 6 Country of Ref document: FR
EP3378419 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200623 Year of fee payment: 6 Country of Ref document: DK
EP3378419 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200520 Year of fee payment: 6 Country of Ref document: DE
EP3378419 B1	20200731	LSFE	+PGFP	ANNUAL FEE PAID TO NATIONAL OFFICE [ANNOUNCED FROM NATIONAL OFFICE TO EPO]	Payment date: 20200519 Year of fee payment: 6 Country of Ref document: IE
EP3378419 B1	20200910	LSRV	REG	REFERENCE TO A NATIONAL CODE	Ref legal event code: MG4D Ref country code: LT
EP3378419 B1	20350518	PEXP		Calculated Patent Term Expiry	
EP3551101 A1	20191016	LSPB	+	published / reissued	
EP3551101 A1	20191016	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20190628
EP3551101 A1	20191016		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3551101 A1	20191016		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD TN
EP3551101 A1	20191016		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3551101 A1	20200318		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3551101 A1	20200318		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3551101 A4	20200708	LSES	+A4	SUPPLEMENTARY SEARCH REPORT DRAWN UP AND DESPATCHED	Effective date: 20200609

EP3551101 A4	20200708		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/22 20060101ALI20200603BHEP ClassificationScheme: IPC
EP3551101 A4	20200708		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/221 20060101AFI20200603BHEP ClassificationScheme: IPC
EP3551101 A4	20200708		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationSymbol: A61B 17/3207 20060101ALI20200603BHEP ClassificationScheme: IPC
EP3551101 A4	20200708		RIC1	INFORMATION PROVIDED ON IPC CODE ASSIGNED BEFORE GRANT	ClassificationScheme: IPC ClassificationSymbol: A61B 17/00 20060101ALI20200603BHEP
EP3573536 A1	20191204	LSPB	+	published / reissued	
EP3573536 A1	20191204	LSES	+17P	REQUEST FOR EXAMINATION FILED	Effective date: 20190802
EP3573536 A1	20191204		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
EP3573536 A1	20191204		+AV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT	Country of Ref document: MA MD TN
EP3573536 A1	20191204		+AX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT	Country of Ref document: BA ME
EP3573536 A1	20200506		DAV	REQUEST FOR VALIDATION OF THE EUROPEAN PATENT (DELETED)	
EP3573536 A1	20200506		DAX	REQUEST FOR EXTENSION OF THE EUROPEAN PATENT (DELETED)	
EP3685773 A1	20200729	LSPB	+	published / reissued	
EP3685773 A1	20200729		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 3145424 Country of Ref document: EP
EP3685773 A1	20200729		AC	DIVISIONAL APPLICATION: REFERENCE TO EARLIER APPLICATION	Kind code of Ref document: P Ref document number: 3378419 Country of Ref document: EP
EP3685773 A1	20200729		+AK	DESIGNATED CONTRACTING STATES	Kind code of Ref document: A1 Country of Ref document: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
ES2688187 T3	20181031	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2688187 T3	20350518	PEXP		Calculated Patent Term Expiry	
ID201712136 A	20171110	LSPB	+	published / reissued	
IL248776 A1	20180329	LSPB	+	published / reissued	
IL248776 A1	20180731	LSGT	+FF	PATENT GRANTED	
IL248776 A1	20180830	LSFE	+KB	PATENT RENEWED	
IN201617041878 A	20170310	LSPB	+	published / reissued	
JP2017515611 T2	20170615	LSPB	+	published / reissued	
JP2017515611 T2	20180510	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20180510 Text: JAPANESE INTERMEDIATE CODE: A523
JP2017515611 T2	20180510	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	Effective date: 20180510 Text: JAPANESE INTERMEDIATE CODE: A621
JP2017515611 T2	20190213	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2017515611 T2	20190218	LSGT	+A01	WRITTEN DECISION	Text: JAPANESE INTERMEDIATE

				TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	CODE: A01 Effective date: 20190218
JP2017515611 T2	20190222		A977	REPORT ON RETRIEVAL	Effective date: 20190220 Text: JAPANESE INTERMEDIATE CODE: A971007
JP2017515611 T2	20190315		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Effective date: 20190315 Text: JAPANESE INTERMEDIATE CODE: A601
JP2017515611 T2	20190425	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Text: JAPANESE INTERMEDIATE CODE: A61 Effective date: 20190418
JP2019141660 A2	20190418		A63	特許願	Effective date: 20190418
JP2019141660 A2	20190520		A523	手続補正書	Effective date: 20190520
JP2019141660 A2	20190520	LSES	+A621	出願審査請求書	Effective date: 20190520
JP2019141660 A2	20190520		A781	上申書	Effective date: 20190520
JP2019141660 A2	20190722		A972001	要約不備職権訂正	Effective date: 20190722
JP2019141660 A2	20190829	LSPB	+	published / reissued	
JP2019141660 A2	20200525	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2019141660 A2	20200601	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	Effective date: 20200601 Text: JAPANESE INTERMEDIATE CODE: A01
JP2019141660 A2	20200601	LSGT	+A01	特許査定	Effective date: 20200601
JP2019141660 A2	20200630		A601	WRITTEN REQUEST FOR EXTENSION OF TIME	Text: JAPANESE INTERMEDIATE CODE: A601 Effective date: 20200630
JP2019141660 A2	20200630		A601	期間延長請求書	Effective date: 20200630
JP2019141660 A2	20200729	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	Effective date: 20200727 Text: JAPANESE INTERMEDIATE CODE: A61
JP2019141660 A2	20200729	LSFE	+A61	登録料納付	Effective date: 20200727
JP2020510462 T2	20191111	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190731 Text: JAPANESE INTERMEDIATE CODE: A523
JP2020510462 T2	20191111	LSRE	A521	WRITTEN AMENDMENT	Text: JAPANESE INTERMEDIATE CODE: A523 Effective date: 20191105
JP2020510462 T2	20200409	LSPB	+	published / reissued	
JP6517838 B2	20170310	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20161207 Text: JAPANESE INTERMEDIATE CODE: A523
JP6517838 B2	20190221	LSGT	+A01	特許査定書	
JP6517838 B2	20190423	LSFE	R100	特許料納付書	
JP6517838 B2	20190426	LSGT	+R150	特許証	
JP6517838 B2	20190522	LSGT	+	granted / extensions (spc, cpc, pte)	
JP6517838 B2	20190730	LSRE	R313531	表示変更登録申請書 (住所)	
JP6517838 B2	20190730		S531	WRITTEN REQUEST FOR REGISTRATION OF CHANGE OF DOMICILE	Text: JAPANESE INTERMEDIATE CODE: R313531
JP6517838 B2	20190807	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	Text: JAPANESE INTERMEDIATE CODE: R350
JP6517838 B2	20190807	LSAS	R350	移転登録済通知書	
JP6517838 B2	20350518	PEXP		Calculated Patent Term Expiry	
JP6741821 B2	20190520	LSRE	A521	WRITTEN AMENDMENT	Effective date: 20190520 Text: JAPANESE INTERMEDIATE CODE: A523
JP6741821 B2	20200819	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
JP6741821 B2	20390418	PEXP		Calculated Patent Term Expiry	
KR101945845 B1	20190417	LSGT	+	granted / extensions (spc, cpc, pte)	
KR101945845 B1	20350518	PEXP		Calculated Patent Term Expiry	
KR20170001960 A	20161219		A107	DIVISIONAL APPLICATION OF PATENT	
KR20170001960 A	20161219	LSES	A201	REQUEST FOR EXAMINATION	
KR20170001960 A	20170105	LSPB	+	published / reissued	
KR20170001960 A	20171206	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20170007793 A	20161219		A107	DIVISIONAL APPLICATION OF PATENT	
KR20170007793 A	20161219	LSES	A201	REQUEST FOR EXAMINATION	
KR20170007793 A	20170120	LSPB	+	published / reissued	
KR20170007793 A	20171206	LSES	-E902	NOTIFICATION OF REASON FOR REFUSAL	
KR20170007793 A	20181031	LSGT	+E701	DECISION TO GRANT OR REGISTRATION OF PATENT RIGHT	
KR20170007793 A	20190130	LSGT	+GRNT	WRITTEN DECISION TO GRANT	
MX2016014437 A1	20170406	LSPB	+	published / reissued	
PH2016502299 A	20170213	LSPB	+	published / reissued	
PH2016502299 B	20170213	LSGT	+	granted / extensions (spc, cpc, pte)	
SG11201609354S A1	20161229	LSPB	+	published / reissued	
US10194929 BB	20180601	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10194929 BB	20180620	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10194929 BB	20180926	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ULM, MATTHEW;ULM, ATHUR JOHN, III;SIGNING DATES FROM 20140103 TO 20180924;REEL/FRAME:046981/0731 Owner: LEGACY VENTURES LLC, TENNESSEE PartyType: owner
US10194929 BB	20190116	LSGT	PAT1	Patented Case	
US10194929 BB	20190205	LSGT	+	granted / extensions (spc, cpc, pte)	
US10194929 BB	20340103	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US10226268 BB	20171222	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, III, ARTHUR JOHN;REEL/FRAME:044474/0799 Effective date: 20140103 PartyType: owner Owner: LEGACY VENTURES LLC, TENNESSEE
US10226268 BB	20171222	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY

US10226268 BB	20180118	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10226268 BB	20190220	LSGT	PAT1	Patented Case	
US10226268 BB	20190312	LSGT	+	granted / extensions (spc, cpc, pte)	
US10226268 BB	20340103	PEXP		Calculated Patent Term Expiry	
US10258356 BB	20180409	LSAS	AS	ASSIGNMENT	Effective date: 20140113 PartyType: owner Owner: LEGACY VENTURES LLC, TENNESSEE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:045475/0847
US10258356 BB	20180409	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10258356 BB	20180504	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10258356 BB	20190327	LSGT	PAT1	Patented Case	
US10258356 BB	20190416	LSGT	+	granted / extensions (spc, cpc, pte)	
US10258356 BB	20340103	PEXP		Calculated Patent Term Expiry	
US10258358 BB	20180601	LSAS	AS	ASSIGNMENT	Effective date: 20140103 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, III, ARTHUR JOHN;REEL/FRAME:045964/0171 PartyType: owner Owner: LEGACY VENTURES LLC, TENNESSEE
US10258358 BB	20180601	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10258358 BB	20180625	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10258358 BB	20190327	LSGT	PAT1	Patented Case	
US10258358 BB	20190416	LSGT	+	granted / extensions (spc, cpc, pte)	
US10258358 BB	20340104	PEXP		Calculated Patent Term Expiry (PTA 1 days)	
US10278719 BB	20180126	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:044740/0182 Effective date: 20140103 PartyType: owner Owner: LEGACY VENTURES LLC, TENNESSEE
US10278719 BB	20180126	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10278719 BB	20180220	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10278719 BB	20190417	LSGT	PAT1	Patented Case	
US10278719 BB	20190507	LSGT	+	granted / extensions (spc, cpc, pte)	
US10278719 BB	20340103	PEXP		Calculated Patent Term Expiry	
US10321925 BB	20181211	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10321925 BB	20190103	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY

US10321925 BB	20190122	LSAS	AS	ASSIGNMENT	Owner: LEGACY VENTURES LLC, TENNESSEE Effective date: 20140103 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:048081/0250 PartyType: owner
US10321925 BB	20190320		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP, ISSUE FEE PAYMENT VERIFIED
US10321925 BB	20190618	LSGT	+	granted / extensions (spc, cpc, pte)	
US10321925 BB	20340103	PEXP		Calculated Patent Term Expiry	
US10357266 BB	20190702	LSGT	PAT1	Patented Case	
US10357266 BB	20190723	LSGT	+	granted / extensions (spc, cpc, pte)	
US10357266 BB	20350525	PEXP		Calculated Patent Term Expiry (PTA 174 days)	
US10420572 BB	20190416	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, III, ARTHUR JOHN;REEL/FRAME:048899/0234 Effective date: 20140103 PartyType: owner Owner: LEGACY VENTURES LLC DBA VESALIO, TENNESSEE
US10420572 BB	20190416	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10420572 BB	20190429	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US10420572 BB	20190709		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US10420572 BB	20190924	LSGT	+	granted / extensions (spc, cpc, pte)	
US10420572 BB	20340103	PEXP		Calculated Patent Term Expiry	
US10492809 BB	20170619		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US10492809 BB	20191203	LSGT	+	granted / extensions (spc, cpc, pte)	
US10492809 BB	20340819	PEXP		Calculated Patent Term Expiry (PTA 228 days and a terminal disclaimer has been filed)	
US2015190155 AA	20150709	LSPB	+	published / reissued	
US2015190155 AA	20151014	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015190156 AA	20150709	LSPB	+	published / reissued	
US2015190156 AA	20150923	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2015320431 AA	20150806		RFE1	Docketed New Case - Ready for Examination	
US2015320431 AA	20151112	LSPB	+	published / reissued	
US2015320431 AA	20170531	LSES	NFA1	Non Final Action Mailed	

US2015320431 AA	20171129	LSAS	AS	ASSIGNMENT	Owner: LEGACY VENTURES LLC, TENNESSEE PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, III, ARTHUR JOHN;REEL/FRAME:044249/0107 Effective date: 20140103
US2015320431 AA	20180118	LSES	ALW2	Allowed -- Notice of Allowance Not Yet Mailed	
US2015320431 AA	20180119	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2015320431 AA	20180403	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2015320431 AA	20180404	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2015320431 AA	20180418	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2016271360 AA	20160922	LSPB	+	published / reissued	
US2016271360 AA	20161217	LSAS	AS	ASSIGNMENT	Owner: LEGACY VENTURES LLC, TENNESSEE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:DELAROSA, MAURICE;REEL/FRAME:040653/0629 PartyType: owner Effective date: 20161206
US2016271360 AA	20170125	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017086865 AA	20170112		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2017086865 AA	20170330	LSPB	+	published / reissued	
US2017086865 AA	20170426		RFE1	Docketed New Case - Ready for Examination	
US2017086865 AA	20181003	LSES	NFA1	Non Final Action Mailed	
US2017086865 AA	20181003		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017086865 AA	20190411		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017086865 AA	20190411		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017086865 AA	20190606	LSAS	AS	ASSIGNMENT	PartyType: owner Owner: LEGACY VENTURES LLC, TENNESSEE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:049389/0752 Effective date: 20140103
US2017086865 AA	20190607	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017086865 AA	20190607		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017086865 AA	20190702	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017105744 AA	20170127		SPN1	Special New	

US2017105744 AA	20170420	LSPB	+	published / reissued	
US2017105744 AA	20170428	LSES	NFA1	Non Final Action Mailed	
US2017105744 AA	20170513		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017105744 AA	20170703	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017105744 AA	20170726	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017105744 AA	20170817	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017105744 AA	20170831	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017105744 AA	20171005	LSFE	AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2017105744 AA	20171017	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017105744 AA	20171101	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017143465 AA	20170321	LSES	NFA1	Non Final Action Mailed	
US2017143465 AA	20170525	LSPB	+	published / reissued	
US2017143465 AA	20170630		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017143465 AA	20171101	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017143465 AA	20171103	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2017143465 AA	20171110	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017143465 AA	20171121	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017150979 AA	20170327		SPN1	Special New	
US2017150979 AA	20170601	LSPB	+	published / reissued	
US2017150979 AA	20170605	LSES	NFA1	Non Final Action Mailed	
US2017150979 AA	20170830		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017150979 AA	20170911	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017150979 AA	20170913	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2017150979 AA	20170925	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017150979 AA	20171011	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017172591 AA	20170613		RSP4	Response to Non-Final Office Action Entered and Forwarded to	

				Examiner	
US2017172591 AA	20170622	LSPB	+	published / reissued	
US2017172591 AA	20170818	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017172591 AA	20170825	LSAS	AS	ASSIGNMENT	PartyType: owner Effective date: 20140103 OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, III, ARTHUR JOHN;REEL/FRAME:043400/0640 Owner: LEGACY VENTURES LLC, TENNESSEE
US2017172591 AA	20170831	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017172591 AA	20171018	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017172591 AA	20171108	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017265876 AA	20170918	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2017265876 AA	20170921	LSPB	+	published / reissued	
US2017265876 AA	20170929	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2017265876 AA	20171005	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017265876 AA	20171025	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017265877 AA	20170619		RFE1	Docketed New Case - Ready for Examination	
US2017265877 AA	20170921	LSPB	+	published / reissued	
US2017265877 AA	20190402	LSES	NFA1	Non Final Action Mailed	
US2017265877 AA	20190402		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: NON FINAL ACTION MAILED
US2017265877 AA	20190716	LSAS	AS	ASSIGNMENT	PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:049770/0153 Effective date: 20140103 Owner: LEGACY VENTURES LLC, TENNESSEE
US2017265877 AA	20190730		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2017265877 AA	20190730		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: RESPONSE TO NON-FINAL OFFICE ACTION ENTERED AND FORWARDED TO EXAMINER
US2017265877 AA	20190904	LSFE	AWA2	Awaiting TC Resp, Issue Fee Payment Received	
US2017265877 AA	20190904		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: AWAITING TC RESP, ISSUE FEE PAYMENT RECEIVED
US2017265877 AA	20190913	LSFE	AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2017265877 AA	20190913		STPP	INFORMATION ON STATUS: PATENT	Text: AWAITING TC RESP, ISSUE FEE PAYMENT VERIFIED

				APPLICATION AND GRANTING PROCEDURE IN GENERAL	
US2017265877 AA	20191016	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2017265877 AA	20191016		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2017265877 AA	20191113	LSGT	PAT1	Patented Case	
US2017265877 AA	20191113	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017290600 AA	20171012	LSPB	+	published / reissued	
US2017290600 AA	20171018	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2017340341 AA	20171130	LSPB	+	published / reissued	
US2018008295 AA	20180111	LSPB	+	published / reissued	
US2018008295 AA	20180223	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018008295 AA	20180302	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018008295 AA	20180411	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018116685 AA	20180503	LSPB	+	published / reissued	
US2018116685 AA	20180803		FRM2	Final Rejection Counted, Not Yet Mailed	
US2018116685 AA	20180807		FRM1	Final Rejection Mailed	
US2018116685 AA	20181221	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018116685 AA	20190220	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018132874 AA	20171223	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, III, ARTHUR JOHN;REEL/FRAME:044474/0946 PartyType: owner Owner: LEGACY VENTURES LLC, TENNESSEE Effective date: 20140103
US2018132874 AA	20180517	LSPB	+	published / reissued	
US2018132874 AA	20181001	LSWD	ABD3	Abandoned -- Failure to Respond to an Office Action	
US2018132874 AA	20181001		-STCB	INFORMATION ON STATUS: APPLICATION DISCONTINUATION	Text: ABANDONED -- FAILURE TO RESPOND TO AN OFFICE ACTION
US2018153567 AA	20180607	LSPB	+	published / reissued	
US2018153567 AA	20181020		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018153567 AA	20190131		RSP1	Response after Final Action Forwarded to Examiner	
US2018153567 AA	20190305	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018153567 AA	20190307	LSFE	PPR1	Publications --	

US2018153567 AA	20190315	LSFE	PPV1	Issue Fee Payment Received Publications -- Issue Fee Payment Verified	
US2018153567 AA	20190315		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: PUBLICATIONS -- ISSUE FEE PAYMENT VERIFIED
US2018153567 AA	20190417	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018271547 AA	20180927	LSPB	+	published / reissued	
US2018271547 AA	20190117	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018271547 AA	20190130	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018271547 AA	20190225		WIA1	Withdraw from issue awaiting action	
US2018271547 AA	20190226	LSFE	AWA4	Awaiting TC Resp., Issue Fee Not Paid	
US2018271547 AA	20190312	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018271547 AA	20190315	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018271547 AA	20190327	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018271548 AA	20180927	LSPB	+	published / reissued	
US2018271548 AA	20190116	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2018296235 AA	20181018	LSPB	+	published / reissued	
US2018296235 AA	20181111		RSP4	Response to Non-Final Office Action Entered and Forwarded to Examiner	
US2018296235 AA	20190221	LSES	NAM1	Notice of Allowance Mailed -- Application Received in Office of Publications	
US2018296235 AA	20190225	LSFE	PPR1	Publications -- Issue Fee Payment Received	
US2018296235 AA	20190314	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2018296235 AA	20190327	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019110805 AA	20190320	LSFE	AWA3	Awaiting TC Resp, Issue Fee Payment Verified	
US2019110805 AA	20190418	LSPB	+	published / reissued	
US2019110805 AA	20190529	LSGT	PAT1	Patented Case	
US2019110805 AA	20190529	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019133619 AA	20190107	LSAS	AS	ASSIGNMENT	Owner: LEGACY VENTURES LLC, TENNESSEE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNORS:ULM, ARTHUR JOHN, III;DE LA ROSA, MAURICE;SIGNING DATES FROM 20140103 TO 20181226;REEL/FRAME:047922/0039 PartyType: owner
US2019133619 AA	20190509	LSPB	+	published /	

				reissued	
US2019133619 AA	20190529		RFE1	Docketed New Case - Ready for Examination	
US2019133619 AA	20190529		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019239909 AA	20190709	LSFE	PPV1	Publications -- Issue Fee Payment Verified	
US2019239909 AA	20190808	LSPB	+	published / reissued	
US2019239909 AA	20190904	LSGT	PAT1	Patented Case	
US2019239909 AA	20190904	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US2019336266 AA	20190605	LSAS	AS	ASSIGNMENT	Owner: LEGACY VENTURES LLC, TENNESSEE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:049383/0640 Effective date: 20170131 PartyType: owner
US2019336266 AA	20190804		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2019336266 AA	20191107	LSPB	+	published / reissued	
US2019336266 AA	20191216		RFE1	Docketed New Case - Ready for Examination	
US2019336266 AA	20191216		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019365396 AA	20190829		APP1	Application Dispatched from Preexam, Not Yet Docketed	
US2019365396 AA	20191205	LSPB	+	published / reissued	
US2019365396 AA	20191216		RFE1	Docketed New Case - Ready for Examination	
US2019365396 AA	20191216		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019365398 AA	20191028		RFE1	Docketed New Case - Ready for Examination	
US2019365398 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2019365398 AA	20191205	LSPB	+	published / reissued	
US2020015831 AA	20190923	LSAS	AS	ASSIGNMENT	Effective date: 20140103 Owner: LEGACY VENTURES LLC, TENNESSEE PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:050464/0852
US2020015831 AA	20191028		RFE1	Docketed New Case - Ready for Examination	
US2020015831 AA	20191028		STPP	INFORMATION ON STATUS: PATENT APPLICATION AND GRANTING PROCEDURE IN GENERAL	Text: DOCKETED NEW CASE - READY FOR EXAMINATION
US2020015831 AA	20200116	LSPB	+	published /	

				reissued	
US8900265 BA	20140103	LSAS	AS	ASSIGNMENT	Effective date: 20140103 PartyType: owner Owner: LEGACY VENTURES LLC, TENNESSEE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:031870/0732
US8900265 BA	20141112	LSGT	PAT1	Patented Case	
US8900265 BA	20141112	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US8900265 BA	20141202	LSGT	+	granted / extensions (spc, cpc, pte)	
US8900265 BA	20180525	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US8900265 BA	20340103	PEXP		Calculated Patent Term Expiry	
US9155552 BB	20150105	LSAS	AS	ASSIGNMENT	Effective date: 20140103 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:034636/0965 Owner: LEGACY VENTURES LLC, TENNESSEE
US9155552 BB	20150923	LSGT	PAT1	Patented Case	
US9155552 BB	20151013	LSGT	+	granted / extensions (spc, cpc, pte)	
US9155552 BB	20190409	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9155552 BB	20341202	PEXP		Calculated Patent Term Expiry	
US9173668 BB	20150105	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:034636/0965 Owner: LEGACY VENTURES LLC, TENNESSEE Effective date: 20140103 PartyType: owner
US9173668 BB	20151014	LSGT	PAT1	Patented Case	
US9173668 BB	20151103	LSGT	+	granted / extensions (spc, cpc, pte)	
US9173668 BB	20190424	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9173668 BB	20341202	PEXP		Calculated Patent Term Expiry	
US9566412 BB	20160518	LSAS	AS	ASSIGNMENT	Effective date: 20140103 Owner: LEGACY VENTURES LLC, TENNESSEE PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:038637/0780
US9566412 BB	20170125	LSGT	PAT1	Patented Case	
US9566412 BB	20170214	LSGT	+	granted / extensions (spc, cpc, pte)	
US9566412 BB	20200817	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: SURCHARGE FOR LATE PAYMENT, SMALL ENTITY (ORIGINAL EVENT CODE: M2554); ENTITY STATUS OF PATENT OWNER: SMALL ENTITY
US9566412 BB	20200817	LSFE	+MAFP	MAINTENANCE FEE PAYMENT	Year of fee payment: 4
US9566412 BB	20340103	PEXP		Calculated Patent Term Expiry	
US9801644 BB	20170127	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, III, ARTHUR JOHN;REEL/FRAME:041102/0305 Owner: LEGACY VENTURES LLC, TENNESSEE PartyType: owner Effective date: 20140103
US9801644 BB	20171011	LSGT	PAT1	Patented Case	
US9801644 BB	20171031	LSGT	+	granted /	

				extensions (spc, cpc, pte)	
US9801644 BB	20340103	PEXP		Calculated Patent Term Expiry	
US9808271 BB	20170621	LSAS	AS	ASSIGNMENT	Effective date: 20140103 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:042775/0209 Owner: LEGACY VENTURES LLC, TENNESSEE
US9808271 BB	20171018	LSGT	PAT1	Patented Case	
US9808271 BB	20171107	LSGT	+	granted / extensions (spc, cpc, pte)	
US9808271 BB	20340103	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9814478 BB	20170531	LSAS	AS	ASSIGNMENT	Owner: LEGACY VENTURES LLC, TENNESSEE OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:042643/0741 PartyType: owner Effective date: 20170131
US9814478 BB	20171025	LSGT	PAT1	Patented Case	
US9814478 BB	20171114	LSGT	+	granted / extensions (spc, cpc, pte)	
US9814478 BB	20340103	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9820764 BB	20170130	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:041116/0667 Owner: LEGACY VENTURES LLC, TENNESSEE PartyType: owner Effective date: 20140103
US9820764 BB	20171101	LSGT	PAT1	Patented Case	
US9820764 BB	20171121	LSGT	+	granted / extensions (spc, cpc, pte)	
US9820764 BB	20340103	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9826998 BB	20171108	LSGT	PAT1	Patented Case	
US9826998 BB	20171128	LSGT	+	granted / extensions (spc, cpc, pte)	
US9826998 BB	20340103	PEXP		Calculated Patent Term Expiry	
US9833253 BA	20170817	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, III, ARTHUR JOHN;REEL/FRAME:043325/0069 PartyType: owner Owner: LEGACY VENTURES LLC, TENNESSEE Effective date: 20140103
US9833253 BA	20171115	LSGT	PAT1	Patented Case	
US9833253 BA	20171115	LSGT	STCF	INFORMATION ON STATUS: PATENT GRANT	Text: PATENTED CASE
US9833253 BA	20171205	LSGT	+	granted / extensions (spc, cpc, pte)	
US9833253 BA	20340103	PEXP		Calculated Patent Term Expiry	
US9839506 BB	20170131	LSAS	AS	ASSIGNMENT	Owner: LEGACY VENTURES LLC, TENNESSEE Effective date: 20170131 PartyType: owner OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, ARTHUR JOHN, III;REEL/FRAME:041575/0859
US9839506 BB	20171121	LSGT	PAT1	Patented Case	

US9839506 BB	20171212	LSGT	+	granted / extensions (spc, cpc, pte)	
US9839506 BB	20340115	PEXP		Calculated Patent Term Expiry (PTA 12 days)	
US9955987 BB	20170920	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, III, ARTHUR JOHN;REEL/FRAME:043643/0592 Owner: LEGACY VENTURES LLC, TENNESSEE Effective date: 20140103 PartyType: owner
US9955987 BB	20170920	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO UNDISCOUNTED (ORIGINAL EVENT CODE: BIG.)
US9955987 BB	20171002	LSFE	FEPP	FEE PAYMENT PROCEDURE	Text: ENTITY STATUS SET TO SMALL (ORIGINAL EVENT CODE: SMAL)
US9955987 BB	20171121	LSAS	AS	ASSIGNMENT	OldParty: ASSIGNMENT OF ASSIGNORS INTEREST;ASSIGNOR:ULM, III, ARTHUR JOHN;REEL/FRAME:044187/0546 PartyType: owner Effective date: 20140103 Owner: LEGACY VENTURES LLC, TENNESSEE
US9955987 BB	20180411	LSGT	PAT1	Patented Case	
US9955987 BB	20180501	LSGT	+	granted / extensions (spc, cpc, pte)	
US9955987 BB	20340103	PEXP		Calculated Patent Term Expiry (a terminal disclaimer has been filed)	
US9962177 BB	20180418	LSGT	PAT1	Patented Case	
US9962177 BB	20180508	LSGT	+	granted / extensions (spc, cpc, pte)	
US9962177 BB	20340506	PEXP		Calculated Patent Term Expiry (PTA 123 days and a terminal disclaimer has been filed)	
WO15103547 A1	20150709	LSPB	+	published / reissued	
WO15103547 A1	20150826		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 15733129 Country of Ref document: EP
WO15103547 A1	20160704	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO15103547 A1	20170111		-32PN	EP: PUBLIC NOTIFICATION IN THE EP BULLETIN AS ADDRESS OF THE ADRESSEE CANNOT BE ESTABLISHED	Text: NOTING OF LOSS OF RIGHTS PURSUANT TO RULE 112(1) EPC (EPO FORM 1205 DATED 14.10.2016)
WO15103547 A1	20170524	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 15733129 Country of Ref document: EP
WO15179324 A2	20151126	LSPB	+	published / reissued	
WO15179324 A2	20160113		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 15796711 Kind code of Ref document: A2 Country of Ref document: EP
WO15179324 A3	20161101	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2947201 Country of Ref document: CA
WO15179324 A3	20161103	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: MX/A/2016/014437 Country of Ref document: MX
WO15179324 A3	20161106	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 248776 Country of Ref document: IL

WO15179324 A3	20161116	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 15311849 Country of Ref document: US
WO15179324 A3	20161117	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2016568975 Kind code of Ref document: A Country of Ref document: JP
WO15179324 A3	20161117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 201692112 Country of Ref document: EA
WO15179324 A3	20161117	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 12016502299 Country of Ref document: PH
WO15179324 A3	20161118	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO15179324 A3	20161129		REG	REFERENCE TO NATIONAL CODE	Ref country code: BR Ref document number: 112016026974 Ref legal event code: B01A Country of Ref document: BR
WO15179324 A3	20161213	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 20167034879 Country of Ref document: KR
WO15179324 A3	20161219		+REEP	REQUEST FOR ENTRY INTO THE EUROPEAN PHASE	Ref document number: 2015796711 Country of Ref document: EP
WO15179324 A3	20161219	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	Ref document number: 2015796711 Country of Ref document: EP
WO15179324 A3	20170105	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2015264434 Date of Ref document: 20150518 Country of Ref document: AU
WO15179324 A3	20170815	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A2 Effective date: 20161117 Ref document number: 112016026974 Country of Ref document: BR
WO16089451 A1	20160609	LSPB	+	published / reissued	
WO16089451 A1	20160720		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 15864391 Country of Ref document: EP
WO16089451 A1	20170602	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO16089451 A1	20171122		-32PN	EP: PUBLIC NOTIFICATION IN THE EP BULLETIN AS ADDRESS OF THE ADRESSEE CANNOT BE ESTABLISHED	Text: NOTING OF LOSS OF RIGHTS PURSUANT TO RULE 112(1) EPC (EPO FORM 1205N DATED 14.09.2017)
WO16089451 A1	20180418	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Ref document number: 15864391 Kind code of Ref document: A1 Country of Ref document: EP
WO17201299 A1	20171123	LSPB	+	published / reissued	
WO17201299 A1	20181120	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO17201299 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 17800175 Kind code of Ref document: A1 Country of Ref document: EP
WO17201299 A1	20190612	LSNE	-122	EP: PCT APPLICATION NON-ENTRY IN EUROPEAN PHASE	Kind code of Ref document: A1 Ref document number: 17800175 Country of Ref document: EP
WO18107032 A1	20180614	LSPB	+	published / reissued	
WO18107032 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS	Ref document number: 17877681 Kind code of Ref document: A1 Country of Ref document: EP

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WO18107032 A1	20190612	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18107032 A1	20190712	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2017877681 Effective date: 20190709 Country of Ref document: EP
WO18140702 A1	20180802	LSPB	+	published / reissued	
WO18140702 A1	20181128		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 18744505 Kind code of Ref document: A1 Country of Ref document: EP
WO18140702 A1	20190725	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 3051584 Country of Ref document: CA
WO18140702 A1	20190726	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2019540527 Country of Ref document: JP
WO18140702 A1	20190730	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE	Ref country code: DE
WO18140702 A1	20190806		REG	REFERENCE TO NATIONAL CODE	Ref country code: BR Ref legal event code: B01A Ref document number: 112019015330 Country of Ref document: BR
WO18140702 A1	20190815	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Kind code of Ref document: A Ref document number: 2018212810 Date of Ref document: 20180126 Country of Ref document: AU
WO18140702 A1	20190830	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Ref document number: 2018744505 Effective date: 20190827 Country of Ref document: EP
WO18140702 A1	20200310	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE	Effective date: 20190725 Ref document number: 112019015330 Kind code of Ref document: A2 Country of Ref document: BR
WO19232507 A1	20191205	LSPB	+	published / reissued	
WO19232507 A1	20200115		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Kind code of Ref document: A1 Ref document number: 19731111 Country of Ref document: EP
WO20146364 A1	20200716	LSPB	+	published / reissued	
WO20146364 A1	20200826		121	EP: THE EPO HAS BEEN INFORMED BY WIPO THAT EP WAS DESIGNATED IN THIS APPLICATION	Ref document number: 20702560 Kind code of Ref document: A1 Country of Ref document: EP