

1) Family number: 51895982 (US2013345739A)

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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):** A61B17/08 A61B17/14 A61B17/22

A61B17/221 A61B17/3207 A61F2/01 (Advanced/Invention);

A61B17/00 A61B17/221 A61B17/3207 (Advanced/Non-invention)

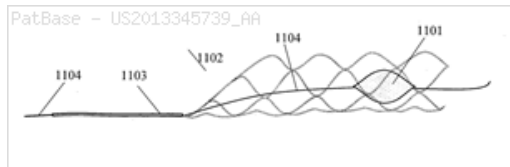
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A61B17/22031 A61B2017/00292 A61B2017/00526 A61B2017/00867

A61B2017/22094 A61F2002/011

European: A61B17/221 A61F2/01D K61B17/221C K61B17/221P K61B17/22E6 K61B17/3207E**US:** 1/1 606/114 606/159 606/200**Family:**

Publication number	Publication date	Application number	Application date
EP2683309 A2	20140115	EP20120711696	20120309
US2013345739 AA	20131226	US20120823060	20120309
US2014200608 AA	20140717	US20140158390	20140117
US2016120558 AA	20160505	US20150930167	20151102
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US2018344338 AA	20181206	US20180997335	20180604
US2019239907 AA	20190808	US20190385718	20190416
US8852205 BB	20141007	US20140158390	20140117
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US10292722 BB	20190521	US20150986323	20151231
US10299811 BB	20190528	US20150930167	20151102
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Priority:

US20110450810P	20110309	US20110552130P	20111027	US20110552150P	20111027
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US20150986323	20151231	US20150986332	20151231	US20150986357	20151231
US20170399453	20170105	US20180997335	20180604	US20190385718	20190416

Probable Assignee: NEURAVI LTD

Assignee(s): (std): BRADY EAMON ; CASEY BRENDAN ; GILVARRY MICHAEL ; GRIFFIN PATRICK ; MCNAMARA JASON ; RAZAVI MAHMOOD ; NEURAVI LTD ; VALE DAVID ; RAZAVI MAHMOOD K

Assignee(s): NEURAVI LIMITED

Inventor(s): (std): GRIFFIN PATRICK ; RAZAVI MAHMOOD ; GILVARRY MICHAEL ; VALE DAVID ; CASEY BRENDAN ; BRADY EAMON ; MCNAMARA JASON ; RAZAVI MAHMOOD K

Agent(s): OBRIEN JOHN AUGUSTINE; BOOKOFF MCANDREWS PLLC; BOOKOFF MCANDRES PLLC; TROUTMAN SANDERS LLP; O BRIEN JOHN A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT 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

2) Family number: 48148155 (US2011009875A)

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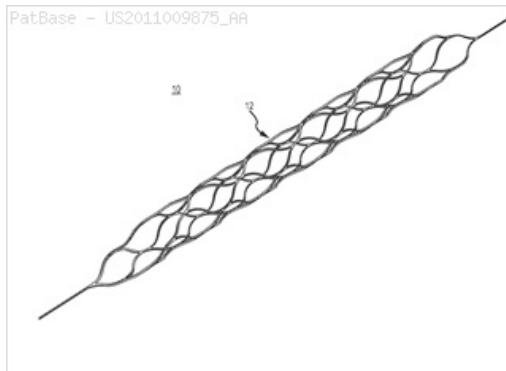
Title: EMBOLIC OBSTRUCTION RETRIEVAL DEVICES AND METHODS

Abstract: An embolic obstruction retrieval device including a self-expandable member having a proximal end portion, a main body portion and a distal end portion. Each of the self-expandable portions consists of a plurality of cell structures formed by intersecting strut members. At least one proximal cell structure in the proximal end portion has one or more struts that have a width and/or thickness greater than the width and/or thickness of the majority of strut members in the main body and distal end portions of the expandable member. Attached to at least one of the proximal-most cell structures in the proximal end portion is a proximally extending flexible wire having sufficient length and flexibility to navigate the tortuous

vasculature and access the embolic obstruction. In one implementation, the embolic obstruction retrieval device is delivered to the embolic obstruction through the lumen of a delivery catheter.

Classifications:

International (IPC 8-9): A61B17/00 A61B17/22 A61B17/221 A61B17/3207 A61F A61F2/01 A61F2/06 A61F2/07 A61F2/82 A61F2/84 A61F2/88 A61F2/90 A61F2/91 A61F2/915 A61F2/95 A61M29/00 (Advanced/Invention); A61B17/00 A61B17/22 A61B17/221 A61B17/3207 A61F2/01 A61F2/82 A61F2/915 A61L31/00 (Advanced/Non-invention); A61F (Subclass/Invention)
CPC: A61B2017/00867 A61B2017/2217 A61F2/90 A61B2017/320064 A61F2/06 A61B2017/320716 A61F2002/91558 A61F2250/0059 A61F2/013 A61F2/88 A61F2/91 A61F2/95 A61F2002/9528 A61F2002/9534 A61F2220/005 A61F2220/0058 A61F2230/0008 A61F2250/0039 A61B17/221 A61B17/3207 A61B17/320725 A61B17/32075 A61B2017/00778 A61B2017/22045 A61B2017/2215 A61F2/01 A61F2/915 A61F2002/016 A61F2002/018 A61F2002/825 A61F2230/0006 A61F2230/0069 A61F2230/0097
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US: 1/1 606/127 606/127P 606/159 606/194 606/194P 606/200 606/200P 623/1.1 623/1.11 623/1.110P 623/1.16 623/1.160P 623/1.160S 623/1.2 623/1.200S 623/23.7 623/23.700S



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Probable Assignee: STRYKER CORP

Assignee(s): (std): BONSIGNORE CRAIG L ; CONCENTRIC MEDICAL INC ; GRANDFIELD RYAN M ; PEDERSEN KIRK L ; SANDERS ELLIOT H ; MILLER JOHN H ; WILSON SCOTT D ; VU EMILY

Assignee(s): STRYKER CORP ; CONCENTRIC MEDICAL INC MOUNTAIN VIEW

Inventor(s): (std): WILSON SCOTT D ; VU EMILY ; PEDERSEN KIRK L ; MILLER JOHN H ; GRANDFIELD RYAN M ; BONSIGNORE CRAIG L ; SANDERS ELLIOT H ; L PEDERSEN KIRK ; H SANDERS ELLIOT ; L BONSIGNORE CRAIG ; CRAIG L BONSIGNORE ; KIRK L PEDERSEN ; SCOTT D WILSON ; ELLIOT H SANDERS ; JOHN H MILLER ; RYAN M GRANDFIELD ; EMILY VU ; ELIOT H SANDERS ; KIRK L PERDESEN

Inventor(s): WILSON SCOTT D FREMONT ; MILLER JOHN H REDWOOD CITY ; SANDERS ELLIOT H PALO ALTO ; WILSON SCOTT D REDWOOD CITY ; GRANDFIELD RYAN M LIVERMORE

Agent(s): SHELSTON IP; SHELSTON IP PTY LTD; BLAKE CASSELS AND GRAYDON LLP; DE ROOIJ MATHIEU JULIEN; ZBM PATENTS; ZBM PATENTS ZEA BARLOCCI AND MARKVARDSEN; ZEA BERNABE; TOMAS TESIFONTE ENRIQUE; CONTRERAS YAHIEL; PEARL COHEN ZEDEK LATZER BARATZ; KITA AOYAMA INT PATENT BUREAU; BERENBAUM WEINSHIENK PC; HAMILTON DESANCTIS AND CHA LLP; TIM L; PETER B; TIM; HAMILTON DESANCTIS AND CHA; VISTA IP LAW GROUP LLP; SCULL PETER B

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

3) Family number: 70679495 (US2019000492A)

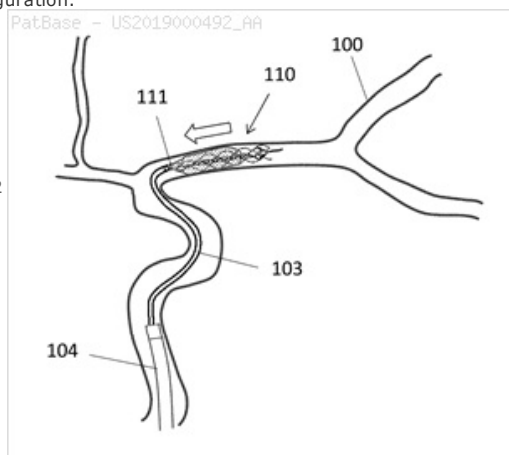
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Title: CLOT RETRIEVAL SYSTEM FOR REMOVING OCCLUSIVE CLOT FROM A BLOOD VESSEL

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 A61F2/01 (Advanced/Invention); A61B17/00 A61B17/22 A61B90/00 (Advanced/Non-invention)
International (IPC 1-7): A61B17/00 A61B17/12 A61B17/22
CPC: A61B2017/22072 A61B17/12109 A61B17/22031 A61B17/221 A61B2017/00477 A61B17/22 A61B2017/22038 A61B2017/22067 A61B2017/22094 A61B2017/00526 A61B2017/22034 A61B2017/2212 A61B2017/2215 A61B2090/3966 A61B2017/00778
US: 1/1 606/200



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AU2018204059 AA	20190117	AU20180204059	20180607
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EP3420978 A1	20190102	EP20180180030	20180627
EP3593742 A1	20200115	EP20190183629	20180627
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KR20190001935 A	20190107	KR20180073230	20180626
MX2018008159 A1	20190131	MX20180008159	20180628
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Priority:

US20170526005P 20170628 KR20180073230 20180626 EP20180180030 20180627
JP20180121664 20180627 US20180021505 20180628

Probable Assignee: NEURAVI LTD

Assignee(s): (std): NEURAVI LTD

Assignee(s): O CONNOR GRAINNE ; VALE DAVID ; CASEY BRENDAN ; HARDIMAN DAVID ; HOLIAN MAEVE ; NEURAVI LIMITED

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

Inventor(s): O 8242 CONNOR GRAINNE

Agent(s): SPRUSON AND FERGUSON; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; SMALL GARY JAMES; KATO MASANOBU

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

4) Family number: 42647128 (US2011022149A)

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Title: METHODS AND DEVICES FOR TREATMENT OF VASCULAR DEFECTS

Abstract: Devices and methods for treatment of a patient's vasculature with some embodiments configured for delivery with a microcatheter for treatment of the cerebral vasculature of a patient. Some embodiments include thin permeable membranes configured to occlude blood flow therethrough.

Classifications:

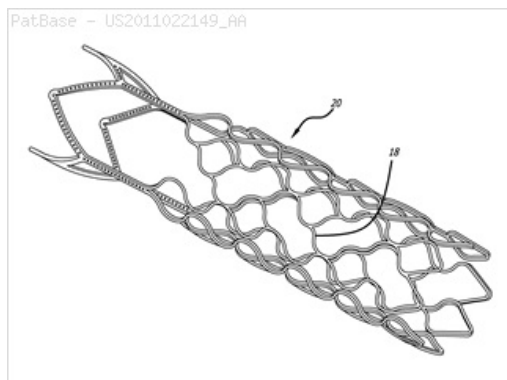
International (IPC 8-9): A61B17/12 A61F2/01 A61F2/06 A61F2/82 A61F2/84 A61F2/86 A61F2/90 A61F2/91 A61F2/915 A61M29/00 (Advanced/Invention);

A61B17/12 A61F2/00 A61F2/82 (Advanced/Non-invention)

CPC: A61B17/12022 A61B17/12118 A61B17/12172 A61B17/12177 A61B17/1219 A61F2/0077 A61F2/91 A61F2/915 A61F2002/823 A61F2002/9155 A61F2002/91558 A61F2210/0076 A61F2220/005 A61F2220/0075 A61F2230/0054 A61F2230/006 A61F2230/0069 A61F2230/0076 A61B17/12031 A61B17/12181 A61B2017/1205 A61F2/06 A61F2/82 A61F2/86 A61F2/90

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Family:

Publication number	Publication date	Application number	Application date
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EP2157937 B1	20170322	EP20080770070	20080603
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Priority:

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Probable Assignee: SEQUENT MEDICAL INC

Assignee(s): (std): COX BRIAN J ; ROSENBLUTH ROBERT F ; SCHAEFER DEAN ; SEQUENT MEDICAL INC

Inventor(s): (std): ROSENBLUTH ROBERT F ; SCHAEFER DEAN ; COX BRIAN J

Agent(s): SCHAUMBURG THOENES THURN LANDSKRON ECKERT; SCHAUMBURG U PARTNER PATENTANWALTE MBB; GRANT ANDERSON LLP,C/O PORTFOLIOIP; GRANT ANDERSON LLP C O PORTFOLIOIP; OMELVENY AND MYERS LLP; GRANT BRUCE D ET AL

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

Title: MICRO-MACRO ENDOVASCULAR OCCLUSION DEVICE AND METHODOLOGY

Abstract: A vascular plug comprises a superstructure expandable from a collapsed percutaneous insertion configuration to an expanded deployment or use configuration. The superstructure is comprised of both primary and secondary three-dimensional shapes allowing for the occlusion of a wide range of vessel sizes from small to large through a disproportionately small delivery catheter. The plug includes a shape memory element for the generation of radial force and the creation of the larger secondary three-dimensional twisting or helical superstructure as is needed for target vessel occlusion.

Classifications:

International (IPC 8-9): A61B17/00 A61B17/12 (Advanced/Invention)

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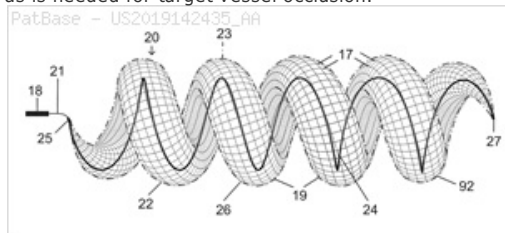
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**Family:**

Publication number	Publication date	Application number	Application date
US2019142435 AA	20190516	US20180014201	20180621
US2019231355 AA	20190801	US20190379339	20190409
US10299799 BA	20190528	US20180014201	20180621

Priority:

US20170529738P 20170707

US20180014201 20180621

US20190379339 20190409

Probable Assignee:

DEMERRIT JOHN S

Assignee(s): (std):

DEMERRIT JOHN S

Inventor(s): (std):

DEMERRIT JOHN S

Agent(s):

SUDOL R NEIL; COLEMAN HENRY D

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 A61F2/01 A61M25/00

A61M29/00 (Advanced/Invention);

A61B17/00 A61B17/22 A61F2/01 (Advanced/Non-invention);

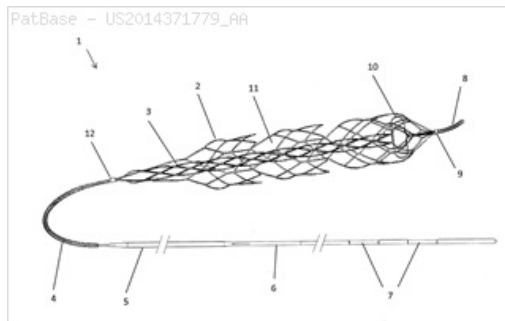
A61B17/00 A61F2/00 (Core/Invention)

CPC: A61B2017/2215 A61B17/221 A61B17/320725 A61B2017/22034

A61B2017/2212 A61F2/013 A61B17/12109 A61M29/00

A61B2017/00358 A61B2017/00778 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
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EP2967610 A1	20160120	EP20140708025	20140305
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US10278717 BB	20190507	US20150985877	20151231
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Priority:

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Probable Assignee: NEURAVI LTD

Assignee(s): (std): NEURAVI LTD

Inventor(s): (std): CASEY BRENDAN ; BRADY EAMON ; VALE DAVID ; RAZAVI MAHMOOD ; MCARDLE KEVIN ; HARDIMAN DAVID ; GILVARRY MICHAEL ; EAMON BRADY ; BRENDAN CASEY ; MICHAEL GILVARRY ; DAVID HARDIMAN ; KEVIN MCARDLE ; MAHMOOD RAZAVI ; DAVID VALE ; CLAFFEY MARISIL ; MCNAMARA JASON ; GRIFFIN PATRICK

Agent(s): OBRIEN JOHN AUGUSTINE; CARPMAELS AND RANSFORD LLP; SMALL GARY JAMES; IZQUIERDO MARIA ALICIA; YAMAMOTO OSAMU; TAKEUCHI SHIGEO; ONO SHINJIRO; KOBAYASHI YASUSHI; MIYAMAE TORU; NAKANISHI MOTOHARU; FULYA SUEMERALP; BOOKOFF MCANDREWS PLLC; TROUTMAN SANDERS LLP; OBRIEN JOHN ET AL

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

7) Family number: 57887196 (US2015190155A)

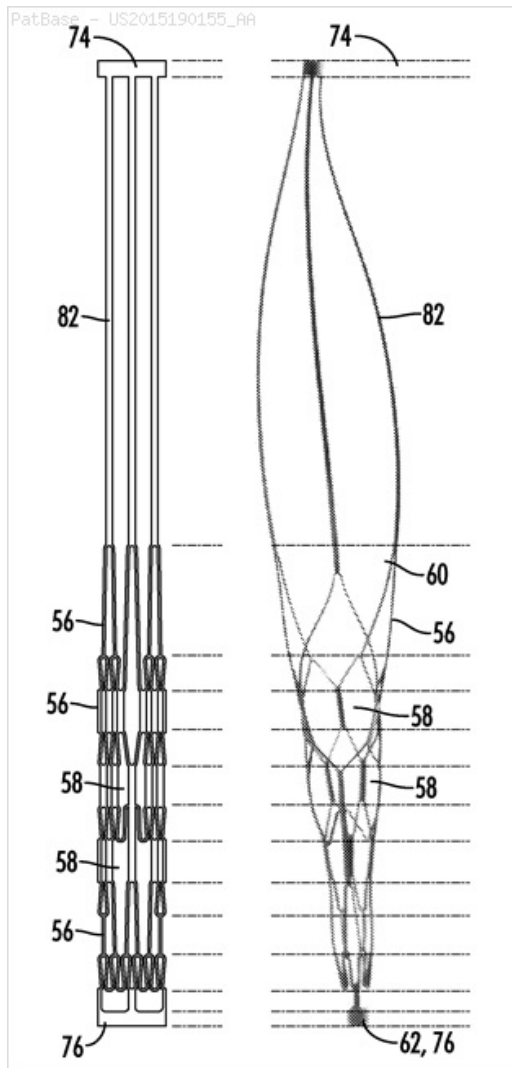
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Title: CLOT RETRIEVAL SYSTEM

Abstract: The invention relates to systems 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 having a proximal hub, a basket, and a distal hub. In some embodiments, the distal body includes a plurality of proximal strips that form a closeable claw that is used to capture the obstruction. In other embodiments, the basket includes an enlarged opening that allows the object to enter the basket. Optionally, the basket includes x-ray markers adjacent to the enlarged openings to allow the operator to locate the openings, as well as twisting strips that connect the basket to the proximal hub. 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 B23K26/38 B23K26/40 B23K31/02 B23P11/00 (Advanced/Invention); A61B17/00 A61B17/22 A61B90/00 A61M5/00 B23K101/06 (Advanced/Non-invention); A61B (Subclass/Invention)
CPC: A61D1/005 A61L31/022 A61L31/048 A61B2090/3937 A61B2017/22038 A61B17/1204 A61M25/0147 A61F2230/0023 A61F2230/0058 A61F2250/0023 A61F2250/0039 A61F2002/011 B23K26/40 B23K1/0008 B23K31/02 A61B2017/00893 A61M2025/0042 A61B17/12109 A61F2250/0017 B23K2103/14 B23K2103/26 A61B2017/22082 A61B17/12036 A61B2217/005 A61B2017/22094 A61B2017/00469 A61B2090/064 A61B17/12172 A61B2017/12054 A61B17/22032 A61B2017/22034 A61B2017/22084 A61F2230/0067 A61F2230/0093 A61B17/00 A61F2/013 A61F2002/016 A61F2240/001 B23P11/00 A61B17/221 A61B2017/00477 A61B2017/2212 A61B17/00234 A61B2017/00323 A61B2017/00778 A61B2017/00867 A61B2017/00526 B23K2101/06 A61B90/39 A61B2017/22079 A61B2017/2215 A61B2090/3966 A61M5/007 A61M25/0009 B23K26/38 A61B6/12 A61M25/0108
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
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ES2688187 T3	20181031	ES20150796711T	20150518
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Priority:

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US20190579427	20190923				

Probable Assignee: LEGACY VENTURES LLC DBA VESALIO

Assignee(s): (std): LEGACY VENTURES LLC ; ULM III ARTHUR JOHN ; ULM MATTHEW

Assignee(s): LEGACY VENTURES LLC DBA VESALIO ; LEGACY VENTURES LLC NASHVILLE ; ULM ARTHUR JOHN III

Inventor(s): (std): ULM ARTHUR JOHN ; ULM MATTHEW ; ULM ARTHUR ; DE LA ROSA MAURICE ; ULM ARTHUR JOHN III ; ULM III ; ARTHUR JOHN ULM III ; ULM III ARTHUR JOHN

Inventor(s): ULM III ARTHUR JOHN NASHVILLE

Agent(s): PHILLIPS ORMONDE FITZPATRICK; BERESKIN AND PARR LLP SENCRL SRL; BELL MARK ANDREW; DEHNS; ISERN JORGE; LANNY SETIAWAN MBA MGMT MA LPC MA LMFT; REINHOLD COHN AND PARTNERS; KAWAMOTO KAZUYA; SHIMIZU HATSUSHI; OSAKABE SUGURU; SHANE V; SHANE; CORTESI SHANE; CORTESI SHANE V

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

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8) Family number: 62457057 (US2016143653A)

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

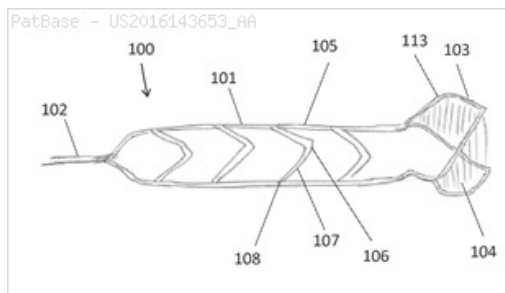
Abstract: A clot retrieval device for removal of occlusive clot from a blood vessel comprises a clot engaging element 700 having a constrained delivery configuration and an expanded deployed configuration. In the expanded configuration peripheral portions are laterally spaced-apart and the clot engaging 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 A61B17/22 A61B17/221 A61B17/3207
A61B90/00 A61F A61F2/01 (Advanced/Invention);
A61B17/22 (Advanced/Non-invention);
A61B (Subclass/Invention)

CPC: A61B90/39 A61B2090/3966 A61B2017/22079 A61B2017/00867
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US: 1/1 606/114 606/200



Family:

Publication number	Publication date	Application number	Application date
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US2019298397 AA	20191003	US20190446749	20190620
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Priority:

US20140084960P 20141126	US20150259976P 20151125	US20150952202 20151125
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Probable Assignee: NEURAVI LTD

Assignee(s): (std): NEURAVI LTD

Assignee(s): O GORMAN JACQUELINE ; VALE DAVID ; CASEY BRENDAN ; FAHY BRIAN ; GILVARRY MICHAEL ; KING DANIEL ; MCARDLE KEVIN

Inventor(s): (std): DAVID VALE ; BRENDAN CASEY ; MICHAEL GILVARRY ; JACQUELINE O GORMAN ; KEVIN MCARDLE ; BRIAN FAHY ; DANIEL KING ; FAHY BRIAN ; KING DANIEL ; CASEY BRENDAN ; GILVARRY MICHAEL ; MCARDLE KEVIN ; O GORMAN JACQUELINE ; VALE DAVID

Agent(s): FISHER ADAMS KELLY CALLINANS; SPRUSON AND FERGUSON; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; O BRIEN JOHN AUGUSTINE; CARPMAELS AND RANSFORD LLP; SMALL GARY JAMES; DEACONS; ONO SHINJIRO; YAMAMOTO OSAMU; MIYAMAE TORU; NAKANISHI MOTOHARU; KATO MASANOBU; TROUTMAN SANDERS LLP; OBRIEN JOHN ET AL

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

9) Family number: 49513992 (US2011213403A)

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Title: DEVICES AND METHODS FOR VASCULAR RECANALIZATION

Abstract: In some embodiments, a medical device for recanalizing a vessel having a blockage and restoring blood flow through an obstructed blood vessel includes an expandable member coupled to a core wire and a hypotube that are movable relative to each other to manipulate the expandable member between various configurations. The expandable member

having a capture structure in an expanded configuration. The expandable member can include multiple interstices formed by woven mesh filaments or braided strands through which the material blocking the vessel can pass. The capture structure can include a shape on its external surface that facilitates dislodgement and capture of the material within capture spaces created by the expandable member. Some embodiments include a capture sack or cap for capturing material and preventing material from migrating down stream of the blockage. Superoxygenated blood can be infused distal to the blockage to minimize loss of function during an ischemic event.

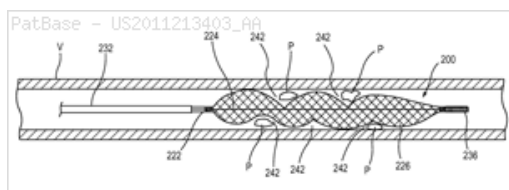
Classifications:

International (IPC 8-9): A61B17/00 A61B17/12 A61B17/22 A61B17/221 A61B19/00 A61B90/00 A61F A61F2/01 A61F2/06 A61F2/07 A61F2/95 A61M A61M25/00 A61M29/00 A61M29/02 (Advanced/Invention); A61B17/00 A61B17/12 A61M25/00 A61M25/06 A61M25/10 (Advanced/Non-invention); A61F (Subclass/Invention)

CPC: A61M29/00 H05K999/99 A61B17/22 A61B17/221 A61B2017/00778 A61B2017/00867 A61B2017/22038 A61B2017/22054 A61B2017/22055 A61B2017/2212 A61B2017/2215 A61F2/013 A61F2002/018 A61F2230/0006 A61F2230/0067 A61F2230/0069 A61F2230/0076 A61F2230/008 A61M25/0074 A61M29/02 A61M2025/0004 A61M2025/0681 A61M2025/109 A61M25/10 A61B17/12136 A61B2017/00623 A61B17/12113 A61B17/12163 A61B17/12168 A61B17/12172 A61B17/12031 A61B17/1214 A61B17/12145 A61B90/39 A61B2090/3966 A61B17/00234 A61B17/1215 A61B2017/1205 A61B2017/12054

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US: 1/1 606/191 606/194P 606/198 606/200 623/1.11



Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: MEDINA MEDICAL INC

Assignee(s): (std): MEDINA MEDICAL ; MEDINA MEDICAL INC ; ABOYTES MARIA ; COVIDIEN LP ; ROSQUETA ARTURO ; ROSQUETA ARTURO S

Assignee(s): VENTURE LENDING AND LEASING VII INC ; COVIDIEN LP MANSFIELD ; MEDINA MEDICAL INC937 HAMILTON AVE.MENLO PARKCA94025US ; MEDINA MEDICAL LLC

Inventor(s): (std): S ROSQUETA ARTURO ; ABOYTES MARIA G ; ABOYTES MARIA ; ROSQUETA ARTURO ; ROSQUETA ARTURO S ; ARTURO S ROSQUETA ; ARTURO ROSQUETA ; MARIA ABOYTES

Inventor(s): ROSQUETA ARTURO SAN JOSE ; ABOYTES MARIA PALO ALTO ; ABOYTES MARIAUS ; ROSQUETA ARTURO SUS

Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; BORDEN LADNER GERVAIS LLP; HALEY STEPHEN; GILL JENNINGS AND EVERY LLP; GRAY JAMES; ELZABURU SLP ELZABURU SLP; ROBIN BRIDGE AND JOHN LIU; DR SHLOMO COHEN AND CO; INABA YOSHIYUKI; PERKINS COIE LLP; ELIZABETH; FORTEM IP LLP; MARY; FOX MARY; MILCH ERIK B 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 HW 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 VN ZA ZM ZW

10) Family number: 43648757 (US2011060212A)

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Title: METHODS AND APPARATUS FOR FLOW RESTORATION

Abstract: Methods for restoring blood flow in occluded blood vessels using an apparatus having a self expandable distal segment that is pre-formed to assume a superimposed structure in an unconstrained condition but can be made to take on a volume-reduced form making it possible to introduce it with a microcatheter and a push wire arranged at the proximal end, with the distal segment in its superimposed structure assuming the form of a longitudinally open tube and having a mesh structure of interconnected strings or filaments or struts. In a preferred embodiment, the distal segment has a tapering structure at its proximal end where the strings or filaments or struts converge at a connection point.

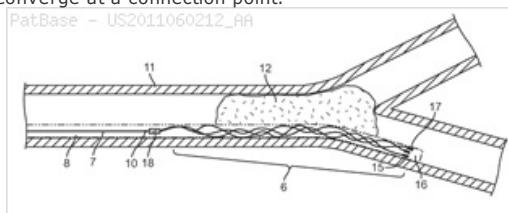
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International (IPC 1-7): A61B17/22

CPC: A61B2017/22001 A61B2017/22038 A61B2017/22051 A61B17/22 A61B17/221 A61B2017/22034 A61B2017/2215 A61F2/90 A61F2/91 A61F2/92 A61B17/50 A61B2017/22094 A61M1/00 A61M29/00

European: A61B17/221 K61B17/221P K61B17/22E6 K61F2/90 K61F2/91 K61F2/92



Family:

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Probable Assignee: COVIDIEN LP

Assignee(s): (std): MCCARTHY THOMAS ; SLEE EARL HOWARD ; MICRO THERAPEUTICS INC ; SHRIVASTAVA SANJAY ; MIKRO TERAP JUTIKS INK ; MICRO THERAPEUTICS INC ; TYCO HEALTHCARE ; WILDER THOMAS III ; ASHBY MARK PHILIP ; COVIDIEN LP ; FRANCO DAVID ; WILDER III THOMAS

Assignee(s): EV3 INC ; EV3 LLC ; COVIDIEN LP MANSFIELD ; TYCO HEALTHCARE GROUP LP

Inventor(s): (std): MCCARTHY THOMAS ; FRANCO DAVID ; MARK PHILIP ASHBY ; HOWARD SLEE EARL ; MAKKARTI TOMAS ; FRANKO DEHVID ; LLL THOMAS WILDER ; SLEE EARL HOWARD ; SHRIVASTAVA SANJAY ; WILDER III THOMAS ; PHILIP ASHBY MARK ; SANJAY SHRIVASTAVA ; THOMAS MCCARTHY ; THOMAS WILDER III ; ASHBY MARK ; ASHBY MARK PHILIP ; EARL HOWARD SLEE ; DAVID FRANCO ; EHSBHI MARK FILIP ; SHRIVASTAVA SANDZHEJ ; UAJLDER TOMAS III ; SLI EHRL GOVARD ; THOMAS WILDER LLL ; SLEE EARL ; WILDER THOMAS III ; WILDER THOMAS

Inventor(s): WILDER THOMAS III NEWPORT BEACH ; SLEE EARL HOWARD LAGUNA NIGUEL ; MCCARTHY THOMAS SAN CLEMENTE ; SHRIVASTAVA SANJAY IRVINE ; ASHBY MARK PHILIP LAGUNA NIGUEL ; WILDER III ; FRANCO DAVID IRVINE

Agent(s): SPRUSON AND FERGUSON ; SMART AND BIGGAR ; HOFFMANN EITLE ; ELSY DAVID ; GRAY JAMES ; ELZABURU SLP ELZABURU SLP ; MARK J ; FORTEM IP LLP ; LINCICUM MATTHEW ; KNOBBE MARTENS OLSON AND BEAR 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

11) Family number: 52874680 (US2013030460A)

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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

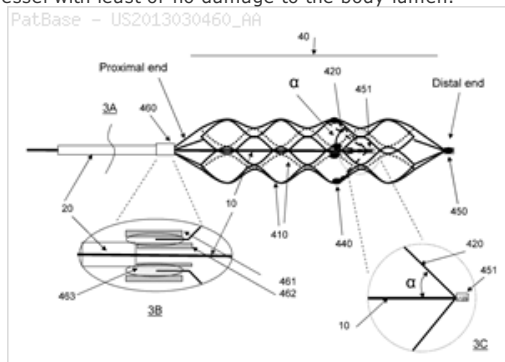
A61F2/01 A61M25/00 (Advanced/Invention)

CPC: A61B17/320725 A61B2017/2212 A61B2090/08021

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US: 1/1 606/159 606/200**Family:**

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Priority:

US20110191306 20110726

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US20160190047 20160622

Probable Assignee: THROMBX MEDICAL INC**Assignee(s):** (std): LIKEMARK MEDICAL INC ; MARKS MICHAEL P ; QUE LIKE**Assignee(s):** THROMBX MEDICAL INC**Inventor(s):** (std): QUE LIKE ; MARKS MICHAEL P**Agent(s):** BERESKIN AND PARR LLP SENCRL SRL; DURAN CORRETJER SLP; KIMMEL ANDREW I

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

12) Family number: 68886131 (WO18046408A3)

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

Abstract: A clot retrieval device (1) has a clot engaging portion configured at the distal end of an elongate shaft (6) having an outer expandable member (2) comprising multiple expandable segments (26), and an inner expandable member (3) to facilitate restoration of blood flow through clot immediately after the clot retrieval device (1) is deployed at an obstructive site. The outer member (2) and inner expandable member (3) comprises a collapsed configuration for delivery and an expanded configuration for clot retrieval, flow restoration and fragmentation protection. Proximal radiopaque markers (82) are positioned at the distal end of struts (20) of the outer member (2) just proximal to two proximal crowns (81). This position is advantageous because it denotes the start of the fully expanded diameter of the device, which is the portion of the device that is most desirable to deploy under the clot for optimal grip of the clot.

Classifications:**International (IPC 8-9):** A61B A61B17/00 A61B17/22 A61B17/221

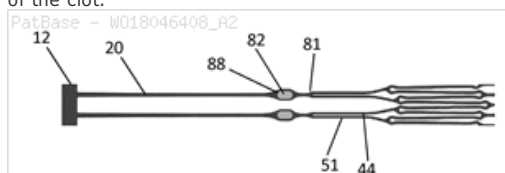
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A61B17/22 A61B90/00 (Advanced/Non-invention);

A61B (Subclass/Invention)

International (IPC 1-7): A61B17/22**CPC:** A61B17/221 A61B17/320725 A61B2017/22034 A61B2090/3966

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**Fig 2d**

Family:

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Priority:

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Probable Assignee: NEURAVI LTD

Assignee(s): (std): NEURAVI LTD

Assignee(s): VALE DAVID ; HOLIAN MAEVE ; KING DANIEL ; O GORMAN JACQUELINE ; BRADY EAMON ; CASEY BRENDAN ; FAHY BRIAN ; GILVARRY MICHAEL

Inventor(s): (std): VALE DAVID ; CASEY BRENDAN ; FAHY BRIAN ; BRADY EAMON ; HOLIAN MAEVE ; KING DANIEL ; GILVARRY MICHAEL ; O GORMAN JACQUELINE ; OGORMAN JACQUELINE ; DAVID VALE ; BRENDAN CASEY ; BRIAN FAHY ; EAMON BRADY ; MAEVE HOLIAN ; DANIEL KING ; MICHAEL GILVARRY ; JACQUELINE O GORMAN

Agent(s): SPRUSON AND FERGUSON; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; SMALL GARY JAMES; SMALL GARY JAMES ET AL

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