

Search history

Search probe Procedures Gastroenterology Connector Electro-biscuit coagulation (Results 0)

1:

Search probe and Gastroenterology (Results 64)

2:

Search probe and Electro-biscuit (Results 0)

3:

Search probe and Electro-biscuit (Results 0)

4:

Search probe and Electro-scalpel (Results 1)

5:

Search connector and 2 (Results 1)

6:

Search PN=(US6238386 or US 5088997 or US2001020167 or US2056377 or US4074718 or US4471777A or US4736743 or US4920978) (Results 1000000)

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Search 2 and 8 (Results 15)

9:

Search PN=(US6238386 or US5088997) (Results 2)

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Search PN=(US6238386 or US5088997 or US2001020167 or US2056377 or US4074718 or US4471777A or US4736743 or US4920978) (Results 7)

11:

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Search bag and connection and probe (Results 407)
14:

Search probe and coagulation (Results 1143)
15:

Search 14 and 15 (Results 8)
16:

Search probe and conector (Results 508)
17:

Search 15 and 17 (Results 12)
18:

Search device and probe and connector and coagulation (Results 62)
19:

Search coupling probe endoscopic Ionizing gas (Results 0)
20:

Search ((coupling and (probe and endoscopic) and (Ionizing and gas))) (Results 1)
21:

Search probe and cuagulation (Results 0)
22:

Search probe and coupling and electric-scalpel (Results 0)
23:

Search probe and Electro-scalpel (Results 1)
24:

Search ((probe or catheter) and Electrocoagulation) (Results 66)
25:

Search 15 and 25 (Results 19)
26:

Search ((connector or coupling) and (probe or catheter) and electrocoagulation) (Results 16)
27:

Search IPC=(A61M25/00) (Results 28666)
28:

Search 27 and 28 (Results 1)
29:

Search 15 and 28 (Results 27)
30:

Search 17 and 28 (Results 36)
31:

Search fn=(28692844 or 29327013 or 30383083 or 31449251 or 30260464 or 32365602 or 32399106 or 32365602 or 32365602 or 33124337 or 32: 33126343 or 33814115 or 33814154 or 33601783 or 30754381 or 34297473 or 32399106 or 32365602 or 42164776 or 42674689 or 42974929 or 43002349 or 44211072 or 45441218 or 45443511 or 48962916 or 42496516 or 50737664 or 19230632 or 11154929 or 11832770 or 11832770 or 19230632 or 28692844 or 12786988 or 11832770 or 10947523 or 11864332 or 12786988 or 10771512 or 10771512 or 10771512 or 10771512 or 8758437 or 15773267 or 28020887 or 31449251 or 32399106 or 33814154 or 33293117 or 33113844 or 33814115 or 32365602 or 30606297 or 29327013 or 42164776 or 42496516 or 33126343 or 42674165 or 44211072 or 49958332 or 42496516 or 43002349 or 30754381 or 49958332 or 42164776 or 48962916 or 45441218 or 30260464 or 29114886 or 42674689 or 42674692 or 49891640 or 45443511 or 43051501 or 49891641 or 52064473 or 43002349 or 49120346 or 53194793 or 33126343 or 49958332 or 42674692 or 49120346 or 33126343 or 48853130 or 50638808 or 55982316 or 28692844 or 11154929 or 8376922 or 4387726 or 17131861 or 35040415 or 4387726 or 22780872 or 23005377 or 389571 or 24051350 or 7721189 or 1090740 or 1264629 or 1997689 or 4711419 or 4759431 or 4862199 or 18006127 or 5095027 or 17131861 or 5303740 or 6357127 or 3824565 or 10351047 or 2816402 or 2163160 or 3377450) (Results 74)

Search probe and DEVICE CONNECTOR (Results 35)
33:

Search ((probe or catheter) and DEVICE CONNECTOR) (Results 59)
34:

Search PN=(WO9711647 or WO2006119892) (Results 2)
35:

Search ENDOSCOPIC-SURGERY APPARATUS (Results 1)
36:

Search ENDOSCOPIC-SURGERY probe (Results 0)
37:

Search ENDOSCOPIC-SURGERY CATHETER (Results 0)
38:

Search [SP]: what is claimed is: 1. an electrosurgical unit for achieving coagulation of tissue, comprising: an endoscope having: a proximal end and an opposing distal end, and a plurality of working channels extending between the two ends, each channel having a predetermined diameter and having an opening at each end a flexible, hollow tube having a longitudinal axis disposed in one of the working channels of the endoscope, the tube having a diameter which is less than the diameter of the channel through which it is inserted, the tube including: a distal end and an opposing proximal end, each end of the tube having an opening, the tube having an inside and an outside, the tube positioned within the endoscope such that a portion of the tube including the opening at the distal end of the tube protrudes beyond the opening at the distal end of the endoscope and such that a gas stream exits from the opening at the distal end of the tube in order to establish an inert gas atmosphere between the distal end of the tube and the region of the tissue to be coagulated, and an electrode for ionizing the inert gas positioned inside the tube and offset from the opening at the distal end of the tube a predetermined minimum safety distance, such that the electrode can not come in contact with the tissue a source of pressurized ionizable, inert gas connected to the opening at the proximal end of the tube and pressurized such that a stream of gas flows from the source, through the tube and exits through the opening at the distal end of the tube at a low flow rate of less than about 1 liter/minute optical means positioned within a second working channel of the endoscope and protruding sufficiently from the opening at the distal end of the second channel of the endoscope to view the distal end of the tube and the tissue to be coagulated and the portion of the tube protruding from the distal end of the endoscope positioned such that the longitudinal axis of the tube is arranged sidewardly of the area of tissue to be coagulated. 2. the electrosurgical unit for achieving coagulation of tissue of claim 1, wherein an opening at the distal end of the tube is positioned radially from the tube. 3. the electrosurgical unit for achieving coagulation of tissue of claim 1, wherein the opening at the distal end of the tube positioned longitudinally from the tube. 4. the electrosurgical unit for achieving coagulation of tissue of claim 1, wherein the gas comprising argon. 5. the electrosurgical unit for achieving coagulation of tissue of claim 1, wherein the electrode having an annular shape. 6. the electrosurgical unit for achieving coagulation of tissue of claim 1, wherein the electrode having a pin-shape. 7. the electrosurgical unit for

achieving coagulation of tissue of claim 1, further comprising a manipulator operably connected at the distal end of the tube for controllably moving the opening at the distal end of the tube, the manipulator comprised of nonconductive material. 8. the electrosurgical unit for achieving coagulation of tissue of claim 7, wherein the manipulator comprising a rope, the rope attached to the distal end of the tube. 9. the electrosurgical unit for achieving coagulation of tissue of claim 8, wherein the manipulator comprising a rigid rod, the rod attached to the distal end of the tube. 10. the electrosurgical unit for achieving coagulation of tissue of claim 1, wherein the tube further comprising flexible bellows for adjusting the tube, the bellows positioned at substantially the distal end of the tube. 11. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 1, wherein an endpiece made out of a heat resistant material like ceramics is inserted into a distal end portion of the tube. 12. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 1, including means cooperating with the inert gas source for adjusting a first flow rate for standby operation and for a second flow rate during subsequent activation, in order to avoid that blood rests accumulate in the tube. 13. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 1, whereby the distal end portion of the tube protruding out of the distal end portion of the endoscope is provided with ring shaped markings permitting observation through said optical means how far the distal end of the tube protrudes out of the distal end of the working channel of the endoscope, into which the tube is inserted. 14. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 1, whereby a sleeve is fixed at an outer circumference of said tube, which sleeve is provided with barbs allowing to move the tube in the distal direction to protrude to a desired length out of the working channel if sufficient force is exerted by the surgeon, whilst the surgeon cannot retract the tube into the working channel as soon as the barbs come into engagement with the distal end of the endoscope. 15. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 1, whereby a clamping device with a clamping key is provided, or the endoscope which clamping key can be pressed down by the surgeon, if he wants to move the tube in a forward or rearward direction into a desired position, and that the surgeon can release the clamping key in a desired position of the protruding end portion of the tube, so that the tube is fixed in the desired position by compressive force exerted by spring means. 16. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 1, the distal end of the tube being provided with an end portion outwardly diverging to an exit opening of the tube. 17. an electrosurgical unit for achieving coagulation of tissue during endoscopic surgery, comprising: an endoscope having a proximal end and a distal end and having a plurality of working channels extending therebetween, each channel having an opening at each end, each channel having a predetermined diameter a flexible, hollow tube having a longitudinal axis disposed in one of the working channels of the endoscope, the tube having a diameter which is less than the diameter of the channel through which it is inserted, the tube having: a distal end and an opposing, proximal end, each end of the tube having an opening, the tube having an inside and an outside, the opening at the distal end of the tube positioned radially from the tube, the tube positioned within the working channel such that a portion of the tube including the opening at the distal end protrudes beyond the opening at the distal end of the endoscope and the tube being aligned such that a gas stream exiting from the opening at the distal end of the tube is directed onto an area of tissue to be coagulated, and an electrode positioned inside the tube for ionizing the inert gas, the electrode being offset from the opening at the distal end of the tube a minimum safety distance, in such a manner that the electrode can not come into contact with the tissue a source of pressurized, ionizable inert gas connected to the opening at the proximal end of the tube and pressurized such that a stream of gas flows from the source, exits through the tube through the opening at the distal end of the tube and the longitudinal axis of the portion of the tube that protrudes from the endoscope being positioned generally parallel to an area of tissue to be coagulated to achieve coagulation. 18. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 17, wherein the electrode having an annular shape. 19. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 17, wherein the electrode having a pin-shape. 20. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 17, further comprising a manipulator operably connected at the distal end of the tube for controllably moving the opening at the distal end of the tube, the manipulator comprised of nonconductive material. 21. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 20, wherein the manipulator comprising a rigid rod, the rod attached to the distal end of the tube. 22. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 17, wherein the tube further comprising flexible bellows for adjusting the tube, the bellows positioned at substantially the distal end of the tube. 23. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 17, wherein the gas comprising argon. 24. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 17, wherein an endpiece made out of a heat resistant material like ceramics is inserted into a distal end portion of the tube. 25. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 17, including means cooperating with the inert gas source for adjusting a first flow rate for standby operation and for a second flow rate during subsequent activation, in order to avoid that blood rests accumulate in the tube. 26. the electrosurgical unit for achieving coagulation of tissue during endoscopic surgery of claim 17, whereby the distal end (Results 148)

Search 40: fn=(28161104 or 28161104 or 33587779 or 33587779 or 33587779 or 28161104 or 53425069 or 40767150 or 40767150 or 48245976 or 55625326 or 55625326 or 61454025 or 3034920 or 10986210 or 30538181 or 11963311 or 30538181 or 30538181 or 13953777 or 28161104 or 16220218 or 23020248 or 23020248 or 8698687 or 20935003 or 20935003 or 33022439 or 33191375 or 33022439 or 33587779 or 44929034 or 9307097 or 3034920 or 8550475 or 24046356 or 24046356 or 2322266 or 49888738 or 12138994 or 42244508 or 11963306 or 30083872 or 29541645 or 33022439 or 30868790 or 11963306 or 31696967 or 33022439 or 32125520 or 30538181 or 42244508 or 32284328 or 33022439 or 33022439 or 32125520 or 32658109 or 33022439 or 33191375 or 32125520 or 33022439 or 33022439 or 35999058 or 36056487 or 41512762 or 38359288 or 31423744 or 30868790 or 41802426 or 42940856 or 33587779 or 31816591 or 43005643 or 31816591 or 33191375 or 42244508 or 44357279 or 44357276 or 11963306 or 32125520 or 30182342 or 36056487 or 33587779 or 35999058 or 28359288 or 30182342 or 33022439 or 48692993 or 48245976 or 50471810 or 34541330 or 52536816 or 8508485 or 18006851 or 2322266 or 18006851 or 9307097 or 6003464 or 9307097 or 24046356 or 15354422 or 3327167 or 4566012 or 3113206 or 3113206 or 29154714 or 3209685 or 3762503 or 3209685 or 12698896 or 8627167 or 29434205 or 8698687 or 30273564 or 30273564 or 32490225 or 3339618 or 29458186 or 33539619 or 33539621 or 33539622 or 29458186 or 20664525 or 12433172 or 11812192 or 33539628 or 29440185 or 29434205 or 29458186 or 33539635 or 33539637 or 33539638 or 33539639 or 33539644 or 33539649 or 23636855 or 30538181 or 29440185 or 23978483 or 28161104 or 13953777 or 29440185 or 30083872 or 33022439 or 12138994 or 33022439 or 29541645 or 33539655 or 23636855 or 30538181 or 11963306 or 30538181 or 42244508 or 16220218 or 30538181 or 29541645 or 32658109 or 33022439 or 33022439 or 30868790 or 32284328 or 32125520 or 42244508 or 42940856 or 32125520 or 36056487 or 35999058 or 30868790 or 33022439 or 29541645 or 32125520 or 33022439 or 11963306 or 42075424 or 11963306 or 33401267 or 42940856 or 29541645 or 41512762 or 34108293 or 34108295 or 41849836 or 41512762 or 33191375 or 32125520 or 41802426 or 44418185 or 28359288 or 48790284 or 44357276 or 32125520 or 32125520 or 42244508 or 46563039 or 29541645 or 51716676 or 44262229 or 28359288 or 34108295 or 33587779 or 41802426 or 32125520 or 46565210 or 46565213 or 36056487 or 46565214 or 34108293 or 33587779 or 44070868 or 30182342 or 49386823 or 30182342 or 45945531 or 44929034 or 30182342 or 42940841 or 47880646 or 44262229 or 48909804 or 50018047 or 48790284 or 52579367 or 44070898 or 48245976 or 44929034 or 44262229 or 49707151 or 50528584 or 54826068 or 33191375 or 53425069 or 55200621 or 57050213 or 49707143 or 51716676 or 44070898 or 44070898 or 51812176 or 34541330 or 51085036 or 57349498 or 30182342 or 57423129 or 65060419 or 65092530 or 54826068 or 65092530 or 13953777 or 30083872 or 30083872 or 20935003 or 32284328 or 30538181 or 30538181 or 29541645 or 33022439 or 33587779 or 33587779 or 34108293 or 34108293 or 40767150 or 40767150 or 44070868 or 53425069 or 53425069 or 62469329 or 5267405 or 8550475 or 8564818 or 8698687 or 29434205 or 29434205 or 20968574 or 859704 or 892062 or 319646) (Results 125)

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Search 42: Endoscopic probe and coupling (Results 41)

Search 43: coagulation ENDOSCOPIC PROBE (Results 0)

Search 44: ((coupling or conector) and ENDOSCOPIC PROBE) (Results 1)

Search 45: ((coupling or connector) and ENDOSCOPIC PROBE) (Results 20)

Search 46: Endoscopic probe and coupling (Results 41)

Search 47: fn=(28531593 or 28531593 or 43425093 or 45103905 or 28531593) (Results 3)

Search 48: ULTRASONIC and ENDOSCOPIC and PROBE and coupling (Results 44)

Search device and coupler and probe and endoscopy (Results 4)

49:

Search coupler and probe and endoscopy (Results 5)

50:

Search PN=(CN105769128) (Results 1)

51:

Search coupler and probe and endoscopy (Results 5)

52:

Search (coupler or copupling) and probe and endoscopy (Results 5)

53:

Search PN=(US4928699 or US3903891 or US2003009166 or US4839492 or US3297022 or US5263928 or US2004153055 or US2004010248 or US6238386 or US5088997 or US2001020167 or US2056377 or US4074718 or US4471777A or US4736743 or US4920978 or US3821510 or US5715832 US4994048 or US2011125128 or FR2657489 or FR2783937) (Results 19)

Search fn=(30538181 or 34367608 or 30538228 or 28172093 or 28172093 or 23303496 or 32503770 or 32503770 or 55625326 or 55625326 or 55625326 or 41578281 or 51038141 or 16997494 or 9551066 or 11576445 or 30538228 or 12636218 or 16220218 or 28161104 or 32125520 or 32125520 or 35999058 or 32125520 or 43005643 or 54792472 or 51064345 or 9551066 or 9551066 or 29618303 or 41578281 or 41578281 or 31880920 or 28161104 or 48515579 or 51083227 or 31768073 or 51083227 or 31768106 or 31768112 or 31768109 or 31768116 or 31768228 or 31768223 or 31768227 or 28284389 or 28306848 or 31768108 or 31768225 or 27989733 or 42167486 or 33066467 or 31956949 or 31768224 or 31768119 or 33066467 or 31768114 or 12138994 or 31768223 or 28611231 or 42244508 or 31768223 or 31768221 or 11963306 or 28690659 or 28826455 or 28847581 or 31768219 or 31768218 or 31768217 or 31768216 or 29541644 or 29541645 or 31768214 or 28998282 or 31768212 or 31768211 or 31768210 or 30187842 or 31768209 or 30350059 or 31768206 or 31768205 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Search fn=(11300753 or 23193424 or 30744799 or 384960 or 1173264 or 3861274 or 3039971 or 17589046 or 29154714 or 10355693 or 10355693 or 11300753 or 32305155 or 42588280 or 2957149 or 2957149 or 32305155 or 2854093 or 28235509 or 30463512 or 30744799 or 28295347 or 28235509 or 31133162 or 31713199 or 32305155 or 30463512 or 32714900 or 32761282 or 12722243 or 41800717 or 41801427 or 42588280 or 42588280 or 42802861 or 42960671 or 42588280 or 42588280 or 46990697 or 44990464 or 44990469 or 34972492 or 44990430 or 44990429 or 44990427 or 59547691 or 22853900 or 29855384 or 854850 or 871726 or 944418 or 74089 or 971260 or 1070078 or 1159871 or 1446844 or 1253493 or 4447382 or 1904149 or 30163339 or 30163339 or 3039971 or 30163339 or 11596302 or 11596302 or 11596302 or 30163339 or 11596302 or 9358413 or 11596302 or 8676195 or 30357543 or 30357543 or 11001919 or 11002374 or 18774456 or 11156671 or 11674428 or 14999153 or 11222252 or 11220407 or 11300753 or 23351910 or 14999153 or 11439841 or 12403144 or 23351910 or 28295347 or 28235509 or 28295347 or 28235509 or 28295347 or 28235509 or 12722243 or 42802861 or 32305155 or 44990426 or 34972492 or 44990427 or 44990423 or 34403436 or 55059053 or 44990429 or 34972492 or 44990426 or 44990423 or 41801427 or 52078475 or 54785126 or 46990697 or 41801364 or 44990469 or 52539191 or 52539192 or 52989615 or 53166423 or 53166428 or 53199401 or 53959490 or 55414723 or 42588280 or 52583947 or 11300753 or 21940731 or 22189885 or 22822226) (Results 82)

Search PN=(US3076904 or US2874470 or US5088997 or US6051010 or US5938633) (Results 5)
57:

Search 54 or 57 (Results 23)
58:

Title: ELECTRODIC INSTRUMENT

Abstract: Source: US2056377A 1, In an instrument of the character described, an elongated stem, an active electrode and an indifferent electrode diverging forwardly from said stem, means for insulating said electrodes from each other, relatively rigid means for securing the active electrode to said stem, and resilient, yieldable means for securing the indifferent electrode to said stem, the indifferent electrode comprising a pair of parallel wires arranged on opposite sides, respectively, of the plane of said active electrode, the forward ends of said wires being connected to each other, the rear ends of said wires being springy and being connected to said stem, said yieldable means permitting a reduction in the degree of divergence when the in.. different electrode is pressed against the tissue to be treated.

Classifications:

International (IPC 8-9): A61B18/14 (Advanced/Invention);

A61B19/00 (Advanced/Non-invention);

A61B18/14 (Core/Invention);

A61B19/00 (Core/Non-invention)

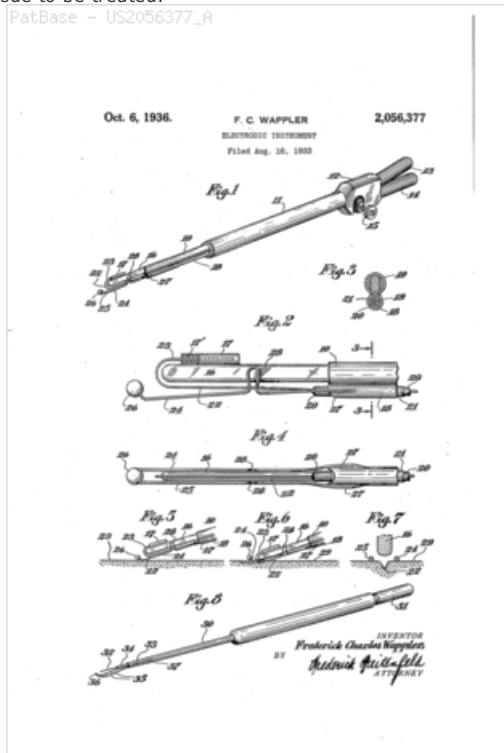
International (IPC 1-7): A61B17/38

CPC: A61B18/1402 A61B2018/126 A61B2090/062

European: A61B18/14B K61B18/12G8B K61B18/14B K61B19/46D

US: 606/48 606/50

PatBase - US2056377_A



Family:

Publication number	Publication date	Application number	Application date
US2056377 A	19361006	US19330685359	19330816

Priority:

US19330685359 19330816

Probable Assignee: CHARLES WAPPLER FREDERICK

Assignee(s): (std): CHARLES WAPPLER FREDERICK

Inventor(s): (std): CHARLES WAPPLER FREDERICK

Inventor(s): WAPPLER FREDERICK CHARLES

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2056377 A	19361006	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: HIGH FREQUENCY DENTAL TOOL

Abstract: Source: US2874470A (Claim 1) 1. A pencil like shaped dental tool comprising in combination an outer longitudinal jacket, an inner high frequency oscillating tube suspended within said jacket with a clearance at its working end, and protruding through it at its working end with an extended working tip for endwise free reciprocating oscillations of said tip, a generator of said oscillations, a power supply to said generator, and at least one fluid conduit and fluid supply and exhaust means connected with the interior of said tube.

Classifications:

International (IPC 8-9): A61C1/07 A61C17/20

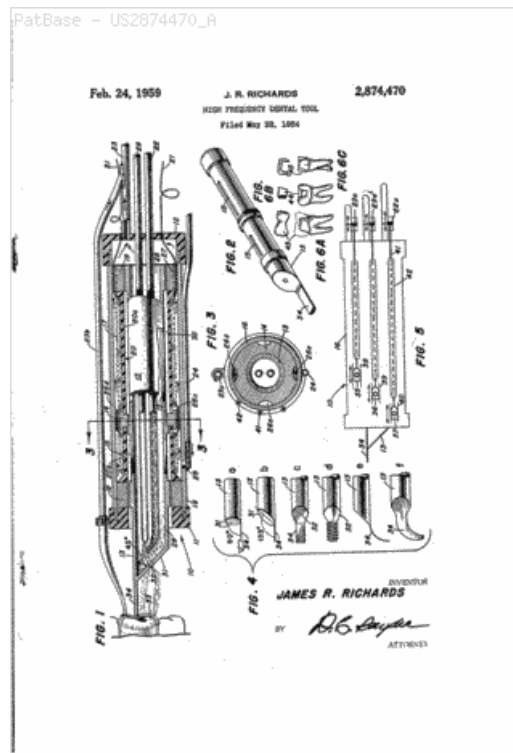
A61C3/03 (Advanced/Invention);

A61C1/00 A61C17/16 A61C3/02 (Core/Invention)

International (IPC 1-7): B06B3/02

CPC: A61C1/07 A61C3/03 A61C17/20
European: A61C1/07 A61C17/20 A61C3/03

US: 310/26 433/165 433/85 433/86 433/88 601/2 73/304C



Family:

Publication number	Publication date	Application number	Application date
US2874470 A	19590224	US19540433310	19540528

Priority:

US19540433310 19540528

Probable Assignee:

RICHARDS JAMES R

Assignee(s): (std):

RICHARDS JAMES R

Inventor(s): (std):

RICHARDS JAMES R

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
US2874470 A	19590224	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: ACOUSTICALLY VIBRATED MATERIAL CUTTING AND REMOVING DEVICES

Abstract: Source: GB936296A 936,296. Percussive tools. CAVITRON ULTRASONICS Inc. Aug. 27, 1959 [Aug. 29, 1958], No. 29290/59. Class 124. An acoustically-operated percussive tool comprises an insert having a mechanical vibrator for insertion loosely into a casing and including an electromechanical transducer arranged to vibrate at high frequency and low amplitude when excited, a connecting body fixed at one end to the transducer and at the other to a work tool, and a support for the vibrator including a ring of resilient material snugly embracing the connecting body at a node of motion thereof and providing the sole support for the vibrator with respect to the casing. As shown, the vibrator 21 comprising a transducer 22 and a connecting body 25 is supported in a tubular casing 30 having a neck 31 which fits snugly into and extension 5 of a housing 1, the vibrator being supported by a resilient O-ring 32. A tube 39 supplies gas, liquid, or slurry to the area worked on by the tool 29 and a guard 34 may be provided extending from the casing 30. The vibrator assembly may be easily removed from the casing. A coil in the housing 1 provides energy to energize the transducer.

Classifications:

International (IPC 8-9): A61B17/16 A61B17/32 A61C1/00 A61C1/05 A61C1/07 A61C1/10 A61C17/18 A61C17/20 H01L41/12 H01R13/00 (Advanced/Invention); A61B17/00 A61B18/00 (Advanced/Non-invention); A61B17/16 A61B17/32 A61C1/00 A61C1/08 A61C17/16 H01L41/00 H01R13/00 (Core/Invention); A61B17/00 A61B18/00 (Core/Non-invention)

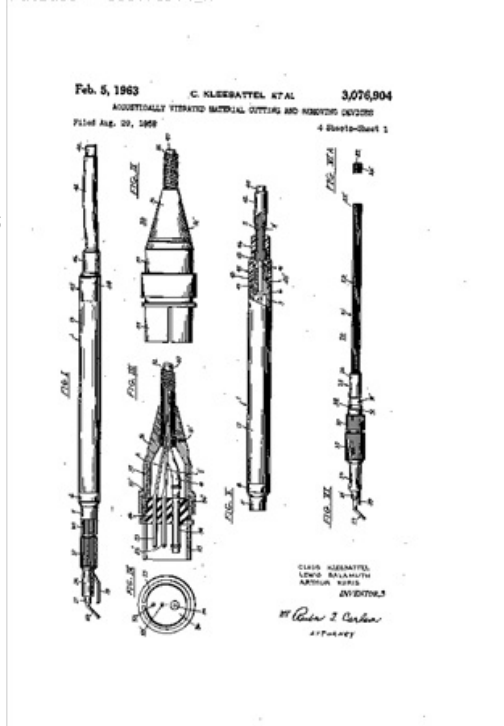
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CPC: Y10S83/956 A61B17/1644 A61B17/320068 A61B17/3203 A61B2017/00464 A61B2017/1651 A61B2018/00011 A61B2018/00035 A61C1/0007 A61C1/052 A61C1/07 A61C1/10 A61C17/20 H01L41/12 H01R13/005

European: A61B17/16L A61B17/32U A61C1/00C A61C1/05B A61C1/07 A61C1/10 A61C17/20 H01L41/12 H01R13/00C K61B17/00H2 K61B17/16L6 K61B17/3203 K61B17/32U K61B18/00A2 K61B18/00A2E2

US: 310/26 318/118 366/117 433/118 433/82 601/2 83/956

PatBase - US3076904_R

**Family:**

Publication number	Publication date	Application number	Application date
CH377563 A	19640515	CH19590077547	19590829
FR1248454 A	19601216	FR19590803746	19590828
GB936296 A	19630911	GB19590029290	19590827
NL113902 C	00000000		00000000
NL132749 C	00000000		00000000
NL242813 A	00000000		00000000
NL6712398 A	19671227	NL19670012398	19670908
US3076904 A	19630205	US19580758069	19580829

Priority:

US19580758069 19580829

Probable Assignee: CAVITRON CORP

Assignee(s): (std): CAVITRON CORP ; CAVITRON ULTRASONICS INC

Inventor(s): (std): ARTHUR KURIS ; CLAUD KLESATTEL ; LEWIS BALAMUTH ; CLAUD KLESATTEL

Inventor(s): KLESATTEL CLAUD ; KLESATTEL CLAUD ; KURIS ARTHUR ; BALAMUTH LEWIS

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
CH377563 A	19640515	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1248454 A	19601216	LSGT	+	granted / extensions (spc, cpc, pte)	
GB936296 A	19630911	LSGT	+	granted / extensions (spc, cpc, pte)	
NL113902 C	00000000	LSGT	+	granted / extensions (spc, cpc, pte)	
NL132749 C	00000000	LSGT	+	granted / extensions (spc, cpc, pte)	
NL242813 A	00000000	LSPB	+	published / reissued	
NL6712398 A	19671227	LSPB	+	published / reissued	
US3076904 A	19630205	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: ENDOSCOPE

Abstract: Source: GB1078036A 1,078,036. Endoscopes. AMERICAN CYSTOSCOPE MAKERS, Inc. Aug. 21, 1964 [Aug. 29, 1963; Sept. 16, 1963; Sept. 27, 1963 (2); Oct. 10, 1963; Oct. 21, 1963]; No. 34398/ 64. Heading A5R. [Also in Division G2] An instrument for illuminating the interior of a cavity comprises a hollow member having an axially extending passage therethrough, and light-conducting means located between the inside and the outside wall portions of the hollow member and formed by a plurality of optical fibres extending from approximately the proximal end to approximately the distal end of the hollow member, the proximal end being adapted to receive light from a light source and the distal end being adapted to emit light to illuminate the interior of the cavity. A light-conducting sheath of a proctoscope comprises an outer tube 102 (Figure 5) containing a coaxial inner tube 104, the space between the tubes being filled with an annular optical fibre bundle 106 in which the fibres are bonded together and are arranged along the length of the tubes. The distal end of the bundle is a solid annulus, optically ground. At the proximal end, the fibres are gathered together to form a rod 120, the end of which is optically ground and extends outside the sheath. The rod terminates in a connector fixed to the mounting member 112 of the sheath for connection to a flexible light carrier 124 connected to a light source. The mounting member supports a telescope 140 and a handle 134. A cap 126 has a conduit controlled by a valve 128 for connecting an insufflation medium to the lumen of the inner tube. A laryngoscope is similarly constructed, but the tubes forming the sheath taper towards their proximal ends (Figure 18, not shown) and a bracket carrying the telescope also supports a breath deflector comprising a nozzle from which a curtain of gas is produced. A similar light-conducting sheath is provided in a suction device, the lumen of the inner tube being closed at the distal end by an apertured tip (Figure 52, not shown) and the proximal end of the lumen being connected through a handle with a nozzle connected to a source of suction. A urethroscope comprises an outer tube 236 (Figure 11) connected at its proximal end to a mounting member 242 which has a connection 250 for supplying irrigation fluid. The lightconducting sheath has a mounting member 228 which fits the mounting member 242 of the outer tube and may be withdrawn from the outer tube. An elongated tube of a telescope 206 (Fig. 14, not shown) may be inserted in the light-conducting sheath and connected to it at the proximal end. In a bronchoscope, apertures are provided in the sheath (Figures 23 and 24, not shown) and the mounting member for entry and discharge of breathing air and a telescope inserted in the sheath extends beyond the distal end of the sheath. Alternatively, in a surgical telescope or a cystoscope, the inner and outer tubes 524, 520 (Figure 30) of the sheath are eccentrically arranged to form a chamber 528 of crescent-shaped cross-section. A bundle 530 of optical fibres bonded together extends longitudinally of the chamber 528 and is formed into a rod which extends at its proximal end outside the sheath for connection to a light source. At its distal end, the bundle is located adjacent a polished metal tip 538. In the telescope, a lens system 554 is disposed in the inner tube. In the cystoscope, (Figure 34, not shown), the light-conducting sheath receives a removable telescope and, at the distal end, has a rounded tip adjacent a fenestra. The sheath may be mounted so that an electrical cutting instrument (Fig. 41, not shown) and a telescope may be passed through it to the site under examination and manipulated from the proximal end. The sheath of a choledochoscope is made in two sections 1112, 1114 (Figure 48) at an angle to one another. The tubes forming the proximal section are eccentrically arranged and those forming the distal section are coaxial. The light-conducting fibre bundle 1128 extends through the proximal section and the mounting members connecting the sections and fills the space of annular cross-section between a middle tube 1124 and a telescope tube 1126 in the distal section. A continuous telescope lens system is arranged in the inner tubes of both sections. Irrigation fluid supplied to a coupling 1162 at the proximal end passes through a conduit located between the tubes of the proximal section, conduits in the mounting members and in the distal section between an outer tube 1114 and the middle tube 1124. The inner and outer tubes of the sheath may be made of thermosetting plastic which, during heat treatment following the insertion of optical fibres between the tubes, fuses with thermosetting material, bonding the fibres together.

Classifications:

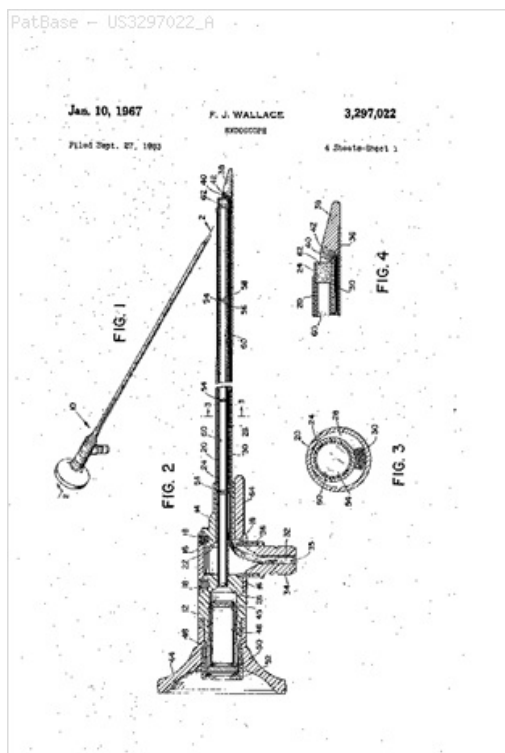
International (IPC 8-9): A61B1/06 A61B1/07 A61B1/12 A61B1/267 A61B1/307 A61M1/00 A61M25/00 G02B23/26 (Advanced/Invention); A61B1/06 A61B1/12 A61B1/267 A61B1/307 A61M1/00 A61M25/00 G02B23/26 (Core/Invention)

International (IPC 1-7): A61B1/06 A61M1/00 A61M25/00

CPC: Y10S600/92 Y10S604/902 A61B1/015 A61M1/008 A61M25/0045 A61B1/307 A61B1/0607 A61B1/00195 A61B1/07 A61B1/2676 A61B1/00135 A61B1/12 G02B23/26 A61B1/0011

European: A61B1/00H4 A61B1/00S8 A61B1/015 A61B1/06 A61B1/07 A61B1/12 A61B1/267D A61B1/307 A61M1/00T A61M25/00S1 G02B23/26

US: 356/241.1 356/241.5 362/574 385/117 385/119 600/105 600/128 600/129 600/134 600/135 600/156 600/164 600/172 600/182 600/199 600/249 600/920 604/264 604/902 606/46

**Family:**

Publication number	Publication date	Application number	Application date
GB1078036 A	19670802	GB19640034398	19640821
US3261349 A	19660719	US19630305304	19630829
US3261350 A	19660719	US19630308954	19630916
US3261351 A	19660719	US19630315197	19631010
US3261356 A	19660719	US19630317749	19631021
US3294085 A	19661227	US19630312167	19630927
US3297022 A	19670110	US19630312079	19630927

Priority:

US19630305304 19630829

US19630308954 19630916

US19630312079 19630927

US19630317749 19631021 US19630312167 19630927 US19630315197 19631010

Probable Assignee: AMERICAN CYSTOSCOPE MAKERS INC

Assignee(s): (std): AMERICAN CYSTOSCOPE MAKERS INC

Assignee(s): AMERICAN HOSPITAL SUPPLY A CORP OF ILL CORP ; AMERICAN HOSPITAL SUPPLY CORP

Inventor(s): (std): WALLACE FREDERICK J

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
GB1078036 A	19670802	LSGT	+	granted / extensions (spc, cpc, pte)	
US3261349 A	19660719	LSGT	+	granted / extensions (spc, cpc, pte)	
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US3261349 A	19820610	LSAS	AS	ASSIGNMENT	OWNER NAME : AMERICAN HOSPITAL SUPPLY CORPORATION, A CORP. OF I DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AMERICAN CYSTOSCOPE MAKERS, INC. A CORP. OF N.Y.; REEL/FRAME:004000/0109 EFFECTIVE DATE : 19801010
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US3261350 A	19660719	LSGT	+	granted / extensions (spc, cpc, pte)	
US3261350 A	19820205	LSAS	AS	ASSIGNMENT	OWNER NAME : AMERICAN HOSPITAL SUPPLY CORPORATION, ONE AMERICAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:AMERICAN CYSTOSCOPE MAKERS, INC.; REEL/FRAME:003962/0572 EFFECTIVE DATE : 19801031
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US3261356 A	19820610	LSAS	AS	ASSIGNMENT	OWNER NAME : AMERICAN HOSPITAL SUPPLY CORPORATION, A CORP. OF I DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AMERICAN CYSTOSCOPE MAKERS, INC. A CORP. OF N.Y.; REEL/FRAME:004000/0109 EFFECTIVE DATE : 19801010
US3261356 A	19820610	LSAS	AS	ASSIGNMENT	OWNER NAME : AMERICAN HOSPITAL SUPPLY CORPORATION, ONE AMERICAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:AMERICAN CYSTOSCOPE MAKERS, INC. A CORP. OF N.Y.; REEL/FRAME:004000/0109 EFFECTIVE DATE : 19801010
US3294085 A	19661227	LSGT	+	granted / extensions (spc, cpc, pte)	
US3294085 A	19820205	LSAS	AS	ASSIGNMENT	OWNER NAME : AMERICAN HOSPITAL SUPPLY CORPORATION, ONE AMERICAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:AMERICAN CYSTOSCOPE MAKERS, INC.; REEL/FRAME:003962/0572 EFFECTIVE DATE : 19801031
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US3294085 A	19820610	LSAS	AS	ASSIGNMENT	OWNER NAME : AMERICAN HOSPITAL SUPPLY CORPORATION, ONE AMERICAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:AMERICAN CYSTOSCOPE MAKERS, INC. A CORP. OF N.Y.; REEL/FRAME:004000/0109 EFFECTIVE DATE : 19801010
US3297022 A	19670110	LSGT	+	granted / extensions (spc, cpc, pte)	
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US3297022 A	19820610	LSAS	AS	ASSIGNMENT	OWNER NAME : AMERICAN HOSPITAL SUPPLY CORPORATION, A CORP. OF I DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:AMERICAN CYSTOSCOPE MAKERS, INC. A CORP. OF N.Y.; REEL/FRAME:004000/0109 EFFECTIVE DATE : 19801010
US3297022 A	19820610	LSAS	AS	ASSIGNMENT	OWNER NAME : AMERICAN HOSPITAL SUPPLY CORPORATION, ONE AMERICAN DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:AMERICAN CYSTOSCOPE MAKERS, INC. A CORP. OF N.Y.; REEL/FRAME:004000/0109 EFFECTIVE DATE : 19801010

Title: METHOD AND APPARATUS FOR GENERATING PLASMA

Abstract: Source: US3903891A Apparatus for producing an electric-field plasma is constructed with a hollow, electrically-conductive conduit connected in series with a radio frequency resonant circuit. The spatial relationship of the hollow conduit and the inductance of the resonant circuit is selected to avoid transformer action. The components of the generator (including the plasma) interact to effect a high Q under unloaded conditions and a low Q under loaded conditions. Flowable material, usually including a carrier gas, is displaced through the conduit while RF energy is applied to the resonant circuit. By proper adjustment of the process parameters, the gas may be excited to and maintained at preselected energization levels. Plasmas may be initiated by the application of RF energy alone without auxiliary initiation techniques. Plasmas generated at ambient pressures may optionally be either at close to thermal equilibrium or at substantial thermal nonequilibrium. Plasmas at thermal nonequilibrium may comprise noble gases (or other substances susceptible to excitation to a metastable state) in a metastable state. Claims, 5 Drawing Figures

Classifications:

International (IPC 8-9): A61B18/00 H05B7/18

H05H1/30 (Advanced/Invention);

A61B18/00 H05B7/00 H05H1/26 (Core/Invention)

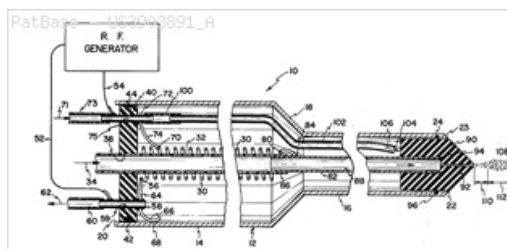
International (IPC 1-7): A61B17/32 A61B17/36 A61N3/00

B23K27/00 H01J15/00 H05B7/18 H05H1/00 H05H1/26

CPC: A61B18/042 H05H1/30

European: A61B18/00B A61B18/04B H05H1/30

US: 128/303.14 313/231.31 606/27



Family:

Publication number	Publication date	Application number	Application date
AT297875 B	19720410	AT19680002059	19680301
BE712512 A	19680731		19680320
CH483901 A	19700115	CH19680003551	19680311
DE1639257 B1	19710603	DE19681639257	19680313
FR1565713 A	19690502		19680322
GB1222243 A	19710210	GB19680008613	19680222
NL6803289 A	19690107	NL19680003289	19680307
NO124409 B	19720410	NO19680000801	19680302
SE338627 B	19710913	SE19680003374	19680314
US3903891 A	19750909	US19700079840	19701012

Priority:

US19670651224 19670705 US19680704500 19680112 US19700079840 19701012

Probable Assignee: HOGLE KEARNS INT

Assignee(s): (std): BRAYSHAW F ; GEORGE HOLLISTER HOGLE ; H K NO 2 ; HOGLE KEARNS INT ; JAMES EDWARD HOGLE ; KEARNS TRIBUNE CORP

Inventor(s): (std): BRAYSHAW F ; BRAYSHAW FORREST G ; FORREST G BRAYSHAW

Inventor(s): G BRAYSHAW FORREST

Legal status (INPADOC)

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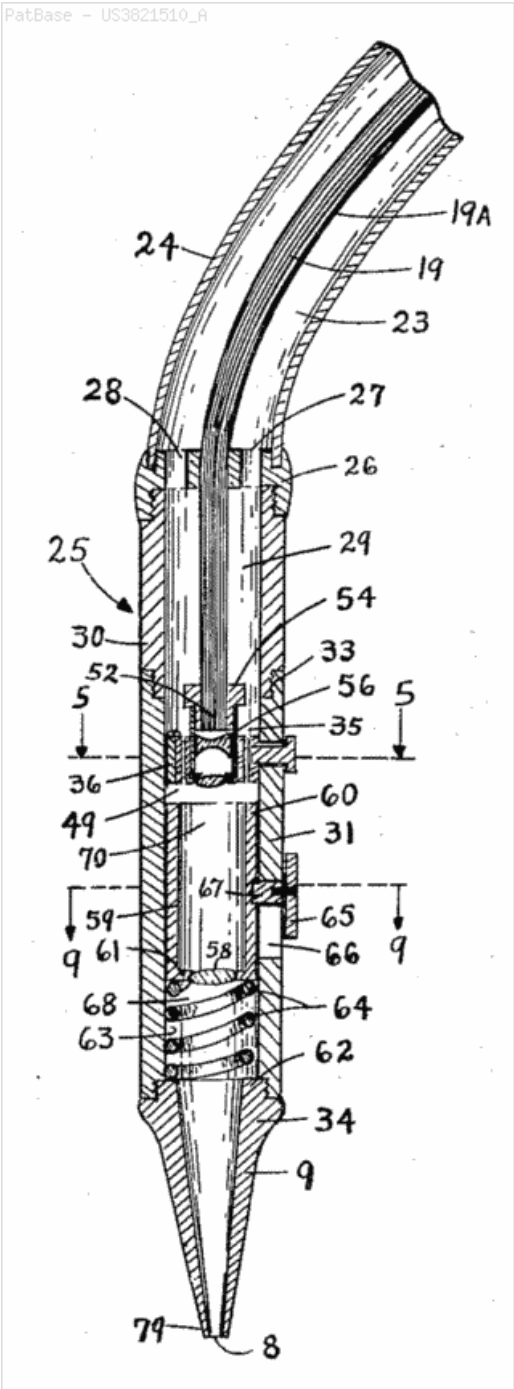
Patent	Date recorded	Event group	Code	Event	Details
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BE712512 A	19680731	LSGT	+	granted / extensions (spc, cpc, pte)	
CH483901 A	19700115	LSGT	+	granted / extensions (spc, cpc, pte)	
CH483901 A	19741015	LSLE	-PL	PATENT CEASED	
DE1639257 B1	19710603	LSPB	+	published / reissued	
FR1565713 A	19690502	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1565713 A	19750509	LSLE	-ST	NOTIFICATION OF LAPSE	
GB1222243 A	19710210	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1222243 A	19710623	LSGT	+PS	PATENT SEALED	
GB1222243 A	19740918	LSLE	-PLNP	PATENT LAPSED THROUGH NONPAYMENT OF RENEWAL FEES	
NL6803289 A	19690107	LSPB	+	published / reissued	
NO124409 B	19720410	LSPB	+	published / reissued	
SE338627 B	19710913	LSPB	+	published / reissued	
US3903891 A	19750909	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: HAND HELD LASER INSTRUMENTATION DEVICE

Abstract: Source: US3821510A This invention is a laser-beam transmitting and focusing device provided with means for selectively transmitting therethrough one or more fluids simultaneously for use during operation thereof in medical surgery, dental restorative manipulations, or materials working in industry. The invention comprises a flexible laserbeam transmitting conduit having at one end thereof a hand-manipulative instrument or stylus containing an adjustable laser-focusing system and a fluid control means to regulate the flow of fluid therethrough during the operation of the device. 28 Claims, 13 Drawing Figures

Classifications:

International (IPC 8-9): A61B18/22 B23K26/00 B23K26/06 B23K26/14 (Advanced/Invention); A61C1/00 (Advanced/Non-invention); A61B18/20 B23K26/00 B23K26/06 B23K26/14 (Core/Invention); A61C1/00 (Core/Non-invention)
International (IPC 1-7): A61B17/36 B23K27/00
CPC: B23K26/064 B23K26/142 B23K26/146 B23K26/0096 A61B18/22 A61C1/0046 B23K26/0648 B23K26/0665 B23K26/123 B23K26/125 B23K26/1476
European: A61B18/22 B23K26/00T B23K26/06C B23K26/06C3 B23K26/06H B23K26/12D B23K26/12D2 B23K26/14 B23K26/14A B23K26/14D B23K26/14N1T K61C1/00L
US: 219/12.1L 219/121.79 219/121.84 385/117 385/119 604/21 606/22



Family:

Publication number	Publication date	Application number	Application date
US3821510 A	19740628	US19730334582	19730222

Priority:

US19730334582 19730222

Probable Assignee:

Assignee(s): (std): MUNCHERYAN H
Assignee(s): MUNCHERYAN H US
Inventor(s): (std): MUNCHERYAN H
Inventor(s): MUNCHERYAN H US

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US3821510 A	19740628	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: Electrosurgical instrument

Abstract: Source: US4074718A An electrosurgical instrument comprising a support member; at least one electrode mounted on the support, the electrode consisting essentially of a material having a figure of merit of at least 0.15 at room temperature where the figure of merit is the product of the thermal conductivity, the heat capacity and the density of the material in the metric system; and a heat sink in thermal contact with the electrode for removal of heat therefrom. A carbon coating for the electrode is also disclosed where the coating may be formed by different techniques including thermal decomposition of certain carbohydrate containing materials, the latter method providing a porous carbon coating particularly suited for expediting the starting of the instrument. Also disclosed are a number of heat sinks for effecting removal of heat from the electrode. Further disclosed is a monolithic blade made from carbon.

Classifications:

International (IPC 8-9): A61B18/14 (Advanced/Invention); A61B18/00 (Advanced/Non-invention)

International (IPC 1-7): A61B17/40 A61N3/06

CPC: A61B18/1402 A61B2018/00005 A61B2018/00017

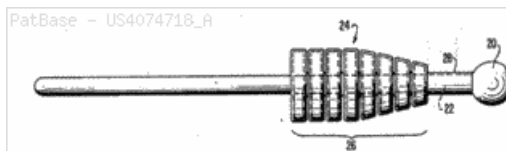
A61B2018/00065 A61B2018/00077 A61B2018/00107

A61B2018/00125 A61B2018/00148 A61B2018/1412

European: A61B18/14B K61B18/00A K61B18/00A2A K61B18/00B2A

K61B18/00B2G2 K61B18/00B4 K61B18/00B4G K61B18/00B4M K61B18/14B K61B18/14C4

US: 219/145.21 219/146.21 219/234 606/45 606/48 606/51



Family:

Publication number	Publication date	Application number	Application date
US4074718 A	19780221	US19760667849	19760317

Priority:

US19760667849 19760317

Probable Assignee:

VALLEYLAB INC

Assignee(s): (std):

VALLEYLAB INC

Inventor(s): (std):

MORRISON JR CHARLES F

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US4074718 A	19780221	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: Vaporization contact laser probe

Abstract: Source: US4736743A A medical laser probe for contact laser surgery wherein a surgical incision, for example, is made by direct and indirect laser heating of the tissue. Direct heating is achieved in the conventional manner by direct laser irradiation of the subject tissue. Indirect heating is achieved through the use of a probe tip specially coated with infrared absorbing material. This material serves to partially absorb and partially transmit the laser energy. The absorbed laser energy heats the probe tip thereby facilitating tissue vaporization when the probe is brought into contact with the tissue. The transmitted laser energy vaporizes the tissue by the conventional irradiation thereof. The tip surface is roughened prior to application of the infrared material to enhance adhesion while an optically transparent material is placed over the tip to preclude material damage or erosion during normal tip use.

Classifications:

International (IPC 8-9): A61B18/22 B23K26/06

G02B6/36 (Advanced/Invention);

A61B18/00 A61B18/14 (Advanced/Non-invention);

B23K26/06 (Core/Invention)

International (IPC 1-7): A61B17/36 B23K26/06

CPC: A61B18/22 A61B2018/00011 A61B2018/00107 G02B6/3624

European: A61B18/22 G02B6/36H4 K61B18/00A2 K61B18/00B4

US: 128/303.1 606/17 606/28

PatBase - US4736743_A

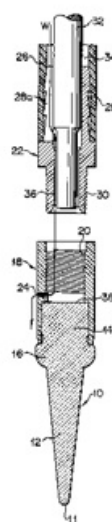
U.S. Patent

Apr. 12, 1988

Sheet 1 of 4

4,736,743

FIG. 1



Family:

Publication number	Publication date	Application number	Application date
AT146062 E	19961215	AT19870304620T	19870526
DE3751975 D1	19970123	DE19873751975	19870526
DE3751975 T2	19970403	DE19873751975T	19870526
EP0292622 A1	19881130	EP19870304620	19870526
EP0292622 B1	19961211	EP19870304620	19870526
US4736743 A	19880412	US19860862460	19860512

Priority:

EP19870304620 19870526 US19860862460 19860512

Probable Assignee: SURGICAL LASER TECHNOLOGY INC

Assignee(s): (std): SURGICAL LASER TECH ; SURGICAL LASER TECHNOLOGIES IN ; SURGICAL LASER TECHNOLOGY INC

Assignee(s): SURGICAL LASER TECHNOLOGIES INC MALVERN PA US ; SURGICAL LASER TECHNOLOGIES INC ; MEDTRONIC INC

Inventor(s): (std): DAIKUZONO NORIO

Inventor(s): DAIKUZONO NORIO CHIBA KEN TOKYO JP

Designated states: AT CH DE GB LI

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT146062 E	19961215	LSGT	+	granted / extensions (spc, cpc, pte)	
AT146062 E	19970515	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	
AT146062 E	20000215	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
DE3751975 D1	19980115	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	

DE3751975 D1	20070315	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE3751975 T2	19970403	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0292622 A1	19881130	LSPB	+	published / reissued	
EP0292622 A1	19890726	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19890526
EP0292622 A1	19920311	LSSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 19920127
EP0292622 A1	19971203	LSGT	+26N	NO OPPOSITION FILED	
EP0292622 A1	19980408	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : AT PAYMENT DATE : 19980408 YEAR OF FEE PAYMENT : 12
EP0292622 A1	19980709	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : CH PAYMENT DATE : 19980709 YEAR OF FEE PAYMENT : 12
EP0292622 A1	19990526	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : AT DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 19990526
EP0292622 A1	19990531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : CH DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 19990531
EP0292622 A1	19990531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : LI DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 19990531
EP0292622 A1	19991231	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0292622 A1	20050406	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20050406 YEAR OF FEE PAYMENT : 19
EP0292622 A1	20050429	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20050429 YEAR OF FEE PAYMENT : 19
EP0292622 A1	20060526	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : GB DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20060526
EP0292622 A1	20061201	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20061201
EP0292622 A1	20070124	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20060526
EP0292622 B1	19961211	LSGT	+	granted / extensions (spc, cpc, pte)	
US4736743 A	19880412	LSGT	+	granted / extensions (spc, cpc, pte)	
US4736743 A	19860512	LSAS	AS	ASSIGNMENT	OWNER NAME : SURGICAL LASER TECHNOLOGIES, INC. DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:DAIKUZONO, NORIO; REEL/FRAME:004556/0118 EFFECTIVE DATE : 19860406
US4736743 A	19870901	LSAS	AS	ASSIGNMENT	OWNER NAME : MEDTRONIC, INC.,MINNESOTA DESCRIPTION : SECURITY INTEREST; ASSIGNOR:SURGICAL LASER TECHNOLOGIES INC., A DE CORP.; REEL/FRAME:004762/0822 EFFECTIVE DATE : 19870909
US4736743 A	19870901	LSAS	AS	ASSIGNMENT	OWNER NAME : MEDTRONIC, INC., 7000 CENTRAL AVENUE

N.E., MINNEAP
DESCRIPTION : SECURITY
INTEREST;
ASSIGNOR:SURGICAL LASER
TECHNOLOGIES INC., A DE
CORP.;
REEL/FRAME:004762/0822
EFFECTIVE DATE : 19870909

US4736743 A	19910930	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4736743 A	19950927	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4736743 A	19991214	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12

Title: Plasma scalpel

Abstract: Source: US4839492A In a device of the plasma scalpel type (40, 41) including at least two spaced-apart electrodes (21, 22) subjected to electrical potential differences such that electric arcs take place therebetween, together with structures for producing at least one fluid flow passing through a region of space where said electric arcs occur, the potential differences being alternating potential differences at medium or high frequency, the ends of said electrodes are substantially filiform and forming an angle therebetween which is preferably acute, and a voltage step-up transformer is incorporated therein in order to deliver the alternating potential differences, with the fluid flows arriving from within the angle or along at least one of said electrodes. In one embodiment, each of the electrodes is constituted by a wire of electrically conductive material (21, 22) and is placed inside an electrode-carrier duct (27, 28) whose inside diameter is slightly greater than the diameter of the electrode, with the end of the electrode projecting beyond the duct and with the fluids being conveyed along said electrode-carriers. The device is versatile. It has numerous applications, in particular in dental surgery, but also for operations of etching, cutting out, welding, or recharging with material, treatments to composite materials, etc.

Classifications:

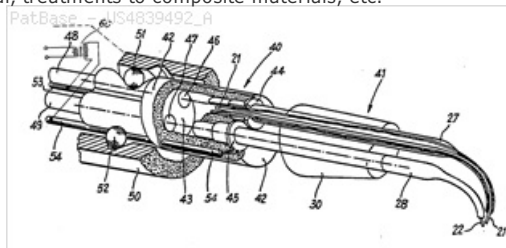
International (IPC 8-9): A61B17/32 A61B18/00 A61B18/12 A61B18/18 B23K10/00 H05H1/30 H05H1/34 (Advanced/Invention); A61M13/00 (Advanced/Non-invention); A61B17/32 A61B18/00 A61B18/12 A61B18/18 B23K10/00 H05H1/26 (Core/Invention); A61M13/00 (Core/Non-invention)

International (IPC 1-7): A61B17/36 A61B17/39 A61C1/12 A61C13/00 A61C5/04 B23K9/00 B23K9/24 B23K9/26 H05H1/30 H05H1/34 H05H1/48

CPC: A61B17/3203 A61B18/042 A61B2018/1213 A61M13/003 H05H1/34 H05H2001/3463

European: A61B17/3203 A61B18/00B A61B18/04B H05H1/34 K61B18/04B K61B18/12G1 K61M13/00G T05H1/34T26

US: 219/121.39 219/121.48 219/121.52 219/121.57



Family:

Publication number	Publication date	Application number	Application date
AT113459 E	19941115	AT19880400349T	19880217
DE3851965 D1	19941208	DE19883851965	19880217
DE3851965 T2	19950524	DE19883851965T	19880217
EP0279745 A2	19880824	EP19880400349	19880217
EP0279745 A3	19890118	EP19880400349	19880217
EP0279745 B1	19941102	EP19880400349	19880217
ES2065920 T3	19950301	ES19880400349T	19880217
FR2611132 A1	19880826	FR19870002197	19870219
FR2611132 B1	19940617	FR19870002197	19870219
JP1800878 C3	19931112	JP19880037309	19880219
JP5010941 B4	19930212	JP19880037309	19880219
JP63215374 A2	19880907	JP19880037309	19880219
US4839492 A	19890613	US19880157222	19880218

Priority:

FR19870002197 19870219

Probable Assignee: DESCARTES UNIVERSITE RENE

Assignee(s): (std): BOUCHIER GUY ; DESCARTES UNIV RENE ; DESCARTES UNIVERSITE RENE ; LHUISSET FRANCOIS ; YUNIBERUSHITE LES NU DESUKARUT ; UNIV RENE DESCARTES PARIS V ; UNIV PARIS DESCARTES

Assignee(s): RENE DESCARTES PARIS V PARIS FR UNIV ; UNIVERSITE RENE DESCARTES PARIS V ; UNIVERSITE RENE DESCARTES PARIS V PARIS FR ; RENE DESCARTES UNIV ; YUNIBERUSHITE LES NU DESUKARUTO ; YUNIBERUSHITE REENU DEKARUTO ; RENE DESCARTES (PARIS V) UNIV

Inventor(s): (std): BOUCHIER GUY MARCEL JACQUES ; BOUCHIER GUY ; LHUISSET FRANCOIS ; LHUISSET FRANCOIS NOEL BENOIT ; GIYUI BUUSHIE ; FURANSOWA RUISE

Inventor(s): LHUISSET FRANCOIS F 91800 BRUNOY FR ; BOUCHIER GUY F 77440 LIZY SUR OURCQ FR ; FRANCOIS NOEL BENOIT LHUISSET ; GUY MARCEL JACQUES BOUCHIER ; GYUI BUUSHE

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT113459 E	19941115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT113459 E	19950515	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	
DE3851965 D1	19951130	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3851965 D1	20010322	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE3851965 T2	19950524	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0279745 A2	19880824	LSPB	+	published / reissued	
EP0279745 A2	19890830	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19890620

EP0279745 A2	19921125	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 19921009
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EP0279745 A2	19990223	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 19990223 YEAR OF FEE PAYMENT : 12
EP0279745 A2	19990224	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 19990224 YEAR OF FEE PAYMENT : 12
EP0279745 A2	19990224	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 19990224 YEAR OF FEE PAYMENT : 12
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EP0279745 A2	19990226	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : ES PAYMENT DATE : 19990226 YEAR OF FEE PAYMENT : 12
EP0279745 A2	19990228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : NL PAYMENT DATE : 19990228 YEAR OF FEE PAYMENT : 12
EP0279745 A2	19990302	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : BE PAYMENT DATE : 19990302 YEAR OF FEE PAYMENT : 12
EP0279745 A2	19990303	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : CH PAYMENT DATE : 19990303 YEAR OF FEE PAYMENT : 12
EP0279745 A2	19990304	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : LU PAYMENT DATE : 19990304 YEAR OF FEE PAYMENT : 12
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EP0279745 A2	20000218	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20000218
EP0279745 A2	20000218	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : ES DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20000218
EP0279745 A2	20000228	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : BE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20000228
EP0279745 A2	20000229	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO	REF COUNTRY CODE : LI DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20000229

EPO					
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EP0279745 A2	20000831	LSLE	-BERE	BE: LAPSED	OWNER NAME : UNIVERSITE RENE DESCARTES (PARIS V) EFFECTIVE DATE : 20000228
EP0279745 A2	20000901	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : NL DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20000901
EP0279745 A2	20001004	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 20000217
EP0279745 A2	20001009	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	REF DOCUMENT NUMBER : 88400349.2 FORMAT OF REF DOCUMENT (F/P) : F
EP0279745 A2	20001013	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0279745 A2	20001031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : FR DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20001031
EP0279745 A2	20001101	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	EFFECTIVE DATE : 20000901
EP0279745 A2	20001201	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20001201
EP0279745 A2	20001208	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0279745 A2	20011216	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20011010
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EP0279745 B1	19941102	LSGT	+	granted / extensions (spc, cpc, pte)	REF DOCUMENT NUMBER : 279745 COUNTRY OF REF DOCUMENT : ES
ES2065920 T3	19950301	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2065920 T3	19950301	LSGT	+FG2A	DEFINITIVE PROTECTION	
FR2611132 A1	19880826	LSPB	+	published / reissued	
FR2611132 A1	19940701	LSLI	CL	CONCESSION TO GRANT LICENCES	
FR2611132 A1	19951229	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2611132 B1	19940617	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1800878 C3	19931112	LSGT	+	granted / extensions (spc, cpc, pte)	
JP5010941 B4	19930212	LSPB	+	published / reissued	
JP63215374 A2	19880907	LSPB	+	published / reissued	
US4839492 A	19890613	LSGT	+	granted / extensions (spc, cpc, pte)	
US4839492 A	19890614	LSAS	AS	ASSIGNMENT	OWNER NAME : UNIVERSITE RENE DESCARTES (PARIS V), FRANCE DESCRIPTION : ASSIGNMENT OF

ASSIGNORS INTEREST.;
ASSIGNORS:BOUCHIER, GUY;
LHUISSET, FRANCOIS;
REEL/FRAME:005137/0419
EFFECTIVE DATE : 19880105

US4839492 A	19921214	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4839492 A	19961203	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4839492 A	20010610	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4839492 A	20010814	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20010613

Title: ULTRASONIC DIAGNOSIS DEVICE

Abstract: Source: US4928699A An ultrasonic diagnosis device disclosed includes an endoscope with an ultrasonic diagnosis function, wherein an ultrasonic probe is arranged in the front end region of the portion to be inserted into a coelom or the like cavity, and is connected to an external rotational drive portion by a hollow multi-layered power transmission means to provide an observation field extending through the entire angular range. Signal wires from the probe and passed between outer and inner layers of the power transmission means which thus has a hollow center channel. Preferably, an observation optical system is arranged within the hollow channel to provide a visual field on the front side in the insertion direction, for a continuous confirmation purpose, permitting the insertion portion to be safely inserted even into a narrow cavity of an organ with a complex undulation.

Classifications:

International (IPC 8-9): A61B1/005 A61B1/12

A61B8/12 (Advanced/Invention);

A61B1/005 A61B1/12 A61B8/12 (Core/Invention)

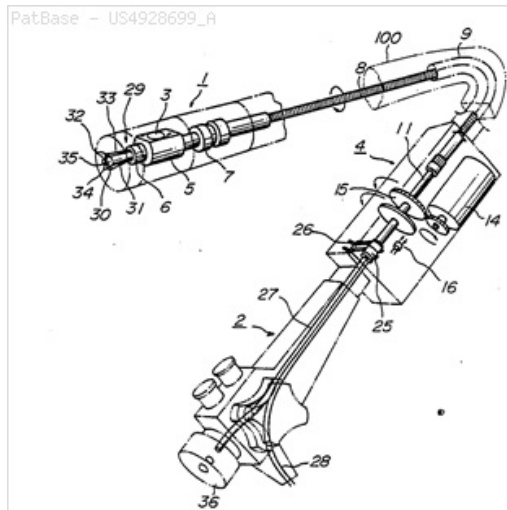
International (IPC 1-7): A61B1/00 A61B1/04 A61B1/06 A61B1/12

A61B10/00 A61B8/12 A61M1/00 G02B23/24 G03B42/06 H04N5/31 H04N7/18

CPC: A61B8/445 A61B1/0051 A61B1/00071 A61B1/127 A61B8/12 A61B8/4461

European: A61B1/005B A61B1/00E4 A61B1/12F A61B8/12 A61B8/44N6

US: 128/4 128/6 128/662.06 600/110 600/463



Family:

Publication number	Publication date	Application number	Application date
DE3816982 A1	19881208	DE19883816982	19880518
DE3816982 C2	19920723	DE19883816982	19880518
JP1032847 A2	19890202	JP19870187837	19870729
JP2549663 B2	19961030	JP19870187837	19870729
JP2563929 B2	19961218	JP19870119028	19870518
JP2594559 B2	19970326	JP19870119026	19870518
JP63283629 A2	19881121	JP19870119026	19870518
JP63283631 A2	19881121	JP19870119028	19870518
JP64032847 A2	19890202	JP19870187837	19870729
US4928699 A	19900529	US19880192658	19880511

Priority:

JP19870119026 19870518 JP19870119028 19870518 JP19870187837 19870729

Probable Assignee: OLYMPUS OPTICAL CO

Assignee(s): (std): OLYMPUS OPTICAL CO

Assignee(s): OLYMPUS OPTICAL CO LTD ; OLYMPUS OPTICAL CO LTD TOKIO TOKYO JP

Inventor(s): (std): SASAI TSUGUHISA

Inventor(s): SASAI TSUGUHISA HACHIOJI TOKIO TOKYO JP

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE3816982 A1	19881208	LSPB	+	published / reissued	
DE3816982 A1	19881208	LSES	+OP8	REQUEST FOR EXAMINATION AS TO PARAGRAPH 44 PATENT LAW	
DE3816982 A1	19920723	LSGT	+D2	GRANT AFTER EXAMINATION	
DE3816982 A1	19930128	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3816982 A1	20040318	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE3816982 C2	19920723	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1032847 A2	19890202	LSPB	+	published / reissued	

JP2549663 B2	19961030	LSGT	+	granted / extensions (spc, cpc, pte)		
JP2549663 B2	20030808	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES		
JP2563929 B2	19961218	LSGT	+	granted / extensions (spc, cpc, pte)		
JP2563929 B2	20050919	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES		
JP2594559 B2	19970326	LSGT	+	granted / extensions (spc, cpc, pte)		
JP63283629 A2	19881121	LSPB	+	published / reissued		
JP63283631 A2	19881121	LSPB	+	published / reissued		
JP64032847 A2	19890202	LSPB	+	published / reissued		
US4928699 A	19900529	LSGT	+	granted / extensions (spc, cpc, pte)		
US4928699 A	19880511	LSAS	AS	ASSIGNMENT	OWNER NAME : OLYMPUS OPTICAL CO., LTD., 43-2, HATAGAYA 2-CHOME, DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:SASAI, TSUGUHISA; REEL/FRAME:004883/0871 EFFECTIVE DATE : 19880507	
US4928699 A	19931129	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4	
US4928699 A	19970929	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8	
US4928699 A	20011108	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12	

Title: Method and apparatus for the endoscopic treatment of deep tumors using RF hyperthermia

Abstract: Source: US4920978A An attachment for an endoscope for the treatment of deep tissue tumors using RF hyperthermia is disclosed. In one embodiment, electrodes are adapted to straddle or penetrate a tumor in order to confine the interstitial current heating and are detachably fitted to the distal end of the endoscope. The electrodes are electrically coupled to an RF generating power source by means of wires that extend along the outer surface of the tubular body of the endoscope and are detachably mounted thereto.

Classifications:

International (IPC 8-9): A61B18/14 A61N1/40 (Advanced/Invention);
A61B17/00 (Advanced/Non-invention);
A61B18/14 A61N1/40 (Core/Invention);
A61B17/00 (Core/Non-invention)

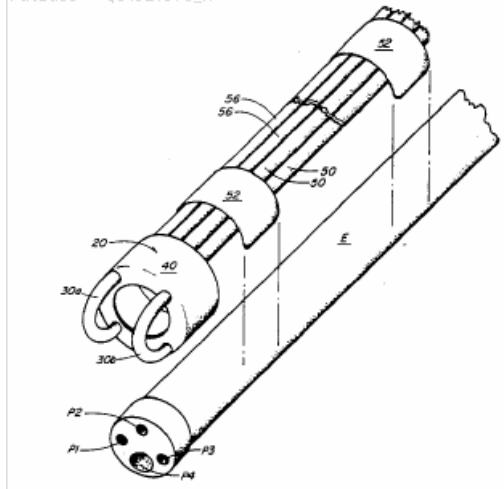
International (IPC 1-7): A61N1/05 A61N1/06

CPC: A61B18/1402 A61B18/1485 A61B2017/00084 A61N1/403

European: A61B18/14S A61N1/40T K61B17/00C1T K61B18/14B

US: 128/736 128/784 128/804 600/549 607/102 607/116 607/154

PatBase - US4920978_A



Family:

Publication number	Publication date	Application number	Application date
US4920978 A	19900501	US19880238824	19880831

Priority:

US19880238824 19880831

Probable Assignee: TRIANGLE RES AND DEV CORP

Assignee(s): (std): TRIANGLE RES AND DEV CORP

Assignee(s): TRIANGLE RESEARCH AND DEVELOPMENT CORP

Inventor(s): (std): COLVIN DAVID P

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US4920978 A	19900501	LSGT	+	granted / extensions (spc, cpc, pte)	
US4920978 A	19880831	LSAS	AS	ASSIGNMENT	OWNER NAME : TRIANGLE RESEARCH AND DEVELOPMENT CORPORATION, 680 DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:COLVIN, DAVID P.; REEL/FRAME:004933/0444 EFFECTIVE DATE : 19880830
US4920978 A	19930604	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4920978 A	19970929	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4920978 A	20010503	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12

Title: GAS COAGULATION DEVICE

Abstract: Source: US5088997A A device for enhancing the safety and efficiency of a hand-operated electrosurgical pencil having an electrode with a distal end defining a tip for cutting or coagulating biological tissue, which device comprises a nose piece adapted to be mounted about said electrode and containing conduit means defining converging pathways for streams of gas which impinge obliquely on said electrode at or near the tip thereof, and electrosurgical apparatus incorporating said device and a method for coagulating or cutting biological tissue using said apparatus.

Classifications:

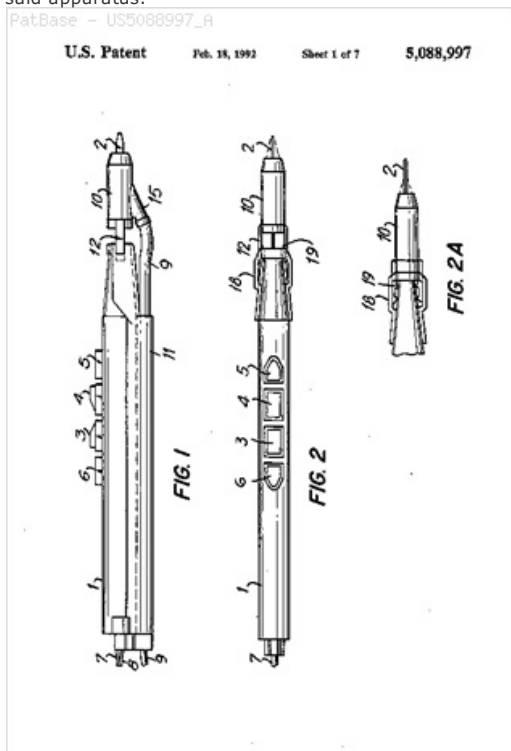
International (IPC 8-9): A61B18/00 A61B18/12 (Advanced/Invention);
A61B18/12 (Advanced/Non-invention);
A61B18/00 A61B18/12 (Core/Invention)

International (IPC 1-7): A61B11/39 A61B17/36 A61B17/39

CPC: A61B18/042 A61B2017/00296 A61B2018/00017

European: A61B18/00B A61B18/04B K61B17/00E3E K61B18/00A2A

US: 606/37 606/42 606/45 606/49



Family:

Publication number	Publication date	Application number	Application date
AT155027 E	19970715	AT19910301892T	19910307
AU199173563 A1	19911212	AU19910073563	19910314
AU199213021 A1	19920514	AU19920013021	19920319
AU624554 B2	19920611	AU19910073563	19910314
AU647895 B2	19940331	AU19920013021	19920319
CA2038192 AA	19910916	CA19912038192	19910313
CA2038192 C	19950418	CA19912038192	19910313
CA2128996 AA	19910916	CA19912128996	19910313
CA2128996 C	19950530	CA19912128996	19910313
CA2128997 AA	19910916	CA19912128997	19910313
CA2128997 C	19950530	CA19912128997	19910313
DE69126721 D1	19970814	DE19916026721	19910307
DE69126721 T2	19971023	DE19916026721T	19910307
DE9103185 U1	19910718	DE19910003185U	19910315
DK0447121 T3	19980216	DK19910301892T	19910307
EP0447121 A2	19910918	EP19910301892	19910307
EP0447121 A3	19920422	EP19910301892	19910307
EP0447121 B1	19970709	EP19910301892	19910307
ES2103774 T3	19971001	ES19910301892T	19910307
FI911265 A	19910916	FI19910001265	19910314
FI911265 A0	19910314	FI19910001265	19910314
GR3024636 T3	19971231	GR19970402274T	19970904
IE910856 A1	19910925	IE19910000856	19910314
JP2506509 B2	19960612	JP19910051737	19910315
JP2642086 B2	19970820	JP19950153507	19950620
JP4220248 A2	19920811	JP19910051737	19910315
JP8098844 A2	19960416	JP19950153507	19950620
NO911033 A	19910916	NO19910001033	19910314
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US5088997 A	19920218	US19900494249	19900315
US5217457 A	19930608	US19920827242	19920129
US5244462 A	19930914	US19910723090	19910628

Priority:

AU19910073563 19910314 CA19912038192 19910313 US19900494249 19900315
 AU19910723090 19910628 CA19912128996 19910313 CA19912128997 19910313
 US19920827242 19920129

Probable Assignee: COVIDIEN AG

Assignee(s): (std): VALLEYLAB INC

Assignee(s): TYCO HEALTHCARE GROUP AG ; VALLEYLAB ; VALLEYLAB INC BOULDER COL US ; STODDARD ROBERT BRYANT ; BARIRABU INC ; COVIDIEN AG ; DELAHUERGA LOUIS ; KLICEK MICHAEL STEVE ; SHERWOOD SERVICES AG

Inventor(s): (std): STODDARD ROBERT BRYANT ; STODDARD ROBERT B ; KLICEK MICHAEL STEVE ; KLICEK MICHAEL S ; DELAHUERGA LOUIS ; MICHAEL STEVE KLICEK ; ROBAATO BURAIANTO SUTOTSUDAADO ; ROBERT BRYANT STODDARD ; RUISU DERAUFUERUGA ; LOUIS DELAHUERGA ; MAIKERU SUTEIIBU KURISEKU ; KLOCEK MICHAEL S

Inventor(s): KLICEK MICHAEL STEVE COLORADO 80304 US ; MAIKERU SUTEIIBU KURISEKU ; STODDARD ROBERT BRYANT BOULDER COLORADO 80302 US ; DELAHUERGA LOUIS LOUISVILLE COLORADO 88027 US ; DELAHUERGA LOUIS LOUISVILLE COLORADO

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; SMART AND BIGGAR

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

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Patent	Date recorded	Event group	Code	Event	Details
AT155027 E	19970715	LSGT	+	granted / extensions (spc, cpc, pte)	
AT155027 E	19980115	LSPB	+UEP	PUBLICATION OF TRANSLATION OF EUROPEAN PATENT SPECIFICATION	
AT155027 E	19991215	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AU199173563 A1	19911212	LSPB	+	published / reissued	
AU199213021 A1	19920514	LSPB	+	published / reissued	
AU624554 B2	19920611	LSGT	+	granted / extensions (spc, cpc, pte)	
AU647895 B2	19940331	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2038192 AA	19910916	LSPB	+	published / reissued	
CA2038192 C	19950418	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2038192 C	19910313	LSES	+EEER	EXAMINATION REQUEST	
CA2038192 C	20110313	LSLE	-MKEX	EXPIRY	
CA2128996 AA	19910916	LSPB	+	published / reissued	
CA2128996 AA	19940727	LSES	+EEER	EXAMINATION REQUEST	
CA2128996 AA	20110313	LSLE	-MKEX	EXPIRY	
CA2128996 C	19950530	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2128997 AA	19910916	LSPB	+	published / reissued	
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DE69126721 D1	20010301	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	OWNER NAME : SHERWOOD SERVICES AG, SCHAFFHAUSEN, CH
DE69126721 D1	20071122	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	OWNER NAME : COVIDIEN AG, NEUHAUSEN AM RHEINFALL, CH
DE69126721 T2	19971023	LSGT	+	granted / extensions (spc, cpc, pte)	
DE9103185 U1	19910718	LSGT	+	granted / extensions (spc, cpc, pte)	
DK0447121 T3	19980216	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0447121 A2	19910918	LSPB	+	published / reissued	
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EP0447121 A2	19940831	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 19940713

EP0447121 A2	19970715	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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EP0447121 A2	19980220	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : CH PAYMENT DATE : 19980220 YEAR OF FEE PAYMENT : 08
EP0447121 A2	19980311	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : SE PAYMENT DATE : 19980311 YEAR OF FEE PAYMENT : 08
EP0447121 A2	19980317	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DK PAYMENT DATE : 19980317 YEAR OF FEE PAYMENT : 08
EP0447121 A2	19980325	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : AT PAYMENT DATE : 19980325 YEAR OF FEE PAYMENT : 08
EP0447121 A2	19980331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : BE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 19980331
EP0447121 A2	19980701	LSGT	+26N	NO OPPOSITION FILED	
EP0447121 A2	19980930	LSLE	-BERE	BE: LAPSED	OWNER NAME : VALLEYLAB INC. EFFECTIVE DATE : 19980331
EP0447121 A2	19990307	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : LU DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 19990307
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EP0447121 A2	19990331	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DK DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 19990331
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EP0447121 A2	20000306	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DK REF LEGAL EVENT CODE : EBP
EP0447121 A2	20011001	LSAS	NLS	NL: ASSIGNMENTS OF EP-PATENTS	OWNER NAME : SHERWOOD SERVICES AG
EP0447121 A2	20080801	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : CD
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EP0447121 A2	20110307	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R071 REF DOCUMENT NUMBER : 69126721 COUNTRY OF REF DOCUMENT : DE
EP0447121 A2	20110316	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : NL REF LEGAL EVENT CODE : V4 EFFECTIVE DATE : 20110307
EP0447121 A2	20110330	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : PE20 EXPIRY DATE : 20110306
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EP0447121 A2	20130724	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20130724
EP0447121 A2	20131031	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : ES DESCRIPTION : LAPSE BECAUSE OF EXPIRATION OF PROTECTION EFFECTIVE DATE : 20110308
EP0447121 B1	19970709	LSGT	+	granted / extensions (spc, cpc, pte)	REF DOCUMENT NUMBER : 447121 COUNTRY OF REF DOCUMENT : ES
ES2103774 T3	19971001	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2103774 T3	19971001	LSGT	+FG2A	DEFINITIVE PROTECTION	
FI911265 A	19910916	LSPB	+	published / reissued	
GR3024636 T3	19971231	LSGT	+	granted / extensions (spc, cpc, pte)	
IE910856 A1	19910925	LSPB	+	published / reissued	
JP2506509 B2	19960612	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2506509 B2	20040420	LSFE	+R250	RECEIPT OF ANNUAL FEES	
JP2506509 B2	20070424	LSFE	+R250	RECEIPT OF ANNUAL FEES	
JP2506509 B2	20080422	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20090402 YEAR OF FEE PAYMENT : 13
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JP2506509 B2	20110315	LSLE	-EXPY	CANCELLATION BECAUSE OF COMPLETION OF TERM	
JP2642086 B2	19970820	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2642086 B2	20040525	LSFE	+R250	RECEIPT OF ANNUAL FEES	
JP2642086 B2	20080527	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	
JP2642086 B2	20090512	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20090502 YEAR OF FEE PAYMENT : 12
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NO911033 A	19910916	LSPB	+	published / reissued	

US5088997 A	19920218	LSGT	+	granted / extensions (spc, cpc, pte)	
US5088997 A	19900315	LSAS	AS	ASSIGNMENT	OWNER NAME : VALLEYLAB, INC., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:DELAHUERGA, LOUIS; STODDARD, ROBERT B.; KLICEK, MICHAEL S.; REEL/FRAME:005255/0173 EFFECTIVE DATE : 19900314
US5088997 A	19950606	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5088997 A	19990621	LSAS	AS	ASSIGNMENT	OWNER NAME : SHERWOOD SERVICES AG, SWITZERLAND DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VALLEYLAB INC.; REEL/FRAME:010043/0813 EFFECTIVE DATE : 19980930
US5088997 A	19990817	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5088997 A	20030818	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5088997 A	20100921	LSAS	AS	ASSIGNMENT	OWNER NAME : COVIDIEN AG, SWITZERLAND DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SHERWOOD SERVICES AG; REEL/FRAME:025017/0657 EFFECTIVE DATE : 20070309
US5088997 A	20100921	LSAS	AS	ASSIGNMENT	OWNER NAME : COVIDIEN AG, SWITZERLAND DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TYCO HEALTHCARE GROUP AG; REEL/FRAME:025017/0663 EFFECTIVE DATE : 20081215
US5088997 A	20100921	LSAS	AS	ASSIGNMENT	OWNER NAME : TYCO HEALTHCARE GROUP AG, SWITZERLAND DESCRIPTION : MERGER; ASSIGNOR:COVIDIEN AG; REEL/FRAME:025017/0670 EFFECTIVE DATE : 20081215
US5217457 A	19930608	LSGT	+	granted / extensions (spc, cpc, pte)	
US5217457 A	19960828	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5217457 A	19990621	LSAS	AS	ASSIGNMENT	OWNER NAME : SHERWOOD SERVICES AG, SWITZERLAND DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VALLEYLAB INC.; REEL/FRAME:010043/0813 EFFECTIVE DATE : 19980930
US5217457 A	20001207	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5217457 A	20041203	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5217457 A	20100105	LSAS	AS	ASSIGNMENT	OWNER NAME : VALLEYLAB INC., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DELAHUERGA, LOUIS; STODDARD, ROBERT B.; KLICEK, MICHAEL S.; REEL/FRAME:023731/0443 EFFECTIVE DATE : 19900314
US5217457 A	20100921	LSAS	AS	ASSIGNMENT	OWNER NAME : COVIDIEN AG, SWITZERLAND DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SHERWOOD SERVICES AG; REEL/FRAME:025017/0657 EFFECTIVE DATE : 20070309
US5217457 A	20100921	LSAS	AS	ASSIGNMENT	OWNER NAME : COVIDIEN AG, SWITZERLAND DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TYCO HEALTHCARE GROUP AG; REEL/FRAME:025017/0663 EFFECTIVE DATE : 20081215

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US5244462 A	19930914	LSGT	+	granted / extensions (spc, cpc, pte)	
US5244462 A	19961209	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5244462 A	19990621	LSAS	AS	ASSIGNMENT	OWNER NAME : SHERWOOD SERVICES AG, SWITZERLAND DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:VALLEYLAB INC.; REEL/FRAME:010043/0813 EFFECTIVE DATE : 19980930
US5244462 A	20010313	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5244462 A	20050314	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5244462 A	20100105	LSAS	AS	ASSIGNMENT	OWNER NAME : VALLEYLAB INC., COLORADO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DELAHUERGA, LOUIS; KLICEK, MICHAEL S.; STODDARD, ROBERT B.; REEL/FRAME:023731/0460 EFFECTIVE DATE : 19900314
US5244462 A	20100921	LSAS	AS	ASSIGNMENT	OWNER NAME : COVIDIEN AG, SWITZERLAND DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SHERWOOD SERVICES AG; REEL/FRAME:025017/0657 EFFECTIVE DATE : 20070309
US5244462 A	20100921	LSAS	AS	ASSIGNMENT	OWNER NAME : COVIDIEN AG, SWITZERLAND DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TYCO HEALTHCARE GROUP AG; REEL/FRAME:025017/0663 EFFECTIVE DATE : 20081215
US5244462 A	20100921	LSAS	AS	ASSIGNMENT	OWNER NAME : TYCO HEALTHCARE GROUP AG, SWITZERLAND DESCRIPTION : MERGER; ASSIGNOR:COVIDIEN AG; REEL/FRAME:025017/0670 EFFECTIVE DATE : 20081215

Title: Device, such as plasma generator, with sequential flow of fluids

Abstract: The device is of the type requiring the temporary and alternate presence of at least two fluids in sequences which are preferably programmable in length and in coordinates for the operation of the device, of the type comprising a source for each fluid, at least one upstream pipe extending from each source to a closure member and at least one downstream pipe extending from the closure member to an output orifice situated near one end of a tool holder. It is characterised in that the closure members (41, 45) are of the non-return type and are situated at one and the same inlet of a chamber (53) provided with an outlet opposite the inlet, the passage cross-section of which is smaller than that of the upstream pipe (14) of larger cross-section, which outlet communicates with at least one downstream pipe (60-62, 61-63) whose total cross-section is optionally greater than that of the outlet.

Classifications:

International (IPC 8-9): A61B18/00 F16K11/056

H05H1/34 (Advanced/Invention);

A61B18/00 F16K11/02 H05H1/26 (Core/Invention)

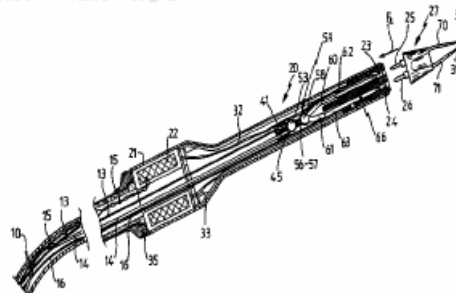
International (IPC 1-7): A61B17/36 A61B19/00 A61C1/06 H05H1/28

CPC: A61B18/042 F16K11/056 H05H1/34

European: A61B18/00B A61B18/04B F16K11/056 H05H1/34

K61B18/04B

PatBase - FR2657489_A1



Family:

Publication number	Publication date	Application number	Application date
FR2657489 A1	19910726	FR19900000662	19900119

Priority:

FR19900000662 19900119

Probable Assignee:

EGIDE SA

Assignee(s): (std):

EGIDE SA

Inventor(s): (std):

BENOIT ; FRANCOIS LHUISSET ; NOEL

Inventor(s):

LHUISSET FRANCOIS NOEL BENOIT

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
FR2657489 A1	19910726	LSPB	+	published / reissued	
FR2657489 A1	19931126	LSLE	-ST	NOTIFICATION OF LAPSE	

Title: Catheter and endoscope assembly and method of use

Abstract: Source: US5263928A A catheter combination as disclosed for passing an endoscope along a vessel. The catheter combination includes a catheter having a hollow tubular member defining a lumen having a first cross-sectional area. The catheter has a proximal end, a distal end and an irrigation connector at the proximal end of the catheter with a wall defining a passageway connecting with the lumen. An endoscope has an endoscope body with a distal end portion and a proximal end portion. The body has a cross-sectional area less than the first cross-sectional area of the lumen. The endoscope proximal end portion extends proximally of the catheter proximal end and the endoscope distal end portion extends distally of the catheter distal end. The endoscope body extends through the lumen such that fluid from the passage in the irrigation connector can pass between the endoscope body and the lumen.

Classifications:

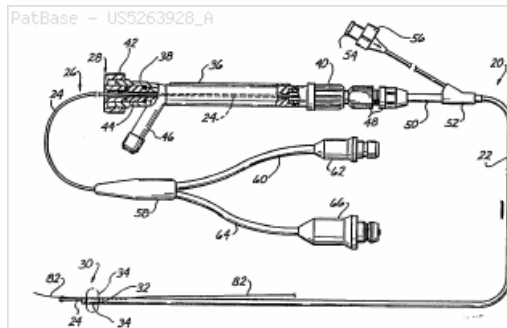
International (IPC 8-9): A61M25/01 (Advanced/Invention); A61M25/01 (Core/Invention)

International (IPC 1-7): A61M25/00 A61M31/00

CPC: A61M25/01 A61M25/09 A61M2025/0183

European: A61M25/01 K61M25/01M K61M25/09

US: 128/4 128/772 600/129 600/156 600/182 600/585 604/103.1 604/280 604/509 604/510 604/528 604/53 604/96



Family:

Publication number	Publication date	Application number	Application date
US5263928 A	19931123	US19910715529	19910614
WO9222343 A2	19921223	WO1992US05037	19920612
WO9222343 A3	19930204	WO1992US05037	19920612

Priority:

US19910715529 19910614

Probable Assignee: ADVANCED CARDIOVASCULAR SYSTEMS INC

Assignee(s): (std): BAXTER INT

Assignee(s): BAXTER INT INC ; BAXTER INT INC A OF DELAWARE CORP ; BAXTER INTERNATIONAL INC ; ADVANCED CARDIOVASCULAR SYSTEMS INC

Inventor(s): (std): MIRAKI MANOUCHEHR ; TRAUTHE BRETT

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US5263928 A	19931123	LSGT	+	granted / extensions (spc, cpc, pte)	
US5263928 A	19910614	LSAS	AS	ASSIGNMENT	OWNER NAME : BAXTER INTERNATIONAL INC. A CORPORATION OF DELAWARE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:TRAUTHE, BRETT; MIRAKI, MANOUCHEHR; REEL/FRAME:005746/0530 EFFECTIVE DATE : 19910611
US5263928 A	19961127	LSAS	AS	ASSIGNMENT	OWNER NAME : ADVANCED CARDIOVASCULAR SYSTEMS, INC., CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BAXTER INTERNATIONAL INC.; REEL/FRAME:008239/0257 EFFECTIVE DATE : 19950810
US5263928 A	19970513	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5263928 A	20010426	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5263928 A	20050523	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
WO9222343 A2	19921223	LSPB	+	published / reissued	
WO9222343 A3	19931102	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1992914361 COUNTRY OF REF DOCUMENT : EP
WO9222343 A3	19940115	LSWD	-WWW	WIPO	REF DOCUMENT NUMBER : 1992914361

				INFORMATION: WITHDRAWN IN NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : EP
WO9222343 A3	19950214	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : CA

Title: Method and arrangement for invasive or endoscopic therapy by utilizing ultrasound and laser

Abstract: Source: US6238386B Sound energy of a proximally arranged sound source 30 and laser radiation of a therapeutic laser 17 are simultaneously transmitted with an endoscopic instrument via flexible waveguides 3 into the body interior. The sound energy is in a power and frequency range adequate for the cutting tissue 16 and the therapeutic laser 7 operates preferably in the near infrared. The waveguides are quartz glass fibers 3 which can transmit sound energy as well as also light energy.

Classifications:

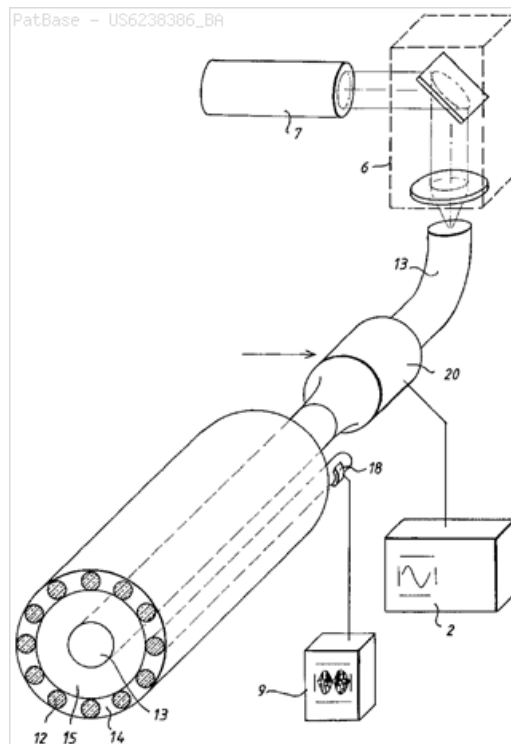
International (IPC 8-9): A61B1/012 A61B17/32 A61B18/00
A61B18/20 A61B18/22 A61B8/14 G02B23/26
G10K11/24 (Advanced/Invention);
A61B17/00 A61M3/02 (Advanced/Non-invention);
A61B1/012 A61B17/32 A61B18/00 A61B18/20 A61B8/14 G02B23/26
G10K11/00 (Core/Invention);
A61B17/00 A61M3/00 (Core/Non-invention)

International (IPC 1-7): A61B1/06 A61B17/22 A61B17/32
A61B17/36 A61B18/00 A61B18/20 A61B8/12 A61H23/00 A61N5/06
G02B23/26

CPC: A61B17/00234 A61B17/320068 A61B18/22 A61B2017/00057
A61B2017/00061 A61B2018/00029 A61B2018/206 A61B2217/007
A61M3/0279 G10K11/24

European: A61B17/32U A61B18/22 G10K11/24 K61B17/00C1L
K61B17/00C1L2 K61B17/00E K61B18/00A2E K61B18/20L
K61B217/00Q18 K61M3/02H

US: 600/310 600/407 600/411 600/421 600/437 600/439 600/459
600/462 606/10 606/13 606/15 606/17



Family:

Publication number	Publication date	Application number	Application date
DE4322955 A1	19940127	DE19934322955	19930709
DE4322955 B4	20071220	DE19934322955	19930709
JP3515783 B2	20040405	JP19940504110T	19930710
JP6511410 T2	19941222	JP19940504110T	19930710
US6238386 BA	20010529	US19940211172	19940321
WO9402074 A1	19940203	WO1993EP01808	19930710

Priority:

DE19924224256 19920720 DE19934322955 19930709 WO1993EP01808 19930710

Probable Assignee: CARL ZEISS STIFTUNG

Assignee(s): (std): AESCULAP AG AND CO KG ; ZEISS CARL FA ; ZEISS STIFTUNG ; M UUML LER GERHARD ; MUELLER GERHARD ; TSCHPE JOHANNES

Assignee(s): Mue LLER GERHARD ; CARL ZEISS STIFTUNG ; CARL ZEISS STIFTUNG HANDELND ALS CARL ZEISS ; CARL ZEISS STIFTUNG HEIDENHEIM BREN ; FA CARL ZEISS 89520 HEIDENHEIM DE

Inventor(s): (std): MUELLER GERHARD ; TSCHPE JOHANNES ; MUELLER GERHARD PROF DR ; M UUML LER GERHARD

Inventor(s): TSCHPE JOHANNES 10781 BERLIN DE ; Mue LLER GERHARD

Designated states: JP US

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
DE4322955 A1	19940127	LSPB	+	published / reissued	
DE4322955 A1	20000824	LSSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE4322955 A1	20010125	LSAS	8127	NEW PERSON/NAME/ADDRESS OF THE APPLICANT	OWNER NAME : AESCULAP AG AND CO. KG, 78532 TUTTLINGEN, DE
DE4322955 A1	20080612	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE4322955 A1	20081016	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	OWNER NAME : AESCULAP AG, 78532 TUTTLINGEN, DE

DE4322955 A1	20090604	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
DE4322955 B4	20071220	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3515783 B2	20040405	LSGT	+	granted / extensions (spc, cpc, pte)	
JP3515783 B2	20031224	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20031224
JP3515783 B2	20040122	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20040119
JP3515783 B2	20061024	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
JP3515783 B2	20071018	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20080123 YEAR OF FEE PAYMENT : 4
JP3515783 B2	20071023	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20090123 YEAR OF FEE PAYMENT : 5
JP3515783 B2	20090123	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
JP6511410 T2	19941222	LSPB	+	published / reissued	
US6238386 BA	20010529	LSGT	+	granted / extensions (spc, cpc, pte)	
US6238386 BA	19940321	LSAS	AS	ASSIGNMENT	OWNER NAME : CARL-ZEISS-STIFTUNG, GERMANY DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MULLER, GERHARD; TSCHPE, JOHANNES; REEL/FRAME:008326/0627 EFFECTIVE DATE : 19931220
US6238386 BA	20020430	LSRE	CC	CERTIFICATE OF CORRECTION	
US6238386 BA	20040908	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6238386 BA	20090529	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6238386 BA	20090721	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20090529
WO9402074 A1	19940203	LSPB	+	published / reissued	
WO9402074 A1	19940321	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 08211172 COUNTRY OF REF DOCUMENT : US

Title: ELECTROSURGICAL SYSTEMS AND METHODS FOR REMOVING AND MODIFYING TISSUE

Abstract: Source: US2001020167A The present invention provides systems, apparatus and methods for selectively applying electrical energy to body tissue in order to, ablate, contract, coagulate, or otherwise modify a tissue or organ of a patients. An electrosurgical apparatus includes an electrode support bearing an active electrode in the form of a plasma blade or hook having an active edge and first and second blade sides. The active edge is adapted for severing a target tissue via localized molecular dissociation of tissue components. The first and second blade sides are adapted for engaging against, and coagulating, the severed tissue.s. A method of the present invention comprises positioning an electrosurgical probe adjacent to the target tissue so that a blade- or hook-like active electrode is brought into at least close proximity to the target tissue in the presence of an electrically conductive fluid. A high frequency voltage is applied between the active electrode and a return electrode to effect cool ablation or other modification of the target tissue. During application of the high frequency voltage, the electrosurgical apparatus may be translated, reciprocated, or otherwise manipulated such that the active edge is moved with respect to the tissue. The present invention volumetrically ablates or otherwise modifies the target tissue with minimal or no damage to surrounding, non-target tissue.

Classifications:

International (IPC 8-9): A01N43/52 A01N43/80 A01N43/90 A61B17/00 A61B17/56 A61B18/00 A61B18/04 A61B18/12 A61B18/14 A61B19/00 A61F2/02 A61M1/00 A61M25/01 A61M3/02 A61N1/05 A61N1/40 C07D403/12 C07D409/12 C07D413/12 C07D491/04 (Advanced/Invention); A61B17/00 A61B17/22 A61B18/00 A61B18/12 A61B19/00 A61F2/02 A61F2/06 A61F2/84 A61M1/00 A61M3/02 (Advanced/Non-invention); A61B17/56 A61B18/04 A61B18/12 A61B18/14 A61M25/01 (Core/Invention); A61B17/00 A61B17/22 A61B18/00 A61B19/00 A61F2/02 A61F2/82 A61M1/00 A61M3/00 (Core/Non-invention); A61B (Subclass/Invention)

International (IPC 1-7): A61B1/00 A61B17/36 A61B17/39

A61B17/56 A61B18/04 A61B18/08 A61B18/12 A61B18/14

A61B18/18 A61B19/00 A61F7/12 A61G17/36 A61M37/00

CP: A61B2018/00148 A61B2018/00404 A61B2018/00625

A61B2018/00815 A61B2018/1412 A61B2018/1422 A61B2218/003

A61B2018/00666 A61B2018/0072 A61B2018/00779 A61B2090/378

A61B90/11 A01N43/52 A01N43/80 A01N43/90 A61B2018/00589

C07D403/12 C07D409/12 C07D413/12 C07D491/04 A61B2090/3782 A61N1/05 A61N1/403 A61B18/042 A61B18/1477

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European: A01N43/52 A01N43/80 A01N43/90 A61B18/12 A61B18/12G A61B18/14B A61B18/14P A61B18/14R A61B18/14S

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C07D491/04 K61B17/00C1C K61B17/00C1T K61B17/00C1T4A K61B17/00C1T6 K61B17/00C1U K61B17/00E1C2

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K61B19/52H14 K61B19/52H14B K61B218/00D2 K61B218/00D2A K61B218/00D4 K61F2/06S2 K61F2/24Y K61F2/95

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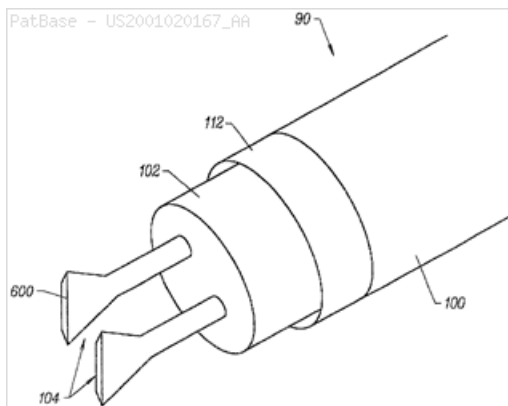
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606/46 606/48 606/48P 606/48S 606/49 606/490 606/49S 606/5 606/50 606/50S 606/51 606/51S 607/101 607/105 607/113

607/99 607/99S

Family:

Publication number	Publication date	Application number	Application date
AT207331 E	20011115	AT19960917868T	19960530
AU19960266 A1	19961230	AU19960060266	19960530
AU2001243151 AA	20010827	AU20010243151	20010213
AU2001261637 AA	20020218	AU20010261637	20010515
AU2472497 A1	19970814	AU19970024724	19970604
AU676329 B2	19970306	AU19940068296	19940510
AU6829694 A1	19941212	AU19940068296	19940510
AU706294 B2	19990610	AU19960060266	19960530
CA2162395 AA	19951107	CA19942162395	19940510
CA2162395 C	20000118	CA19942162395	19940510
CA2221330 AA	19971117	CA19962221330	19960530
CA2221330 C	20000215	CA19962221330	19960530
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Priority:

US19910958977	19911009	US19920817575	19920107	US19920958977	19921009
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Probable Assignee: ARTHROCARE CORP

Assignee(s): (std): ARTHRO CARE CORP ; THAPLIYAL AND EGGERS ; EGGERS PHILIP E ; THAPLIYAL HIRA V ; THAPLIYAL AND EGGERS PARTNERS ; ARTHROCARE CORP WAS THAPLIYAL AND EGG ; ARTHROCARE CORP

Assignee(s): ARTHROCARE CORP SUNNYVALE ; ARTHROCARE CORP WAS THAPLIYAL AND EGGERS PARTNERS ; ARTHROCARE CORP WAS THAPLIYAL AND EGGERS PARTNERS UNDER S24.. ; BANK OF AMERICA NA ; AASUROKEA CORP ; AASUROOKEAA CORP

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Inventor(s): THEODORE C ORMSBY ; SAPURYARU HIRA BUI ; JAMES L PACEK ; JEAN WOLOSZKO ; JOHN J QUACKENBUSH ; LEWIS SHARPS ; ETSUGAAZU FUJIRITSUPU II ; DAVID C HOVDA ; EGAAZU FUJIRITSUPU II ; CRAIG TSUJI ; DAHLA ROBERT ; CIARROCCA SCOTT ; BRIAN MARTINI

Agent(s): SPRUSON AND FERGUSON; ASPEN PHARMA PTY LTD; FETHERSTONHAUGH AND CO; TSURUTA JUNICHI; NISHIYAMA MASAYA; HIGUCHI SOTOJI; ISHIDA TAKASHI; ARTHROCARE CORP; JOHN T; RICHARD R; RAFFLE JOHN T; BATT RICHARD R; RICHARD; RAJ; SCHEELE MATTHEW; SZYMCAK BRIAN E; MATTHEW; BRIAN E

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AT207331 E	20011115	LSGT	+	granted / extensions (spc, cpc, pte)	
AT207331 E	20020415	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	

AU199660266 A1	19961230	LSPB	+	published / reissued	
AU2001243151 AA	20010827	LSPB	+	published / reissued	
AU2001261637 AA	20020218	LSPB	+	published / reissued	
AU2472497 A1	19970814	LSPB	+	published / reissued	
AU676329 B2	19970306	LSGT	+	granted / extensions (spc, cpc, pte)	
AU6829694 A1	19941212	LSPB	+	published / reissued	
AU706294 B2	19990610	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2162395 AA	19951107	LSPB	+	published / reissued	
CA2162395 AA	19951107	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2162395 AA	19990602	LSES	+EEER	EXAMINATION REQUEST	
CA2162395 AA	20140714	LSLE	-MKEX	EXPIRY	EFFECTIVE DATE : 20140512
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CA2221330 AA	19971117	LSPB	+	published / reissued	
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EP0697841 A1	20020227	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : ARTHROCARE CORPORATION
EP0697841 A1	20020828	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : BE DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT EFFECTIVE DATE : 20020828
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EP0697841 A1	20020830	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
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				PAID TO NATIONAL OFFICE	YEAR OF FEE PAYMENT : 17
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EP0697841 B2	20070523	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0837647 A1	19980429	LSPB	+	published / reissued	
EP0837647 A1	19980429	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19980106
EP0837647 A1	19980701	LSES	+A4	DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 19980518
EP0837647 A1	19981230	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 19981111
EP0837647 A1	20010103	LSRE	RTI1	TITLE (CORRECTION)	DESCRIPTION : SYSTEM FOR ELECTROSURGICAL CUTTING AND ABLATION
EP0837647 A1	20011024	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : BE DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME-LIMIT EFFECTIVE DATE : 20011024
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EP0837647 A1	20011031	LSNP	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : EP
EP0837647 A1	20011114	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
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EP0837647 A1	20020124	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SE DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT EFFECTIVE DATE : 20020124
EP0837647 A1	20020124	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : PT DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT EFFECTIVE DATE : 20020124
EP0837647 A1	20020125	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : GR DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT EFFECTIVE DATE : 20020125
EP0837647 A1	20020402	LSLE	-NLV1	NL: LAPSED OR ANNULLED DUE TO FAILURE TO FULFILL THE REQUIREMENTS OF ART. 29P AND 29M OF THE PATENTS ACT	
EP0837647 A1	20020430	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : ES DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT EFFECTIVE DATE : 20020430
EP0837647 A1	20020430	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0837647 A1	20020530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : IE DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20020530
EP0837647 A1	20020530	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : LU DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20020530
EP0837647 A1	20020530	LSLE	-PG25	LAPSED IN A	REF COUNTRY CODE : MC

				CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	DESCRIPTION : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES EFFECTIVE DATE : 20020530
EP0837647 A1	20020918	LSOP	-26	OPPOSITION FILED	OPPONENT NAME : GYRUS MEDICAL LIMITED EFFECTIVE DATE : 20020719
EP0837647 A1	20030319	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : MM4A
EP0837647 A1	20050413	LSRE	+270	OPPOSITION REJECTED	EFFECTIVE DATE : 20041114
EP0837647 A1	20080131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : IT DESCRIPTION : LAPSE BECAUSE OF FAILURE TO SUBMIT A TRANSLATION OF THE DESCRIPTION OR TO PAY THE FEE WITHIN THE PRESCRIBED TIME- LIMIT EFFECTIVE DATE : 20011024
EP0837647 A1	20090831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20090528 YEAR OF FEE PAYMENT : 14
EP0837647 A1	20091130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20090528 YEAR OF FEE PAYMENT : 14
EP0837647 A1	20100831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20100527 YEAR OF FEE PAYMENT : 15
EP0837647 A1	20101130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20100525 YEAR OF FEE PAYMENT : 15
EP0837647 A1	20110831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20110525 YEAR OF FEE PAYMENT : 16
EP0837647 A1	20110930	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20110527 YEAR OF FEE PAYMENT : 16
EP0837647 A1	20120516	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 69616327 COUNTRY OF REF DOCUMENT : DE OWNER NAME : ARTHROCARE CORPORATION (N.D.GES. D. STAATES DE, US DESCRIPTION : FORMER OWNER: ARTHROCARE CORP., SUNNYVALE, US EFFECTIVE DATE : 20120326
EP0837647 A1	20120516	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R081 REF DOCUMENT NUMBER : 69616327 COUNTRY OF REF DOCUMENT : DE OWNER NAME : ARTHROCARE CORPORATION (N.D.GES. D. STAATES DE, US DESCRIPTION : FORMER OWNER: ARTHROCARE CORP., SUNNYVALE, CALIF., US EFFECTIVE DATE : 20120326
EP0837647 A1	20120731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20120529 YEAR OF FEE PAYMENT : 17
EP0837647 A1	20120831	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20120525 YEAR OF FEE PAYMENT : 17
EP0837647 A1	20130731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES	REF COUNTRY CODE : GB PAYMENT DATE : 20130528

EP0837647 A1	20130731	LSFE	+PGFP	PAID TO NATIONAL OFFICE POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	YEAR OF FEE PAYMENT : 18 REF COUNTRY CODE : DE PAYMENT DATE : 20130530 YEAR OF FEE PAYMENT : 18
EP0837647 A1	20140731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20140527 YEAR OF FEE PAYMENT : 19
EP0837647 A1	20140829	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20140529 YEAR OF FEE PAYMENT : 19
EP0837647 A1	20150731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 20150527 YEAR OF FEE PAYMENT : 20
EP0837647 A1	20150731	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 20150528 YEAR OF FEE PAYMENT : 20
EP0837647 A1	20160530	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : R071 REF DOCUMENT NUMBER : 69616327 COUNTRY OF REF DOCUMENT : DE
EP0837647 A1	20160622	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : PE20 EXPIRY DATE : 20160529
EP0837647 A1	20160729	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : GB DESCRIPTION : LAPSE BECAUSE OF EXPIRATION OF PROTECTION EFFECTIVE DATE : 20160529
EP0837647 B1	20011024	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1257221 A1	20021120	LSPB	+	published / reissued	
EP1257221 A1	20021120	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020916
EP1257221 A1	20080409	LSDW	-18D	DEEMED TO BE WITHDRAWN	EFFECTIVE DATE : 20070901
EP1309282 A1	20030514	LSPB	+	published / reissued	
EP1309282 A1	20030514	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030310
EP1309282 A1	20030709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : QUACKENBUSH, JOHN, J.
EP1309282 A1	20030709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : HOVDA, DAVID, C.
EP1309282 A1	20030709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : MARTINI, BRIAN
EP1309282 A1	20030709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : SHARPS, LEWIS
EP1309282 A1	20030709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : ORMSBY, THEODORE, C.
EP1309282 A1	20030709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : THAPLIYAL, HIRA, V.
EP1309282 A1	20030709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : EGGERS, PHILIP, E.
EP1309282 A1	20030709	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : WOLOSZKO, JEAN
EP1309282 A1	20060308	LSSES	+A4	DESPATCH OF SUPPLEMENTARY	EFFECTIVE DATE : 20060124

EP1309282 A1	20060412	LSES	16A	SEARCH REPORT	
				NEW DOCUMENTS DISCOVERED AFTER COMPLETION OF THE EP-SEARCH REPORT	EFFECTIVE DATE : 20060227
EP1309282 A1	20071128	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20071031
EP1309282 A1	20080213	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : ARTHROCARE CORPORATION
EP1309282 A1	20120111	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : ARTHROCARE CORPORATION
JP10510745 T2	19981020	LSPB	+	published / reissued	
JP2004505663 T2	20040226	LSPB	+	published / reissued	
JP2004505663 T2	20101222	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20101221
JP2004505663 T2	20110527	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110526
JP2004505663 T2	20110727	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110726
JP2004505663 T2	20111108	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111107
JP2004505663 T2	20120327	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP2004505663 T2	20120404	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20120403
JP2004505663 T2	20120405	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
JP2004505663 T2	20120426	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20120418
JP2004505663 T2	20120511	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP2004505663 T2	20120514	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20150511 YEAR OF FEE PAYMENT : 3
JP2912023 B2	19990628	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2931102 B2	19990809	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2931102 B2	20040608	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
JP2931102 B2	20080603	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20090521 YEAR OF FEE PAYMENT : 10
JP2931102 B2	20090526	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20100521 YEAR OF FEE PAYMENT : 11

JP2931102 B2	20100525	LSFE	+FPAY	DATE OF DATABASE) RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20110521 YEAR OF FEE PAYMENT : 12
JP2931102 B2	20110517	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20120521 YEAR OF FEE PAYMENT : 13
JP2931102 B2	20120328	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20120521 YEAR OF FEE PAYMENT : 13
JP2931102 B2	20120328	LSAS	R350	WRITTEN NOTIFICATION OF REGISTRATION OF TRANSFER	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R350
JP2931102 B2	20120515	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20130521 YEAR OF FEE PAYMENT : 14
JP2931102 B2	20140510	LSLE	-EXPY	CANCELLATION BECAUSE OF COMPLETION OF TERM	
JP4986006 B2	20120725	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4986006 B2	20080516	LSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20080515
JP4986006 B2	20101222	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20101221
JP4986006 B2	20110527	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20110526
JP4986006 B2	20110727	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20110726
JP4986006 B2	20111108	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20111107
JP4986006 B2	20120327	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4986006 B2	20120404	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20120403
JP4986006 B2	20120405	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
JP4986006 B2	20120426	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20120418
JP4986006 B2	20120511	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP4986006 B2	20120514	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20150511 YEAR OF FEE PAYMENT : 3
JP4986006 B2	20160510	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250

JP9501328 T2	19970210	LSPB	+	published / reissued	
NZ266678 A	19971219	LSPB	+	published / reissued	
NZ266678 A	20070531	LSFE	+RENEW	RENEWAL (RENEWAL FEES ACCEPTED)	
NZ266678 A	20140530	LSLE	-EXPY	PATENT EXPIRED	
US2001020167 AA	20010906	LSPB	+	published / reissued	
US2002095152 AA	20020718	LSPB	+	published / reissued	
US2003084907 AA	20030508	LSPB	+	published / reissued	
US2003097126 AA	20030522	LSPB	+	published / reissued	
US2005131402 AA	20050616	LSPB	+	published / reissued	
US5697281 A	19971216	LSGT	+	granted / extensions (spc, cpc, pte)	
US5697281 A	20010615	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5697281 A	20050616	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5697281 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US5697281 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US5697281 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US5697281 A	20090616	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5697281 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US5697281 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US5697281 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US5697909 A	19971216	LSGT	+	granted / extensions (spc, cpc, pte)	

US5697909 A	19950602	LSAS	AS	ASSIGNMENT	OWNER NAME : THAPLIYAL AND EGGERS PARTNERS, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:EGGERS, PHILIP E.; THAPLIYAL, HIRA V.; REEL/FRAME:007809/0730; SIGNING DATES FROM 19950526 TO 19950530
US5697909 A	19960419	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:THAPLIYAL AND EGGERS PARTNERS; REEL/FRAME:007898/0949 EFFECTIVE DATE : 19960228
US5697909 A	19981027	LSRE	CC	CERTIFICATE OF CORRECTION	
US5697909 A	20010615	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US5697909 A	20050616	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5697909 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US5697909 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US5697909 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US5697909 A	20090616	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US5697909 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US5697909 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US5697909 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6032674 A	20000307	LSGT	+	granted / extensions (spc, cpc, pte)	
US6032674 A	20030908	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6032674 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE

US6032674 A	20060202	LSAS	AS	ASSIGNMENT	CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6032674 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6032674 A	20070403	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:EGGERS, PHILIP E.; THAPLIYAL, HIRA V.; REEL/FRAME:019102/0365; SIGNING DATES FROM 19970108 TO 19970110
US6032674 A	20070907	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6032674 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6032674 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6032674 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6032674 A	20110907	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6109268 A	20000829	LSGT	+	granted / extensions (spc, cpc, pte)	
US6109268 A	19980518	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:THAPLIYAL, HIRA V.; EGGERS, PHILIP E.; ELLSBERRY, MARIA B.; AND OTHERS; REEL/FRAME:009204/0851; SIGNING DATES FROM 19980430 TO 19980501
US6109268 A	20040301	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6109268 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6109268 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT;

US6109268 A	20060202	LSAS	AS	ASSIGNMENT	ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6109268 A	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6109268 A	20080228	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6109268 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6109268 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6109268 A	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6109268 A	20120228	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6391025 BA	20020521	LSGT	+	granted / extensions (spc, cpc, pte)	
US6391025 BA	19980313	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WEINSTEIN, ALLAN; EGGERS, ANDREW R.; THAPLIYAL, HIRA V.; AND OTHERS; REEL/FRAME:009053/0975 EFFECTIVE DATE : 19980313
US6391025 BA	20051121	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6391025 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6391025 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6391025 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6391025 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT;

					ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6391025 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6391025 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6391025 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6391025 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6391025 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6391025 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6391025 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6391025 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6391025 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6391025 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE

					CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6391025 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6391025 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6391025 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6391025 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6391025 BA	20091123	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6391025 BA	20140521	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6391025 BA	20140708	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20140521
US6461350 BA	20021008	LSGT	+	granted / extensions (spc, cpc, pte)	
US6461350 BA	19980928	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:UNDERWOOD, RONALD A.; BRUNELL, STEPHEN M.; BAKER, MICHAEL A.; AND OTHERS; REEL/FRAME:009537/0475; SIGNING DATES FROM 19980922 TO 19980924
US6461350 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6461350 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6461350 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA,

					N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6461350 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6461350 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6461350 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6461350 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6461350 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6461350 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6461350 BA	20060816	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6461350 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6461350 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6461350 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT

					DATABASE UPDATED:20100511; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6461350 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6461350 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6461350 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6461350 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6461350 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6461350 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6461350 BA	20100408	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6461350 BA	20140408	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6602248 BA	20030805	LSGT	+	granted / extensions (spc, cpc, pte)	
US6602248 BA	20000928	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:SHARPS, LEWIS; HOVDA, DAVID C.; WOLOSZKO, JEAN; AND OTHERS; REEL/FRAME:011211/0054; SIGNING DATES FROM 20000919 TO 20000926
US6602248 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6602248 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA,

					N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6602248 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6602248 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6602248 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6602248 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6602248 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6602248 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6602248 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6602248 BA	20070222	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6602248 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6602248 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:23180/892

					EFFECTIVE DATE : 20060113
US6602248 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6602248 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6602248 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6602248 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6602248 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6602248 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6602248 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6770071 BB	20040803	LSGT	+	granted / extensions (spc, cpc, pte)	
US6770071 BB	20010209	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WOLOSZKO, JEAN; TSUJI, CRAIG; THAPLIYAL, HIRA V.; AND OTHERS; REEL/FRAME:011585/0375; SIGNING DATES FROM 20010206 TO 20010208
US6770071 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113

US6770071 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6770071 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6770071 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6770071 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6770071 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6770071 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6770071 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6770071 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6770071 BB	20080204	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6770071 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6770071 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME

					0855; ASSIGNOR: BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED: 20100511; REEL/FRAME: 23180/892 EFFECTIVE DATE : 20060113
US6770071 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR: BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED: 20100427; REEL/FRAME: 23180/892 EFFECTIVE DATE : 20060113
US6770071 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR: BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED: 20100504; REEL/FRAME: 23180/892 EFFECTIVE DATE : 20060113
US6770071 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR: BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED: 20100316; REEL/FRAME: 23180/892 EFFECTIVE DATE : 20060113
US6770071 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR: BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED: 20100309; REEL/FRAME: 23180/892 EFFECTIVE DATE : 20060113
US6770071 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR: BANK OF AMERICA, N.A.; REEL/FRAME: 023180/0892 EFFECTIVE DATE : 20060113
US6770071 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR: BANK OF AMERICA, N.A.; REEL/FRAME: 023180/0892 EFFECTIVE DATE : 20060113
US6770071 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR: BANK OF AMERICA, N.A.; REEL/FRAME: 23180/892 EFFECTIVE DATE : 20060113
US6770071 BB	20120203	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6770071 BB	20160120	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6837888 BB	20050104	LSGT	+	granted / extensions (spc, cpc, pte)	
US6837888 BB	20020225	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS: CIARROCCA, SCOTT A.; ANTOUNIAN, FRANCOIS; WOLOSZKO, JEAN; AND OTHERS; REEL/FRAME: 012644/0403; SIGNING DATES FROM 20020211 TO 20020215

US6837888 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6837888 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6837888 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6837888 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6837888 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6837888 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6837888 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6837888 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6837888 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6837888 BB	20080707	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6837888 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT

					DATABASE UPDATED:20100427; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6837888 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6837888 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6837888 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6837888 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6837888 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6837888 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6837888 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6837888 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6837888 BB	20120705	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6837888 BB	20160623	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
US6915806 BB	20050712	LSGT	+	granted / extensions (spc, cpc, pte)	

US6915806 BB	20010125	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ARTHROCARE CORPORATION, CALIFORNIA OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:PACEK, JAMES L.; THAPLIYAL, HIRA V.; EGGERS, PHILIP E.; REEL/FRAME:011528/0175; SIGNING DATES FROM 20010117 TO 20010122
US6915806 BB	20060202	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BANK OF AMERICA, N.A., WASHINGTON OLDPARTY : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6915806 BB	20060202	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : BANK OF AMERICA, N.A., WASHINGTON OLDPARTY : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6915806 BB	20090112	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6915806 BB	20090904	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ARTHROCARE CORPORATION, TEXAS OLDPARTY : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6915806 BB	20090904	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ARTHROCARE CORPORATION, TEXAS OLDPARTY : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6915806 BB	20130114	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6974453 BB	20051213	LSGT	+	granted / extensions (spc, cpc, pte)	
US6974453 BB	20010420	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WOLOSZKO, JEAN; TSUJI, CRAIG; ORMSBY, THEODORE C.; REEL/FRAME:011743/0764 EFFECTIVE DATE : 20010420
US6974453 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6974453 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6974453 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113

US6974453 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6974453 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6974453 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6974453 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6974453 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US6974453 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US6974453 BB	20090615	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6974453 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6974453 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6974453 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6974453 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF

					PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6974453 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6974453 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6974453 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6974453 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US6974453 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US6974453 BB	20131213	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6974453 BB	20140204	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20131213
US7070596 BA	20060704	LSGT	+	granted / extensions (spc, cpc, pte)	
US7070596 BA	20001003	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:WOLOSZKO, JEAN; ORMSBY, THEODORE C.; QUACKENBUSH, JOHN J.; AND OTHERS; REEL/FRAME:011205/0299; SIGNING DATES FROM 20000929 TO 20001003
US7070596 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US7070596 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT

DATABASE UPDATED:20100511;
REEL/FRAAME:17105/855
EFFECTIVE DATE : 20060113

US7070596 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAAME:017105/0855 EFFECTIVE DATE : 20060113
US7070596 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAAME:17105/855 EFFECTIVE DATE : 20060113
US7070596 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAAME:17105/855 EFFECTIVE DATE : 20060113
US7070596 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAAME:17105/855 EFFECTIVE DATE : 20060113
US7070596 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAAME:17105/855 EFFECTIVE DATE : 20060113
US7070596 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAAME:17105/855 EFFECTIVE DATE : 20060113
US7070596 BA	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAAME:17105/855 EFFECTIVE DATE : 20060113
US7070596 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAAME:23180/892 EFFECTIVE DATE : 20060113
US7070596 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAAME:23180/892 EFFECTIVE DATE : 20060113
US7070596 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT

					RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US7070596 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US7070596 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US7070596 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US7070596 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US7070596 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US7070596 BA	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US7070596 BA	20100104	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7070596 BA	20140106	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7419488 BB	20080902	LSGT	+	granted / extensions (spc, cpc, pte)	
US7419488 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A., WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US7419488 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113

US7419488 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US7419488 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US7419488 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; REEL/FRAME:017105/0855 EFFECTIVE DATE : 20060113
US7419488 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100413; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US7419488 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100511; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US7419488 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100427; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US7419488 BB	20060202	LSAS	AS	ASSIGNMENT	OWNER NAME : BANK OF AMERICA, N.A.,WASHINGTON DESCRIPTION : PATENT SECURITY AGREEMENT; ASSIGNOR:ARTHROCARE CORPORATION; US-ASSIGNMENT DATABASE UPDATED:20100504; REEL/FRAME:17105/855 EFFECTIVE DATE : 20060113
US7419488 BB	20070221	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, CALIFORNIA DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CIARROCCA, SCOTT A.; ANTOUNIAN, FRANCOIS; WOLOSZKO, JEAN; AND OTHERS; REEL/FRAME:018913/0422; SIGNING DATES FROM 20020211 TO 20020215
US7419488 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100316; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
US7419488 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION,TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; US-ASSIGNMENT DATABASE UPDATED:20100309; REEL/FRAME:23180/892

EFFECTIVE DATE : 20060113					
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US7419488 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:023180/0892 EFFECTIVE DATE : 20060113
US7419488 BB	20090904	LSAS	AS	ASSIGNMENT	OWNER NAME : ARTHROCARE CORPORATION, TEXAS DESCRIPTION : RELEASE OF PATENT SECURITY AGREEMENT RECORDED AT REEL 017105 FRAME 0855; ASSIGNOR:BANK OF AMERICA, N.A.; REEL/FRAME:23180/892 EFFECTIVE DATE : 20060113
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US7419488 BB	20160217	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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WO0160273 A1	20020916	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001916087 COUNTRY OF REF DOCUMENT : EP
WO0160273 A1	20021120	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001916087 COUNTRY OF REF DOCUMENT : EP
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WO0160273 A1	20041117	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
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WO0211635 A1	20030210	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002516975 COUNTRY OF REF DOCUMENT : JP
WO0211635 A1	20030310	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001935554 COUNTRY OF REF DOCUMENT : EP
WO0211635 A1	20030514	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001935554 COUNTRY OF REF DOCUMENT : EP
WO0211635 A1	20030618	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
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WO9426228 A1	19950411	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 08419886 COUNTRY OF REF DOCUMENT : US
WO9426228 A1	19950602	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 08446767 COUNTRY OF REF DOCUMENT : US
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WO9426228 A1	19951107	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2162395 COUNTRY OF REF DOCUMENT : CA
WO9426228 A1	19951205	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 266678 COUNTRY OF REF DOCUMENT : NZ
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WO9639914 A1	19961219	LSPB	+	published / reissued	
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WO9639914 A1	19980106	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 1996917868 COUNTRY OF REF DOCUMENT : EP
WO9639914 A1	19980429	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1996917868 COUNTRY OF REF DOCUMENT : EP
WO9639914 A1	20011024	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1996917868 COUNTRY OF REF DOCUMENT : EP

Title: Methods and devices for joining transmission components

Abstract: Source: US6051010A A coupling structure releasably attaches a plurality of transmission members to each other. Non-vibratory structures hold a second end of the first transmission member in contact with a first end of the second member. A method including the steps of providing a first non-vibratory structure carrying the first transmission member, and providing a second non-vibratory structure carrying the second transmission member. The method also includes the steps of attaching the first non-vibratory structure to the second non-vibratory structure to hold a coupling end of the first transmission rod in contact with a coupling end of the second transmission rod without the use of a threaded connection between the first and second components.

Classifications:

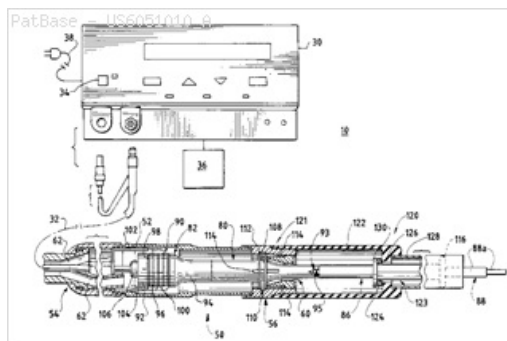
International (IPC 8-9): A61B17/00 A61B17/22 A61B17/28 A61B17/32 A61B18/00 B06B3/00 B60B3/00 G10K11/24 (Advanced/Invention); A61B17/00 A61B17/28 A61B18/00 B06B3/00 (Advanced/Non-invention); A61B17/00 A61B17/22 A61B17/32 A61B18/00 B06B3/00 B60B3/00 G10K11/00 (Core/Invention); A61B17/00 A61B17/28 (Core/Non-invention)

International (IPC 1-7): A61B17/22 A61B17/32 A61B18/00 A61H1/00 B06B3/00 B60B3/00 G10K11/24

CPC: A61B17/22012 A61B17/320092 A61B2017/00314 A61B2017/00327 A61B2017/00477 A61B2017/2908 A61B2017/2927 A61B2017/320088 B06B3/00 G10K11/24 A61B2017/2905 A61B2017/003

European: A61B17/22B2 A61B17/32U8 B06B3/00 G10K11/24 K61B17/00E3G K61B17/00E3G4S K61B17/00E3G6C3 K61B17/00K K61B17/29F10 K61B17/29F6 K61B17/29J2 K61B17/32U6

US: 604/22 606/169 606/170



Family:

Publication number	Publication date	Application number	Application date
AU199856040 A1	19980717	AU19980056040	19971212
AU199929885 A1	19991101	AU19990029885	19990305
AU731135 B2	20010322	AU19980056040	19971212
CA2247149 AA	19980820	CA19972247149	19971212
CA2247149 C	20070619	CA19972247149	19971212
DE69728758 D1	20040527	DE19976028758	19971212
DE69728758 T2	20050428	DE19976028758T	19971212
EP0893971 A1	19990203	EP19970952437	19971212
EP0893971 B1	20040421	EP19970952437	19971212
ES2218712 T3	20041116	ES19970952437T	19971212
JP2000506431 T2	20000530	JP19980528871T	19971212
US6051010 A	20000418	US19960770550	19961223
US6063098 A	20000516	US19980059472	19980413
WO9827874 A1	19980702	WO1997US23020	19971212
WO9952489 A1	19991021	WO1999US04979	19990305

Priority:

US19960770550 19961223 US19980059472 19980413 WO1997US23020 19971212
WO1999US04979 19990305

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Inventor(s): (std): DIMATTEO STEPHEN ; ESTABROOK BRIAN ; HOUSER KEVIN

Inventor(s): KEVIN HOUSER ; STEPHEN DIMATTEO ; BRIAN ESTABROOK

Agent(s): FREEHILLS PATENT AND TRADE MARK ATTORNEYS; FREEHILLS PATENT ATTORNEYS; FPA PATENT ATTORNEYS PTY LTD; OGILVY RENAULT LLP SENCRL SRL

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

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
AU199856040 A1	19980717	LSPB	+	published / reissued	
AU199929885 A1	19991101	LSPB	+	published / reissued	
AU199929885 A1	20010104	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
AU731135 B2	20010322	LSGT	+	granted / extensions (spc, cpc, pte)	
AU731135 B2	20010719	LSGT	+FGA	LETTERS PATENT SEALED OR	

CA2247149 AA	19980820	LSPB	+	GRANTED (STANDARD PATENT)	
CA2247149 AA	19980820	LSNP	+AFNE	published / reissued	
CA2247149 AA	20021210	LSES	+EEER	NATIONAL PHASE ENTRY	
CA2247149 AA	20021210	LSES	+EEER	EXAMINATION REQUEST	
CA2247149 AA	20160125	LSLE	-MKLA	LAPSED	EFFECTIVE DATE : 20151214
CA2247149 C	20070619	LSGT	+	granted / extensions (spc, cpc, pte)	
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DE69728758 T2	20050428	LSGT	+	granted / extensions (spc, cpc, pte)	
EP0893971 A1	19990203	LSPB	+	published / reissued	
EP0893971 A1	19990203	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19980915
EP0893971 A1	20030122	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20021210
EP0893971 A1	20031126	LSRE	RTI1	TITLE (CORRECTION)	DESCRIPTION : DEVICES FOR JOINING TRANSMISSION COMPONENTS
EP0893971 A1	20031210	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : ETHICON ENDO- SURGERY, INC.
EP0893971 A1	20040421	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP0893971 A1	20041116	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2218712 KIND CODE OF REF DOCUMENT : T3
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EP0893971 A1	20150925	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20150831
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EP0893971 A1	20160127	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FD2A EFFECTIVE DATE : 20160127

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ES2218712 T3	20041116	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2000506431 T2	20000530	LSPB	+	published / reissued	
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JP2000506431 T2	20060801	LSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20060801
JP2000506431 T2	20070417	LSRV	-A02	DECISION OF REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20070417
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US6051010 A	19970917	LSAS	AS	ASSIGNMENT	OWNER NAME : ETHICON ENDO-SURGERY, INC., OHIO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:DIMATTEO, STEPHEN; ESTABROOK, BRIAN; REEL/FRAME:008719/0407; SIGNING DATES FROM 19970326 TO 19970328
US6051010 A	20010327	LSRE	CC	CERTIFICATE OF CORRECTION	
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US6063098 A	20000516	LSGT	+	granted / extensions (spc, cpc, pte)	
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US6063098 A	20000627	LSAS	AS	ASSIGNMENT	OWNER NAME : ETHICON ENDO-SURGERY, INC., OHIO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:HOUSER, KEVIN; DEMATTEO, STEPHEN; REEL/FRAME:010750/0717; SIGNING DATES FROM 20000329 TO 20000613
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US6063098 A	20110921	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12
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WO9827874 A1	19980810	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 56040/98 COUNTRY OF REF DOCUMENT : AU

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WO9827874 A1	19990203	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 1997952437 COUNTRY OF REF DOCUMENT : EP
WO9827874 A1	20010705	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 56040/98 COUNTRY OF REF DOCUMENT : AU
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WO9952489 A1	19991021	LSPB	+	published / reissued	

Title: ULTRASONIC SURGICAL DEVICES

Abstract: Source: US5938633A The present invention relates to surgical devices. A surgical instrument in accordance with the present invention includes a transducer assembly adapted to vibrate at an ultrasonic frequency. An end effector is adapted to receive ultrasonic vibration from the transducer assembly and to propagate the ultrasonic vibration from a first end to a second end. The end effector is rotatable with respect to the handpiece assembly while the transducer assembly vibrates at the ultrasonic frequency. A method of applying ultrasonic energy to tissue of a patient is also provided. The method includes the steps of providing a handpiece assembly carrying an acoustic assembly having a transducer assembly and an end effector, and energizing the transducer to cause the end effector to vibrate. The method further includes the steps of rotating the end effector with respect to the handpiece assembly while the transducer assembly is vibrating, and contacting the tissue of the patient with the end effector.

Classifications:

International (IPC 8-9): A61B17/32 (Advanced/Invention);

A61B17/28 (Advanced/Non-invention);

A61B17/32 (Core/Invention);

A61B17/28 (Core/Non-invention)

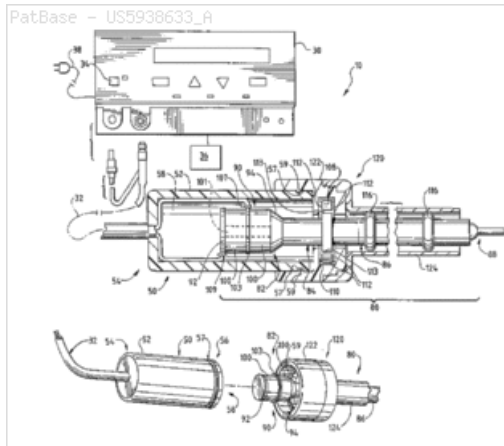
International (IPC 1-7): A61B17/20

CPC: A61B2017/2929 A61B17/320068 A61B2017/320072

A61B2017/320088

European: A61B17/32U K61B17/29J2R K61B17/32U2 K61B17/32U6

US: 604/22

**Family:**

Publication number	Publication date	Application number	Application date
US5938633 A	19990817	US19970890262	19970709

Priority:

US19970890262 19970709

Probable Assignee:

ETHICON ENDO SURGERY INC

Assignee(s): (std):

ETHICON ENDO SURGERY INC

Inventor(s): (std):

BEAUPRE JEAN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US5938633 A	19990817	LSGT	+	granted / extensions (spc, cpc, pte)	
US5938633 A	19980507	LSAS	AS	ASSIGNMENT	OWNER NAME : ETHICON ENDO-SURGERY, INC., OHIO DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:BEAUPRE, JEAN; REEL/FRAME:009172/0615 EFFECTIVE DATE : 19970708
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US5938633 A	20070124	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US5938633 A	20110121	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12

Title: Industrial or medical rotatable endoscope with deviated distal sight and proximal adjustment; has

Abstract: The endoscope has a cylindrical grip and an endoscope probe (11) with an optical distal deviator (3), to causes a unidirectional inversion of the image, a lens and an optical system, whose proximal end is located in the distal part (20) of the grip, to transmit the object image to an ocular lens (6). A radially-positioned unidirectional image rectifier (7) in the proximal part (30) of the grip compensates for the image inversion. A device controlled by an external ring permits longitudinal displacement along the optical axis of the ocular lens located in the central part (25) of the grip. A device controlled by a turning external ring permits simultaneous turning in synchronism around the optical axis of the distal deviator and the image rectifier. The ocular lens is lodged in a first cylindrical mounting (36) that turns around the optical axis and also longitudinally displaces itself along the optical axis. The inverter is located in a second cylindrical mounting (40) that turns around the optical axis, but is mechanically prevented from moving along the optical axis. The ocular lens and the inverter are therefore fixedly linked in one and the same mounting.

Classifications:

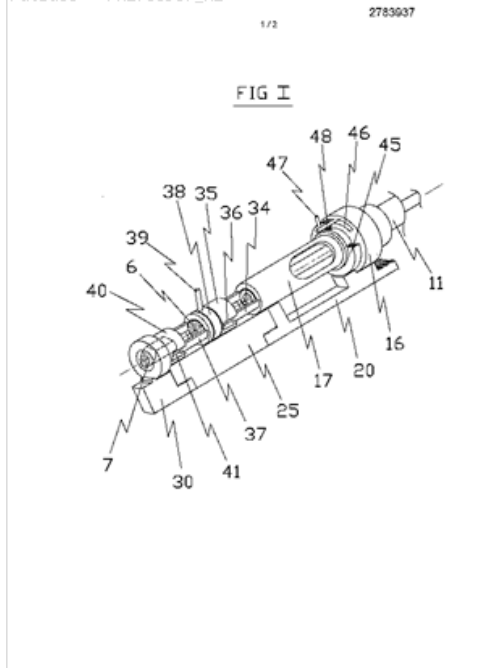
International (IPC 8-9): A61B1/002 G02B23/24 (Advanced/Invention); A61B1/00 (Advanced/Non-invention)

International (IPC 1-7): A61B1/00 G02B23/24

CPC: A61B1/00183 A61B1/00188 A61B1/00195 A61B1/002 G02B23/2423 G02B23/2453

European: A61B1/002 A61B1/00S4H A61B1/00S8 G02B23/24B2 G02B23/24B4 K61B1/00S6

PatBase - FR2783937_R1



Family:

Publication number	Publication date	Application number	Application date
FR2783937 A1	20000331	FR19980012404	19980929
FR2783937 B3	20001124	FR19980012404	19980929

Priority:

FR19980012404 19980929

Probable Assignee:

TOKENDO SARL

Assignee(s): (std):

TOKENDO SARL

Inventor(s): (std):

ROVEGNO JEAN

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
FR2783937 A1	20000331	LSPB	+	published / reissued	
FR2783937 B3	20001124	LSGT	+	granted / extensions (spc, cpc, pte)	

Title: SURGICAL INSTRUMENTS WITH INTEGRATED ELECTROCAUTERY

Abstract: Source: US2003009166A The present invention provides a series of devices for performing surgical procedures utilizing electrodes for performing electrocautery on a tissue of the body of a patient. The invention includes, in one aspect, a series of devices comprising surgical instruments providing at least one electrode for performing electrocautery, and, in another aspect, provides a method for cutting and cauterizing tissue with a surgical instrument. In yet another aspect, the invention involves a method for detecting the location of a bleeding vessel in a liquid-filled, visually monitored surgical field of a patient and for electrocauterizing the vessel to stop the bleeding before visualization of the surgical field is compromised. Preferred surgical instruments according to the invention also include operable components for forming a liquid cutting jet for cutting or ablating tissue of a patient and/or for providing a rotating, tissue contacting component for cutting, grinding, ablating, etc. tissue during a surgical procedure. Some surgical instruments, according to the invention, include one or more liquid conducting lumen therein for transporting and/or removing a liquid from a surgical operating field, which lumen, in some cases, are selectively coated with a layer of an electrically insulating material so that certain, selected, uncoated regions of an external surface of the lumen can act as an electrocautery electrode of the instrument.

Classifications:

International (IPC 8-9): A61B17/00 A61B17/22 A61B17/56

A61B18/12 A61B18/14 (Advanced/Invention);

A61B17/00 A61B17/56 A61B18/12 A61B18/14 (Advanced/Non-invention);

A61B17/00 A61B17/22 A61B17/56 A61B18/12

A61B18/14 (Core/Invention);

A61B17/00 A61B18/14 (Core/Non-invention)

International (IPC 1-7): A61B17/00 A61B17/14 A61B17/22

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CPC: A61B2018/00202 A61B17/32037 A61B18/1485

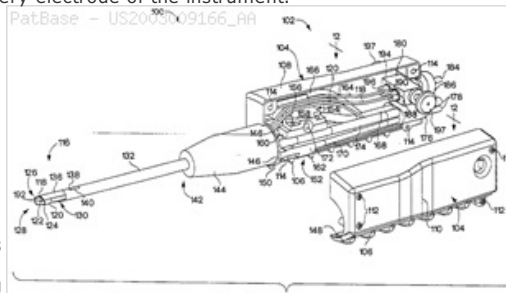
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K61B17/00N6 K61B17/3203C K61B18/00G5 K61B18/14S

US: 604/35 606/17 606/170 606/170S 606/180 606/180S 606/41 606/45 606/46 606/48 606/49 606/49P 606/50 606/50S

**Family:**

Publication number	Publication date	Application number	Application date
AT472295 E	20100715	AT20010901942T	20010110
AU200127794 A5	20010724	AU20010027794	20010110
AU20050202991 AA	20050811	AU20050202991	20050708
AU780721 B2	20050414	AU20010027794	20010110
CA2393608 AA	20020605	CA20012393608	20010110
CA2393608 C	20100420	CA20012393608	20010110
DE60142463 D1	20100812	DE20016042463	20010110
EP1246576 A2	20021009	EP20010901942	20010110
EP1246576 B1	20100630	EP20010901942	20010110
JP2003519525 T2	20030624	JP20010551390T	20010110
US2003009166 AA	20030109	US20020238259	20020910
US2005283150 AA	20051222	US20050140466	20050527
US6451017 BA	20020917	US20000480762	20000110
US6899712 BB	20050531	US20020238259	20020910
WO0150965 A2	20010719	WO2001US00766	20010110
WO0150965 A3	20020110	WO2001US00766	20010110
WO0150965 C2	20021227	WO2001US00766	20010110

Priority:

AU20010027794 20010110 AU20050202991 20050708 US20000480762 20000110
 US20020238259 20020910 US20050140466 20050527 WO2001US00766 20010110

Probable Assignee: HYDROCISION INC

Assignee(s): (std): HYDROCISION INC

Assignee(s): LEVINE ANDY H ; STAUD KEVIN ; MOUTAFIS TIMOTHY E ; BLUECREST VENTURE FINANCE MASTER FUND LTD ; FREEMAN DONALD C JR

Inventor(s): (std): FREEMAN DONALD ; FREEMAN DONALD C ; FREEMAN DONALD C JR ; ANDY H LEVINE ; DONALD C FREEMAN JR ; FREEMAN JR DONALD C ; KEVIN STAUD ; LEVINE ANDY ; LEVINE ANDY H ; MOUTAFIS TIMOTHY ; MOUTAFIS TIMOTHY E ; STAUD KEVIN ; TIMOTHY E MOUTAFIS

Inventor(s): JR DONALD C ; FREEMAN ; FREEMAN DONALD C JR

Agent(s): PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; SMART AND BIGGAR; HOFFMANN EITTE; MASUI CHUJI; SHAMOTO ICHIO; KOBAYASHI YASUSHI; TOMITA HIROYUKI; CHIBA AKIO; WOLF GREENFIELD AND SACKS PC, FEDERAL RESERVE PLAZA; WOLF GREENFIELD AND SACKS PC

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

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Patent	Date recorded	Event group	Code	Event	Details
AT472295 E	20100715	LSGT	+	granted / extensions (spc, cpc, pte)	
AT472295 E	20101215	LSLE	-RER	CEASED AS TO PARAGRAPH 5 LIT. 3 LAW INTRODUCING PATENT TREATIES	

AU200127794 A5	20010724	LSPB	+	published / reissued		
AU2005202991 AA	20050811	LSPB	+	published / reissued		
AU2005202991 AA	20070830	LSLE	-MK4	APPLICATION LAPSED SECTION 142(2)(D) - NO CONTINUATION FEE PAID FOR THE APPLICATION		
AU780721 B2	20050414	LSGT	+	granted / extensions (spc, cpc, pte)		
CA2393608 AA	20020605	LSPB	+	published / reissued		
CA2393608 AA	20020605	LSNP	+AFNE	NATIONAL PHASE ENTRY		
CA2393608 AA	20050203	LSES	+EEER	EXAMINATION REQUEST		
CA2393608 C	20100420	LSGT	+	granted / extensions (spc, cpc, pte)		
EP1246576 A2	20021009	LSPB	+	published / reissued		
EP1246576 A2	20021009	LSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20020710	
EP1246576 A2	20050928	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : LEVINE, ANDY, H.	
EP1246576 A2	20050928	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : FREEMAN, DONALD, C., JR.	
EP1246576 A2	20050928	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : MOUTAFIS, TIMOTHY, E.	
EP1246576 A2	20050928	LSRE	RIN1	INVENTOR (CORRECTION)	INVENTOR NAME : STAID, KEVIN	
EP1246576 A2	20071024	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	OWNER NAME : HYDROCISION, INC.	
EP1246576 A2	20081203	LSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20081104	
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EP1246576 A2	20111014	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST EFFECTIVE DATE : 20110930
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US2005283150 AA	20051222	LSPB	+	published / reissued	
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US6451017 BA	20031107	LSAS	AS	ASSIGNMENT	OWNER NAME : HYDROCISION, INC., MASSACHUSETTS DESCRIPTION : CORRECTION; ASSIGNORS:MOUTAFIS, TIMOTHY E.; FREEMAN, DONALD C. JR.; STAUD, KEVIN; AND OTHERS; REEL/FRAME:014114/0067 EFFECTIVE DATE : 20000412
US6451017 BA	20060710	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6451017 BA	20100303	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US6451017 BA	20100519	LSAS	AS	ASSIGNMENT	OWNER NAME : BLUECREST VENTURE FINANCE MASTER FUND LIMITED, CAY DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:HYDROCISION, INC.; REEL/FRAME:024402/0834 EFFECTIVE DATE : 20100427
US6451017 BA	20100519	LSAS	AS	ASSIGNMENT	OWNER NAME : BLUECREST VENTURE FINANCE MASTER FUND LIMITED,CAYM DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:HYDROCISION, INC.; REEL/FRAME:024402/0834 EFFECTIVE DATE : 20100427
US6451017 BA	20100519	LSAS	AS	ASSIGNMENT	OWNER NAME : BLUECREST VENTURE FINANCE MASTER FUND LIMITED,CAYM DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:HYDROCISION, INC.; US-ASSIGNMENT DATABASE UPDATED:20100519; REEL/FRAME:24402/834 EFFECTIVE DATE : 20100427
US6451017 BA	20140917	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6451017 BA	20141104	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20140917
US6899712 BB	20050531	LSGT	+	granted / extensions (spc, cpc, pte)	
US6899712 BB	20050906	LSRE	CC	CERTIFICATE OF CORRECTION	
US6899712 BB	20081201	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4

US6899712 BB	20100519	LSAS	AS	ASSIGNMENT	OWNER NAME : BLUECREST VENTURE FINANCE MASTER FUND LIMITED, CAY DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:HYDROCISION, INC.; REEL/FRAME:024402/0834 EFFECTIVE DATE : 20100427
US6899712 BB	20100519	LSAS	AS	ASSIGNMENT	OWNER NAME : BLUECREST VENTURE FINANCE MASTER FUND LIMITED,CAYM DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:HYDROCISION, INC.; REEL/FRAME:024402/0834 EFFECTIVE DATE : 20100427
US6899712 BB	20100519	LSAS	AS	ASSIGNMENT	OWNER NAME : BLUECREST VENTURE FINANCE MASTER FUND LIMITED,CAYM DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:HYDROCISION, INC.; US-ASSIGNMENT DATABASE UPDATED:20100519; REEL/FRAME:24402/834 EFFECTIVE DATE : 20100427
US6899712 BB	20100616	LSAS	AS	ASSIGNMENT	OWNER NAME : HYDROCISION, INC.,MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOUTAFIS, TIMOTHY E.; FREEMAN, DONALD C., JR.; STAID, KEVIN AND OTHERS; REEL/FRAME:24539/697 EFFECTIVE DATE : 20000412
US6899712 BB	20100616	LSAS	AS	ASSIGNMENT	OWNER NAME : HYDROCISION, INC.,MASSACHUSETTS DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:MOUTAFIS, TIMOTHY E.; FREEMAN, DONALD C., JR.; STAID, KEVIN; AND OTHERS; REEL/FRAME:024539/0697 EFFECTIVE DATE : 20000412
US6899712 BB	20130531	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US6899712 BB	20130723	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 20130531
WO0150965 A2	20010719	LSPB	+	published / reissued	
WO0150965 A3	20020528	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 27794/01 COUNTRY OF REF DOCUMENT : AU
WO0150965 A3	20020605	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2393608 COUNTRY OF REF DOCUMENT : CA
WO0150965 A3	20020710	LSNP	ENP	ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP REF DOCUMENT NUMBER : 2001 551390 KIND CODE OF REF DOCUMENT : A FORMAT OF REF DOCUMENT (F/P) : F
WO0150965 A3	20020710	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2001901942 COUNTRY OF REF DOCUMENT : EP
WO0150965 A3	20021009	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2001901942 COUNTRY OF REF DOCUMENT : EP
WO0150965 A3	20021219	LSWD	REG	REFERENCE TO NATIONAL CODE	REF COUNTRY CODE : DE REF LEGAL EVENT CODE : 8642
WO0150965 A3	20050728	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 27794/01 COUNTRY OF REF DOCUMENT : AU

Title: ELECTROSURGICAL ELECTRODE SHROUD

Abstract: Source: US2004153055A An electrosurgical electrode shroud including a hollow substantially cylindrical member having a first end portion and a second end portion; the first end portion defining an opening which is configured and dimensioned to receive an electrosurgical electrode assembly therein; the second end portion defining an opening which is configured and dimensioned to receive an electrode mounting portion of an electrosurgical instrument, wherein at least the second end portion is formed of a substantially translucent material. The electrosurgical electrode shroud may further include visual or tactile indicator on the second end portion for indicating a depth of penetration of the electrosurgical instrument within the second end portion when viewed by the surgeon through the translucent material.

Classifications:

International (IPC 8-9): A61B18/12 A61B18/14 A61B18/16

B29C45/14 (Advanced/Invention);

A61B19/00 (Advanced/Non-invention);

A61B18/12 A61B18/14 B29C45/14 (Core/Invention);

A61B19/00 (Core/Non-invention)

International (IPC 1-7): A61B018/14 A61B18/14 A61B18/16

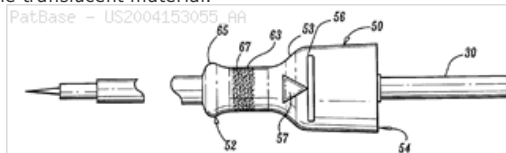
CPC: A61B2090/034 A61B2090/062 A61B18/1402 A61B18/14

A61B18/1477 A61B2018/00178 A61B2018/00738 A61B2018/1425

European: A61B18/14 A61B18/14B A61B18/14N K61B18/00B10E K61B18/00H10G K61B18/14C12 K61B18/14N

K61B19/30F2 K61B19/46D

US: 264/259 264/271.1 264/272.11 264/272.13 264/272.15 264/275 264/279 264/279.1 606/41 606/41P 606/45 606/45P 606/45S 606/49 606/49S



Family:

Publication number	Publication date	Application number	Application date
AU200217919 A5	20020624	AU20020017919	20011128
AU2002217919 AA	20020624	AU20020217919	20011128
AU2002217919 BB	20051201	AU20020217919	20011128
AU2006200502 AA	20060223	AU20060200502	20060206
AU2006200502 BB	20061123	AU20060200502	20060206
CA2420663 AA	20030224	CA20012420663	20011128
CA2420663 C	20110607	CA20012420663	20011128
DE60113150 D1	20051006	DE20016013150	20011128
DE60113150 T2	20060629	DE20016013150T	20011128
DE60128841 D1	20070719	DE20016028841	20011128
DE60128841 T2	20080207	DE20016028841T	20011128
EP1341462 A1	20030910	EP20010270283	20011128
EP1341462 B1	20050831	EP20010270283	20011128
EP1607060 A1	20051221	EP20050018772	20011128
EP1607060 B1	20070606	EP20050018772	20011128
ES2244551 T3	20051216	ES20010270283T	20011128
ES2285616 T3	20071116	ES20050018772T	20011128
JP2004515305 T2	20040527	JP20020549146T	20011128
JP2006341124 A2	20061221	JP20060261052	20060926
JP2006341125 A2	20061221	JP20060261053	20060926
JP4067403 B2	20080326	JP20020549146T	20011128
JP4509078 B2	20100721	JP20060261052	20060926
JP4509079 B2	20100721	JP20060261053	20060926
US2004153055 AA	20040805	US20030358450	20030204
US2005273098 AA	20051208	US20050165891	20050624
US2006189977 AA	20060824	US20060405746	20060418
US6986768 BB	20060117	US20030358450	20030204
US7060064 BB	20060613	US20050165891	20050624
US7582244 BB	20090901	US20060405746	20060418
WO247568 A1	20020620	WO2001US44544	20011128
WO247568 C2	20030417	WO2001US44544	20011128

Priority:

AU20020217919 20011128	AU20060200502 20060206	JP20020549146 20011128
EP20010270283 20011128	US20030358450 20030204	US20000255744P 20001215
US20050165891 20050624	WO2001US44544 20011128	US20060405746 20060418

Probable Assignee: COVIDIEN AG

Assignee(s): (std): ALLEN CHARLES ; ALLEN CHARLES R ; COVIDIEN AG ; SARTOR JOSEPH ; SHERWOOD SERV AG ; SARTOR JOE ; SARTOR JOE D ; SHERWOOD SERVICES AG ; TYCO HEALTHCARE

Assignee(s): TYCO HEALTHCARE GROUP LP ; TYCO HEALTHCARE GROUP AG ; SHERWOOD SERVICES SCHAFFHAUSEN AG ; SHERWOOD SERVICES AG SCHAFFHAUSEN

Inventor(s): (std): ALLEN CHARLES ; SARTOR JOE D ; SARTOR JOE DON ; SARTOR JOSEPH ; SARTOR JOE DON ; SARTOR JOE

Inventor(s): JOSEPH SARTOR ; JOE SARTOR ; CHARLES ALLEN

Agent(s): SPRUSON AND FERGUSON; MCFADDEN FINCHAM; OSLER HOSKIN AND HARCOURT LLP; UNITED STATES SURGICAL , A DIVISION OF TYCO HEALTHCARE GROUP LP; UNITED STATES SURGICAL A DIVISION OF TYCO HEALTHCARE GROUP LP

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

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AU200217919 A5	20020624	LSPB	+	published / reissued	
AU2002217919 AA	20020624	LSPB	+	published / reissued	
AU2002217919 BB	20051201	LSGT	+	granted / extensions (spc, cpc, pte)	
AU2002217919 BB	20040603	LSRE	DA3	AMENDMENTS MADE SECTION 104	DESCRIPTION : THE NATURE OF THE AMENDMENT IS: AMEND THE NAME OF THE CO-INVENTOR FROM SARTOR, JOSEPH TO SARTOR, JOE
AU2002217919 BB	20060330	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2002217919 BB	20070920	LSAS	TC	CHANGE OF APPLICANT'S NAME (SEC. 104)	OWNER NAME : COVIDIEN AG DESCRIPTION : FORMER NAME: SHERWOOD SERVICES AG
AU2006200502 AA	20060223	LSPB	+	published / reissued	
AU2006200502 AA	20070322	LSGT	+FGA	LETTERS PATENT SEALED OR GRANTED (STANDARD PATENT)	
AU2006200502 AA	20070920	LSAS	TC	CHANGE OF APPLICANT'S NAME (SEC. 104)	OWNER NAME : COVIDIEN AG DESCRIPTION : FORMER NAME: SHERWOOD SERVICES AG
AU2006200502 BB	20061123	LSGT	+	granted / extensions (spc, cpc, pte)	
CA2420663 AA	20030224	LSPB	+	published / reissued	
CA2420663 AA	20030224	LSNP	+AFNE	NATIONAL PHASE ENTRY	
CA2420663 AA	20060509	LSSES	+EEER	EXAMINATION REQUEST	
CA2420663 C	20110607	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60113150 D1	20060921	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60113150 D1	20071122	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	OWNER NAME : COVIDIEN AG, NEUHAUSEN AM RHEINFALL, CH
DE60113150 T2	20060629	LSGT	+	granted / extensions (spc, cpc, pte)	
DE60128841 D1	20071122	LSAS	8327	CHANGE IN THE PERSON/NAME/ADDRESS OF THE PATENT OWNER	OWNER NAME : COVIDIEN AG, NEUHAUSEN AM RHEINFALL, CH
DE60128841 D1	20080626	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE60128841 T2	20080207	LSGT	+	granted / extensions (spc, cpc, pte)	
EP1341462 A1	20030910	LSPB	+	published / reissued	
EP1341462 A1	20030910	LSSES	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20030227
EP1341462 A1	20040811	LSSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20040629
EP1341462 A1	20050720	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : SHERWOOD SERVICES AG
EP1341462 A1	20050817	LSAS	RAP1	TRANSFER OF RIGHTS OF AN EP PUBLISHED APPLICATION	PARTYTYPE : OWNER OWNER : SHERWOOD SERVICES AG
EP1341462 A1	20050831	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1341462 A1	20050921	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D
EP1341462 A1	20051216	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A

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EP1341462 A1	20060809	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20060601
EP1341462 A1	20080801	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : CD
EP1341462 A1	20130228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20121126 YEAR OF FEE PAYMENT : 12
EP1341462 A1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON- PAYMENT OF DUE FEES LAPSED DATE : 20131128
EP1341462 A1	20150130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20141127 YEAR OF FEE PAYMENT : 14
EP1341462 A1	20151023	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 15
EP1341462 A1	20161024	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 16
EP1341462 A1	20170131	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : FR PAYMENT DATE : 20161024 YEAR OF FEE PAYMENT : 16
EP1341462 A1	20170131	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20161024 YEAR OF FEE PAYMENT : 16
EP1341462 A1	20170131	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161027 YEAR OF FEE PAYMENT : 16
EP1341462 A1	20170131	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161020 YEAR OF FEE PAYMENT : 16
EP1341462 B1	20050831	LSGT	+	granted / extensions (spc, cpc, pte)	EFFECTIVE DATE : 20050830
EP1607060 A1	20051221	LSPB	+	published / reissued	
EP1607060 A1	20051221	LSSES	+17P	REQUEST FOR EXAMINATION FILED	
EP1607060 A1	20060830	LSFE	+AKX	PAYMENT OF DESIGNATION FEES	
					COUNTRY OF REF DOCUMENT : DE COUNTRY OF REF DOCUMENT : ES COUNTRY OF REF DOCUMENT : FR COUNTRY OF REF DOCUMENT : GB COUNTRY OF REF DOCUMENT : IE COUNTRY OF REF DOCUMENT : IT
EP1607060 A1	20070606	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : GB REF LEGAL EVENT CODE : FG4D
EP1607060 A1	20070711	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : IE REF LEGAL EVENT CODE : FG4D

EP1607060 A1	20070815	LSAS	RAP2	TRANSFER OF RIGHTS OF AN EP GRANTED PATENT	PARTYTYPE : OWNER OWNER : COVIDIEN AG
EP1607060 A1	20071116	LSGT	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : ES REF LEGAL EVENT CODE : FG2A REF DOCUMENT NUMBER : 2285616 COUNTRY OF REF DOCUMENT : ES KIND CODE OF REF DOCUMENT : T3 DESIGNATED STATE(S) :
EP1607060 A1	20080514	LSGT	+26N	NO OPPOSITION FILED	EFFECTIVE DATE : 20080307
EP1607060 A1	20080801	LSAS	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : CD
EP1607060 A1	20130228	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IT PAYMENT DATE : 20121126 YEAR OF FEE PAYMENT : 12
EP1607060 A1	20140829	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	COUNTRY OF REF DOCUMENT : IT NOTIFICATION OF LAPSE : LAPSE BECAUSE OF NON-PAYMENT OF DUE FEES LAPSED DATE : 20131128
EP1607060 A1	20150130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : ES PAYMENT DATE : 20141127 YEAR OF FEE PAYMENT : 14
EP1607060 A1	20151023	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 15
EP1607060 A1	20161024	LSFE	REG	REFERENCE TO A NATIONAL CODE	COUNTRY OF REF DOCUMENT : FR REF COUNTRY CODE : FR REF LEGAL EVENT CODE : PLFP YEAR OF FEE PAYMENT : 16
EP1607060 A1	20170131	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : IE PAYMENT DATE : 20161024 YEAR OF FEE PAYMENT : 16
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EP1607060 A1	20170131	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : GB PAYMENT DATE : 20161027 YEAR OF FEE PAYMENT : 16
EP1607060 A1	20170131	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : DE PAYMENT DATE : 20161020 YEAR OF FEE PAYMENT : 16
EP1607060 B1	20070606	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2244551 T3	20051216	LSGT	+	granted / extensions (spc, cpc, pte)	
ES2285616 T3	20071116	LSGT	+	granted / extensions (spc, cpc, pte)	
JP2004515305 T2	20040527	LSPB	+	published / reissued	
JP2006341124 A2	20061221	LSPB	+	published / reissued	
JP2006341125 A2	20061221	LSPB	+	published / reissued	
JP4067403 B2	20080326	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4067403 B2	20040611	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20040610
JP4067403 B2	20060627	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131

EFFECTIVE DATE : 20060626					
JP4067403 B2	20060927	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20060926
JP4067403 B2	20070130	LSRV	-A02	DECISION OF REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A02 EFFECTIVE DATE : 20070129
JP4067403 B2	20070428	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20070427
JP4067403 B2	20070712	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20070711
JP4067403 B2	20070809	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20070711
JP4067403 B2	20070814	LSAL	A911	TRANSFER OF RECONSIDERATION BY EXAMINER BEFORE APPEAL (ZENCHI)	TEXT : JAPANESE INTERMEDIATE CODE: A911 EFFECTIVE DATE : 20070813
JP4067403 B2	20071203	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4067403 B2	20071211	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	TEXT : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20071210
JP4067403 B2	20080117	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20080108
JP4067403 B2	20080118	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 3
JP4067403 B2	20080118	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	TEXT : JAPANESE INTERMEDIATE CODE: R150
JP4067403 B2	20110118	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4067403 B2	20120117	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 5
JP4067403 B2	20140121	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4067403 B2	20150113	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4067403 B2	20160112	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4067403 B2	20170110	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4509078 B2	20100721	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4509078 B2	20061026	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20061025
JP4509078 B2	20090911	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20090910
JP4509078 B2	20100311	LSRE	A521	WRITTEN AMENDMENT	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100310
JP4509078 B2	20100330	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
JP4509078 B2	20100402	LSGT	+A01	WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01 EFFECTIVE DATE : 20100401

JP4509078 B2	20100408	LSGT	+A01	REGISTRATION (UTILITY MODEL) WRITTEN DECISION TO GRANT A PATENT OR TO GRANT A REGISTRATION (UTILITY MODEL)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A01
JP4509078 B2	20100510	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	DESCRIPTION : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20100427
JP4509078 B2	20100514	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20130514 YEAR OF FEE PAYMENT : 3
JP4509078 B2	20100514	LSGT	+R150	CERTIFICATE OF PATENT OR REGISTRATION OF UTILITY MODEL	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R150
JP4509078 B2	20130430	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	DESCRIPTION : PAYMENT UNTIL: 20140514 YEAR OF FEE PAYMENT : 4
JP4509078 B2	20160510	LSFE	+R250	RECEIPT OF ANNUAL FEES	DESCRIPTION : JAPANESE INTERMEDIATE CODE: R250
JP4509079 B2	20100721	LSGT	+	granted / extensions (spc, cpc, pte)	
JP4509079 B2	20061026	LSSES	+A621	WRITTEN REQUEST FOR APPLICATION EXAMINATION	TEXT : JAPANESE INTERMEDIATE CODE: A621 EFFECTIVE DATE : 20061025
JP4509079 B2	20090911	LSSES	-A131	NOTIFICATION OF REASONS FOR REFUSAL	TEXT : JAPANESE INTERMEDIATE CODE: A131 EFFECTIVE DATE : 20090910
JP4509079 B2	20100311	LSRE	A521	WRITTEN AMENDMENT	TEXT : JAPANESE INTERMEDIATE CODE: A523 EFFECTIVE DATE : 20100310
JP4509079 B2	20100330	LSGT	+TRDD	DECISION OF GRANT OR REJECTION WRITTEN	
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JP4509079 B2	20100510	LSFE	+A61	FIRST PAYMENT OF ANNUAL FEES (DURING GRANT PROCEDURE)	TEXT : JAPANESE INTERMEDIATE CODE: A61 EFFECTIVE DATE : 20100427
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JP4509079 B2	20130430	LSFE	+FPAY	RENEWAL FEE PAYMENT (EVENT DATE IS RENEWAL DATE OF DATABASE)	YEAR OF FEE PAYMENT : 4
JP4509079 B2	20140507	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4509079 B2	20150512	LSFE	+R250	RECEIPT OF ANNUAL FEES	TEXT : JAPANESE INTERMEDIATE CODE: R250
JP4509079 B2	20160514	LSLE	-LAPS	CANCELLATION BECAUSE OF NO PAYMENT OF ANNUAL FEES	
US2004153055 AA	20040805	LSPB	+	published / reissued	
US2005273098 AA	20051208	LSPB	+	published / reissued	
US2006189977 AA	20060824	LSPB	+	published / reissued	
US6986768 BB	20060117	LSGT	+	granted / extensions (spc, cpc, pte)	

US6986768 BB	20030204	LSAS	AS	ASSIGNMENT	OWNER NAME : SHERWOOD SERVICES AG, SWITZERLAND DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:ALLEN, CHARLES; SARTOR, JOE DON; REEL/FRAME:013748/0962; SIGNING DATES FROM 20020212 TO 20020215
US6986768 BB	20090515	LSAS	AS	ASSIGNMENT	OWNER NAME : COVIDIEN AG, SWITZERLAND DESCRIPTION : CHANGE OF NAME; ASSIGNOR:SHERWOOD SERVICES AG; REEL/FRAME:022678/0976 EFFECTIVE DATE : 20070514
US6986768 BB	20090717	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US6986768 BB	20100921	LSAS	AS	ASSIGNMENT	OWNER NAME : COVIDIEN AG, SWITZERLAND DESCRIPTION : CHANGE OF NAME; ASSIGNOR:TYCO HEALTHCARE GROUP AG; REEL/FRAME:025017/0663 EFFECTIVE DATE : 20081215
US6986768 BB	20100921	LSAS	AS	ASSIGNMENT	OWNER NAME : TYCO HEALTHCARE GROUP AG, SWITZERLAND DESCRIPTION : MERGER; ASSIGNOR:COVIDIEN AG; REEL/FRAME:025017/0670 EFFECTIVE DATE : 20081215
US6986768 BB	20130312	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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US7582244 BB	20170223	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
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WO0247568 C2	20030220	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2002217919 COUNTRY OF REF DOCUMENT : AU
WO0247568 C2	20030224	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2420663 COUNTRY OF REF DOCUMENT : CA
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WO0247568 C2	20060316	LSGT	+WWG	WIPO INFORMATION: GRANT IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2002217919 COUNTRY OF REF DOCUMENT : AU

Title: ENDOVASCULAR TREATMENT DEVICE HAVING A FIBER TIP SPACER

Abstract: Source: US2004010248A An endovascular laser treatment device designed to be used with an optical fiber to treat venous diseases such as varicose veins is provided. The device includes a spacer that positions the distal end of the optical fiber away from the inner wall of the blood vessel during delivery of laser energy to provide an even distribution of thermal energy around the vessel, thereby avoiding vessel perforation and incomplete vessel collapse.

Classifications:

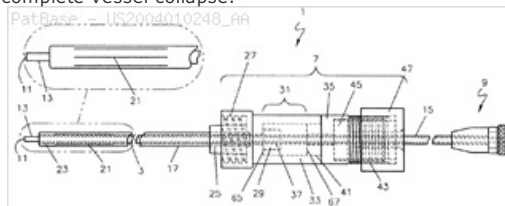
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A61B18/20 A61B18/22 A61B18/24 A61B19/00 A61B5/06 A61B90/94
A61H1/00 A61N5/067 (Advanced/Invention);
A61B17/00 A61B17/22 A61B18/00 A61B19/00 (Advanced/Non-invention);
A61B18/04 A61B18/18 A61B18/20 A61B19/00 A61B5/06
A61H1/00 (Core/Invention);
A61B17/00 A61B17/22 A61B19/00 (Core/Non-invention)

International (IPC 1-7): A61B18/00 A61B18/18 A61B18/20
A61B18/22 A61B18/24 A61M25/00 A61M25/01 A61N5/067

CPC: A61B18/22 A61B2018/00285 A61B2018/0063 A61B90/39 A61B2090/036 A61B2090/034 A61B2090/0436 A61B90/94
A61B2017/00526 A61B2018/00101 A61B2018/2244 A61B2090/3925 A61B18/1492 A61B18/18 A61B2017/22068
A61B2018/00404 A61B18/24 A61B2017/00469 A61B2018/2205 G02B6/3855

European: A61B18/24 K61B17/00H4 K61B17/22H7C K61B18/00B16A2 K61B18/00B2H4 K61B18/00F4 K61B18/00F6C
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US: 128/898 29/428 385/51 385/60 385/91 600/101 600/106 600/117 600/424 600/424P 601/2 601/2S 606/13 606/13S
606/15 606/15P 606/15S 606/27 606/27S 606/33 606/33S 606/7 606/7P 606/7S 607/7 607/88 607/89 607/96

**Family:**

Publication number	Publication date	Application number	Application date
AU2003261120 AA	20040123	AU20030261120	20030703
AU2003261120 AH	20040123	AU20030261120	20030703
CA2452503 AA	20040611	CA20032452503	20031209
CA2482467 AA	20050430	CA20042482467	20040922
DE60347011 D1	20141224	DE20036047011	20030703
EP1428482 A1	20040616	EP20030257761	20031210
EP1527748 A1	20050504	EP20040256733	20041101
EP1539012 A2	20050615	EP20030763292	20030703
EP1539012 A4	20100310	EP20030763292	20030703
EP1539012 B1	20141119	EP20030763292	20030703
EP2134282 A2	20091223	EP20080745403	20080409
EP2134282 A4	20161228	EP20080745403	20080409
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US2004010248 AA	20040115	US20030613395	20030703
US2004116912 AA	20040617	US20020316545	20021211
US2005096642 AA	20050505	US20040836084	20040430
US2006142747 AA	20060629	US20060362239	20060224
US2008015559 AA	20080117	US20070777198	20070712
US2008188843 AA	20080807	US20080100309	20080409
US2008208180 AA	20080828	US20080109835	20080425
US2008249399 AA	20081009	US20080138134	20080612
US2008287939 AA	20081120	US20080164674	20080630
US2009264875 AA	20091022	US20090496515	20090701
US2012316546 AA	20121213	US20120566502	20120803
US2013261614 AA	20131003	US20130850932	20130326
US2014358134 AA	20141204	US20140465490	20140821
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US2016030113 AA	20160204	US20150884555	20151015
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US7273478 BB	20070925	US20030613395	20030703
US7458967 BB	20081202	US20040836084	20040430
US7559329 BB	20090714	US20070777198	20070712
US8413664 BB	20130409	US20060362239	20060224
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US8840606 BB	20140923	US20130850932	20130326
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US8864755 BB	20141021	US20120566502	20120803
US8887733 BB	20141118	US20080138134	20080612
WO04004546 A2	20040115	WO2003US21213	20030703
WO04004546 A3	20040513	WO2003US21213	20030703
WO08124790 A2	20081016	WO2008US59791	20080409
WO08124790 A3	20090108	WO2008US59791	20080409

Priority:

CA20032452503	20031209	CA20042482467	20040922	EP20030763292	20030703
US20030613395	20030703	US20020395218P	20020710	US20040836084	20040430
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US20130850932	20130326	US20140465490	20140821	US20140485348	20140912
US20150884555	20151015				

Probable Assignee: ANGIODYNAMICS INC

Assignee(s): (std): APPLING WILLIAM M ; BEYER THEODORE J ; BROWN JOE D ; CARTIER WILLIAM A ; HAMILTON JR WILLIAM C ; HOBBS EAMONN ; MEYER RALPH A ; HAMILTON WILLIAM C ; HAMILTON WILLIAM C JR ; KABNICK LOWELL S ; SCHAEFER LEONARD G ; ANGIODYNAMICS INC

Assignee(s): KABNICK LOWELL ; ANGIODYNAMICS INC QUEENSBURY ; ANGIODYNAMICS ; JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS ; INC

Inventor(s): (std): BEYER THEODORE J ; BROWN JOE D ; CARTIER WILLIAM A ; HAMILTON JR WILLIAM C ; HAMILTON WILLIAM C ; HAMILTON WILLIAM C JR ; HOBBS EAMONN ; KABNICK LOWELL ; KABNICK LOWELL S ; MEYER RALPH A ; SCHAEFER LEONARD G ; APPLING WILLIAM M

Inventor(s): APPLING WILLIAM M GRANVILLE ; APPLING WILLIAM ; WILLIAM M APPLING ; HOBBS EAMONN QUEENSBURY ; EAMONN HOBBS

Agent(s): KIRBY EADES GALE BAKER; GROSSE SCHUMACHER KNAUER VON HIRSCHHAUSEN; JENNINGS NIGEL ROBIN; ISERN JORGE; REED SMITH LLP, ATTN: PATENT RECORDS DEPARTMENT; REED SMITH LLP ATTN PATENT RECORDS DEPARTMENT; HARRY K AHN REED SMITH LLP; HARRY AHN ESQ ABELMAN FRAYNE AND SCHWAB; AFS / ANGIODYNAMICS; AFS ANGIODYNAMICS; REED SMITH LLP; HARRY K; ABELMAN FRAYNE AND SCHWAB; AHN HARRY K; MCCARTER AND ENGLISH LLP; KAPLAN BREYER SCHWARZ AND OTTESEN 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 SV 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
AU2003261120 AA	20040123	LSPB	+	published / reissued	
AU2003261120 AA	20050526	LSLE	-MK6	APPLICATION LAPSED SECTION 142(2)(F)/REG. 8.3(3) - PCT APPLIC. NOT ENTERING NATIONAL PHASE	
CA2452503 AA	20040611	LSPB	+	published / reissued	
CA2452503 AA	20061130	LSER	+EEER	EXAMINATION REQUEST	
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CA2482467 AA	20050430	LSPB	+	published / reissued	
CA2482467 AA	20090723	LSER	+EEER	EXAMINATION REQUEST	
CA2482467 AA	20121022	LSWD	-AZWI	WITHDRAWN APPLICATION	
CA2482467 AA	20121025	LSWD	-AZWI	WITHDRAWN APPLICATION	EFFECTIVE DATE : 20121022
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EP1527748 A1	20060104	LSER	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 20051103
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EP1539012 A2	20050615	LSER	+17P	REQUEST FOR	EFFECTIVE DATE : 20050208

EP1539012 A2	20100310	LSSES	+A4	EXAMINATION FILED DESPATCH OF SUPPLEMENTARY SEARCH REPORT	EFFECTIVE DATE : 20100208
EP1539012 A2	20100714	LSSES	+17Q	FIRST EXAMINATION REPORT	EFFECTIVE DATE : 20100614
EP1539012 A2	20140709	LSRE	RIC1	CLASSIFICATION (CORRECTION)	IPC : A61B 18/24 20060101AFI20140605BHEP
EP1539012 A2	20140716	LSGT	+INTG	ANNOUNCEMENT OF INTENTION TO GRANT	EFFECTIVE DATE : 20140623
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US2004116912 AA	20040617	LSPB	+	published / reissued	
US2005096642 AA	20050505	LSPB	+	published / reissued	
US2006142747 AA	20060629	LSPB	+	published / reissued	
US2008015559 AA	20080117	LSPB	+	published / reissued	
US2008188843 AA	20080807	LSPB	+	published / reissued	
US2008208180 AA	20080828	LSPB	+	published / reissued	
US2008208180 AA	20080425	LSAS	AS	ASSIGNMENT	OWNER NAME : ANGIODYNAMICS, INC.,NEW YORK DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CARTIER, WILLIAM A.; APPLING, WILLIAM M.; SIGNED BETWEEN 20080424 AND 20080425; US-ASSIGNMENT DATABASE UPDATED:20100329; REEL/FRAME:20858/489
US2008208180 AA	20080425	LSAS	AS	ASSIGNMENT	OWNER NAME : ANGIODYNAMICS, INC.,NEW YORK DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:CARTIER, WILLIAM A.; APPLING, WILLIAM M.; SIGNING DATES FROM 20080424 TO 20080425; REEL/FRAME:020858/0489
US2008208180 AA	20120523	LSAS	AS	ASSIGNMENT	OWNER NAME : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:028260/0329 EFFECTIVE DATE : 20120522
US2008208180 AA	20130930	LSAS	AS	ASSIGNMENT	OWNER NAME : ANGIODYNAMICS, INC., NEW YORK DESCRIPTION : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:031315/0361 EFFECTIVE DATE : 20130919
US2008249399 AA	20081009	LSPB	+	published / reissued	
US2008287939 AA	20081120	LSPB	+	published / reissued	
US2008287939 AA	20080807	LSAS	AS	ASSIGNMENT	OWNER NAME : ANGIODYNAMICS, INC., NEW YORK DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPLING, WILLIAM M.; MEYER, RALPH A.; SCHAEFER, LEONARD G.; REEL/FRAME:021356/0640; SIGNING DATES FROM 20080710 TO 20080714
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					AGENT DESCRIPTION : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:028260/0329 EFFECTIVE DATE : 20120522
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US2009264875 AA	20091022	LSPB	+	published / reissued	
US2012316546 AA	20121213	LSPB	+	published / reissued	
US2013261614 AA	20131003	LSPB	+	published / reissued	
US2014358134 AA	20141204	LSPB	+	published / reissued	
US2014358134 AA	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US2015025512 AA	20150122	LSPB	+	published / reissued	
US2016030113 AA	20160204	LSPB	+	published / reissued	
US2016030113 AA	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US7033347 BB	20060425	LSGT	+	granted / extensions (spc, cpc, pte)	
US7033347 BB	20030428	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNOR:APPLING, WILLIAM M.; REEL/FRAME:014003/0134 EFFECTIVE DATE : 20030408
US7033347 BB	20090923	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7033347 BB	20120523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:028260/0329 EFFECTIVE DATE : 20120522
US7033347 BB	20130925	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7033347 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:031315/0361 EFFECTIVE DATE : 20130919
US7033347 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:031315/0720 EFFECTIVE DATE : 20130919
US7033347 BB	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.;

					REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US7033347 BB	20161114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:040688/0540 EFFECTIVE DATE : 20161107
US7273478 BB	20070925	LSGT	+	granted / extensions (spc, cpc, pte)	
US7273478 BB	20030703	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPLING, WILLIAM M.; HOBBS, EAMONN; REEL/FRAME:014265/0206 EFFECTIVE DATE : 20030703
US7273478 BB	20100119	LSRX	+RR	REQUEST FOR REEXAMINATION FILED	EFFECTIVE DATE : 20091106
US7273478 BB	20110224	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7273478 BB	20120523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:028260/0329 EFFECTIVE DATE : 20120522
US7273478 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:031315/0720 EFFECTIVE DATE : 20130919
US7273478 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:031315/0361 EFFECTIVE DATE : 20130919
US7273478 BB	20150311	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7273478 BB	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US7273478 BB	20161114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:040688/0540 EFFECTIVE DATE : 20161107
US7458967 BB	20081202	LSGT	+	granted / extensions (spc, cpc, pte)	
US7458967 BB	20040430	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPLING, WILLIAM M.; KABNICK, LOWELL S.; REEL/FRAME:015287/0686 EFFECTIVE DATE : 20040428
US7458967 BB	20120502	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7458967 BB	20120523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER

					OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:028260/0329 EFFECTIVE DATE : 20120522
US7458967 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:031315/0361 EFFECTIVE DATE : 20130919
US7458967 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:031315/0720 EFFECTIVE DATE : 20130919
US7458967 BB	20160519	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US7458967 BB	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US7458967 BB	20161114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:040688/0540 EFFECTIVE DATE : 20161107
US7559329 BB	20090714	LSGT	+	granted / extensions (spc, cpc, pte)	
US7559329 BB	20090818	LSRE	CC	CERTIFICATE OF CORRECTION	
US7559329 BB	20100119	LSRX	+RR	REQUEST FOR REEXAMINATION FILED	EFFECTIVE DATE : 20091116
US7559329 BB	20120523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:028260/0329 EFFECTIVE DATE : 20120522
US7559329 BB	20121219	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US7559329 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:031315/0720 EFFECTIVE DATE : 20130919
US7559329 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:031315/0361 EFFECTIVE DATE : 20130919
US7559329 BB	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US7559329 BB	20161114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN

					CHASE BANK, N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:040688/0540 EFFECTIVE DATE : 20161107
US7559329 BB	20161229	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US8413664 BB	20130409	LSGT	+	granted / extensions (spc, cpc, pte)	
US8413664 BB	20120523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:028260/0329 EFFECTIVE DATE : 20120522
US8413664 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:031315/0361 EFFECTIVE DATE : 20130919
US8413664 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:031315/0720 EFFECTIVE DATE : 20130919
US8413664 BB	20160922	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8413664 BB	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US8413664 BB	20161114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:040688/0540 EFFECTIVE DATE : 20161107
US8425501 BB	20130423	LSGT	+	granted / extensions (spc, cpc, pte)	
US8425501 BB	20120523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:028260/0329 EFFECTIVE DATE : 20120522
US8425501 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:031315/0720 EFFECTIVE DATE : 20130919
US8425501 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:031315/0361 EFFECTIVE DATE : 20130919
US8425501 BB	20161006	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US8425501 BB	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107

US8425501 BB	20161114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:040688/0540 EFFECTIVE DATE : 20161107
US8840606 BB	20140923	LSGT	+	granted / extensions (spc, cpc, pte)	
US8840606 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:031315/0720 EFFECTIVE DATE : 20130919
US8840606 BB	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US8840606 BB	20161114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:040688/0540 EFFECTIVE DATE : 20161107
US8864754 BB	20141021	LSGT	+	granted / extensions (spc, cpc, pte)	
US8864754 BB	20080409	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPLING, WILLIAM M.; MEYER, RALPH A.; BEYER, THEODORE J.; AND OTHERS; REEL/FRAME:020779/0187 EFFECTIVE DATE : 20080409
US8864754 BB	20120523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:028260/0329 EFFECTIVE DATE : 20120522
US8864754 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:031315/0720 EFFECTIVE DATE : 20130919
US8864754 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:031315/0361 EFFECTIVE DATE : 20130919
US8864754 BB	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US8864754 BB	20161114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:040688/0540 EFFECTIVE DATE : 20161107

US8864755 BB	20141021	LSGT	+	granted / extensions (spc, cpc, pte)	
US8864755 BB	20130918	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:APPLING, WILLIAM M; MEYER, RALPH A; BEYER, THEODORE J.; AND OTHERS; REEL/FRAME:031229/0037 EFFECTIVE DATE : 20080409
US8864755 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:031315/0720 EFFECTIVE DATE : 20130919
US8864755 BB	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US8864755 BB	20161114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:040688/0540 EFFECTIVE DATE : 20161107
US8887733 BB	20141118	LSGT	+	granted / extensions (spc, cpc, pte)	
US8887733 BB	20120523	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:028260/0329 EFFECTIVE DATE : 20120522
US8887733 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:031315/0361 EFFECTIVE DATE : 20130919
US8887733 BB	20130930	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY AGREEMENT; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:031315/0720 EFFECTIVE DATE : 20130919
US8887733 BB	20161108	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT OLDPARTY : SECURITY INTEREST; ASSIGNOR:ANGIODYNAMICS, INC.; REEL/FRAME:040613/0049 EFFECTIVE DATE : 20161107
US8887733 BB	20161114	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : ANGIODYNAMICS, INC., NEW YORK OLDPARTY : RELEASE BY SECURED PARTY; ASSIGNOR:JPMORGAN CHASE BANK, N.A., AS ADMINISTRATIVE AGENT; REEL/FRAME:040688/0540 EFFECTIVE DATE : 20161107
WO04004546 A2	20040115	LSPB	+	published / reissued	
WO04004546 A3	20050203	LSNP	+WWE	WIPO INFORMATION: ENTRY INTO NATIONAL PHASE	REF DOCUMENT NUMBER : 2003763292 COUNTRY OF REF DOCUMENT : EP

WO04004546 A3	20050615	LSPB	+WWP	WIPO INFORMATION: PUBLISHED IN NATIONAL OFFICE	REF DOCUMENT NUMBER : 2003763292 COUNTRY OF REF DOCUMENT : EP
WO04004546 A3	20060718	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : JP
WO04004546 A3	20060718	LSWD	-WWW	WIPO INFORMATION: WITHDRAWN IN NATIONAL OFFICE	COUNTRY OF REF DOCUMENT : JP
WO08124790 A2	20081016	LSPB	+	published / reissued	
WO08124790 A3	20091010	LSNE	NENP	NON-ENTRY INTO THE NATIONAL PHASE IN:	REF COUNTRY CODE : DE

Title: MEDICAL DEVICE CONNECTOR

Abstract: Source: US2011125128A The present invention relates to a first medical device (1, 100) configured to permit connection to a second medical device (3). The medical device (1, 100, 200) comprises a guiding track (12) for receiving a lock protrusion (4). The guiding track (12) comprises a surface (16) having a lock edge (15) extending between a first and a second level (H1, H2). The lock edge (15) extends in a smooth curvature between the first and the second level (H1, H2), the curvature of which is a function of at least of radius (Ra). The medical device (1, 100) may comprise a neck element (11) with at least one guiding track (12) for receiving a lock protrusion (4) of a second medical device (3) or optionally the medical device may comprise a sleeve member (202) which comprises the guiding track (12). The present invention provide for a connection site which enables a smooth lock but especially a smooth unlock motion of the second medical device being connected.

Classifications:

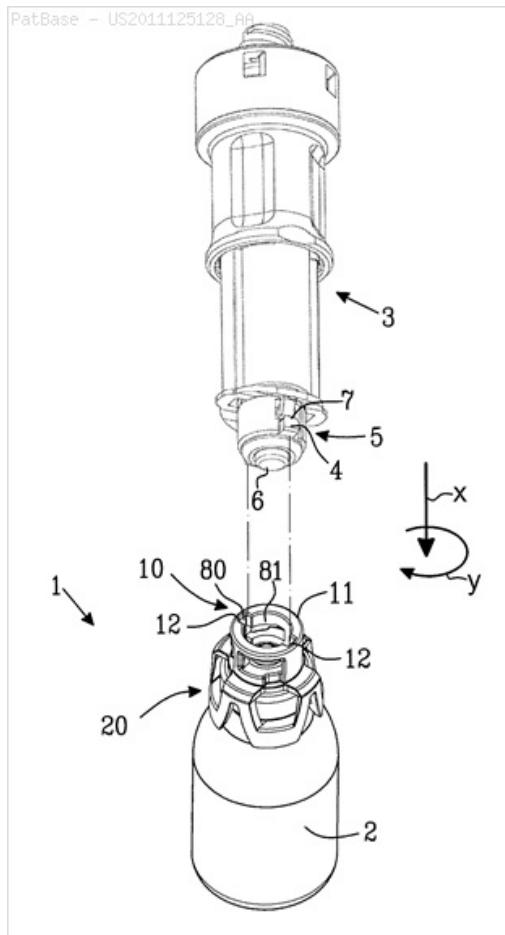
International (IPC 8-9): A61B19/00 A61J1/05

A61M5/32 (Advanced/Invention)

CPC: A61J1/2096 A61J1/2055 A61J1/2065

European: A61J1/20F K61J1/20A6B K61J1/20A6D

US: 604/403 604/411 604/414 604/414P 604/415

**Family:**

Publication number	Publication date	Application number	Application date
US2011125128 AA	20110526	US20090623042	20091120
US8480646 BB	20130709	US20090623042	20091120

Priority:

US20090623042 20091120

Probable Assignee: CARMEL PHARMA AB

Assignee(s): (std): CARMEL PHARMA AB ; CEDERSCHIOLD ALEXANDER ; NORD LARS

Inventor(s): (std): CEDERSCHIOLD ALEXANDER ; NORD LARS

Agent(s): SERVILLA WHITNEY LLC

Legal status (INPADOC)

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Patent	Date recorded	Event group	Code	Event	Details
US2011125128 AA	20110526	LSPB	+	published / reissued	
US8480646 BB	20130709	LSGT	+	granted / extensions (spc, cpc, pte)	
US8480646 BB	20100512	LSAS	AS	ASSIGNMENT	PARTYTYPE : OWNER OWNER : CARMEL PHARMA AB, SWEDEN OLDPARTY : ASSIGNMENT OF ASSIGNORS INTEREST; ASSIGNORS:NORD, LARS; CEDERSCHIOLD, ALEXANDER; SIGNING DATES FROM 20100113 TO 20100115;

US8480646 BB	20161228	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
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