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NOTICE OF ALLOWANCE AND FEE(S) DUE

148468 7590 03/16/2020
Med Venture Management, LLC
6030 W. Harold Gatty Dr.
Salt Lake City, UT 84116

EXAMINER
DEDOULIS, CHRISTINE A

ART UNIT	PAPER NUMBER
3794	

DATE MAILED: 03/16/2020

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/092,945	04/07/2016	Robert E. Wright	NBUS.004C1	5930

TITLE OF INVENTION: SYSTEMS AND METHODS FOR TISSUE ABLATION

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	06/16/2020

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

148468 7590 03/16/2020

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Salt Lake City, UT 84116

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

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nonprovisional	SMALL	$500	$0.00	$0.00	$500	06/16/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
DEDOULIS, CHRISTINE A	3794	606-041000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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Notice of Allowability	Application No. 15/092,945	Applicant(s) Wright et al.	
	Examiner CHRISTINE A DEDOULIS	Art Unit 3794	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the supplemental amedmnet filed February 24th, 2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-17 and 19-73 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information , please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☑ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☑ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☑ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/C.A.D./ Examiner, Art Unit 3794	/EUN HWA KIM/ Primary Examiner, Art Unit 3794

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 16th, 2019 has been entered.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

3. Authorization for this examiner's amendment was given in an interview with Daniel Higgs on March 9th, 2020.

4. The application has been amended as follows:

5. **Claim 1 has been replaced with the following**:

A system comprising:

a radiofrequency probe; and

a needle apparatus that comprises:

a first hub;

an elongate member having a proximal end and a distal end, the proximal end being fixedly attached to the first hub, the elongate member comprising a lumen at an interior thereof, the lumen being configured to receive a distal end of the radiofrequency probe, the radiofrequency probe being separate from the needle apparatus;

a tip positioned at the distal end of the elongate member, the tip being configured to pierce body tissue;

a plurality of filaments movable between a retracted position at least partially in the elongate member and a deployed position at least partially out of the elongate member;

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a second hub coupled to the plurality of filaments;

and an actuator coupled to the second hub and rotatable relative to the first hub, wherein rotation of the actuator in a first direction relative to the first hub moves the second hub axially relative to the first hub to advance the plurality of filaments to the deployed position, and wherein rotation of the actuator in a second direction relative to the first hub that is opposite the first direction moves the second hub axially relative to the first hub to retract the plurality of filaments to the retracted position,

wherein, when the radiofrequency probe is fully separated from the needle apparatus in a non-inserted state, such that the lumen and the first and second hubs are devoid of the radiofrequency probe, the plurality of filaments are movable via the actuator from the retracted position to the deployed position, and

wherein, after the plurality of filaments have been moved to the deployed position, the first and second hubs are each configured permit insertion therethrough of the radiofrequency probe and the lumen is configured to accept the radiofrequency probe therein to physically contact a conductive portion of the ~~needle apparatus~~ tip and thereby establish an electrically conductive path from the radiofrequency probe to the plurality of filaments, the plurality of filaments and the tip being configured to transmit radiofrequency energy from the radiofrequency probe to operate as a monopolar electrode, when the radiofrequency probe is inserted into the lumen.

6. Claim 2 has been replaced with the following:

The system of claim 1, wherein the first hub defines a first hub lumen, wherein the second hub defines a second hub lumen, and wherein the lumens of the first and second hubs are configured to permit the radiofrequency probe to be inserted therethrough and into the lumen at the interior of the elongate member.

7. Claim 3 has been replaced with the following:

The system of claim 2, wherein the actuator defines ~~a~~ an actuator lumen within which a portion of the second hub is positioned.

8. Claim 19 has been replaced with the following:

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A system comprising:

a radiofrequency probe; and

a needle apparatus that comprises:

a first hub;

an elongate member having a proximal end and a distal end, the proximal end being fixedly attached to the first hub, the elongate member comprising a lumen at an interior thereof;

a tip positioned at the distal end of the elongate member, the tip being configured to pierce body tissue;

a plurality of filaments movable between a retracted position at least partially in the elongate member and a deployed position at least partially out of the elongate member;

a second hub coupled to the plurality of filaments;

and an actuator coupled to the second hub and rotatable relative to the first hub, wherein rotation of the actuator in a first direction relative to the first hub moves the second hub axially relative to the first hub to advance the plurality of filaments to the deployed position, and wherein rotation of the actuator in a second direction relative to the first hub that is opposite the first direction moves the second hub axially relative to the first hub to retract the plurality of filaments to the retracted position,

the first and second hubs being configured to permit insertion therethrough of a distal end of the radiofrequency probe, such that upon insertion of the radiofrequency probe through the first and second hubs, the distal end of the radiofrequency probe extends into the lumen at the interior of the elongate member to physically contact a conductive portion of the ~~needle apparatus~~ tip and thereby establish an electrically conductive path from the radiofrequency probe to the plurality of filaments, the plurality of filaments and the tip being configured to transmit radiofrequency energy from the radiofrequency probe to operate as a monopolar electrode, when the radiofrequency probe is inserted into the lumen at the interior of the elongate member.

9. Claim 20 has been replaced with the following:

A system comprising:

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a radiofrequency probe; and

a needle apparatus that comprises:

a first hub;

an elongate member having a proximal end and a distal end, the proximal end being fixedly attached to the first hub;

a tip positioned at the distal end of the elongate member, the tip being configured to pierce body tissue;

a plurality of filaments that are movable between a retracted position at least partially in the elongate member and a deployed position at least partially out of the elongate member;

a second hub coupled to the plurality of filaments;

an actuator coupled to the second hub and rotatable relative to the first hub, wherein rotation of the actuator in a first direction relative to the first hub moves the second hub axially relative to the first hub to advance the plurality of filaments to the deployed position, and wherein rotation of the actuator in a second direction relative to the first hub that is opposite the first direction moves the second hub axially relative to the first hub to retract the plurality of filaments to the retracted position, the actuator being operable to move the plurality of filaments to at least the deployed position prior to insertion of the radiofrequency probe into the needle apparatus;

a first lumen that extends to a proximal end of the needle apparatus; and

a second lumen at an interior of the elongate member that is in fluid communication with the first lumen,

the first lumen being configured to permit insertion of the radiofrequency probe therethrough and into the second lumen,

the second lumen being configured to receive the radiofrequency probe therein such that the radiofrequency probe physically contacts a conductive portion of the ~~needle apparatus~~ tip and thereby establishes an electrically conductive path from the radiofrequency probe to the plurality of filaments, and

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the plurality of filaments and the tip being configured to transmit radiofrequency energy from the radiofrequency probe to operate as a monopolar electrode, when the radiofrequency probe is inserted into the second lumen.

10. Claim 35 has been replaced with the following:

The system of claim 20, wherein the ~~electrically~~ conductive portion of the needle apparatus is positioned at the distal end of the needle apparatus.

11. Claim 51 has been replaced with the following:

The system of claim 1, wherein the ~~electrically~~ conductive portion of the needle apparatus is positioned at the distal end of the needle apparatus.

12. Claim 67 has been replaced with the following:

The system of claim 19, wherein the ~~electrically~~ conductive portion of the needle apparatus is positioned at the distal end of the needle apparatus.

Reasons for Allowance

13. The following is an examiner's statement of reasons for allowance: The most pertinent prior art of record is **Tullis et al., (U.S. Pat. 7,918,852),** which teaches a similar system comprising a needle apparatus (28 in Figs. 2-12) including a first hub (coupling assembly 44) and configured to receive a radiofrequency probe (36) (as well as other attachments, such as syringe 32). The radiofrequency probe (36) includes a coupling assembly (116) that is configured to mate with the first hub (coupling assembly 44). In the inserted state, the radiofrequency probe (36) is in physical contact with a conductive portion of the needle apparatus (28); tab (150) acts as a connector and facilitates the electrical connection between terminal (140) and associated terminal (86), thereby providing electrical contact with radiofrequency probe (28) and establishing an electrically conductive path.

14. While Tullis discloses a radiofrequency probe (36 in Figs. 2-12) that is fully separable from the needle apparatus (28) in a non-inserted state, Tullis fails to explicitly disclose the plurality of filaments and the tip being configured to transmit radiofrequency energy from the radiofrequency probe to operate as a monopolar electrode, when the radiofrequency probe is inserted.

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15. **Young et al., (U.S. PGPub. No. 2006/0095029)** teaches a similar system including a needle apparatus comprising an elongate member (elongate cannula 212 in Figs.8-9) coupled to a first hub (294) and a plurality of filaments (first and the second arrays 225, 250) coupled to a second hub (296) moveable between a retracted positon at least partially in the elongate member (212) and a deployed position at least partially out of the elongate member (212) ([0037]; [0057]). The system further includes a radiofrequency probe (295) inserted though the hubs (294, 296) in order to provide electrical energy to the plurality of filaments (first and the second arrays 225, 250). Young teaches that the RF generator (6 as best seen in Fig. 1) is electrically connected to the electrical connector (38), which may be directly or indirectly (e.g., via a conductor) electrically coupled to the electrode array (30) ([0043]; [0045]; [0052]).

16. **Regarding <u>independent claim 1</u>,** while these references discuss the relationship between a needle apparatus, radiofrequency probe and a plurality of filament, these reference fail to teach "the first and second hubs are each configured permit insertion therethrough of the radiofrequency probe and the lumen is configured to accept the radiofrequency probe therein *to physically contact a conductive portion of the tip and thereby establish an electrically conductive path from the radiofrequency probe to the plurality of filaments, the plurality of filaments and the tip being configured to transmit radiofrequency energy from the radiofrequency probe* to operate as a monopolar electrode, when the radiofrequency probe is inserted into the lumen" as currently claimed in independent claim 1.

17. **Regarding <u>independent claim 19</u>,** while these references discuss the relationship between a needle apparatus, radiofrequency probe and a plurality of filament, these reference fail to teach "the first and second hubs being configured to permit insertion therethrough of a distal end of the radiofrequency probe, such that upon insertion of the radiofrequency probe through the first and second hubs, the distal end of the radiofrequency probe extends into the lumen at the interior of the elongate member *to physically contact a conductive portion of the tip and thereby establish an electrically conductive path from the radiofrequency probe to the plurality of filaments, the plurality of filaments and the tip being configured to transmit radiofrequency energy from the radiofrequency probe* to operate as a monopolar

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electrode, when the radiofrequency probe is inserted into the lumen at the interior of the elongate member" as currently claimed in independent claim 19.

18. **Regarding <u>independent claim 20,</u>** while these references discuss the relationship between a needle apparatus, radiofrequency probe and a plurality of filament, these reference fail to teach "the first lumen being configured to permit insertion of the radiofrequency probe therethrough and into the second lumen, the second lumen being configured to receive the radiofrequency probe therein such that the *radiofrequency probe physically contacts a conductive portion of the tip and thereby establishes an electrically conductive path from the radiofrequency probe to the plurality of filaments, and the plurality of filaments and the tip being configured to transmit radiofrequency energy from the radiofrequency probe* to operate as a monopolar electrode, when the radiofrequency probe is inserted into the second lumen" as currently claimed in independent claim 20.

19. The Examiner has failed to find any other reference which alone or in any fair combination would disclose, fairly suggest or make obvious each and every limitation set forth in independent claims 1, 19 and 20. Therefore, claims 1, 19 and 20 are patentable over the prior art.

20. Accordingly, claims 2-17, and 21-73 are allowed as being dependent on allowed independent claims.

21. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

22. **Claims 1-17 and 19-73 are** allowed.

Conclusion

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTINE A DEDOULIS whose telephone number is (571)272-2459. The examiner can normally be reached on M-F, 8am to 5pm.

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Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on 571-272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see https://ppair-my.uspto.gov/pair/PrivatePair. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C.A.D./
Examiner, Art Unit 3794

/EUN HWA KIM/
Primary Examiner, Art Unit 3794

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Examiner-Initiated Interview Summary	**Application No.** 15/092,945	**Applicant(s)** Wright et al.	
	Examiner CHRISTINE A DEDOULIS	**Art Unit** 3794	**AIA (FITF) Status** No

All participants (applicant, applicant's representative, PTO personnel):

(1) Christine Dedoulis.

(3) Eunhwa Kim.

(2) Daniel Higgs.

(4) _____.

Date of Interview: 09 March 2020.

Type: ☐ Telephonic ☑ Video Conference
☐ Personal [copy given to: ☐ applicant ☐ applicant's representative]

Exhibit shown or demonstration conducted: ☐ Yes ☑ No.
If Yes, brief description: _____.

Issues Discussed ☐ 101 ☐ 112 ☐ 102 ☑ 103 ☑ Others
(For each of the checked box(es) above, please describe below the issue and detailed description of the discussion)

Claim(s) discussed: 1-3,19-20,35,51 and 67.

Identification of prior art discussed: Tullis and Young.

Substance of Interview
(For each issue discussed, provide a detailed description and indicate if agreement was reached. Some topics may include: identification or clarification of a reference or a portion thereof, claim interpretation, proposed amendments, arguments of any applied references etc...)

See Continuation Sheet.

Applicant recordation instructions: It is not necessary for applicant to provide a separate record of the substance of interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

☐ Attachment

/C.A.D./ Examiner, Art Unit 3794	/EUN HWA KIM/ Primary Examiner, Art Unit 3794

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments:

There was a discussion regarding the supplemental amendment filed February 24th, 2020. The Examiner explained that as broadly claimed,Tullis appears to teach the newly amended limitations including a needle apparatus that is configured to accept a radiofrequency probe in order to establish an electrically conductive path. The probe as taught by Tullis is fully separable from the needle apparatus and various other attachments can be inserted into the needle apparatus (see reasons of allowance for further detail). Young further teaches a similar device and would appear to cure the deficiencies of Tullis regarding the plurality of filaments and the tip being configured to transmit radiofrequency energy (see notice of allowance for further detail). Further, the Examiner explained that the supplemental amendment did not provide enough clarification regarding the location of the physical contact between the radiofrequency probe and the needle apparatus in order to establish the electrically conductive path from the probe to the filaments and tip.

There was a discussion regarding possible amendments to the claims in order to overcome the relevant prior art and obviate any possible 112 rejections. Amendments to the claims were agreed upon in order to bring the case to allowance (see Examiner's Amendment).

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Notice of References Cited	Application/Control No. 15/092,945	Applicant(s)/Patent Under Reexamination Wright et al.	
	Examiner CHRISTINE A DEDOULIS	Art Unit 3794	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-7918852-B2	04-2011	Tullis; Philip James	A61B18/1477	606/41
*	B	US-20060095029-A1	05-2006	Young; Kimbolt	A61B18/148	606/41
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/092,945	Wright et al.
	Examiner	**Art Unit**
	CHRISTINE A DEDOULIS	3794

CPC								
Symbol							**Type**	**Version**
A61B	/	18	/	1477			F	2013-01-01
A61B	/	2018	/	0044			A	2013-01-01
A61B	/	2018	/	1427			A	2013-01-01
A61B	/	2018	/	143			A	2013-01-01
A61B	/	2018	/	1475			A	2013-01-01
A61B	/	18	/	1206			A	2013-01-01
A61B	/	2018	/	00577			A	2013-01-01
A61B	/	2018	/	1253			A	2013-01-01

CPC Combination Sets								
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

/Christine A Dedoulis/ Examiner, Art Unit 3794	10 March 2020	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	72	
/EUN HWA KIM/ Primary Examiner, Art Unit 3794	13 March 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2A

U.S. Patent and Trademark Office — Part of Paper No.: 20200309

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Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/092,945	Wright et al.
	Examiner	**Art Unit**
	CHRISTINE A DEDOULIS	3794

INTERNATIONAL CLASSIFICATION					
CLAIMED					
A61B18/14	/	18	/	14	
NON-CLAIMED					
	/		/		

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**
606	41

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

/Christine A Dedoulis/ Examiner, Art Unit 3794 (Assistant Examiner)	10 March 2020 (Date)	**Total Claims Allowed:** 72	
/EUN HWA KIM/ Primary Examiner, Art Unit 3794 (Primary Examiner)	13 March 2020 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 2A

U.S. Patent and Trademark Office

Part of Paper No.: 20200309

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/092,945	Wright et al.
	Examiner	**Art Unit**
	CHRISTINE A DEDOULIS	3794

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	11	11	57	21	67	31	22	41	32	51	48	61	36	71
2	2	12	12	58	22	68	32	23	42	33	52	49	62	37	72
3	3	13	13	59	23	69	33	24	43	40	53	50	63	38	73
4	4	14	14	60	24	70	34	25	44	41	54	51	64		
5	5	15	15	61	25	71	35	26	45	42	55	52	65		
6	6	16	16	62	26	72	36	27	46	43	56	53	66		
7	7	17	17	63	27	18	37	28	47	44	57	54	67		
8	8	-	18	64	28	19	38	29	48	45	58	55	68		
9	9	39	19	65	29	20	39	30	49	46	59	34	69		
10	10	56	20	66	30	21	40	31	50	47	60	35	70		

/Christine A Dedoulis/ Examiner, Art Unit 3794	10 March 2020	**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	72	
/EUN HWA KIM/ Primary Examiner, Art Unit 3794	13 March 2020	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2A

U.S. Patent and Trademark Office

Part of Paper No.: 20200309

IPR2024-01211
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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/092,945	Wright et al.
	Examiner	Art Unit
	CHRISTINE A DEDOULIS	3794

CPC - Searched*		
Symbol	Date	Examiner
a61b2018/0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475,	5/23/2018	CD
a61b18/1477,1206	5/23/2018	CD

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
606	41	03/10/2020	CD

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
EAST (Assignee, Inventor, Class and Text) Search.	5/23/2018	CD
Consulted Primary Eunhwa Kim for search help	03/07/2019	CD
Updated EAST search	03/07/2019	CD
Updated search	03/10/2020	CD
Discussed application with Primary Eunhwa Kim	03/10/2020	CD

/C.A.D./ Examiner, Art Unit 3794	/EUN HWA KIM/ Primary Examiner, Art Unit 3794

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Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15/092,945	Wright et al.
	Examiner	Art Unit
	CHRISTINE A DEDOULIS	3794

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
	see attached EAST search history	03/10/2020	CD

/C.A.D./ Examiner, Art Unit 3794	/EUN HWA KIM/ Primary Examiner, Art Unit 3794

IPR2021-01211
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Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

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FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2]	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2008-516667	JP		2008-05-22	BOSTON SCIENTIFIC SCIMED, INC.		X

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15092945
	Filing Date	2016-04-07
	First Named Inventor	Robert E. Wright
	Art Unit	3794
	Examiner Name	Christine A. Dedoulis
	Attorney Docket Number	NBUS.004C1

	1	Office Action issued in Japanese Application No. 2012-538056, dated February 2, 2015.	X

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature	/Christine A Dedoulis/	Date Considered	02/24/2020

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2019-09-26
Name/Print	Daniel C. Higgs	Registration Number	55265

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.S./

PATENT APPLICATION
Docket No.: NBUS.004C1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Robert E. Wright	
Application No.:	15/092,945	Art Unit: 3794
Filing Date:	April 7, 2016	
Title:	SYSTEMS AND METHODS FOR TISSUE ABLATION	
Examiner:	Christine A. Dedoulis	
Confirmation No.:	5930	
Customer No.:	148468	

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Enclosed for filing in the above-identified application is a PTO/SB/08 Equivalent listing 488 references. Each of these 488 references is of record in U.S. Patent Application No. 13/101,009, titled SYSTEMS AND METHODS FOR TISSUE ABLATION, filed May 4, 2011 ("the Parent Application"), of which the present application is a continuation.

References Have Already Been Considered

As the present application is a continuation of the Parent Application, the Applicant believes the examiner has already considered the 488 references identified herein with respect to the present application, pursuant to MPEP § 609.02(II).

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

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Accordingly, the Applicant is submitting the present information disclosure statement to ensure these references are ultimately printed on the patent, pursuant to MPEP § 609.2(II).

Copies of All References Omitted

Pursuant to 37 C.F.R. § 1.98(a)(2), copies of U.S. patent application publications and U.S. patents are not required. Accordingly, no copies of reference numbers 1 through 433 are submitted.

Further, pursuant to 37 C.F.R. § 1.98(d), copies of reference numbers 434 through 488 are not required because (1) the Parent Application has been properly identified in this information disclosure statement and is relied on for an earlier effective filing date under 35 U.S.C. § 120, and (2) all information disclosure statements submitted in the Parent Application comply with 37 C.F.R. § 1.98, paragraphs (a) through (c).

Table of U.S. Patent Applications

The Applicant provides the following table to aid the Examiner during prosecution:

Attorney Docket No.	Application No.	Filing Date	Title
NBUS.001A	12/940,974	2010-11-05	METHODS AND SYSTEMS FOR SPINAL RADIO FREQUENCY NEUROTOMY
NBUS.001C1	15/098,673	2016-04-14	METHODS AND SYSTEMS FOR SPINAL RADIO FREQUENCY NEUROTOMY
NBUS.004A	13/101,009 ***(the Parent Application)***	2011-05-04	SYSTEMS AND METHODS FOR TISSUE ABLATION
NBUS.004C1	15/092,945 ***(the Present Application)***	2016-04-07	SYSTEMS AND METHODS FOR TISSUE ABLATION

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.S./

Copies of these patent applications, including any pending claims, office actions, notices of allowance, and/or other communications, are available through PALM and/or PAIR. However, if the Examiner so requests, the Applicant will be happy to provide the Examiner with copies of any applications, pending claims, office actions, notices of allowance, communications, or any other documents, at any time.

DATED this 23rd day of September, 2019.

Respectfully submitted,

/Daniel C. Higgs/

Daniel C. Higgs
Attorney for Applicant
Registration No. 55,265

MED VENTURE HOLDINGS, LLC
6030 W. Harold Gatty Drive
Salt Lake City, Utah 84116
(801) 703-1961

IPR2024-01211
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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.S./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 1 OF 20	Attorney Docket No.	NBUS.004C1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	1.	0372,086	07-23-1996	Grasso et al.	
	2.	RE40,279	04-29-2008	Sluijter et al.	
	3.	RE40,388	06-17-2008	Gines	
	4.	4,011,872	03-15-1977	Kamiya	
	5.	4,206,761	06-10-1980	Cosman	
	6.	4,206,762	06-10-1980	Cosman	
	7.	4,281,667	08-04-1981	Cosman	
	8.	4,353,371	10-12-1982	Cosman	
	9.	4,375,220	03-01-1983	Matvias	
	10.	4,378,809	04-05-1983	Cosman	
	11.	4,385,636	05-31-1983	Cosman	
	12.	4,411,266	10-25-1983	Cosman	
	13.	4,565,200	01-21-1986	Cosman	
	14.	4,573,980	03-04-1986	Karrasch et al.	
	15.	4,583,538	04-22-1986	Onik et al.	
	16.	4,593,703	06-10-1986	Cosman	
	17.	4,618,978	10-21-1986	Cosman	
	18.	4,646,752	03-03-1987	Swann et al.	
	19.	4,653,508	03-31-1987	Cosman	
	20.	4,660,568	04-28-1987	Cosman	
	21.	4,676,255	06-30-1987	Cosman	
	22.	4,698,207	10-06-1987	Bringham et al.	
	23.	4,787,886	11-29-1988	Cosman	
	24.	4,796,615	01-10-1989	Bullock et al.	
	25.	4,827,927	05-09-1989	Newton	
	26.	4,838,265	06-13-1989	Cosman et al.	
	27.	4,886,506	12-12-1989	Lovgren et al.	
	28.	4,907,589	03-13-1990	Cosman	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT		
	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
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U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	29.	4,966,597	10-30-1990	Cosman	
	30.	5,010,897	04-30-1991	Leveen	
	31.	5,160,337	11-03-1992	Cosman	
	32.	5,217,457	06-08-1993	Delahuerga et al.	
	33.	5,230,623	07-27-1993	Guthrie et al.	
	34.	5,233,515	08-03-1993	Cosman	
	35.	5,244,462	09-14-1993	Delahuerga et al.	
	36.	5,257,630	11-02-1993	Braitman et al.	
	37.	5,291,896	03-08-1994	Fonger et al.	
	38.	5,304,114	04-19-1994	Cosman et al.	
	39.	5,304,115	04-19-1994	Pflueger et al.	
	40.	5,312,329	05-17-1994	Beaty et al.	
	41.	5,312,391	05-17-1994	Wilk	
	42.	5,318,013	06-07-1994	Wilk	
	43.	5,324,255	06-28-1994	Passafaro et al.	
	44.	5,334,183	08-02-1994	Wuchinich	
	45.	5,342,292	08-30-1994	Nita et al.	
	46.	5,370,645	12-06-1994	Klicek et al.	
	47.	5,370,675	12-06-1994	Edwards et al.	
	48.	5,372,596	12-13-1994	Klicek et al.	
	49.	5,377,685	01-03-1995	Kazi et al.	
	50.	5,397,301	03-14-1995	Pflueger et al.	
	51.	5,401,272	03-28-1995	Perkins	
	52.	5,421,923	06-06-1995	Clarke et al.	
	53.	5,422,567	06-06-1995	Matsunaga	
	54.	5,423,809	06-13-1995	Klicek	
	55.	5,433,739	07-18-1995	Sluijter et al.	
	56.	5,447,417	09-05-1995	Kuhl et al.	

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U.S. PATENT DOCUMENTS

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	57.	5,458,597	10-17-1995	Edwards et al.	
	58.	5,472,441	12-05-1995	Edwards et al.	
	59.	5,472,442	12-05-1995	Klicek	
	60.	5,474,057	12-12-1995	Makower et al.	
	61.	5,484,398	01-16-1996	Stoddard	
	62.	5,496,312	03-05-1996	Klicek	
	63.	5,507,743	04-16-1996	Edwards et al.	
	64.	5,511,564	04-30-1996	Wilk	
	65.	5,514,129	05-07-1996	Smith	
	66.	5,536,267	07-16-1996	Edwards et al.	
	67.	5,541,376	07-30-1996	Ladtkow et al.	
	68.	5,560,358	10-01-1996	Arnold et al.	
	69.	5,562,703	10-08-1996	Desai	
	70.	5,571,147	11-05-1996	Sluijter et al.	
	71.	5,580,665	12-03-1996	Taguchi et al.	
	72.	5,599,345	02-04-1997	Edwards et al.	
	73.	5,599,346	02-04-1997	Edwards et al.	
	74.	5,611,709	03-18-1997	McAnulty	
	75.	5,613,966	03-25-1997	Makower et al.	
	76.	5,628,743	05-13-1997	Cimino	
	77.	5,662,111	09-02-1997	Cosman	
	78.	5,662,620	09-02-1997	Lieber et al.	
	79.	5,662,680	09-02-1997	Desai	
	80.	5,667,488	09-16-1997	Lundquist et al.	
	81.	5,669,904	09-23-1997	Platt, Jr. et al.	
	82.	5,672,173	09-30-1997	Gough et al.	
	83.	5,672,174	09-30-1997	Gough et al.	
	84.	5,683,349	11-04-1997	Makower et al.	

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	First Named Inventor	Robert E. Wright
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U.S. PATENT DOCUMENTS

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	85.	5,683,384	11-04-1997	Gough et al.	
	86.	5,701,575	12-23-1997	Taguchi et al.	
	87.	5,720,744	02-24-1998	Eggleston et al.	
	88.	5,728,143	03-17-1998	Gough et al.	
	89.	5,735,847	04-07-1998	Gough et al.	
	90.	5,738,648	04-14-1998	Lands et al.	
	91.	5,748,703	05-05-1998	Cosman	
	92.	5,749,689	05-12-1998	Konig	
	93.	5,755,754	05-26-1998	Rudie et al.	
	94.	5,768,679	06-16-1998	Taguchi et al.	
	95.	5,772,659	06-30-1998	Becker et al.	
	96.	5,778,043	07-07-1998	Cosman	
	97.	5,782,827	07-21-1998	Gough et al.	
	98.	5,792,146	08-11-1998	Cosman	
	99.	5,797,906	08-25-1998	Rhum et al.	
	100.	5,800,484	09-01-1998	Gough et al.	
	101.	5,807,309	09-15-1998	Lundquist et al.	
	102.	5,810,804	09-22-1998	Gough et al.	
	103.	5,827,271	10-27-1998	Buysse et al.	
	104.	5,827,276	10-27-1998	LeVeen et al.	
	105.	5,848,967	12-15-1998	Cosman	
	106.	5,855,576	01-05-1999	LeVeen et al.	
	107.	5,863,290	01-26-1999	Gough et al.	
	108.	5,868,740	02-09-1999	LeVeen et al.	
	109.	5,911,739	06-15-1999	Kordis et al.	
	110.	5,913,855	06-22-1999	Gough et al.	
	111.	5,921,992	07-13-1999	Costales et al.	
	112.	5,925,042	07-20-1999	Gough et al.	

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	First Named Inventor	Robert E. Wright
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U.S. PATENT DOCUMENTS

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	113.	5,928,229	07-27-1999	Gough et al.	
	114.	5,935,123	08-10-1999	Edwards et al.	
	115.	5,951,547	09-14-1999	Gough et al.	
	116.	5,968,040	10-19-1999	Swanson et al.	
	117.	5,980,517	11-09-1999	Gough	
	118.	5,983,141	11-09-1999	Sluijter et al.	
	119.	6,006,126	12-21-1999	Cosman	
	120.	6,013,076	01-11-2000	Goble et al.	
	121.	6,014,590	01-11-2000	Whayne et al.	
	122.	6,015,406	01-18-2000	Goble et al.	
	123.	6,016,452	01-18-2000	Kasevich	
	124.	6,039,733	03-21-2000	Buysse et al.	
	125.	6,041,260	03-21-2000	Stern et al.	
	126.	6,044,846	04-04-2000	Edwards	
	127.	6,050,992	04-18-2000	Nichols	
	128.	6,053,937	04-25-2000	Edwards et al.	
	129.	6,059,780	05-09-2000	Gough et al.	
	130.	6,068,627	05-30-2000	Orszulak et al.	
	131.	6,071,280	06-06-2000	Edwards et al.	
	132.	6,080,150	06-27-2000	Gough	
	133.	6,090,105	07-18-2000	Zepeda et al.	
	134.	6,106,521	08-22-2000	Blewett et al.	
	135.	6,117,134	09-12-2000	Cunningham et al.	
	136.	6,122,341	09-19-2000	Butler et al.	
	137.	6,129,726	10-10-2000	Edwards et al.	
	138.	6,132,425	10-17-2000	Gough	
	139.	6,139,519	10-31-2000	Blythe	
	140.	6,139,547	10-31-2000	Lontine et al.	

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	Filing Date	April 7, 2016
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	Art Unit	3794
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U.S. PATENT DOCUMENTS

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	141.	6,143,003	11-07-2000	Cosman	
	142.	6,146,380	11-14-2000	Racz et al.	
	143.	6,161,048	12-12-2000	Sluijter et al.	
	144.	6,165,169	12-26-2000	Panescu et al.	
	145.	6,167,295	12-26-2000	Cosman	
	146.	6,179,834	01-30-2001	Buysse et al.	
	147.	6,210,403	04-03-2001	Klicek	
	148.	6,213,999	04-10-2001	Platt, Jr. et al.	
	149.	6,217,554	04-17-2001	Green	
	150.	6,228,080	05-08-2001	Gines	
	151.	6,228,083	05-08-2001	Lands et al.	
	152.	6,231,570	05-15-2001	Tu et al.	
	153.	6,234,178	05-22-2001	Goble et al.	
	154.	6,235,023	05-22-2001	Lee et al.	
	155.	6,241,725	06-05-2001	Cosman	
	156.	6,241,726	06-05-2001	Chia et al.	
	157.	6,246,912	06-12-2001	Sluijter et al.	
	158.	6,251,106	06-26-2001	Becker et al.	
	159.	6,259,952	07-10-2001	Sluijter et al.	
	160.	6,268,200	07-31-2001	Tucker et al.	
	161.	6,275,725	08-14-2001	Cosman	
	162.	6,277,117	08-21-2001	Tetzlaff et al.	
	163.	6,280,441	08-28-2001	Ryan	
	164.	6,312,426	11-06-2001	Goldberg et al.	
	165.	6,330,478	12-11-2001	Lee et al.	
	166.	6,331,180	12-18-2001	Cosman et al.	
	167.	6,334,861	01-01-2002	Chandler et al.	
	168.	6,352,536	03-05-2002	Buysse et al.	

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	169.	6,402,743	06-11-2002	Orszulak et al.	
	170.	6,402,747	06-11-2002	Lindermann et al.	
	171.	6,405,072	06-11-2002	Cosman	
	172.	6,416,520	07-09-2002	Kynast et al.	
	173.	6,419,653	07-16-2002	Edwards et al.	
	174.	6,419,680	07-16-2002	Cosman et al.	
	175.	6,419,798	07-16-2002	Topolkaraev et al.	
	176.	6,425,887	07-30-2002	McGuckin et al.	
	177.	6,440,127	08-27-2002	McGovern et al.	
	178.	6,447,477	09-10-2002	Burney et al.	
	179.	6,447,505	09-10-2002	McGovern et al.	
	180.	6,451,018	09-17-2002	Lands et al.	
	181.	6,454,765	09-24-2002	Leveen et al.	
	182.	6,458,130	10-01-2002	Frazier et al.	
	183.	6,459,769	10-01-2002	Cosman	
	184.	6,464,704	10-15-2002	Schmaltz et al.	
	185.	6,468,273	10-22-2002	Leveen et al.	
	186.	6,471,698	10-29-2002	Edwards et al.	
	187.	6,478,793	11-12-2002	Cosman et al.	
	188.	6,500,175	12-31-2002	Gough et al.	
	189.	6,506,189	01-14-2003	Rittman, III et al.	
	190.	6,517,534	02-11-2003	McGovern et al.	
	191.	6,530,922	03-11-2003	Cosman et al.	
	192.	6,533,987	03-18-2003	Topolkaraev et al.	
	193.	6,551,311	04-22-2003	Lee et al.	
	194.	6,562,033	05-13-2003	Shah et al.	
	195.	6,565,562	05-20-2003	Shah et al.	
	196.	6,569,159	05-27-2003	Edwards et al.	

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	197.	6,575,967	06-10-2003	Leveen et al.	
	198.	6,575,969	06-10-2003	Rittman, III et al.	
	199.	6,585,735	07-01-2003	Frazier et al.	
	200.	6,602,249	08-05-2003	Stoddard et al.	
	201.	6,606,085	08-12-2003	Edwards	
	202.	6,610,054	08-26-2003	Edwards et al.	
	203.	6,622,731	09-23-2003	Daniel et al.	
	204.	6,623,481	09-23-2003	Garbagnati et al.	
	205.	6,632,221	10-14-2003	Edwards et al.	
	206.	6,632,222	10-14-2003	Edwards et al.	
	207.	6,638,275	10-28-2003	McGaffigan et al.	
	208.	6,641,580	11-04-2003	Edwards et al.	
	209.	6,645,201	11-11-2003	Utley et al.	
	210.	6,652,515	11-25-2003	Maguire et al.	
	211.	6,652,516	11-25-2003	Gough	
	212.	6,660,002	12-09-2003	Edwards et al.	
	213.	6,660,362	12-09-2003	Lindsay et al.	
	214.	6,663,624	12-16-2003	Edwards et al.	
	215.	6,669,693	12-30-2003	Friedman	
	216.	6,682,526	01-27-2004	Jones et al.	
	217.	6,682,528	01-27-2004	Frazier et al.	
	218.	6,685,701	02-03-2004	Orszulak et al.	
	219.	6,689,127	02-10-2004	Gough et al.	
	220.	6,690,210	02-10-2004	Hadjizada et al.	
	221.	6,692,490	02-17-2004	Edwards	
	222.	6,706,152	03-16-2004	Burazin et al.	
	223.	6,723,092	04-20-2004	Brown et al.	
	224.	6,743,226	06-01-2004	Cosman et al.	

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	225.	6,743,229	06-01-2004	Buysse et al.	
	226.	6,746,570	06-08-2004	Burazin et al.	
	227.	6,749,719	06-15-2004	Burazin et al.	
	228.	6,770,070	08-03-2004	Balbierz	
	229.	6,780,180	08-24-2004	Goble et al.	
	230.	6,803,549	10-12-2004	Yu	
	231.	6,814,712	11-09-2004	Edwards et al.	
	232.	6,837,956	01-04-2005	Cowell et al.	
	233.	6,846,448	01-25-2005	Rymer et al.	
	234.	6,847,848	01-25-2005	Sterzer et al.	
	235.	6,852,091	02-08-2005	Edwards et al.	
	236.	6,866,663	03-15-2005	Edwards et al.	
	237.	6,881,214	04-19-2005	Cosman et al.	
	238.	6,889,089	05-03-2005	Behl et al.	
	239.	6,896,675	05-24-2005	Leung et al.	
	240.	6,932,810	08-23-2005	Ryan	
	241.	6,958,062	10-25-2005	Gough et al.	
	242.	6,958,064	10-25-2005	Rioux et al.	
	243.	6,961,602	11-01-2005	Fuimaono et al.	
	244.	6,964,660	11-15-2005	Maguire et al.	
	245.	6,966,908	11-22-2005	Maguire et al.	
	246.	6,974,455	12-13-2005	Garabedian et al.	
	247.	6,997,925	02-14-2006	Maguire et al.	
	248.	7,025,767	04-11-2006	Schaefer et al.	
	249.	7,033,353	04-25-2006	Stoddard et al.	
	250.	7,044,949	05-16-2006	Orszulak et al.	
	251.	7,048,733	05-23-2006	Hartley et al.	
	252.	7,056,320	06-06-2006	Utley et al.	

Examiner Signature	Date Considered

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT		
	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 10 OF 20	Attorney Docket No.	NBUS.004C1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	253.	7,074,484	07-11-2006	Topolkaraev et al.	
	254.	7,076,399	07-11-2006	Godara	
	255.	7,087,051	08-08-2006	Bourne et al.	
	256.	7,099,712	08-29-2006	Fuimaono et al.	
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	264.	7,163,536	01-16-2007	Godara	
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	272.	7,276,064	10-02-2007	Paul et al.	
	273.	7,281,666	10-16-2007	Smith	
	274.	7,294,127	11-13-2007	Leung et al.	
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	280.	7,371,234	05-13-2008	Young	

Examiner Signature	Date Considered

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	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
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U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	281.	7,387,626	06-17-2008	Edwards et al.	
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	283.	7,416,549	08-26-2008	Young et al.	
	284.	7,449,020	11-11-2008	Edwards et al.	
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	289.	7,533,002	05-12-2009	Godara	
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	301.	7,794,458	09-14-2010	McIntyre et al.	
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
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U.S. PATENT DOCUMENTS

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	312.	7,892,231	02-22-2011	Elliott	
	313.	7,896,874	03-01-2011	Young et al.	
	314.	2002/0026185	02-28-2002	Gough	
	315.	2002/0029037	03-07-2002	Kim	
	316.	2002/0188275	12-12-2002	McGuckin, Jr.	
	317.	2003/0018332	01-23-2003	Schmaltz et al.	
	318.	2003/0078595	04-24-2003	Cosman	
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	321.	2004/0015218	01-22-2004	Finch et al.	
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	327.	2004/0260282	12-23-2004	Gough et al.	
	328.	2005/0033279	02-10-2005	Edwards et al.	
	329.	2005/0059964	03-17-2005	Fitz	
	330.	2005/0101944	05-12-2005	Williams	
	331.	2005/0101950	05-12-2005	Gough et al.	
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	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
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SHEET 13 OF 20	Attorney Docket No.	NBUS.004C1

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Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
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	338.	2005/0240174	10-27-2005	Pearson et al.	
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	340.	2005/0277918	12-15-2005	Shah et al.	
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	364.	2007/0006215	01-04-2007	Epstein et al.	

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	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 14 OF 20	Attorney Docket No.	NBUS.004C1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
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	366.	2007/0027449	02-01-2007	Godara et al.	
	367.	2007/0060921	03-15-2007	Janssen et al.	
	368.	2007/0112342	05-17-2007	Pearson et al.	
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	372.	2007/0161905	07-12-2007	Munrow	
	373.	2007/0167943	07-19-2007	Janssen et al.	
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	382.	2008/0033493	02-07-2008	Deckman et al.	
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	386.	2008/0065062	03-13-2008	Leung et al.	
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	388.	2008/0167646	07-10-2008	Godara et al.	
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	390.	2008/0208121	08-28-2008	Youssef et al.	
	391.	2008/0228180	09-18-2008	Epstein	
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	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 15 OF 20	Attorney Docket No.	NBUS.004C1

U.S. PATENT DOCUMENTS

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	395.	2009/0024124	01-22-2009	Lefler et al.	
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	397.	2009/0099544	04-16-2009	Munrow et al.	
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	399.	2009/0138011	05-28-2009	Epstein	
	400.	2009/0187177	07-23-2009	Epstein	
	401.	2009/0187182	07-23-2009	Epstein et al.	
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	405.	2009/0228001	09-10-2009	Pacey	
	406.	2009/0287081	11-19-2009	Grossman et al.	
	407.	2009/0299358	12-03-2009	Lafontaine	
	408.	2010/0004651	01-07-2010	Biyani	
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	410.	2010/0056926	03-04-2010	Deckman et al.	
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	418.	7,270,661	09-18-2007	Dahla et al.	
	419.	2007/0287996	12-13-2007	Rioux	

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	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
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(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 16 OF 20	Attorney Docket No.	NBUS.004C1

U.S. PATENT DOCUMENTS

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	422.	2004/0158239	08-12-2004	Behl et al.	
	423.	2006/0084965	04-20-2006	Young	
	424.	2007/0112340	05-17-2007	Thomas et al.	
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	428.	2011/0213356	09-01-2011	Wright et al.	
	429.	2006/0229645	10-12-2006	Bonnette	
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	431.	2004/0199179	10-07-2004	Elliott	
	432.	2005/0085804	04-21-2005	McGaffigan	
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Examiner Initials	Cite No.	Foreign Patent Document *Country Code-Number-Kind Code* Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T[1]
	434.	DE 2124684	11-30-1972	Stadelmayr		
	435.	GB 2423024	08-16-2006	Instrumedical Ltd		
	436.	WO 96/29946	10-03-1996	Board of Regents of the University of Nebraska		
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NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
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	448.	LIU et al., Abstract, Computer modeling of factors that affect the minimum safety distance required for radiofrequency ablation near adjacent nontarget structures, *Journal of Vascular and Interventional Radiology*, Vol. 19(7), pp. 1079-1086, July 2008, Epub. May 27, 2008.	
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Avanos v. Stratus
Stratus Ex. 2012

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 19 OF 20	Attorney Docket No.	NBUS.004C1

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	472.	International Search Report and Written Opinion of the International Searching Authority for International Application No. PCT/US2010/055744, mailed on March 1, 2011, in 34 pages.	
	473.	International Search Report and Written Opinion of the International Searching Authority for International Application No. PCT/US2011/035253 mailed on August 18, 2011.	
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	475.	Patent Examination Report issued in Australian Application No. 2011256709, dated March 22, 2013.	
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	477.	Notice of Acceptance issued in Australian Application No. 2010314930, dated October 14, 2013.	
	478.	Notice of Acceptance issued in Australian Application No. 2011256709, dated October 10, 2013.	
	479.	Office Action issued in U.S. Application No. 12/940,974, dated February 28, 2014.	
	480.	Office Action issued in Japanese Application No. 2012-538056, dated May 19, 2014.	
	481.	Office Action issued in U.S. Application No. 12/940,974, dated July 7, 2014.	
	482.	Office Action issued in Japanese Application No. 2013-511205, dated August 4, 2014.	X
	483.	Office Action issued in Chinese Application No. 201180035655.7, dated August 25, 2014.	X
	484.	Office Action issued in U.S. Application No. 12/940,974, dated November 13, 2014.	
	485.	Office Action issued in Korean Application No. 10-2012-7033363, dated December 23, 2014.	X
	486.	Patent Examination Report issued in Australian Application No. 2014200132, dated December 1, 2014.	
	487.	Supplemental European Search Report and Search Opinion issued in EP Application No. 10829203.8, mailed May 9, 2014.	
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(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

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	Examiner Name	Christine A. Dedoulis
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EXAMINER SIGNATURE			
Examiner Signature	/Christine A Dedoulis/	Date Considered	02/25/2020

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Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2019-09-23
Name/Print	Daniel C. Higgs	Registration Number	55265

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S3	0	(US-16061963-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/10 07:21
S4	0	"16061963".pn.	US-PGPUB; USPAT	OR	ON	2018/05/10 07:21
S5	1	(13/101009).APP.	US-PGPUB; USPAT	OR	ON	2018/05/10 07:21
S6	20	2007/0203486	US-PGPUB; USPAT	OR	ON	2018/05/10 08:05
S7	20	"2007/0203486"	US-PGPUB; USPAT	OR	ON	2018/05/10 08:05
S8	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2018/05/10 08:05
S9	2	"20060229645"	US-PGPUB; USPAT	OR	ON	2018/05/10 08:07
S10	10	("20090299357" | "20100198207" | "20120089211" | "20140343542" | "7713266" | "7850683" | "8298216" | "8409185" | "9039688" | "9254162").PN.	US-PGPUB; USPAT	OR	ON	2018/05/10 08:10
S12	4	S10 and neuroma	US-PGPUB; USPAT	OR	ON	2018/05/10 08:15
S13	4	("2014/0343542").URPN.	USPAT	OR	ON	2018/05/10 08:42
S14	1	"7250046".pn.	USPAT	OR	ON	2018/05/10 08:45
S15	0	"2008183164".pn.	USPAT	OR	ON	2018/05/10 08:46

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S16	0	"2008183164"	USPAT	OR	ON	2018/05/10 08:46
S17	0	"2008183164"	USPAT	OR	ON	2018/05/10 08:46
S18	1	"20080183164"	USPAT	OR	ON	2018/05/10 08:46
S19	0	"2009248001"	USPAT	OR	ON	2018/05/10 08:46
S20	1	"20090248001"	USPAT	OR	ON	2018/05/10 08:46
S21	1	"20040215294"	USPAT	OR	ON	2018/05/10 08:47
S22	1	"20080154254"	USPAT	OR	ON	2018/05/10 08:47
S23	0	"20110178514"	USPAT	OR	ON	2018/05/10 08:47
S24	0	"2011178514"	USPAT	OR	ON	2018/05/10 08:47
S25	0	"20110178514"	USPAT	OR	ON	2018/05/10 08:47
S26	0	"201100178514"	USPAT	OR	ON	2018/05/10 08:47
S27	0	"2006259029"	USPAT	OR	ON	2018/05/10 08:48
S28	1	"20060259029"	USPAT	OR	ON	2018/05/10 08:48
S29	0	"2010331883"	USPAT	OR	ON	2018/05/10 08:48
S30	0	"20100331883"	USPAT	OR	ON	2018/05/10 08:48
S31	0	"201000331883"	USPAT	OR	ON	2018/05/10 08:48
S32	0	"2010000331883"	USPAT	OR	ON	2018/05/10 08:48
S33	1	"20130053851"	USPAT	OR	ON	2018/05/10 08:49
S34	0	"32" and S28 and S22 and S20 and S21 and S18 and S14	USPAT	OR	ON	2018/05/10 08:50
S35	3325542	"32" or S28 S22 S20 S21 S18 S14	USPAT	OR	ON	2018/05/10 08:50
S36	3325542	"32" or S28 or S22 or S20 or S21 or S18 or S14	USPAT	OR	ON	2018/05/10 08:50
S37	1	"20140248001"	USPAT	OR	ON	2018/05/10 09:12
S38	0	"2014/0248001"	USPAT	OR	ON	2018/05/10 09:12
S39	0	2014/0248001	USPAT	OR	ON	2018/05/10 09:12
S40	0	2014/0248001	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:12
S41	2	"20140248001"	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:12

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Stratus Ex. 2012

S42	2	"20090248001"	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:13
S43	3238	A61B18/02.cpc.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:21
S44	634	A61B18/02.cpc. and cryo$2probe	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:21
S45	272	A61B18/02.cpc. and cryo$2probe and mark$4	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:21
S46	15	A61B18/02.cpc. and cryo$2probe and mark$4 and neuroma	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:22
S47	4	("2014/0276539").URPN.	USPAT	OR	ON	2018/05/10 09:29
S48	238	("20020010460" | "20020013602" | "20020045434" | "20020049436" | "20020068929" | "20020120260" | "20020120261" | "20020120263" | "20020128638" | "20020156469" | "20020183731" | "20020193778" | "20030036752" | "20030109912" | "20030130575" | "20030181896" | "20030195436" | "20030220635" | "20030220674" | "20040024391" | "20040082943" | "20040092875" | "20040122482" | "20040143252" | "20040162551" | "20040167505" | "20040191229" | "20040204705" | "20040210212" | "20040215178" | "20040215294" | "20040215295" | "20040220497" | "20040220648" | "20040225276" | "20040243116" | "20040267248" | "20040267257" | "20050004563" | "20050177147" | "20050177148" | "20050182394" | "20050203505" | "20050203593" | "20050209565" | "20050209587" | "20050224086" | "20050228288" | "20050251103" | "20050261753" | "20050276759" | "20050281530" | "20050283148" | "20060009712" | "20060015092" | "20060069385" | "20060079914" | "20060084962" | "20060089688" | "20060111732" | "20060129142" | "20060142785" | "20060173469" | "20060189968" | "20060190035" | "20060200117" | "20060212028" | "20060212048" | "20060223052" | "20060224149" | "20060258951" | "20070060921" | "20070088217" | "20070129714" | "20070156125" | "20070161975" | "20070167943" | "20070167959" | "20070179509" | "20070198071" | "20070225781" | "20070255362" | "20070270925" | "20080051775" | "20080051776" | "20080077201" | "20080077202" | "20080077211" | "20080154254" | "20080183164" | "20080200910" | "20080287839" | "20090018623").PN. OR ("20090018624" | "20090018625" | "20090018626" | "20090018627" | "20090118722" | "20090171334" | "20090248001" | "20090264876" | "20090299357" | "20100114191" | "20100168725" | "20100305439" | "20100331883" | "20110144631" | "20110196267" | "20120065629" | "20120089211" | "20120259322" | "20120265187" | "20130253605" | "20130324990" | "20140249519" | "20140276539" | "20140343542" | "20140343543" | "20140343544" | "2319542" | "2672032" | "3266492" | "3289424" | "3343544" | "3351063" | "3439680" | "3483869" | "3502081" | "3507283" | "3532094" | "3664344" | "3702114" | "3795245" | "3814095" | "3830239" | "3886945" | "3889681" | "3951152" | "3993075" | "4140109" | "4207897" | "4236518" | "4306568" | "4376376" | "4404862" | "4524771" | "4758217" | "4802475" | "4946460" | "5059197" | "5200170" | "5294325" | "5334181" | "5520681" | "5571147" | "5647868" | "5747777" | "5755753" | "5814040" | "5860970" | "5879378" | "5899897" | "5916212" | "5976505" | "6003539" | "6032675" | "6039730" | "6041787" | "6139545" | "6141985" | "6142991" | "6182666" | "6196839" | "6238386" | "6277099" | "6277116" | "6363730" | "6364899" | "6371943" | "6432102" | "6494844" | "6503246" | "6506796" | "6546935" | "6551309" | "6562030" | "6629951" | "6648880" | "6669688" | "6672095" | "6682501" | "6706037" | "6723092" | "6749624" | "6761715" | "6764493" | "6786901" | "6786902" | "6789545" | "6840935" | "6858025" | "6902554" | "6905492" | "6960208" | "7001400" | "7081111" | "7081112" | "7083612" | "7195616").PN. OR ("7217939" | "7250046" | "7311672" | "7367341" | "7402140" | "7422586" | "7578819" | "7641679" | "7653438" | "7713266" | "7850683" | "7862558" | "7998137" | "8298216" | "8409185" | "8715275" | "8722065" | "9039688").PN. OR ("9668800").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:29
S49	238	("20020010460" | "20020013602" | "20020045434" | "20020049436" | "20020068929" | "20020120260" | "20020120261" | "20020120263" | "20020128638" | "20020156469" | "20020183731" | "20020193778" | "20030036752" | "20030109912" | "20030130575" | "20030181896" | "20030195436" | "20030220635" | "20030220674" | "20040024391" | "20040082943" | "20040092875" | "20040122482" | "20040143252" | "20040162551" | "20040167505" | "20040191229" | "20040204705" | "20040210212" | "20040215178" | "20040215294" | "20040215295" | "20040220497" | "20040220648" | "20040225276" | "20040243116" | "20040267248" | "20040267257" | "20050004563" | "20050177147" | "20050177148" | "20050182394" | "20050203505" | "20050203593" | "20050209565" | "20050209587" | "20050224086" | "20050228288" | "20050251103" | "20050261753" | "20050276759" | "20050281530" | "20050283148" | "20060009712" | "20060015092" | "20060069385" | "20060079914" | "20060084962" | "20060089688" | "20060111732" | "20060129142" | "20060142785" | "20060173469" | "20060189968" | "20060190035" | "20060200117" | "20060212028" | "20060212048" | "20060223052" | "20060224149" | "20060258951" | "20070060921" | "20070088217" | "20070129714" | "20070156125" | "20070161975" | "20070167943" | "20070167959" | "20070179509" | "20070198071" | "20070225781" | "20070255362" | "20070270925" | "20080051775" | "20080051776" | "20080077201" | "20080077202" | "20080077211" | "20080154254" | "20080183164" | "20080200910" | "20080287839" | "20090018623").PN. OR ("20090018624" | "20090018625" | "20090018626" | "20090018627" | "20090118722" | "20090171334" | "20090248001" | "20090264876" | "20090299357" | "20100114191" | "20100168725" |	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:29

		"20100305439" | "20100331883" | "20110144631" | "20110196267" | "20120065629" | "20120089211" | "20120259322" | "20120265187" | "20130253605" | "20130324990" | "20140249519" | "20140276539" | "20140343542" | "20140343543" | "20140343544" | "2319542" | "2672032" | "3266492" | "3289424" | "3343544" | "3351063" | "3439680" | "3483869" | "3502081" | "3507283" | "3532094" | "3664344" | "3702114" | "3795245" | "3814095" | "3830239" | "3886945" | "3889681" | "3951152" | "3993075" | "4140109" | "4207897" | "4236518" | "4306568" | "4376376" | "4404862" | "4524771" | "4758217" | "4802475" | "4946460" | "5059197" | "5200170" | "5294325" | "5334181" | "5520681" | "5571147" | "5647868" | "5747777" | "5755753" | "5814040" | "5860970" | "5879378" | "5899897" | "5916212" | "5976505" | "6003539" | "6032675" | "6039730" | "6041787" | "6139545" | "6141985" | "6142991" | "6182666" | "6196839" | "6238386" | "6277099" | "6277116" | "6363730" | "6364899" | "6371943" | "6432102" | "6494844" | "6503246" | "6506796" | "6546935" | "6551309" | "6562030" | "6629951" | "6648880" | "6669688" | "6672095" | "6682501" | "6706037" | "6723092" | "6749624" | "6761715" | "6764493" | "6786901" | "6786902" | "6789545" | "6840935" | "6858025" | "6902554" | "6905492" | "6960208" | "7001400" | "7081111" | "7081112" | "7083612" | "7195616").PN. OR ("7217939" | "7250046" | "7311672" | "7367341" | "7402140" | "7422586" | "7578819" | "7641679" | "7653438" | "7713266" | "7850683" | "7862558" | "7998137" | "8298216" | "8409185" | "8715275" | "8722065" | "9039688").PN.				
S50	8	"51530769".FMID.	US-PGPUB; USPAT; FPRS	OR	ON	2018/05/10 09:30
S51	4	2014/0276539	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:44
S52	2	"20140276539"	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:44
S53	4	("2014/0276539").URPN.	USPAT	OR	ON	2018/05/10 09:44
S54	1	"7250046".pn.	USPAT	OR	ON	2018/05/10 09:45
S55	1383	A61B18/02.cpc.	USPAT	OR	ON	2018/05/10 14:45
S56	8180	A61B18/02.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:46
S57	46	A61B18/02.cpc. and neuroma$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:46
S58	34	A61B18/02.cpc. and neuroma$3 and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:47
S59	3824	A61B18/02.cpc. and (neuroma$3 or cryo$3probe$3 or cryoprobe or cool$5) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:53
S60	1061	A61B18/02.cpc. and (neuroma$3 or cryo$3probe$3 or cryoprobe) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:53
S61	25	A61B18/02.cpc. and (neuroma$3 and(cryo$3probe$3 or cryoprobe)) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:53

S62	173	A61B18/02.cpc. and (nerve and(cryo$3probe$3 or cryoprobe)) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 16:20
S63	20	(US-20127033363-$ | US-0012956-$ | US-0059328-$ | US-0084965-$ | US-0112340-$ | US-0158239-$ | US-0161804-$ | US-0213356-$ | US-0249392-$ | US-0269558-$ | US-10829203-$ | US-11783944-$ | US-1234567-$ | US-19753966-$ | US-20010012956-$ | US-20040059328-$ | US-20040158239-$ | US-20060084965-$ | US-20070112340-$ | US-20080161804-$ | US-20080249392-$ | US-20080269558-$ | US-20110213356-$ | US-7033363-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/22 14:42
S64	8858	a61b2018/0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:49
S65	6351	a61b18/1477,1206.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:51
S66	13535	a61b2018/00577,1253,1427,143,0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:52
S67	3120858	electrode or wire	US-PGPUB; USPAT	OR	ON	2018/05/22 17:53
S68	1788120	electrode$3 or filament$4	US-PGPUB; USPAT	OR	ON	2018/05/22 17:55
S69	78	filament$3 and electode$3	US-PGPUB; USPAT	OR	ON	2018/05/22 17:55
S70	81	filament$5 and electode$5	US-PGPUB; USPAT	OR	ON	2018/05/22 17:55
S71	94	filament$10 and electode$10	US-PGPUB; USPAT	OR	ON	2018/05/22 17:56
S72	94	filament$20 and electode$20	US-PGPUB; USPAT	OR	ON	2018/05/22 17:56
S73	0	Nimbus.IN.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:58
S74	0	Nimbus.AAAT.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:59
S75	0	((Nimbus) near2 (concepts)).AAAT.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:59
S76	622	((Robert) near2 (Wright)).IN.	US-PGPUB; USPAT	OR	ON	2018/05/22 18:00
S77	25	((Scott) near2 (Brandt)).IN.	US-PGPUB; USPAT	OR	ON	2018/05/22 18:00
S78	46	S76 and filament$3 or "elongate member having a distal end"	US-PGPUB; USPAT	OR	ON	2018/05/22 18:01
S79	4	S77 and filament$3 or "elongate member having a distal end"	US-PGPUB; USPAT	OR	ON	2018/05/22 18:05
S80	8836	(S64 or S65 or S66) and (needle$3 or probe$3) and (filament$5 or electrode$5)	US-PGPUB; USPAT	OR	ON	2018/05/22 18:08
S81	3407	(S64 or S65 or S66) and (needle$3 or probe$3) and (filament$5 or electrode$5) and elongate	US-PGPUB; USPAT	OR	ON	2018/05/22 18:09
S82	1588	S65 and (needle$3 or probe$3) and (filament$5 or electrode$5) and elongate	US-PGPUB; USPAT	OR	ON	2018/05/22 18:09
S83	4149	S65 and (needle$3 or probe$3) and (filament$5 or electrode$5) and (first or second near$10 (positon))	US-PGPUB; USPAT	OR	ON	2018/05/22 18:09
S84	6197	S65 and (first or second near$10 (positon))	US-PGPUB; USPAT	OR	ON	2018/05/22 18:10
S85	14371	(S64 or S65 or S66) and (filament$5 near$10 move$5)	US-PGPUB; USPAT	OR	ON	2018/05/22 18:11
S86	8349	S64 and (filament$5 near$10 move$5)	US-PGPUB;	OR	ON	2018/05/22

			USPAT			18:12
S87	18	S64 and (filament$5 near$10 move$5) and electode$3	US-PGPUB; USPAT	OR	ON	2018/05/22 18:12
S88	1	(US-1234567-$ | US-18125712-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 08:59
S89	2	(US-1234567-$ | US-18125712-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/05/23 09:00
S90	3	(AI-1234567-$ | JP-1234567-$ | JP-2000507844-$ | JP-2003527888-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/05/23 09:00
S91	1	(13/101009).APP.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:01
S92	175	(US-0004651-$ | US-0006215-$ | US-0006336-$ | US-0015161-$ | US-0015176-$ | US-0015218-$ | US-0015569-$ | US-0016183-$ | US-0018332-$ | US-0024124-$ | US-0026185-$ | US-0027449-$ | US-0029037-$ | US-0033279-$ | US-0033493-$ | US-0042098-$ | US-0045939-$ | US-0045940-$ | US-0048786-$ | US-0054962-$ | US-0056926-$ | US-0059964-$ | US-0060921-$ | US-0065062-$ | US-0076303-$ | US-0078595-$ | US-0089635-$ | US-0095115-$ | US-0099544-$ | US-0099980-$ | US-0100376-$ | US-0101944-$ | US-0101950-$ | US-0111702-$ | US-0112342-$ | US-0114095-$ | US-0118191-$ | US-0122482-$ | US-0122686-$ | US-0122692-$ | US-0123964-$ | US-0130974-$ | US-0131790-$ | US-0138011-$ | US-0142756-$ | US-0143262-$ | US-0154259-$ | US-0156136-$ | US-0161905-$ | US-0165391-$ | US-0167646-$ | US-0167649-$ | US-0167943-$ | US-0171522-$ | US-0173359-$ | US-0176759-$ | US-0177209-$ | US-0177211-$ | US-0179380-$ | US-0179491-$ | US-0185082-$ | US-0185522-$ | US-0187177-$ | US-0187182-$ | US-0187183-$ | US-0188275-$ | US-0189972-$ | US-0198232-$ | US-0200121-$ | US-0203402-$ | US-0203486-$ | US-0203503-$ | US-0206127-$ | US-0206128-$ | US-0206129-$ | US-0206130-$ | US-0206131-$ | US-0206132-$ | US-0206133-$ | US-0206134-$ | US-0208121-$ | US-0217705-$ | US-0221998-$ | US-0222677-$ | US-0228001-$ | US-0228180-$ | US-0228181-$ | US-0230187-$ | US-0234445-$ | US-0240174-$ | US-0247616-$ | US-0259026-$ | US-0259027-$ | US-0260234-$ | US-0260282-$ | US-0267552-$ | US-0269739-$ | US-0271036-$ | US-0275443-$ | US-0277918-$ | US-0282321-$ | US-0287081-$ | US-0299358-$ | US-11505900-$ | US-1234567-$ | US-20020026185-$ | US-20020029037-$ | US-20020188275-$ | US-20030018332-$ | US-20030078595-$ | US-20040006336-$ | US-20040015176-$ | US-20040015218-$ | US-20040100376-$ | US-20040122482-$ | US-20040143262-$ | US-20040176759-$ | US-20040230187-$ | US-20040260282-$ | US-20050033279-$ | US-20050059964-$ | US-20050101944-$ | US-20050101950-$ | US-20050165391-$ | US-20050171522-$ | US-20050177209-$ | US-20050177211-$ | US-20050203503-$ | US-20050234445-$ | US-20050240174-$ | US-20050267552-$ | US-20050277918-$ | US-20060015161-$ | US-20060089635-$ | US-20060095115-$ | US-20060111702-$ | US-20060122686-$ | US-20060122692-$ | US-20060142756-$ | US-20060173359-$ | US-20060189972-$ | US-20060200121-$ | US-20060206127-$ | US-20060206128-$ | US-20060206129-$ | US-20060206130-$ | US-20060206131-$ | US-20060206132-$ | US-20060206133-$ | US-20060206134-$ | US-20060217705-$ | US-20060247616-$ | US-20060259026-$ | US-20060259027-$ | US-20060271036-$ | US-20070006215-$ | US-20070016183-$ | US-20070027449-$ | US-20070060921-$ | US-20070112342-$ | US-20070118191-$ | US-20070123964-$ | US-20070156136-$ | US-20070161905-$ | US-20070167943-$ | US-20070179380-$ | US-20070179491-$ | US-20070185522-$ | US-20070203402-$ | US-20070203486-$ | US-20070260234-$ | US-20070282321-$ | US-20080015569-$ | US-20080033493-$ | US-20080045939-$ | US-20080045940-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:02
S93	187	(US-20080048786-$ | US-20080065062-$ | US-20080154259-$ | US-20080167646-$ | US-20080167649-$ | US-20080208121-$ | US-20080228180-$ | US-20080228181-$ | US-20080269739-$ | US-20080275443-$ | US-20090024124-$ | US-20090054962-$ | US-20090099544-$ | US-20090131790-$ | US-20090138011-$ | US-20090187177-$ | US-20090187182-$ | US-20090187183-$ | US-20090198232-$ | US-20090221998-$ | US-20090228001-$ | US-20090287081-$ | US-20090299358-$ | US-20100004651-$ | US-20100042098-$ | US-20100056926-$ | US-20100076303-$ | US-20100099980-$ | US-20100114095-$ | US-20100130974-$ | US-20100185082-$ | US-20100222677-$ | US-2124684-$ | US-2423024-$ | US-4011872-$ | US-4206761-$ | US-4206762-$ | US-4281667-$ | US-4353371-$ | US-4375220-$ | US-4378809-$ | US-4385636-$ | US-4411266-$ | US-4565200-$ | US-4573980-$ | US-4583538-$ | US-4593703-$ | US-4618978-$ | US-4646752-$ | US-4653508-$ | US-4660568-$ | US-4676255-$ | US-4698207-$ | US-4787886-$ | US-4796615-$ | US-4827927-$ | US-4838265-$ | US-4886506-$ | US-4907589-$ | US-4966597-$ | US-5010897-$ | US-5160337-$ | US-5217457-$ | US-5230623-$ | US-5233515-$ | US-5244462-$ | US-5257630-$ | US-5291896-$ | US-5304114-$ | US-5304115-$ | US-5312329-$ | US-5312391-$ | US-5318013-$ | US-5324255-$ | US-5334183-$ | US-5342292-$ | US-5370645-$ | US-5370675-$ | US-5372596-$ | US-5377685-$ | US-5397301-$ | US-5401272-$ | US-5421923-$ | US-5422567-$ | US-5423809-$ | US-5433739-$ | US-5447417-$ | US-5458597-$ | US-5472441-$ | US-5472442-$ | US-5474057-$ | US-5484398-$ | US-5496312-$ | US-5507743-$ | US-5511564-$ | US-5514129-$ | US-	US-PGPUB; USPAT	OR	ON	2018/05/23 09:03

		5536267-$ | US-5541376-$ | US-5560358-$ | US-5562703-$ | US-5571147-$ | US-5580665-$ | US-5599345-$ | US-5599346-$ | US-5611709-$ | US-5613966-$ | US-5628743-$ | US-5662111-$ | US-5662620-$ | US-5662680-$ | US-5667488-$ | US-5669904-$ | US-5672173-$ | US-5672174-$ | US-5683349-$ | US-5683384-$ | US-5701575-$ | US-5720744-$ | US-5728143-$ | US-5735847-$ | US-5738648-$ | US-5748703-$ | US-5749689-$ | US-5755754-$ | US-5768679-$ | US-5772659-$ | US-5778043-$ | US-5782827-$ | US-5792146-$ | US-5797906-$ | US-5800484-$ | US-5807309-$ | US-5810804-$ | US-5827271-$ | US-5827276-$ | US-5848967-$ | US-5855576-$ | US-5863290-$ | US-5868740-$ | US-5911739-$ | US-5913855-$ | US-5921992-$ | US-5925042-$ | US-5928229-$ | US-5935123-$ | US-5951547-$ | US-5968040-$ | US-5980517-$ | US-5983141-$ | US-6006126-$ | US-6013076-$ | US-6014590-$ | US-6015406-$ | US-6016452-$ | US-6039733-$ | US-6041260-$ | US-6044846-$ | US-6050992-$ | US-6053937-$ | US-6059780-$ | US-6068627-$ | US-6071280-$ | US-6080150-$ | US-6090105-$ | US-6106521-$ | US-6117134-$ | US-6122341-$ | US-6129726-$ | US-6132425-$ | US-6139519-$ | US-6139547-$ | US-6143003-$ | US-6146380-$ | US-6161048-$ | US-6165169-$ | US-6167295-$ | US-6179834-$ | US-6210403-$ | US-6213999-$ | US-6217554-$ | US-6228080-$ | US-6228083-$ | US-6231570-$ | US-6234178-$ | US-6235023-$ | US-6241725-$ | US-6241726-$).DID.				
S94	157	(US-6246912-$ | US-6251106-$ | US-6259952-$ | US-6268200-$ | US-6275725-$ | US-6277117-$ | US-6280441-$ | US-6312426-$ | US-6330478-$ | US-6331180-$ | US-6334861-$ | US-6352536-$ | US-6402743-$ | US-6402747-$ | US-6405072-$ | US-6416520-$ | US-6419653-$ | US-6419680-$ | US-6419798-$ | US-6425887-$ | US-6440127-$ | US-6447477-$ | US-6447505-$ | US-6451018-$ | US-6454765-$ | US-6458130-$ | US-6459769-$ | US-6464704-$ | US-6468273-$ | US-6471698-$ | US-6478793-$ | US-6500175-$ | US-6506189-$ | US-6517534-$ | US-6530922-$ | US-6533987-$ | US-6551311-$ | US-6562033-$ | US-6565562-$ | US-6569159-$ | US-6575967-$ | US-6575969-$ | US-6585735-$ | US-6602249-$ | US-6605085-$ | US-6610054-$ | US-6622731-$ | US-6623481-$ | US-6632221-$ | US-6632222-$ | US-6638275-$ | US-6641580-$ | US-6645201-$ | US-6652515-$ | US-6652516-$ | US-6660002-$ | US-6660362-$ | US-6663624-$ | US-6669693-$ | US-6682526-$ | US-6682528-$ | US-6685701-$ | US-6689127-$ | US-6690210-$ | US-6692490-$ | US-6706152-$ | US-6723092-$ | US-6743226-$ | US-6743229-$ | US-6746570-$ | US-6749719-$ | US-6770070-$ | US-6780180-$ | US-6803549-$ | US-6814712-$ | US-6837956-$ | US-6846448-$ | US-6847848-$ | US-6852091-$ | US-6866663-$ | US-6881214-$ | US-6889089-$ | US-6896675-$ | US-6932810-$ | US-6958062-$ | US-6958064-$ | US-6961602-$ | US-6964660-$ | US-6966908-$ | US-6974455-$ | US-6997925-$ | US-7025767-$ | US-7033353-$ | US-7044949-$ | US-7048733-$ | US-7056320-$ | US-7074484-$ | US-7076399-$ | US-7087051-$ | US-7099712-$ | US-7108696-$ | US-7112197-$ | US-7115124-$ | US-7138088-$ | US-7150743-$ | US-7150744-$ | US-7160296-$ | US-7163536-$ | US-7179256-$ | US-7179258-$ | US-7207990-$ | US-7258688-$ | US-7266414-$ | US-7270660-$ | US-7270662-$ | US-7276064-$ | US-7281666-$ | US-7294127-$ | US-7306596-$ | US-7311702-$ | US-7340307-$ | US-7354436-$ | US-7357798-$ | US-7371234-$ | US-7387626-$ | US-7387630-$ | US-7416549-$ | US-7449020-$ | US-7468062-$ | US-7480533-$ | US-7517346-$ | US-7524318-$ | US-7533002-$ | US-7549986-$ | US-7561907-$ | US-7593778-$ | US-7596469-$ | US-7615050-$ | US-7670336-$ | US-7670337-$ | US-7678106-$ | US-7699844-$ | US-7704248-$ | US-7771420-$ | US-7794458-$ | US-7794459-$ | US-7797049-$ | US-7799021-$ | US-7815571-$ | US-7819869-$ | US-7819871-$ | US-7824404-$ | US-7828796-$ | US-7874986-$ | US-7875025-$ | US-7892231-$ | US-7896874-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:03
S95	0	(BI-1234567-$ | AI-1234567-$ | AL-1234567-$ | DE-2124684-$ | GB-2423024-$ | JP-1234567-$ | WO-2011057157-$ | WO-9629946-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:03
S96	10	(BI-1234567-$ | AI-1234567-$ | AL-1234567-$ | DE-2124684-$ | GB-2423024-$ | JP-1234567-$ | WO-2011057157-$ | WO-9629946-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/23 09:03
S97	5	(US-0287996-$ | US-1234567-$ | US-11969039-$ | US-20070287996-$ | US-5507802-$ | US-7270661-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:04
S98	0	(BI-1234567-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:04
S99	0	(BI-1234567-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/23 09:04
S100	20	(US-20127033363-$ | US-0012956-$ | US-0059328-$ | US-0084965-$ | US-0112340-$ | US-0158239-$ | US-0161804-$ | US-0213356-$ | US-0249392-$ | US-0269558-$ | US-10829203-$ | US-11783944-$ | US-1234567-$ | US-19753966-$ | US-20010012956-$ | US-20040059328-$ | US-20040158239-$ | US-20060084965-$ | US-20070112340-$ | US-20080161804-$ | US-20080249392-$ | US-20080269558-$ | US-20110213356-$ | US-7033363-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:09
S101	13	("2011/0213356").URPN.	USPAT	OR	ON	2018/05/23

						09:09
S102	8	("2006/0084965").URPN.	USPAT	OR	ON	2018/05/23 09:10
S103	8858	a61b2018/0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:12
S104	6351	a61b18/1477,1206.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:12
S105	13535	a61b2018/00577,1253,1427,143,0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:12
S106	1469	S103 and S104 and S105	USPAT	OR	ON	2018/05/23 09:12
S107	3184	S103 and S104 and S105	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:12
S108	3047	S107 and (filament or antenna or electrode or array)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:13
S109	2220	S108 and needle	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:13
S110	2594	S108 and (needle or probe)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:14
S111	2905	S108 and ((needle or probe) near$10 bevel)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:14
S112	2638	S108 and ((needle or probe) near$10 bevel) and (elongate or long or member)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:14
S113	250	S108 and (form$3 or made or built) with (single near2 wire)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:16
S114	377	S108 and (form$3 or made or built) and (single near2 wire)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:16
S115	219	(filament or electrode) with (form$3 or made or built) with (single near2 wire) and S107	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:17
S116	2498	S108 and (fluid or port)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:19
S117	1477	S108 and (fluid or port)and (@ad<="20100623")	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:20
S118	280	S108 and (form$3 or made or built) and (single near2 wire) and (@ad<="20100623")	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:20
S119	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2019/01/31 13:28
S120	2	"20060229645"	US-PGPUB; USPAT	OR	ON	2019/01/31 14:17
S121	1	"15092945"	US-PGPUB; USPAT	OR	ON	2019/01/31 16:35
S122	7	wright.in. and brandt.in.	US-PGPUB; USPAT	OR	ON	2019/01/31 16:35
S123	2	"20020143302"	US-PGPUB;	OR	ON	2019/01/31

			USPAT			16:42
S124	2	"20040260282"	US-PGPUB; USPAT	OR	ON	2019/02/28 14:19
S125	154	"7108696"	US-PGPUB; USPAT	OR	ON	2019/02/28 14:20
S126	0	"7108696.pn."	US-PGPUB; USPAT	OR	ON	2019/02/28 14:21
S127	1	"7108696".pn.	US-PGPUB; USPAT	OR	ON	2019/02/28 14:21
S128	2	"20020143302"	US-PGPUB; USPAT	OR	ON	2019/02/28 14:31
S129	60	("2002/0143302").URPN.	USPAT	OR	ON	2019/02/28 15:00
S130	47	(US-12940974-$ | US-20050059964-$ | US-20110213356-$ | US-20110288540-$ | US-3918455-$ | US-4124153-$ | US-4282637-$ | US-4341094-$ | US-4457128-$ | US-4501133-$ | US-4907741-$ | US-5226912-$ | US-5232442-$ | US-5250247-$ | US-5269808-$ | US-5304141-$ | US-5374278-$ | US-5379900-$ | US-5425746-$ | US-5437726-$ | US-5503092-$ | US-5507777-$ | US-5532657-$ | US-5540778-$ | US-5562685-$ | US-5569302-$ | US-5639506-$ | US-5643628-$ | US-5648003-$ | US-5649962-$ | US-5672375-$ | US-5683025-$ | US-5709692-$ | US-5891166-$ | US-5891247-$ | US-5897044-$ | US-5954242-$ | US-5991957-$ | US-6031018-$ | US-6035916-$ | US-6051180-$ | US-6053086-$ | US-6126676-$ | US-6270464-$ | US-6402770-$ | US-6536482-$ | US-6699205-$ | US-6730042-$ | US-6739024-$ | US-7761964-$ | US-8292822-$).DID.	USPAT	OR	ON	2019/02/28 15:14
S131	50	(US-20130281930-$ or US-8979831-$ or US-20060222667-$ or US-20110319909-$ or US-20050131431-$ or US-20110054612-$ or US-20110213356-$ or US-20110288540-$ or US-20170164942-$ or US-20110319908-$ or US-20020120238-$ or US-6302870-$ or US-20070270757-$ or US-6217554-$ or US-6425887-$ or US-5419777-$ or US-20110009848-$ or US-20040064098-$ or US-20120071832-$ or US-6432092-$ or US-5749846-$ or US-20120323220-$ or US-6689103-$ or US-20020188275-$ or US-20080269763-$ or US-6482178-$ or US-20040186435-$ or US-20040122312-$ or US-6673093-$ or US-6036699-$ or US-5417699-$ or US-20060241723-$ or US-20080269740-$ or US-20110288563-$ or US-6821283-$ or US-8292932-$ or US-20140221830-$ or US-6968238-$ or US-20030171758-$ or US-20060058861-$ or US-5496304-$ or US-5964773-$ or US-6546932-$ or US-6299598-$ or US-5700273-$ or US-5507802-$ or US-7050858-$ or US-6080167-$ or US-6547762-$ or US-7108696-$).did.	US-PGPUB; USPAT	OR	ON	2019/02/28 15:21
S132	12	("2012/0071832").URPN.	USPAT	OR	ON	2019/02/28 15:23
S133	1	"20080027523"	US-PGPUB; USPAT	OR	ON	2019/03/01 08:43
S134	1	"15092945"	US-PGPUB; USPAT	OR	ON	2019/03/01 09:38
S135	14745	((A61B18/1206 OR A61B18/1477 OR A61B2018/0044 OR A61B2018/00577 OR A61B2018/1253 OR A61B2018/1427 OR A61B2018/143 OR A61B2018/1475).CPC.)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:38
S136	5619	S135 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/01 09:42
S137	427	S136 and (hub housing) with (actuator actuation rotate rotation rotating)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:46
S138	1592	S136 and (hub housing) and(actuator actuation rotate rotation rotating)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47
S139	890	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47
S140	1075	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47
S141	1119	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract retracting)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47
S142	535	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract retracting) and (helix helical track)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:48
S143	694	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract retracting) and (helix helical track thread)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:48
S144	1	"4051855".pn.	US-PGPUB; USPAT	OR	ON	2019/03/01 10:48

S145	1	"5954686".pn.	US-PGPUB; USPAT	OR	ON	2019/03/01 10:49
S146	1	"7094231".pn.	US-PGPUB; USPAT	OR	ON	2019/03/01 10:49
S147	1	"7108696".pn.	US-PGPUB; USPAT	OR	ON	2019/03/04 15:33
S148	2	"20060229645"	US-PGPUB; USPAT	OR	ON	2019/03/05 14:32
S149	73	("2006/0229645").URPN.	USPAT	OR	ON	2019/03/05 14:32
S150	201212	(hub housing) with rotate	US-PGPUB; USPAT	OR	ON	2019/03/05 14:35
S151	47541	S150 and (thread threads threading heliccal helix)	US-PGPUB; USPAT	OR	ON	2019/03/05 14:35
S152	17638	S151 and (deploy$4 expand retract)	US-PGPUB; USPAT	OR	ON	2019/03/05 14:36
S153	8815	S152 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/05 14:37
S154	1283	S153 and (a61b18/$.cpc. or a61b2018/$.cpc. or a61b17/$.cpc. or a61b2017/$.cpc.)	US-PGPUB; USPAT	OR	ON	2019/03/05 14:40
S155	187124	(a61b18/$.cpc. or a61b2018/$.cpc. or a61b17/$.cpc. or a61b2017/$.cpc.)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:10
S156	27455	S155 and ((first or second) with (hub housing))	US-PGPUB; USPAT	OR	ON	2019/03/05 15:11
S157	5904	S156 and (helix or helical)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:11
S158	12869	S156 and (helix or helical thread)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:12
S159	4705	S158 and (deploy$4 and retract$3)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:12
S160	3971	S159 and (second near10 (axial$3 or distal$3))	US-PGPUB; USPAT	OR	ON	2019/03/05 15:13
S161	4061	S159 and (second near10 (axial$3 or distal$3 or linear$3))	US-PGPUB; USPAT	OR	ON	2019/03/05 15:13
S162	1327	S161 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/05 15:16
S163	168	(US-20040100376-$ | US-20040176759-$ | US-20050101950-$ | US-20060095115-$ | US-20060122692-$ | US-20060206128-$ | US-20060206131-$ | US-20060259026-$ | US-20070215543-$ | US-0012956-$ | US-0059328-$ | US-0084965-$ | US-0112340-$ | US-0158239-$ | US-0161804-$ | US-0164184-$ | US-0213356-$ | US-0222019-$ | US-0249392-$ | US-0256625-$ | US-0269558-$ | US-1234567-$ | US-1259590-$ | US-1272004-$ | US-12994324-$ | US-1302006-$ | US-13101009-$ | US-1366756-$ | US-15687739-$ | US-15928229-$ | US-1653819-$ | US-1735271-$ | US-1814791-$ | US-1889609-$ | US-1932258-$ | US-1943543-$ | US-1952617-$ | US-1983669-$ | US-20010012956-$ | US-20010044596-$ | US-20020010491-$ | US-20020055731-$ | US-20020077676-$ | US-20020099323-$ | US-20020138117-$ | US-20020183735-$ | US-20020183740-$ | US-20020193831-$ | US-20030009110-$ | US-20030060856-$ | US-20030088189-$ | US-20030130711-$ | US-20030170898-$ | US-20030195406-$ | US-20030208200-$ | US-20030225360-$ | US-2003425-$ | US-20040019371-$ | US-20040059328-$ | US-20040059389-$ | US-20040146877-$ | US-20040153057-$ | US-20040158239-$ | US-20040199159-$ | US-20040243107-$ | US-20040267189-$ | US-20050033279-$ | US-20050043726-$ | US-20050049541-$ | US-20050165393-$ | US-20050171523-$ | US-20050171574-$ | US-20050182462-$ | US-20050261672-$ | US-20050277918-$ | US-20050288730-$ | US-20060015147-$ | US-20060025760-$ | US-20060079883-$ | US-20060084965-$ | US-20060121610-$ | US-20060189972-$ | US-20060206134-$ | US-20060212078-$ | US-20060217703-$ | US-20060264752-$ | US-20060264974-$ | US-20060271-$ | US-20070016183-$ | US-20070043345-$ | US-20070112340-$ | US-20070118069-$ | US-20070203486-$ | US-20080052786-$ | US-20080154259-$ | US-20080161804-$ | US-20080167649-$ | US-20080249392-$ | US-20080269558-$ | US-20090024124-$ | US-20090062792-$ | US-20090131790-$ | US-20090221998-$ | US-20090228001-$ | US-20090281477-$ | US-20100256625-$ | US-20100049190-$ | US-20100087813-$ | US-20100130975-$ | US-20100222677-$ | US-20110213356-$ | US-20110202053-$ | US-20110288540-$ | US-20120165813-$ | US-20120310236-$ | US-20130110106-$ | US-2014701-$ | US-2014702-$ | US-2022065-$ | US-2050904-$ | US-2056377-$ | US-2124684-$ | US-2196171-$ | US-2282008-$ | US-2423024-$ | US-	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

		2888928-$ | US-2994324-$ | US-3035580-$ | US-3112003-$ | US-3460539-$ | US-3595239-$ | US-3601126-$ | US-3614414-$ | US-3648001-$ | US-3685518-$ | US-3699967-$ | US-3707149-$ | US-3801766-$ | US-3815604-$ | US-3840011-$ | US-3845771-$ | US-3847153-$ | US-3885569-$ | US-3898991-$ | US-3901242-$ | US-3902494-$ | US-3903891-$ | US-3918455-$ | US-3920021-$ | US-3920022-$ | US-3923063-$ | US-3929137-$ | US-3939839-$ | US-3945375-$ | US-3963030-$ | US-3964487-$ | US-3970088-$ | US-3974833-$ | US-4011872-$ | US-4016881-$ | US-4016886-$ | US-4024467-$ | US-4033351-$ | US-4040426-$ | US-4043342-$ | US-4051855-$ | US-4060088-$ | US-4069827-$ | US-4074718-$ | US-4092986-$ | US-4114623-$ | US-4116198-$ | US-4119102-$).DID.				
S164	196	(US-4124153-$ | US-4126137-$ | US-4154240-$ | US-4189685-$ | US-4200104-$ | US-4202337-$ | US-4204549-$ | US-4206761-$ | US-4206762-$ | US-4210152-$ | US-4226246-$ | US-4228800-$ | US-4248231-$ | US-4262672-$ | US-4269387-$ | US-4271837-$ | US-4281373-$ | US-4282637-$ | US-4301802-$ | US-4326529-$ | US-4341094-$ | US-4346332-$ | US-4353371-$ | US-4375220-$ | US-4376263-$ | US-4378809-$ | US-4381007-$ | US-4385636-$ | US-4407943-$ | US-4411266-$ | US-4416277-$ | US-4418692-$ | US-4429698-$ | US-4448198-$ | US-4457128-$ | US-4474179-$ | US-4476862-$ | US-4492231-$ | US-4494541-$ | US-4501133-$ | US-4512338-$ | US-4517976-$ | US-4524770-$ | US-4532924-$ | US-4534347-$ | US-4548207-$ | US-4553687-$ | US-4559943-$ | US-4559951-$ | US-4562838-$ | US-4565200-$ | US-4567890-$ | US-4573980-$ | US-4580557-$ | US-4583538-$ | US-4590934-$ | US-4593691-$ | US-4593703-$ | US-4617927-$ | US-4618978-$ | US-4646752-$ | US-4653508-$ | US-4657015-$ | US-4658819-$ | US-4658820-$ | US-4660568-$ | US-4669468-$ | US-4674499-$ | US-4676255-$ | US-4681122-$ | US-4682596-$ | US-4688569-$ | US-4696668-$ | US-4698207-$ | US-4706667-$ | US-4709698-$ | US-4710176-$ | US-4712544-$ | US-4727874-$ | US-4735201-$ | US-4755173-$ | US-4769005-$ | US-4781175-$ | US-4787886-$ | US-4796615-$ | US-4799480-$ | US-4800899-$ | US-4802476-$ | US-4805616-$ | US-4808168-$ | US-4810963-$ | US-4813429-$ | US-4820298-$ | US-4823791-$ | US-4827927-$ | US-4832048-$ | US-4832690-$ | US-4833824-$ | US-4838265-$ | US-4850353-$ | US-4860744-$ | US-4878493-$ | US-4886074-$ | US-4886506-$ | US-4907589-$ | US-4907601-$ | US-4907741-$ | US-4919129-$ | US-4920978-$ | US-4931047-$ | US-4936281-$ | US-4936301-$ | US-4936310-$ | US-4936842-$ | US-4943290-$ | US-4946793-$ | US-4950267-$ | US-4955377-$ | US-4966597-$ | US-4967765-$ | US-4969885-$ | US-4976711-$ | US-4994069-$ | US-4998661-$ | US-4998933-$ | US-5007908-$ | US-5009656-$ | US-5013312-$ | US-5019034-$ | US-5019076-$ | US-5035696-$ | US-5037379-$ | US-5047026-$ | US-5047027-$ | US-5052391-$ | US-5057107-$ | US-5058605-$ | US-5062031-$ | US-5071418-$ | US-5080660-$ | US-5083565-$ | US-5085659-$ | US-5088997-$ | US-5098431-$ | US-5098843-$ | US-5099840-$ | US-5108391-$ | US-5108407-$ | US-5112311-$ | US-5117978-$ | US-5122005-$ | US-5122138-$ | US-5133365-$ | US-5133738-$ | US-5134070-$ | US-5154698-$ | US-5158561-$ | US-5167658-$ | US-5167659-$ | US-5171255-$ | US-5171311-$ | US-5173158-$ | US-5178620-$ | US-5190517-$ | US-5193537-$ | US-5195959-$ | US-5196007-$ | US-5197963-$ | US-5201743-$ | US-5207675-$ | US-5217457-$ | US-5217458-$ | US-5217459-$ | US-5221281-$ | US-5226912-$ | US-5230623-$ | US-5232442-$ | US-5233515-$ | US-5239773-$ | US-5244462-$ | US-5249585-$ | US-5250047-$ | US-5250247-$ | US-5257630-$ | US-5258006-$ | US-5259395-$ | US-5261906-$ | US-5265606-$ | US-5267994-$ | US-5267997-$ | US-5269808-$ | US-5273525-$ | US-5277201-$ | US-5277696-$ | US-5281213-$ | US-5281216-$).DID.	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49
S165	196	(US-5282799-$ | US-5282845-$ | US-5283194-$ | US-5290282-$ | US-5290283-$ | US-5291896-$ | US-5300068-$ | US-5300069-$ | US-5300070-$ | US-5304114-$ | US-5304115-$ | US-5304141-$ | US-5304214-$ | US-5306238-$ | US-5312329-$ | US-5312391-$ | US-5318013-$ | US-5318563-$ | US-5320627-$ | US-5324255-$ | US-5328451-$ | US-5330470-$ | US-5330471-$ | US-5334183-$ | US-5334193-$ | US-5334198-$ | US-5336222-$ | US-5342292-$ | US-5342357-$ | US-5342391-$ | US-5344428-$ | US-5352222-$ | US-5354296-$ | US-5366443-$ | US-5370645-$ | US-5370675-$ | US-5372596-$ | US-5374278-$ | US-5377685-$ | US-5379900-$ | US-5382247-$ | US-5383874-$ | US-5383876-$ | US-5383917-$ | US-5383923-$ | US-5389069-$ | US-5395363-$ | US-5395368-$ | US-5397301-$ | US-5401272-$ | US-5403311-$ | US-5419767-$ | US-5421923-$ | US-5422567-$ | US-5423808-$ | US-5423809-$ | US-5423810-$ | US-5423811-$ | US-5425746-$ | US-5425752-$ | US-5431649-$ | US-5433739-$ | US-5437662-$ | US-5437726-$ | US-5438302-$ | US-5439440-$ | US-5441499-$ | US-5443470-$ | US-5447417-$ | US-5454809-$ | US-5458597-$ | US-5458625-$ | US-5462521-$ | US-5472441-$ | US-5472442-$ | US-5472443-$ | US-5474057-$ | US-5480397-$ | US-5480398-$ | US-5484398-$ | US-5487739-$ | US-5496312-$ | US-5496314-$ | US-5503092-$ | US-5505728-$ | US-5505730-$ | US-5507743-$ | US-5507777-$ | US-5507802-$ | US-5511564-$ | US-5514129-$ | US-5514130-$ | US-5514131-$ | US-5520684-$ | US-5520685-$ | US-5522815-$ | US-5531744-$ | US-5532657-$ | US-5533999-$ | US-5536240-$ | US-5536267-$ | US-5540680-$ | US-5540681-$ | US-5540682-$ | US-5540683-$ | US-5540684-$ | US-5540685-$ | US-5540778-$ | US-5541376-$ | US-5542268-$ | US-5542916-$ | US-5542945-$ | US-5545161-$ | US-5545193-$ | US-5549605-$ | US-5554172-$ | US-5555618-$ | US-5556396-$ | US-5556397-$ | US-5558671-$ | US-5560358-$ | US-5562685-$ | US-5562703-$ | US-5562720-$ | US-5569164-$ | US-5569242-$ | US-5569244-$ | US-5569245-$ | US-5569302-$ | US-5571147-$ | US-5575789-$ | US-5575811-$ | US-5578007-$ | US-5580665-$ | US-5582609-$ | US-5582610-$ | US-5584830-$ | US-5591141-$ | US-5599344-$ | US-5599345-$ | US-5599346-$ | US-5599347-$ | US-5599348-$ | US-5599349-$ | US-5603711-$ | US-5603712-$ | US-5607003-$ | US-5607422-$ | US-5609151-$ | US-5609573-$ | US-5611709-$ | US-5611798-$ | US-5613966-$ | US-5620481-$ | US-5624439-$ | US-5626146-$ | US-5626560-$ | US-5626575-$ | US-5626576-$ | US-5626578-$ | US-5628743-$ | US-5628745-$ | US-5628771-$ | US-5630426-$ | US-5633578-$ | US-5634899-$ | US-5634924-$ | US-5639506-$ | US-5643628-$ | US-5648003-$ | US-5649962-$ | US-5662111-$ | US-5662620-$ | US-5662680-$ | US-5667488-$ | US-5669904-$ | US-5672173-$ | US-5672174-$ | US-5672375-$ | US-5674267-$ | US-5683025-$ | US-5683349-$ | US-5683366-$ | US-5683384-$ | US-5687739-$ | US-5693045-$ | US-5697281-$ | US-5697536-$ | US-5697882-$ | US-5697909-$ | US-5700262-$ | US-5701575-$ | US-5702359-$ | US-5709692-$ | US-5713872-$ | US-5720744-$).DID.	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

S166	196	(US-5720921-$ | US-5728143-$ | US-5735847-$ | US-5738648-$ | US-5743882-$ | US-5748703-$ | US-5749689-$ | US-5749846-$ | US-5755754-$ | US-5766153-$ | US-5768679-$ | US-5769822-$ | US-5772659-$ | US-5778043-$ | US-5778894-$ | US-5782827-$ | US-5782882-$ | US-5792146-$ | US-5797906-$ | US-5800378-$ | US-5800482-$ | US-5800484-$ | US-5807309-$ | US-5807395-$ | US-5810762-$ | US-5810764-$ | US-5810804-$ | US-5827271-$ | US-5827276-$ | US-5836905-$ | US-5843019-$ | US-5843026-$ | US-5848967-$ | US-5855576-$ | US-5860951-$ | US-5863290-$ | US-5868740-$ | US-5871469-$ | US-5873849-$ | US-5873855-$ | US-5888198-$ | US-5891095-$ | US-5891166-$ | US-5891247-$ | US-5897044-$ | US-5911739-$ | US-5913855-$ | US-5919142-$ | US-5921992-$ | US-5925042-$ | US-5928229-$ | US-5934275-$ | US-5935123-$ | US-5947889-$ | US-5951547-$ | US-5954242-$ | US-5964756-$ | US-5968040-$ | US-5980517-$ | US-5983131-$ | US-5983141-$ | US-5991697-$ | US-5991957-$ | US-5995875-$ | US-5999847-$ | US-6006126-$ | US-6009347-$ | US-6010613-$ | US-6013076-$ | US-6014590-$ | US-6015406-$ | US-6016452-$ | US-6031018-$ | US-6035916-$ | US-6039733-$ | US-6041252-$ | US-6041260-$ | US-6044846-$ | US-6050992-$ | US-6051180-$ | US-6053086-$ | US-6053937-$ | US-6055453-$ | US-6059780-$ | US-6068627-$ | US-6068650-$ | US-6071280-$ | US-6080150-$ | US-6085115-$ | US-6090105-$ | US-6090106-$ | US-6092528-$ | US-6102885-$ | US-6106521-$ | US-6109270-$ | US-6117134-$ | US-6122341-$ | US-6122599-$ | US-6123084-$ | US-6126676-$ | US-6129726-$ | US-6132419-$ | US-6132425-$ | US-6139519-$ | US-6139547-$ | US-6143003-$ | US-6146380-$ | US-6159163-$ | US-6161048-$ | US-6167295-$ | US-6179834-$ | US-6208893-$ | US-6210402-$ | US-6210403-$ | US-6212433-$ | US-6213999-$ | US-6216034-$ | US-6217554-$ | US-6219577-$ | US-6228080-$ | US-6228083-$ | US-6231570-$ | US-6234178-$ | US-6235023-$ | US-6241702-$ | US-6241725-$ | US-6241726-$ | US-6245070-$ | US-6246912-$ | US-6251106-$ | US-6254598-$ | US-6259952-$ | US-6261831-$ | US-6262008-$ | US-6268200-$ | US-6270464-$ | US-6275725-$ | US-6277117-$ | US-6278895-$ | US-6280441-$ | US-6300108-$ | US-6312426-$ | US-6326177-$ | US-6330478-$ | US-6331180-$ | US-6334861-$ | US-6347247-$ | US-6349233-$ | US-6351674-$ | US-6352536-$ | US-6379353-$ | US-6387671-$ | US-6402743-$ | US-6402747-$ | US-6402770-$ | US-6403348-$ | US-6405072-$ | US-6419653-$ | US-6419680-$ | US-6419798-$ | US-6425887-$ | US-6440127-$ | US-6447477-$ | US-6447505-$ | US-6451018-$ | US-6454765-$ | US-6458130-$ | US-6459769-$ | US-6464704-$ | US-6468273-$ | US-6470211-$ | US-6471698-$ | US-6478793-$ | US-6482619-$ | US-6493592-$ | US-6500173-$ | US-6500175-$ | US-6506189-$ | US-6517534-$ | US-6526320-$ | US-6530922-$ | US-6533987-$ | US-6536482-$ | US-6551311-$ | US-6562033-$ | US-6562604-$ | US-6565562-$ | US-6569159-$ | US-6575967-$ | US-6575969-$ | US-6585735-$ | US-6602249-$ | US-6605085-$ | US-6607529-$ | US-6610054-$ | US-6611706-$).DID.	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49
S167	186	(US-6613211-$ | US-6622731-$ | US-6623481-$ | US-6627421-$ | US-6632221-$ | US-6632222-$ | US-6638275-$ | US-6641580-$ | US-6645201-$ | US-6652515-$ | US-6652516-$ | US-6653091-$ | US-6660002-$ | US-6660362-$ | US-6663624-$ | US-6669691-$ | US-6669693-$ | US-6682526-$ | US-6682528-$ | US-6685701-$ | US-6689127-$ | US-6692490-$ | US-6692493-$ | US-6697669-$ | US-6697670-$ | US-6699205-$ | US-6702808-$ | US-6706152-$ | US-6723092-$ | US-6730042-$ | US-6739024-$ | US-6743226-$ | US-6743229-$ | US-6746570-$ | US-6749719-$ | US-6770070-$ | US-6780180-$ | US-6795728-$ | US-6801804-$ | US-6803013-$ | US-6803549-$ | US-6814712-$ | US-6837956-$ | US-6846448-$ | US-6847848-$ | US-6852091-$ | US-6865416-$ | US-6866663-$ | US-6881213-$ | US-6881214-$ | US-6888919-$ | US-6889089-$ | US-6892099-$ | US-6896675-$ | US-6912417-$ | US-6927049-$ | US-6958062-$ | US-6958064-$ | US-6962587-$ | US-6964660-$ | US-6966908-$ | US-6972014-$ | US-6974455-$ | US-6994706-$ | US-6997925-$ | US-7025767-$ | US-7033353-$ | US-7044949-$ | US-7048733-$ | US-7053063-$ | US-7056320-$ | US-7063698-$ | US-7074484-$ | US-7076399-$ | US-7087051-$ | US-7099712-$ | US-7108696-$ | US-7112197-$ | US-7115124-$ | US-7130697-$ | US-7138088-$ | US-7150743-$ | US-7150744-$ | US-7160296-$ | US-7163536-$ | US-7179256-$ | US-7179258-$ | US-7198625-$ | US-7207990-$ | US-7211083-$ | US-7258688-$ | US-7266414-$ | US-7267676-$ | US-7270660-$ | US-7270661-$ | US-7270662-$ | US-7276064-$ | US-7281666-$ | US-7294127-$ | US-7306596-$ | US-7311702-$ | US-7340307-$ | US-7354436-$ | US-7357798-$ | US-7371234-$ | US-7387626-$ | US-7387630-$ | US-7416549-$ | US-7449020-$ | US-7455675-$ | US-7468062-$ | US-7480533-$ | US-7517346-$ | US-7524318-$ | US-7533002-$ | US-7549986-$ | US-7561907-$ | US-7593778-$ | US-7596469-$ | US-7615050-$ | US-7670336-$ | US-7670337-$ | US-7699844-$ | US-7704248-$ | US-7761964-$ | US-7771401-$ | US-7771420-$ | US-7794458-$ | US-7794459-$ | US-7797049-$ | US-7799021-$ | US-7815571-$ | US-7819869-$ | US-7819871-$ | US-7824404-$ | US-7828796-$ | US-7874986-$ | US-7875025-$ | US-7892231-$ | US-7896874-$ | US-8206300-$ | US-8292822-$ | US-8414509-$ | US-8511317-$ | US-8753335-$ | US-9629946-$ | US-9903397-$ | US-D372086-$ | US-20010018586-$ | US-20010031941-$ | US-20020026185-$ | US-20020029037-$ | US-20020077627-$ | US-20020143302-$ | US-20020176734-$ | US-20020188275-$ | US-20030018332-$ | US-20030078595-$ | US-20040006336-$ | US-20040015176-$ | US-20040015218-$ | US-20040024300-$ | US-20040096033-$ | US-20040122482-$ | US-20040143262-$ | US-20040199179-$ | US-20040230187-$ | US-20040260282-$ | US-20050004563-$ | US-20050059964-$ | US-20050101944-$ | US-20050165391-$ | US-20050171522-$ | US-20050177209-$ | US-20050177211-$ | US-20050203503-$ | US-20050222565-$ | US-20050234445-$ | US-20050240174-$ | US-20050261570-$ | US-20050267552-$ | US-20050283148-$ | US-20050288759-$ | US-20060089635-$ | US-20060111702-$ | US-20060122686-$).DID.	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49
S168	18	(US-20060142756-$ | US-20060173359-$ | US-20060200121-$ | US-20060206111-$ | US-20060206127-$ | US-20060206129-$ | US-20060206130-$ | US-20060206132-$ | US-20060206133-$ | US-20060217705-$ | US-20060229645-$ | US-20060247616-$ | US-20060259027-$ | US-20070006215-$ | US-20070077230-$ | US-20070287996-$ | US-20080048786-$ | US-20090105640-$).DID.	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49
S169	960	S163 S164 S165 S166 S167 S168	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

S170	73	("2006/0229645").URPN.	USPAT	OR	ON	2019/03/05 15:58
S171	57738	S155 and needle	US-PGPUB; USPAT	OR	ON	2019/03/05 16:17
S172	8211	S155 and needle and ((plurality multiple) with (filament or electrodes))	US-PGPUB; USPAT	OR	ON	2019/03/05 16:17
S173	695	S172 and hypotube	US-PGPUB; USPAT	OR	ON	2019/03/05 16:18
S174	155175	a61b5/$.cpc.	US-PGPUB; USPAT	OR	ON	2019/03/05 17:54
S175	187124	(a61b18/$.cpc. or a61b2018/$.cpc. or a61b17/$.cpc. or a61b2017/$.cpc.)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:54
S176	328022	S174 or S175	US-PGPUB; USPAT	OR	ON	2019/03/05 17:54
S177	328022	S176	US-PGPUB; USPAT	OR	ON	2019/03/05 17:55
S178	2691077	(rotate$5)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:55
S179	1070705	(rotat$5 and linear longitudinal translational) near5 (motion moving movement advancement advance deploy deployment direction)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:57
S180	70057	S177 and S179	US-PGPUB; USPAT	OR	ON	2019/03/05 17:57
S181	57761	S180 and (cannula trocar insert hub engagement catheter probe)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:58
S182	25249	S181 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/05 18:00
S183	90	("2010/0114017").URPN.	USPAT	OR	ON	2019/03/07 10:58
S184	0	("2010/0076340").URPN.	USPAT	OR	ON	2019/03/07 13:42
S185	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2019/08/23 08:40
S186	1	"7108696".pn.	US-PGPUB; USPAT	OR	ON	2019/08/23 09:00
S187	2	"20060095029"	US-PGPUB; USPAT	OR	ON	2020/02/11 08:35
S188	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2020/02/11 08:36
S189	0	"599346".pn.	US-PGPUB; USPAT	OR	ON	2020/02/11 09:22
S190	1	"5599346".pn.	US-PGPUB; USPAT	OR	ON	2020/02/11 09:22
S191	1	"7918852".pn.	US-PGPUB; USPAT	OR	ON	2020/02/26 10:49
S192	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2020/03/09 13:28
S193	2	"20020143302"	US-PGPUB; USPAT	OR	ON	2020/03/09 13:41
S194	2	"20060095029"	US-PGPUB; USPAT	OR	ON	2020/03/09 16:24

EAST Search History (Interference)

Ref	Hits	Search Query	DBs	Default	Plurals	Time Stamp

#				Operator		
L5	93	((needle or cannula) and probe and filaments).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:46
L6	7	((needle or cannula) and probe and filaments and hub).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:47
L7	2	((needle or cannula) and probe and filaments and hub and conduct$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:47
L8	2	((needle or cannula) and probe and filaments and hub and conduct$4 and tip).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:47
L9	13	((needle or cannula) and probe and filaments and conduct$4 and tip).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:48
L11	3	((needle or cannula) and probe and filaments and actuat$4 and conduct$4 and tip).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:48
L12	19	((needle or cannula) and probe and filaments and actuat$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:49
L13	13	((needle or cannula) and probe and filaments and actuat$4 and lumen).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:49
L14	8	((needle or cannula) and probe and filaments and actuat$4 and lumen and deploy$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:49
L15	124	((needle or cannula) and probe and physical$4 and contact$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:50
L16	253	((needle or cannula) and probe and (physical$4 direct) and contact$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:50
L17	0	((needle or cannula) and probe and (physical$4 direct) and contact$4 and filamnets).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:51
L18	9	((needle or cannula) and probe and (physical$4 direct) and contact$4 and filament).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:51

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C:\Users\cdedoulis2\Documents\EAST\Workspaces\15092945.wsp

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	5383917		1995-01-24	Desai et al.	
	2	5486161		1996-01-23	Lax et al.	
	3	5749846		1998-05-12	Edwards et al.	
	4	5893847		1999-04-13	Kordis	
	5	6045532		2000-04-04	Eggers et al.	
	6	6105581		2000-08-22	Eggers et al.	
	7	6210406		2001-04-03	Webster	
	8	6216043		2001-04-10	Swanson et al.	

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	9	6221071		2001-04-24	Sherry et al.	
	10	6287304		2001-09-11	Eggers et al.	
	11	6461314		2002-10-08	Pant et al.	
	12	6471695		2002-10-29	Behl	
	13	6699242		2004-03-02	Heggeness	
	14	6740080		2004-05-25	Jain et al.	
	15	6752804		2004-06-22	Simpson et al.	
	16	6962587		2005-11-08	Johsnon et al.	
	17	6989004		2006-01-24	Hinchliffe et al.	
	18	7229438		2007-06-12	Young	
	19	7318822		2008-01-15	Darmos et al.	

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	20	7344533		2008-03-18	Pearson et al.	
	21	7393351		2008-07-01	Woloszko et al.	
	22	7399299		2008-07-15	Daniel et al.	
	23	7416549		2008-08-26	Young et al.	
	24	7419487		2008-09-02	Johnson et al.	
	25	7458971		2008-12-02	Zerfas et al.	
	26	7678107		2010-03-16	Young	
	27	7846157		2010-12-07	Kozel	
	28	7896871		2011-03-01	Bhushan et al.	
	29	8262574		2012-09-11	Placek et al.	
	30	8512330		2013-08-20	Epstein et al.	

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	31	8518037		2013-08-27	Young	
	32	8753335		2014-06-17	Moshe et al.	
	33	9402560		2016-08-02	Organ et al.	
	34	9675406		2017-06-13	Moss et al.	

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	1	20020022864		2002-02-21	Mahvi et al.	
	2	20020133148		2002-09-19	Daniel et al.	
	3	20030199862		2003-10-23	Simpson et al.	
	4	20040064137		2004-04-01	Pellegrino et al.	
	5	20060095029		2006-05-04	Young et al.	

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	6	20060206111		2006-09-14	Young	
	7	20070010809		2007-01-11	Hovda et al.	
	8	20070213703		2007-09-13	Naam et al.	
	9	20080249523		2008-10-09	McPherson et al.	
	10	20090292259		2009-11-26	Delano et al.	
	11	20090306604		2009-12-10	Darmos et al.	
	12	20100049192		2010-02-25	Holtz et al.	
	13	20110184403		2011-07-28	Brannan	
	14	20130096549		2013-04-18	Organ et al.	
	15	20170065335		2017-03-09	Wright et al.	

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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	2017203754	AU		2017-06-22	Diros Technology Inc.		
	2	1211171	CN	A	1999-03-17	RITA MEDICAL SYSTEMS, INC.		X
	3	1338909	CN	A	2002-03-06	Transurgical, Inc.		☒
	4	2418844	CN		2001-02-14	LOW TEMPERATURE TECHNOLOGY TESTING CENTER		☒
	5	1645235	EP	B1	2010-11-08	Covidien AG		☐
	6	1059067	EP	B1	2005-04-06	Sherwood Services AG		☐
	7	2003-527888	JP		2003-09-24	NEOTHERMIA CORPORATION		☒
	8	2009-504201	JP		2009-02-05	HALT MEDICAL, INC.		☒
	9	4290894	JP	B2	2009-04-10	ASUROKEA CORP		☒
	10	2001-527428	JP		2001-12-25	VIDAMED, INC.		☒

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	Examiner Name	Christine A. Dedoulis
	Attorney Docket Number	NBUS.004C1

	11	2004-267759	JP		2004-09-30	Depuy Acromed, Inc.		☒
	12	2013-509966	JP		2013-03-21	Wright et al.		☒
	13	96/04860	WO		1996-02-22	ZOMED INTERNATIONAL, INC.		☐
	14	96/16606	WO		1996-06-06	VIDAMED, INC.		☐
	15	97/29702	WO		1997-08-21	RITA MEDICAL SYSTEMS, INC.		☐
	16	97/06740	WO		1997-02-27	GOUGH et al.		☐
	17	97/06855	WO		1997-02-27	GOUGH et al.		☐
	18	97/06857	WO		1997-02-27	GOUGH et al.		☐
	19	99/25260	WO		1999-05-27	RITA MEDICAL SYSTEMS, INC.		☐
	20	00/06046	WO		2000-02-10	RADIOTHERAPEUTICS CORPORATION		☐
	21	01/28446	WO		2001-04-26	NEOTHERMIA CORPORATION		☐

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	Attorney Docket Number	NBUS.004C1

	22	01/57655	WO		2001-08-09	BAYLOR COLLEGE OF MEDICINE		☐
	23	02/22032	WO		2002-03-21	RADIOTHERAPEUTICS CORPORATION		☐
	24	02/54941	WO		2002-07-18	RITA MEDICAL SYSTEMS, INC.		☐
	25	2006/044105	WO		2006-04-27	BOSTON SCIENTIFIC SCIMED, INC.		☐
	26	2006/104682	WO		2006-10-05	YOUNG		☐
	27	2007/005830	WO		2007-01-11	HALT MEDICAL, INC.		☐
	28	2008/083044	WO		2008-07-10	BOSTON SCIENTIFIC SCIMED, INC.		☐
	29	2011/113943	WO		2011-09-22	VESALIUS MEDICAL TECHNOLOGIES BVBA		☐
	30	2011/146243	WO		2011-11-24	NIMBUS CONCEPTS, LLC		☐

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Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

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See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

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A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2019-09-23
Name/Print	Daniel C. Higgs	Registration Number	55265

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Bibliographic Data

Application No: 15/092,945

Foreign Priority claimed: ○ Yes ◉ No

35 USC 119 (a-d) conditions met: ☐ Yes ☐ No ☐ Met After Allowance

Verified and Acknowledged: /Christine A Dedoulis/ Examiner's Signature | Initials

Title: SYSTEMS AND METHODS FOR TISSUE ABLATION

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
04/07/2016	606	3794	NBUS.004C1
RULE			

APPLICANTS

Stratus Medical, LLC, Logan, UT, UNITED STATES

INVENTORS

Robert E. Wright Denver, CO, UNITED STATES

Scott A. Brandt Denver, CO, UNITED STATES

CONTINUING DATA

This application is a CON of 13101009 05/04/2011ABN

13101009 has PRO of 61357894 06/23/2010

13101009 has PRO of 61357886 06/23/2010

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	2	20070112340		2007-05-17	Thomas et al.	
	3	20080161804		2008-07-03	Rioux et al.	
	4	20080249392		2008-10-09	Mest	
	5	20080269558		2008-10-30	Yahagi et al.	

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	1	EUROPEAN PATENT OFFICE, European Search Report and EPO Form 1703 01.91 TRI for European Patent Application No. EP 18215729.7, September 6, 2019, 5 pages.	

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The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2019-12-06
Name/Print	Daniel C. Higgs	Registration Number	55265

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.S./

Privacy Act Statement

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Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

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	1	EUROPEAN PATENT OFFICE, Communication Under Rule 71(3) EPC for European Patent Application No. EP 11783944.9, December 18, 2019, 125 pages.	
	2	INSTITUTO NACIONAL DA PROPRIEDADE INDUSTRIAL, Search Report for Brazilian Patent Application No. BR112012029263-3, December 6, 2019, 8 pages.	X
	3	UNITED STATES PATENT AND TRADEMARK OFFICE, Applicant-Initiated Interview Summary for U.S. Patent Application No. 15/098,673, February 14, 2020, 3 pages.	☐
	4	UNITED STATES PATENT AND TRADEMARK OFFICE, Form PTO/AIA/25, Terminal Disclaimer to Obviate a Provisional Double Patenting Rejection over a Pending "Reference" Application for U.S. Patent Application No. 15/098,673, February 20, 2020, 2 pages.	☐

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EXAMINER SIGNATURE

Examiner Signature	/Christine A Dedoulis/	Date Considered	02/24/2020

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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OR

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Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2020-02-23
Name/Print	Daniel C. Higgs	Registration Number	55265

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PTO/AIA/01 (06-12)
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DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION

As the below named inventor, I hereby declare that:

This declaration is directed to:

☐ The attached application, or

☒ United States application or PCT international application number 15/092,945

filed on April 7, 2016.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

WARNING:

Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.

LEGAL NAME OF INVENTOR

Inventor: Robert E. Wright Date (Optional): _____

Signature: _____

Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Privacy Act Statement

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IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Electronic Acknowledgement Receipt

EFS ID:	38998759
Application Number:	15092945
International Application Number:	
Confirmation Number:	5930
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	Robert E. Wright
Customer Number:	148468
Filer:	Daniel Christopher Higgs
Filer Authorized By:	
Attorney Docket Number:	NBUS.004C1
Receipt Date:	28-MAR-2020
Filing Date:	07-APR-2016
Time Stamp:	17:39:27
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	15_092945_Declaration_Wright.pdf	484349 cf5bfe73ba2c121fcbef4a243a3607a1967db227	no	2

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

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Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

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	First Named Inventor	Robert E. Wright
	Art Unit	3794
	Examiner Name	Christine A. Dedoulis
	Attorney Docket Number	NBUS.004C1

	1	UNITED STATES PATENT AND TRADEMARK OFFICE, Office Action in U.S. Patent Application No. 15/098,673, dated March 19, 2020, 37 pages.

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EXAMINER SIGNATURE

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Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2020-03-28
Name/Print	Daniel C. Higgs	Registration Number	55265

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	15092945
Filing Date:	07-Apr-2016
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	Robert E. Wright
Filer:	Daniel Christopher Higgs
Attorney Docket Number:	NBUS.004C1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
		Total in USD ($)		**120**

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Electronic Acknowledgement Receipt

EFS ID:	38998786
Application Number:	15092945
International Application Number:	
Confirmation Number:	5930
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	Robert E. Wright
Customer Number:	148468
Filer:	Daniel Christopher Higgs
Filer Authorized By:	
Attorney Docket Number:	NBUS.004C1
Receipt Date:	28-MAR-2020
Filing Date:	07-APR-2016
Time Stamp:	18:12:12
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$120
RAM confirmation Number	E20203RI12543807
Deposit Account	602176
Authorized User	Daniel Higgs

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

37 CFR 1.19 (Document supply fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	IDS_NBUS004C1_6.pdf	1034358 07edb83b2153d450a963e82ffd70aa8c59152c26	no	4
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
2	Other Reference-Patent/App/Search documents	NBUS001USC1_OA4.pdf	2174573 57694f53149ca31c71a3bb79ae62a284f088cdb1	no	37
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30336 e884ca6025358db93bd9442494e04c985545d52b	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	3239267		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/092,945	04/07/2016	Robert E. Wright	NBUS.004C1	5930

148468 7590 04/10/2020

Med Venture Management, LLC
6030 W. Harold Gatty Dr.
Salt Lake City, UT 84116

EXAMINER	
DEDOULIS, CHRISTINE A	

ART UNIT	PAPER NUMBER
3794	

MAIL DATE	DELIVERY MODE
04/10/2020	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Allowability	Application No. 15/092,945	Applicant(s) Wright et al.	
	Examiner CHRISTINE A DEDOULIS	Art Unit 3794	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the IDS filed March 28, 2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-17 and 19-73 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information , please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/C.A.D./ Examiner, Art Unit 3794	/EUN HWA KIM/ Primary Examiner, Art Unit 3794

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15092945
	Filing Date	2016-04-07
	First Named Inventor	Robert E. Wright
	Art Unit	3794
	Examiner Name	Christine A. Dedoulis
	Attorney Docket Number	NBUS.004C1

	1	UNITED STATES PATENT AND TRADEMARK OFFICE, Office Action in U.S. Patent Application No. 15/098,673, dated March 19, 2020, 37 pages.

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature	/Christine A Dedoulis/	Date Considered	03/31/2020

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2020-03-28
Name/Print	Daniel C. Higgs	Registration Number	55265

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ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.S./

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/092,945	04/07/2016	Robert E. Wright	NBUS.004C1	5930

148468 7590 05/08/2020

Med Venture Management, LLC
6030 W. Harold Gatty Dr.
Salt Lake City, UT 84116

EXAMINER
DEDOULIS, CHRISTINE A

ART UNIT	PAPER NUMBER
3794	

MAIL DATE	DELIVERY MODE
05/08/2020	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Supplemental ***Notice of Allowability***	**Application No.** 15/092,945	**Applicant(s)** Wright et al.	
	Examiner CHRISTINE A DEDOULIS	**Art Unit** 3794	**AIA (FITF) Status** No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

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1. ☑ This communication is responsive to the IDS filed 3/16/2020, 23 pages.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-17 and 19-73 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information , please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
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5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/C.A.D./ Examiner, Art Unit 3794	/EUN HWA KIM/ Primary Examiner, Art Unit 3794

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	D372086.pn.	US-PGPUB; USPAT	OR	ON	2020/05/06 18:29
L2	1	"5749846".pn.	US-PGPUB; USPAT	OR	ON	2020/05/06 18:39
S1	0	"16061963"	US-PGPUB; USPAT	OR	ON	2018/05/09 16:54
S2	0	"16061963.pn."	US-PGPUB; USPAT	OR	ON	2018/05/09 16:54
S3	0	(US-16061963-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/10 07:21
S4	0	"16061963".pn.	US-PGPUB; USPAT	OR	ON	2018/05/10 07:21
S5	1	(13/101009).APP.	US-PGPUB;	OR	ON	2018/05/10 07:21

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

			USPAT			
S6	20	2007/0203486	US-PGPUB; USPAT	OR	ON	2018/05/10 08:05
S7	20	"2007/0203486"	US-PGPUB; USPAT	OR	ON	2018/05/10 08:05
S8	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2018/05/10 08:05
S9	2	"20060229645"	US-PGPUB; USPAT	OR	ON	2018/05/10 08:07
S10	10	("20090299357" | "20100198207" | "20120089211" | "20140343542" | "7713266" | "7850683" | "8298216" | "8409185" | "9039688" | "9254162").PN.	US-PGPUB; USPAT	OR	ON	2018/05/10 08:10
S12	4	S10 and neuroma	US-PGPUB; USPAT	OR	ON	2018/05/10 08:15
S13	4	("2014/0343542").URPN.	USPAT	OR	ON	2018/05/10 08:42
S14	1	"7250046".pn.	USPAT	OR	ON	2018/05/10 08:45

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S15	0	"2008183164".pn.	USPAT	OR	ON	2018/05/10 08:46
S16	0	"2008183164"	USPAT	OR	ON	2018/05/10 08:46
S17	0	"2008183164"	USPAT	OR	ON	2018/05/10 08:46
S18	1	"20080183164"	USPAT	OR	ON	2018/05/10 08:46
S19	0	"2009248001"	USPAT	OR	ON	2018/05/10 08:46
S20	1	"20090248001"	USPAT	OR	ON	2018/05/10 08:46
S21	1	"20040215294"	USPAT	OR	ON	2018/05/10 08:47
S22	1	"20080154254"	USPAT	OR	ON	2018/05/10 08:47
S23	0	"20110178514"	USPAT	OR	ON	2018/05/10 08:47
S24	0	"2011178514"	USPAT	OR	ON	2018/05/10 08:47
S25	0	"20110178514"	USPAT	OR	ON	2018/05/10 08:47
S26	0	"201100178514"	USPAT	OR	ON	2018/05/10 08:47

S27	0	"2006259029"	USPAT	OR	ON	2018/05/10 08:48
S28	1	"20060259029"	USPAT	OR	ON	2018/05/10 08:48
S29	0	"2010331883"	USPAT	OR	ON	2018/05/10 08:48
S30	0	"20100331883"	USPAT	OR	ON	2018/05/10 08:48
S31	0	"201000331883"	USPAT	OR	ON	2018/05/10 08:48
S32	0	"2010000331883"	USPAT	OR	ON	2018/05/10 08:48
S33	1	"20130053851"	USPAT	OR	ON	2018/05/10 08:49
S34	0	"32" and S28 and S22 and S20 and S21 and S18 and S14	USPAT	OR	ON	2018/05/10 08:50
S35	3325542	"32" or S28 S22 S20 S21 S18 S14	USPAT	OR	ON	2018/05/10 08:50
S36	3325542	"32" or S28 or S22 or S20 or S21 or S18 or S14	USPAT	OR	ON	2018/05/10 08:50
S37	1	"20140248001"	USPAT	OR	ON	2018/05/10 09:12
S38	0	"2014/0248001"	USPAT	OR	ON	2018/05/10 09:12

S39	0	2014/0248001	USPAT	OR	ON	2018/05/10 09:12
S40	0	2014/0248001	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:12
S41	2	"20140248001"	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:12
S42	2	"20090248001"	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:13
S43	3238	A61B18/02.cpc.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:21
S44	634	A61B18/02.cpc. and cryo$2probe	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:21
S45	272	A61B18/02.cpc. and cryo$2probe and mark$4	US-PGPUB; USPAT;	OR	ON	2018/05/10 09:21

			USOCR			
S46	15	A61B18/02.cpc. and cryo$2probe and mark$4 and neuroma	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:22
S47	4	("2014/0276539").URPN.	USPAT	OR	ON	2018/05/10 09:29
S48	238	("20020010460" | "20020013602" | "20020045434" | "20020049436" | "20020068929" | "20020120260" | "20020120261" | "20020120263" | "20020128638" | "20020156469" | "20020183731" | "20020193778" | "20030036752" | "20030109912" | "20030130575" | "20030181896" | "20030195436" | "20030220635" | "20030220674" | "20040024391" | "20040082943" | "20040092875" | "20040122482" | "20040143252" | "20040162551" | "20040167505" | "20040191229" | "20040204705" | "20040210212" | "20040215178" | "20040215294" | "20040215295" | "20040220497" | "20040220648" | "20040225276" | "20040243116" | "20040267248" | "20040267257" | "20050004563" | "20050177147" | "20050177148" | "20050182394" | "20050203505" | "20050203593" | "20050209565" | "20050209587" | "20050224086" | "20050228288" | "20050251103" | "20050261753" | "20050276759" | "20050281530" | "20050283148" | "20060009712" | "20060015092" | "20060069385" | "20060079914" | "20060084962" | "20060089688" | "20060111732" | "20060129142" | "20060142785" | "20060173469" | "20060189968" | "20060190035" | "20060200117" | "20060212028" | "20060212048" | "20060223052" | "20060224149" | "20060258951" | "20070060921" | "20070088217" | "20070129714" | "20070156125" | "20070161975" | "20070167943" | "20070167959" | "20070179509" | "20070198071" | "20070225781" | "20070255362" | "20070270925" | "20080051775" | "20080051776" | "20080077201" | "20080077202" | "20080077211" | "20080154254" | "20080183164" | "20080200910" | "20080287839" | "20090018623").PN. OR ("20090018624" | "20090018625" | "20090018626" | "20090018627" | "20090118722" | "20090171334" | "20090248001" | "20090264876" | "20090299357" |	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:29

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		"20100114191" | "20100168725" | "20100305439" | "20100331883" | "20110144631" | "20110196267" | "20120065629" | "20120089211" | "20120259322" | "20120265187" | "20130253605" | "20130324990" | "20140249519" | "20140276539" | "20140343542" | "20140343543" | "20140343544" | "2319542" | "2672032" | "3266492" | "3289424" | "3343544" | "3351063" | "3439680" | "3483869" | "3502081" | "3507283" | "3532094" | "3664344" | "3702114" | "3795245" | "3814095" | "3830239" | "3886945" | "3889681" | "3951152" | "3993075" | "4140109" | "4207897" | "4236518" | "4306568" | "4376376" | "4404862" | "4524771" | "4758217" | "4802475" | "4946460" | "5059197" | "5200170" | "5294325" | "5334181" | "5520681" | "5571147" | "5647868" | "5747777" | "5755753" | "5814040" | "5860970" | "5879378" | "5899897" | "5916212" | "5976505" | "6003539" | "6032675" | "6039730" | "6041787" | "6139545" | "6141985" | "6142991" | "6182666" | "6196839" | "6238386" | "6277099" | "6277116" | "6363730" | "6364899" | "6371943" | "6432102" | "6494844" | "6503246" | "6506796" | "6546935" | "6551309" | "6562030" | "6629951" | "6648880" | "6669688" | "6672095" | "6682501" | "6706037" | "6723092" | "6749624" | "6761715" | "6764493" | "6786901" | "6786902" | "6789545" | "6840935" | "6858025" | "6902554" | "6905492" | "6960208" | "7001400" | "7081111" | "7081112" | "7083612" | "7195616").PN. OR ("7217939" | "7250046" | "7311672" | "7367341" | "7402140" | "7422586" | "7578819" | "7641679" | "7653438" | "7713266" | "7850683" | "7862558" | "7998137" | "8298216" | "8409185" | "8715275" | "8722065" | "9039688").PN. OR ("9668800").URPN.				
S49	238	("20020010460" | "20020013602" | "20020045434" | "20020049436" | "20020068929" | "20020120260" | "20020120261" | "20020120263" | "20020128638" | "20020156469" | "20020183731" | "20020193778" | "20030036752" | "20030109912" | "20030130575" | "20030181896" | "20030195436" | "20030220635" | "20030220674" | "20040024391" | "20040082943" | "20040092875" | "20040122482" | "20040143252" | "20040162551" | "20040167505" | "20040191229" | "20040204705" | "20040210212" | "20040215178" | "20040215294" | "20040215295" | "20040220497" | "20040220648" | "20040225276" | "20040243116" | "20040267248" | "20040267257" | "20050004563" | "20050177147" | "20050177148" | "20050182394" | "20050203505" | "20050203593" | "20050209565" | "20050209587" | "20050224086" | "20050228288" | "20050251103" | "20050261753" | "20050276759" | "20050281530" | "20050283148" | "20060009712" | "20060015092" | "20060069385" | "20060079914" | "20060084962" | "20060089688" | "20060111732" |	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:29

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		"20060129142" | "20060142785" | "20060173469" | "20060189968" | "20060190035" | "20060200117" | "20060212028" | "20060212048" | "20060223052" | "20060224149" | "20060258951" | "20070060921" | "20070088217" | "20070129714" | "20070156125" | "20070161975" | "20070167943" | "20070167959" | "20070179509" | "20070198071" | "20070225781" | "20070255362" | "20070270925" | "20080051775" | "20080051776" | "20080077201" | "20080077202" | "20080077211" | "20080154254" | "20080183164" | "20080200910" | "20080287839" | "20090018623").PN. OR ("20090018624" | "20090018625" | "20090018626" | "20090018627" | "20090118722" | "20090171334" | "20090248001" | "20090264876" | "20090299357" | "20100114191" | "20100168725" | "20100305439" | "20100331883" | "20110144631" | "20110196267" | "20120065629" | "20120089211" | "20120259322" | "20120265187" | "20130253605" | "20130324990" | "20140249519" | "20140276539" | "20140343542" | "20140343543" | "20140343544" | "2319542" | "2672032" | "3266492" | "3289424" | "3343544" | "3351063" | "3439680" | "3483869" | "3502081" | "3507283" | "3532094" | "3664344" | "3702114" | "3795245" | "3814095" | "3830239" | "3886945" | "3889681" | "3951152" | "3993075" | "4140109" | "4207897" | "4236518" | "4306568" | "4376376" | "4404862" | "4524771" | "4758217" | "4802475" | "4946460" | "5059197" | "5200170" | "5294325" | "5334181" | "5520681" | "5571147" | "5647868" | "5747777" | "5755753" | "5814040" | "5860970" | "5879378" | "5899897" | "5916212" | "5976505" | "6003539" | "6032675" | "6039730" | "6041787" | "6139545" | "6141985" | "6142991" | "6182666" | "6196839" | "6238386" | "6277099" | "6277116" | "6363730" | "6364899" | "6371943" | "6432102" | "6494844" | "6503246" | "6506796" | "6546935" | "6551309" | "6562030" | "6629951" | "6648880" | "6669688" | "6672095" | "6682501" | "6706037" | "6723092" | "6749624" | "6761715" | "6764493" | "6786901" | "6786902" | "6789545" | "6840935" | "6858025" | "6902554" | "6905492" | "6960208" | "7001400" | "7081111" | "7081112" | "7083612" | "7195616").PN. OR ("7217939" | "7250046" | "7311672" | "7367341" | "7402140" | "7422586" | "7578819" | "7641679" | "7653438" | "7713266" | "7850683" | "7862558" | "7998137" | "8298216" | "8409185" | "8715275" | "8722065" | "9039688").PN.				
S50	8	"51530769".FMID.	US-PGPUB; USPA	OR	ON	2018/05/10 09:30

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			T; FPRS			
S51	4	2014/0276539	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:44
S52	2	"20140276539"	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:44
S53	4	("2014/0276539").URPN.	USPAT	OR	ON	2018/05/10 09:44
S54	1	"7250046".pn.	USPAT	OR	ON	2018/05/10 09:45
S55	1383	A61B18/02.cpc.	USPAT	OR	ON	2018/05/10 14:45
S56	8180	A61B18/02.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:46
S57	46	A61B18/02.cpc. and neuroma$3	US-PGPUB; USPAT; USOCR;	OR	ON	2018/05/10 14:46

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			FPRS; EPO; JPO			
S58	34	A61B18/02.cpc. and neuroma$3 and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:47
S59	3824	A61B18/02.cpc. and (neuroma$3 or cryo$3probe$3 or cryoprobe or cool$5) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:53
S60	1061	A61B18/02.cpc. and (neuroma$3 or cryo$3probe$3 or cryoprobe) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:53
S61	25	A61B18/02.cpc. and (neuroma$3 and(cryo$3probe$3 or cryoprobe)) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:53

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S62	173	A61B18/02.cpc. and (nerve and(cryo$3probe$3 or cryoprobe)) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 16:20
S63	20	(US-20127033363-$ | US-0012956-$ | US-0059328-$ | US-0084965-$ | US-0112340-$ | US-0158239-$ | US-0161804-$ | US-0213356-$ | US-0249392-$ | US-0269558-$ | US-10829203-$ | US-11783944-$ | US-1234567-$ | US-19753966-$ | US-20010012956-$ | US-20040059328-$ | US-20040158239-$ | US-20060084965-$ | US-20070112340-$ | US-20080161804-$ | US-20080249392-$ | US-20080269558-$ | US-20110213356-$ | US-7033363-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/22 14:42
S64	8858	a61b2018/0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:49
S65	6351	a61b18/1477,1206.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:51
S66	13535	a61b2018/00577,1253,1427,143,0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:52
S67	3120858	electrode or wire	US-PGPUB; USPAT	OR	ON	2018/05/22 17:53
S68	1788120	electrode$3 or filament$4	US-PGPUB; USPAT	OR	ON	2018/05/22 17:55

S69	78	filament$3 and electode$3	US-PGPUB; USPAT	OR	ON	2018/05/22 17:55
S70	81	filament$5 and electode$5	US-PGPUB; USPAT	OR	ON	2018/05/22 17:55
S71	94	filament$10 and electode$10	US-PGPUB; USPAT	OR	ON	2018/05/22 17:56
S72	94	filament$20 and electode$20	US-PGPUB; USPAT	OR	ON	2018/05/22 17:56
S73	0	Nimbus.IN.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:58
S74	0	Nimbus.AAAT.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:59
S75	0	((Nimbus) near2 (concepts)).AAAT.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:59
S76	622	((Robert) near2 (Wright)).IN.	US-PGPUB; USPAT	OR	ON	2018/05/22 18:00

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S77	25	((Scott) near2 (Brandt)).IN.	US-PGPUB; USPAT	OR	ON	2018/05/22 18:00
S78	46	S76 and filament$3 or "elongate member having a distal end"	US-PGPUB; USPAT	OR	ON	2018/05/22 18:01
S79	4	S77 and filament$3 or "elongate member having a distal end"	US-PGPUB; USPAT	OR	ON	2018/05/22 18:05
S80	8836	(S64 or S65 or S66) and (needle$3 or probe$3) and (filament$5 or electrode$5)	US-PGPUB; USPAT	OR	ON	2018/05/22 18:08
S81	3407	(S64 or S65 or S66) and (needle$3 or probe$3) and (filament$5 or electrode$5) and elongate	US-PGPUB; USPAT	OR	ON	2018/05/22 18:09
S82	1588	S65 and (needle$3 or probe$3) and (filament$5 or electrode$5) and elongate	US-PGPUB; USPAT	OR	ON	2018/05/22 18:09
S83	4149	S65 and (needle$3 or probe$3) and (filament$5 or electrode$5) and (first or second near$10 (positon))	US-PGPUB; USPAT	OR	ON	2018/05/22 18:09
S84	6197	S65 and (first or second near$10 (positon))	US-PGPUB; USPAT	OR	ON	2018/05/22 18:10

S85	14371	(S64 or S65 or S66) and (filament$5 near$10 move$5)	US-PGPUB; USPAT	OR	ON	2018/05/22 18:11
S86	8349	S64 and (filament$5 near$10 move$5)	US-PGPUB; USPAT	OR	ON	2018/05/22 18:12
S87	18	S64 and (filament$5 near$10 move$5) and electode$3	US-PGPUB; USPAT	OR	ON	2018/05/22 18:12
S88	1	(US-1234567-$ | US-18125712-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 08:59
S89	2	(US-1234567-$ | US-18125712-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/05/23 09:00
S90	3	(AI-1234567-$ | JP-1234567-$ | JP-2000507844-$ | JP-2003527888-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2018/05/23 09:00

			DER WENT			
S91	1	(13/101009).APP.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:01
S92	175	(US-0004651-$ | US-0006215-$ | US-0006336-$ | US-0015161-$ | US-0015176-$ | US-0015218-$ | US-0015569-$ | US-0016183-$ | US-0018332-$ | US-0024124-$ | US-0026185-$ | US-0027449-$ | US-0029037-$ | US-0033279-$ | US-0033493-$ | US-0042098-$ | US-0045939-$ | US-0045940-$ | US-0048786-$ | US-0054962-$ | US-0056926-$ | US-0059964-$ | US-0060921-$ | US-0065062-$ | US-0076303-$ | US-0078595-$ | US-0089635-$ | US-0095115-$ | US-0099544-$ | US-0099980-$ | US-0100376-$ | US-0101944-$ | US-0101950-$ | US-0111702-$ | US-0112342-$ | US-0114095-$ | US-0118191-$ | US-0122482-$ | US-0122686-$ | US-0122692-$ | US-0123964-$ | US-0130974-$ | US-0131790-$ | US-0138011-$ | US-0142756-$ | US-0143262-$ | US-0154259-$ | US-0156136-$ | US-0161905-$ | US-0165391-$ | US-0167646-$ | US-0167649-$ | US-0167943-$ | US-0171522-$ | US-0173359-$ | US-0176759-$ | US-0177209-$ | US-0177211-$ | US-0179380-$ | US-0179491-$ | US-0185082-$ | US-0185522-$ | US-0187177-$ | US-0187182-$ | US-0187183-$ | US-0188275-$ | US-0189972-$ | US-0198232-$ | US-0200121-$ | US-0203402-$ | US-0203486-$ | US-0203503-$ | US-0206127-$ | US-0206128-$ | US-0206129-$ | US-0206130-$ | US-0206131-$ | US-0206132-$ | US-0206133-$ | US-0206134-$ | US-0208121-$ | US-0217705-$ | US-0221998-$ | US-0222677-$ | US-0228001-$ | US-0228180-$ | US-0228181-$ | US-0230187-$ | US-0234445-$ | US-0240174-$ | US-0247616-$ | US-0259026-$ | US-0259027-$ | US-0260234-$ | US-0260282-$ | US-0267552-$ | US-0269739-$ | US-0271036-$ | US-0275443-$ | US-0277918-$ | US-0282321-$ | US-0287081-$ | US-0299358-$ | US-11505900-$ | US-1234567-$ | US-20020026185-$ | US-20020029037-$ | US-20020188275-$ | US-20030018332-$ | US-20030078595-$ | US-20040006336-$ | US-20040015176-$ | US-20040015218-$ | US-20040100376-$ | US-20040122482-$ | US-20040143262-$ | US-20040176759-$ | US-20040230187-$ | US-20040260282-$ | US-20050033279-$ | US-20050059964-$ | US-20050101944-$ | US-20050101950-$ | US-20050165391-$ | US-20050171522-$ | US-20050177209-$ | US-20050177211-$ | US-20050203503-$ | US-20050234445-$ | US-20050240174-$ | US-20050267552-$ | US-20050277918-$ | US-20060015161-$ | US-20060089635-$ | US-20060095115-$ | US-20060111702-$ | US-20060122686-$ | US-20060122692-$ | US-20060142756-$ | US-20060173359-$ | US-20060189972-$ | US-20060200121-$ | US-20060206127-$ | US-20060206128-$ | US-20060206129-$ | US-20060206130-$ | US-	US-PGPUB; USPAT	OR	ON	2018/05/23 09:02

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		20060206131-$ | US-20060206132-$ | US-20060206133-$ | US-20060206134-$ | US-20060217705-$ | US-20060247616-$ | US-20060259026-$ | US-20060259027-$ | US-20060271036-$ | US-20070006215-$ | US-20070016183-$ | US-20070027449-$ | US-20070060921-$ | US-20070112342-$ | US-20070118191-$ | US-20070123964-$ | US-20070156136-$ | US-20070161905-$ | US-20070167943-$ | US-20070179380-$ | US-20070179491-$ | US-20070185522-$ | US-20070203402-$ | US-20070203486-$ | US-20070260234-$ | US-20070282321-$ | US-20080015569-$ | US-20080033493-$ | US-20080045939-$ | US-20080045940-$).DID.				
S93	187	(US-20080048786-$ | US-20080065062-$ | US-20080154259-$ | US-20080167646-$ | US-20080167649-$ | US-20080208121-$ | US-20080228180-$ | US-20080228181-$ | US-20080269739-$ | US-20080275443-$ | US-20090024124-$ | US-20090054962-$ | US-20090099544-$ | US-20090131790-$ | US-20090138011-$ | US-20090187177-$ | US-20090187182-$ | US-20090187183-$ | US-20090198232-$ | US-20090221998-$ | US-20090228001-$ | US-20090287081-$ | US-20090299358-$ | US-20100004651-$ | US-20100042098-$ | US-20100056926-$ | US-20100076303-$ | US-20100099980-$ | US-20100114095-$ | US-20100130974-$ | US-20100185082-$ | US-20100222677-$ | US-2124684-$ | US-2423024-$ | US-4011872-$ | US-4206761-$ | US-4206762-$ | US-4281667-$ | US-4353371-$ | US-4375220-$ | US-4378809-$ | US-4385636-$ | US-4411266-$ | US-4565200-$ | US-4573980-$ | US-4583538-$ | US-4593703-$ | US-4618978-$ | US-4646752-$ | US-4653508-$ | US-4660568-$ | US-4676255-$ | US-4698207-$ | US-4787886-$ | US-4796615-$ | US-4827927-$ | US-4838265-$ | US-4886506-$ | US-4907589-$ | US-4966597-$ | US-5010897-$ | US-5160337-$ | US-5217457-$ | US-5230623-$ | US-5233515-$ | US-5244462-$ | US-5257630-$ | US-5291896-$ | US-5304114-$ | US-5304115-$ | US-5312329-$ | US-5312391-$ | US-5318013-$ | US-5324255-$ | US-5334183-$ | US-5342292-$ | US-5370645-$ | US-5370675-$ | US-5372596-$ | US-5377685-$ | US-5397301-$ | US-5401272-$ | US-5421923-$ | US-5422567-$ | US-5423809-$ | US-5433739-$ | US-5447417-$ | US-5458597-$ | US-5472441-$ | US-5472442-$ | US-5474057-$ | US-5484398-$ | US-5496312-$ | US-5507743-$ | US-5511564-$ | US-5514129-$ | US-5536267-$ | US-5541376-$ | US-5560358-$ | US-5562703-$ | US-5571147-$ | US-5580665-$ | US-5599345-$ | US-5599346-$ | US-5611709-$ | US-5613966-$ | US-5628743-$ | US-5662111-$ | US-5662620-$ | US-5662680-$ | US-5667488-$ | US-5669904-$ | US-5672173-$ | US-5672174-$ | US-5683349-$ | US-5683384-$ | US-5701575-$ | US-5720744-$ | US-5728143-$ | US-5735847-$ | US-5738648-$ | US-5748703-$ | US-5749689-$ | US-5755754-$ | US-5768679-$ | US-5772659-$ | US-5778043-$ | US-5782827-$ | US-5792146-$ | US-5797906-$ | US-5800484-$ | US-5807309-$ | US-5810804-$ | US-5827271-$ | US-5827276-$ | US-5848967-$ | US-5855576-$ | US-5863290-$ | US-5868740-$ | US-5911739-$ | US-5913855-$ | US-	US-PGPUB; USPAT	OR	ON	2018/05/23 09:03

		5921992-$ | US-5925042-$ | US-5928229-$ | US-5935123-$ | US-5951547-$ | US-5968040-$ | US-5980517-$ | US-5983141-$ | US-6006126-$ | US-6013076-$ | US-6014590-$ | US-6015406-$ | US-6016452-$ | US-6039733-$ | US-6041260-$ | US-6044846-$ | US-6050992-$ | US-6053937-$ | US-6059780-$ | US-6068627-$ | US-6071280-$ | US-6080150-$ | US-6090105-$ | US-6106521-$ | US-6117134-$ | US-6122341-$ | US-6129726-$ | US-6132425-$ | US-6139519-$ | US-6139547-$ | US-6143003-$ | US-6146380-$ | US-6161048-$ | US-6165169-$ | US-6167295-$ | US-6179834-$ | US-6210403-$ | US-6213999-$ | US-6217554-$ | US-6228080-$ | US-6228083-$ | US-6231570-$ | US-6234178-$ | US-6235023-$ | US-6241725-$ | US-6241726-$).DID.				
S94	157	(US-6246912-$ | US-6251106-$ | US-6259952-$ | US-6268200-$ | US-6275725-$ | US-6277117-$ | US-6280441-$ | US-6312426-$ | US-6330478-$ | US-6331180-$ | US-6334861-$ | US-6352536-$ | US-6402743-$ | US-6402747-$ | US-6405072-$ | US-6416520-$ | US-6419653-$ | US-6419680-$ | US-6419798-$ | US-6425887-$ | US-6440127-$ | US-6447477-$ | US-6447505-$ | US-6451018-$ | US-6454765-$ | US-6458130-$ | US-6459769-$ | US-6464704-$ | US-6468273-$ | US-6471698-$ | US-6478793-$ | US-6500175-$ | US-6506189-$ | US-6517534-$ | US-6530922-$ | US-6533987-$ | US-6551311-$ | US-6562033-$ | US-6565562-$ | US-6569159-$ | US-6575967-$ | US-6575969-$ | US-6585735-$ | US-6602249-$ | US-6605085-$ | US-6610054-$ | US-6622731-$ | US-6623481-$ | US-6632221-$ | US-6632222-$ | US-6638275-$ | US-6641580-$ | US-6645201-$ | US-6652515-$ | US-6652516-$ | US-6660002-$ | US-6660362-$ | US-6663624-$ | US-6669693-$ | US-6682526-$ | US-6682528-$ | US-6685701-$ | US-6689127-$ | US-6690210-$ | US-6692490-$ | US-6706152-$ | US-6723092-$ | US-6743226-$ | US-6743229-$ | US-6746570-$ | US-6749719-$ | US-6770070-$ | US-6780180-$ | US-6803549-$ | US-6814712-$ | US-6837956-$ | US-6846448-$ | US-6847848-$ | US-6852091-$ | US-6866663-$ | US-6881214-$ | US-6889089-$ | US-6896675-$ | US-6932810-$ | US-6958062-$ | US-6958064-$ | US-6961602-$ | US-6964660-$ | US-6966908-$ | US-6974455-$ | US-6997925-$ | US-7025767-$ | US-7033353-$ | US-7044949-$ | US-7048733-$ | US-7056320-$ | US-7074484-$ | US-7076399-$ | US-7087051-$ | US-7099712-$ | US-7108696-$ | US-7112197-$ | US-7115124-$ | US-7138088-$ | US-7150743-$ | US-7150744-$ | US-7160296-$ | US-7163536-$ | US-7179256-$ | US-7179258-$ | US-7207990-$ | US-7258688-$ | US-7266414-$ | US-7270660-$ | US-7270662-$ | US-7276064-$ | US-7281666-$ | US-7294127-$ | US-7306596-$ | US-7311702-$ | US-7340307-$ | US-7354436-$ | US-7357798-$ | US-7371234-$ | US-7387626-$ | US-7387630-$ | US-7416549-$ | US-7449020-$ | US-7468062-$ | US-7480533-$ | US-7517346-$ | US-7524318-$ | US-7533002-$ | US-7549986-$ | US-7561907-$ | US-7593778-$ | US-7596469-$ | US-7615050-$ | US-7670336-$ | US-7670337-$ | US-7678106-$ | US-7699844-$ | US-7704248-$ | US-7771420-$ |	US-PGPUB; USPAT	OR	ON	2018/05/23 09:03

		US-7794458-$ | US-7794459-$ | US-7797049-$ | US-7799021-$ | US-7815571-$ | US-7819869-$ | US-7819871-$ | US-7824404-$ | US-7828796-$ | US-7874986-$ | US-7875025-$ | US-7892231-$ | US-7896874-$).DID.				
S95	0	(BI-1234567-$ | AI-1234567-$ | AL-1234567-$ | DE-2124684-$ | GB-2423024-$ | JP-1234567-$ | WO-2011057157-$ | WO-9629946-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:03
S96	10	(BI-1234567-$ | AI-1234567-$ | AL-1234567-$ | DE-2124684-$ | GB-2423024-$ | JP-1234567-$ | WO-2011057157-$ | WO-9629946-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/23 09:03
S97	5	(US-0287996-$ | US-1234567-$ | US-11969039-$ | US-20070287996-$ | US-5507802-$ | US-7270661-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:04
S98	0	(BI-1234567-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:04
S99	0	(BI-1234567-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2018/05/23 09:04

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			DERWENT; IBM_TDB			
S100	20	(US-20127033363-$ | US-0012956-$ | US-0059328-$ | US-0084965-$ | US-0112340-$ | US-0158239-$ | US-0161804-$ | US-0213356-$ | US-0249392-$ | US-0269558-$ | US-10829203-$ | US-11783944-$ | US-1234567-$ | US-19753966-$ | US-20010012956-$ | US-20040059328-$ | US-20040158239-$ | US-20060084965-$ | US-20070112340-$ | US-20080161804-$ | US-20080249392-$ | US-20080269558-$ | US-20110213356-$ | US-7033363-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:09
S101	13	("2011/0213356").URPN.	USPAT	OR	ON	2018/05/23 09:09
S102	8	("2006/0084965").URPN.	USPAT	OR	ON	2018/05/23 09:10
S103	8858	a61b2018/0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:12
S104	6351	a61b18/1477,1206.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:12
S105	13535	a61b2018/00577,1253,1427,143,0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:12
S106	1469	S103 and S104 and S105	USPAT	OR	ON	2018/05/23 09:12
S107	3184	S103 and S104 and S105	US-PGPUB; USPAT;	OR	ON	2018/05/23 09:12

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			USOCR			
S108	3047	S107 and (filament or antenna or electrode or array)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:13
S109	2220	S108 and needle	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:13
S110	2594	S108 and (needle or probe)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:14
S111	2905	S108 and ((needle or probe) near$10 bevel)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:14
S112	2638	S108 and ((needle or probe) near$10 bevel) and (elongate or long or member)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:14
S113	250	S108 and (form$3 or made or built) with (single near2 wire)	US-PGPUB; USPAT;	OR	ON	2018/05/23 09:16

			USOCR			
S114	377	S108 and (form$3 or made or built) and (single near2 wire)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:16
S115	219	(filament or electrode) with (form$3 or made or built) with (single near2 wire) and S107	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:17
S116	2498	S108 and (fluid or port)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:19
S117	1477	S108 and (fluid or port)and (@ad<="20100623")	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:20
S118	280	S108 and (form$3 or made or built) and (single near2 wire) and (@ad<="20100623")	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:20
S119	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2019/01/31 13:28

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S120	2	"20060229645"	US-PGPUB; USPAT	OR	ON	2019/01/31 14:17
S121	1	"15092945"	US-PGPUB; USPAT	OR	ON	2019/01/31 16:35
S122	7	wright.in. and brandt.in.	US-PGPUB; USPAT	OR	ON	2019/01/31 16:35
S123	2	"20020143302"	US-PGPUB; USPAT	OR	ON	2019/01/31 16:42
S124	2	"20040260282"	US-PGPUB; USPAT	OR	ON	2019/02/28 14:19
S125	154	"7108696"	US-PGPUB; USPAT	OR	ON	2019/02/28 14:20
S126	0	"7108696.pn."	US-PGPUB; USPAT	OR	ON	2019/02/28 14:21
S127	1	"7108696".pn.	US-PGPUB; USPAT	OR	ON	2019/02/28 14:21

S128	2	"20020143302"	US-PGPUB; USPAT	OR	ON	2019/02/28 14:31
S129	60	("2002/0143302").URPN.	USPAT	OR	ON	2019/02/28 15:00
S130	47	(US-12940974-$ | US-20050059964-$ | US-20110213356-$ | US-20110288540-$ | US-3918455-$ | US-4124153-$ | US-4282637-$ | US-4341094-$ | US-4457128-$ | US-4501133-$ | US-4907741-$ | US-5226912-$ | US-5232442-$ | US-5250247-$ | US-5269808-$ | US-5304141-$ | US-5374278-$ | US-5379900-$ | US-5425746-$ | US-5437726-$ | US-5503092-$ | US-5507777-$ | US-5532657-$ | US-5540778-$ | US-5562685-$ | US-5569302-$ | US-5639506-$ | US-5643628-$ | US-5648003-$ | US-5649962-$ | US-5672375-$ | US-5683025-$ | US-5709692-$ | US-5891166-$ | US-5891247-$ | US-5897044-$ | US-5954242-$ | US-5991957-$ | US-6031018-$ | US-6035916-$ | US-6051180-$ | US-6053086-$ | US-6126676-$ | US-6270464-$ | US-6402770-$ | US-6536482-$ | US-6699205-$ | US-6730042-$ | US-6739024-$ | US-7761964-$ | US-8292822-$).DID.	USPAT	OR	ON	2019/02/28 15:14
S131	50	(US-20130281930-$ or US-8979831-$ or US-20060222667-$ or US-20110319909-$ or US-20050131431-$ or US-20110054612-$ or US-20110213356-$ or US-20110288540-$ or US-20170164942-$ or US-20110319908-$ or US-20020120238-$ or US-6302870-$ or US-20070270757-$ or US-6217554-$ or US-6425887-$ or US-5419777-$ or US-20110009848-$ or US-20040064098-$ or US-20120071832-$ or US-6432092-$ or US-5749846-$ or US-20120323220-$ or US-6689103-$ or US-20020188275-$ or US-20080269763-$ or US-6482178-$ or US-20040186435-$ or US-20040122312-$ or US-6673093-$ or US-6036699-$ or US-5417699-$ or US-20060241723-$ or US-20080269740-$ or US-20110288563-$ or US-6821283-$ or US-8292932-$ or US-20140221830-$ or US-6968238-$ or US-20030171758-$ or US-20060058861-$ or US-5496304-$ or US-5964773-$ or US-6546932-$ or US-6299598-$ or US-5700273-$ or US-5507802-$ or US-7050858-$ or US-6080167-$ or US-6547762-$ or US-7108696-$).did.	US-PGPUB; USPAT	OR	ON	2019/02/28 15:21
S132	12	("2012/0071832").URPN.	USPAT	OR	ON	2019/02/28 15:23

S133	1	"20080027523"	US-PGPUB; USPAT	OR	ON	2019/03/01 08:43
S134	1	"15092945"	US-PGPUB; USPAT	OR	ON	2019/03/01 09:38
S135	14745	((A61B18/1206 OR A61B18/1477 OR A61B2018/0044 OR A61B2018/00577 OR A61B2018/1253 OR A61B2018/1427 OR A61B2018/143 OR A61B2018/1475).CPC.)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:38
S136	5619	S135 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/01 09:42
S137	427	S136 and (hub housing) with (actuator actuation rotate rotation rotating)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:46
S138	1592	S136 and (hub housing) and(actuator actuation rotate rotation rotating)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47
S139	890	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47
S140	1075	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47

S141	1119	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract retracting)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47
S142	535	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract retracting) and (helix helical track)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:48
S143	694	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract retracting) and (helix helical track thread)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:48
S144	1	"4051855".pn.	US-PGPUB; USPAT	OR	ON	2019/03/01 10:48
S145	1	"5954686".pn.	US-PGPUB; USPAT	OR	ON	2019/03/01 10:49
S146	1	"7094231".pn.	US-PGPUB; USPAT	OR	ON	2019/03/01 10:49
S147	1	"7108696".pn.	US-PGPUB; USPAT	OR	ON	2019/03/04 15:33
S148	2	"20060229645"	US-PGPUB; USPAT	OR	ON	2019/03/05 14:32

S149	73	("2006/0229645").URPN.	USPAT	OR	ON	2019/03/05 14:32
S150	201212	(hub housing) with rotate	US-PGPUB; USPAT	OR	ON	2019/03/05 14:35
S151	47541	S150 and (thread threads threading heliccal helix)	US-PGPUB; USPAT	OR	ON	2019/03/05 14:35
S152	17638	S151 and (deploy$4 expand retract)	US-PGPUB; USPAT	OR	ON	2019/03/05 14:36
S153	8815	S152 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/05 14:37
S154	1283	S153 and (a61b18/$.cpc. or a61b2018/$.cpc. or a61b17/$.cpc. or a61b2017/$.cpc.)	US-PGPUB; USPAT	OR	ON	2019/03/05 14:40
S155	187124	(a61b18/$.cpc. or a61b2018/$.cpc. or a61b17/$.cpc. or a61b2017/$.cpc.)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:10
S156	27455	S155 and ((first or second) with (hub housing))	US-PGPUB; USPAT	OR	ON	2019/03/05 15:11

S157	5904	S156 and (helix or helical)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:11
S158	12869	S156 and (helix or helical thread)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:12
S159	4705	S158 and (deploy$4 and retract$3)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:12
S160	3971	S159 and (second near10 (axial$3 or distal$3))	US-PGPUB; USPAT	OR	ON	2019/03/05 15:13
S161	4061	S159 and (second near10 (axial$3 or distal$3 or linear$3))	US-PGPUB; USPAT	OR	ON	2019/03/05 15:13
S162	1327	S161 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/05 15:16
S163	168	(US-20040100376-$ | US-20040176759-$ | US-20050101950-$ | US-20060095115-$ | US-20060122692-$ | US-20060206128-$ | US-20060206131-$ | US-20060259026-$ | US-20070215543-$ | US-0012956-$ | US-0059328-$ | US-0084965-$ | US-0112340-$ | US-0158239-$ | US-0161804-$ | US-0164184-$ | US-0213356-$ | US-0222019-$ | US-0249392-$ | US-0256625-$ | US-0269558-$ | US-1234567-$ | US-1259590-$ | US-1272004-$ | US-12994324-$ | US-1302006-$ | US-13101009-$ | US-1366756-$ | US-15687739-$ | US-15928229-$ | US-1653819-$ | US-1735271-$ | US-1814791-$ | US-1889609-$ | US-1932258-$ | US-1943543-$ | US-1952617-$ | US-1983669-$ | US-20010012956-$ | US-20010044596-$ | US-20020010491-$ | US-20020055731-$ | US-20020077676-$ | US-20020099323-$ | US-20020138117-$ | US-20020183735-$ | US-	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

		20020183740-$ | US-20020193831-$ | US-20030009110-$ | US-20030060856-$ | US-20030088189-$ | US-20030130711-$ | US-20030170898-$ | US-20030195406-$ | US-20030208200-$ | US-20030225360-$ | US-2003425-$ | US-20040019371-$ | US-20040059328-$ | US-20040059389-$ | US-20040146877-$ | US-20040153057-$ | US-20040158239-$ | US-20040199159-$ | US-20040243107-$ | US-20040267189-$ | US-20050033279-$ | US-20050043726-$ | US-20050049541-$ | US-20050165393-$ | US-20050171523-$ | US-20050171574-$ | US-20050182462-$ | US-20050261672-$ | US-20050277918-$ | US-20050288730-$ | US-20060015147-$ | US-20060025760-$ | US-20060079883-$ | US-20060084965-$ | US-20060121610-$ | US-20060189972-$ | US-20060206134-$ | US-20060212078-$ | US-20060217703-$ | US-20060264752-$ | US-20060264974-$ | US-20060271-$ | US-20070016183-$ | US-20070043345-$ | US-20070112340-$ | US-20070118069-$ | US-20070203486-$ | US-20080052786-$ | US-20080154259-$ | US-20080161804-$ | US-20080167649-$ | US-20080249392-$ | US-20080269558-$ | US-20090024124-$ | US-20090062792-$ | US-20090131790-$ | US-20090221998-$ | US-20090228001-$ | US-20090281477-$ | US-20100256625-$ | US-20100049190-$ | US-20100087813-$ | US-20100130975-$ | US-20100222677-$ | US-20110213356-$ | US-20110202053-$ | US-20110288540-$ | US-20120165813-$ | US-20120310236-$ | US-20130110106-$ | US-2014701-$ | US-2014702-$ | US-2022065-$ | US-2050904-$ | US-2056377-$ | US-2124684-$ | US-2196171-$ | US-2282008-$ | US-2423024-$ | US-2888928-$ | US-2994324-$ | US-3035580-$ | US-3112003-$ | US-3460539-$ | US-3595239-$ | US-3601126-$ | US-3614414-$ | US-3648001-$ | US-3685518-$ | US-3699967-$ | US-3707149-$ | US-3801766-$ | US-3815604-$ | US-3840011-$ | US-3845771-$ | US-3847153-$ | US-3885569-$ | US-3898991-$ | US-3901242-$ | US-3902494-$ | US-3903891-$ | US-3918455-$ | US-3920021-$ | US-3920022-$ | US-3923063-$ | US-3929137-$ | US-3939839-$ | US-3945375-$ | US-3963030-$ | US-3964487-$ | US-3970088-$ | US-3974833-$ | US-4011872-$ | US-4016881-$ | US-4016886-$ | US-4024467-$ | US-4033351-$ | US-4040426-$ | US-4043342-$ | US-4051855-$ | US-4060088-$ | US-4069827-$ | US-4074718-$ | US-4092986-$ | US-4114623-$ | US-4116198-$ | US-4119102-$).DID.				
S164	196	(US-4124153-$ | US-4126137-$ | US-4154240-$ | US-4189685-$ | US-4200104-$ | US-4202337-$ | US-4204549-$ | US-4206761-$ | US-4206762-$ | US-4210152-$ | US-4226246-$ | US-4228800-$ | US-4248231-$ | US-4262672-$ | US-4269387-$ | US-4271837-$ | US-4281373-$ | US-4282637-$ | US-4301802-$ | US-4326529-$ | US-4341094-$ | US-4346332-$ | US-4353371-$ | US-4375220-$ | US-4376263-$ | US-4378809-$ | US-4381007-$ | US-4385636-$ | US-4407943-$ | US-4411266-$ | US-4416277-$ | US-4418692-$ | US-4429698-$ | US-4448198-$ | US-4457128-$ | US-4474179-$ | US-4476862-$ | US-4492231-$ | US-4494541-$ | US-4501133-$ |	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

		US-4512338-$ | US-4517976-$ | US-4524770-$ | US-4532924-$ | US-4534347-$ | US-4548207-$ | US-4553687-$ | US-4559943-$ | US-4559951-$ | US-4562838-$ | US-4565200-$ | US-4567890-$ | US-4573980-$ | US-4580557-$ | US-4583538-$ | US-4590934-$ | US-4593691-$ | US-4593703-$ | US-4617927-$ | US-4618978-$ | US-4646752-$ | US-4653508-$ | US-4657015-$ | US-4658819-$ | US-4658820-$ | US-4660568-$ | US-4669468-$ | US-4674499-$ | US-4676255-$ | US-4681122-$ | US-4682596-$ | US-4688569-$ | US-4696668-$ | US-4698207-$ | US-4706667-$ | US-4709698-$ | US-4710176-$ | US-4712544-$ | US-4727874-$ | US-4735201-$ | US-4755173-$ | US-4769005-$ | US-4781175-$ | US-4787886-$ | US-4796615-$ | US-4799480-$ | US-4800899-$ | US-4802476-$ | US-4805616-$ | US-4808168-$ | US-4810963-$ | US-4813429-$ | US-4820298-$ | US-4823791-$ | US-4827927-$ | US-4832048-$ | US-4832690-$ | US-4833824-$ | US-4838265-$ | US-4850353-$ | US-4860744-$ | US-4878493-$ | US-4886074-$ | US-4886506-$ | US-4907589-$ | US-4907601-$ | US-4907741-$ | US-4919129-$ | US-4920978-$ | US-4931047-$ | US-4936281-$ | US-4936301-$ | US-4936310-$ | US-4936842-$ | US-4943290-$ | US-4946793-$ | US-4950267-$ | US-4955377-$ | US-4966597-$ | US-4967765-$ | US-4969885-$ | US-4976711-$ | US-4994069-$ | US-4998661-$ | US-4998933-$ | US-5007908-$ | US-5009656-$ | US-5013312-$ | US-5019034-$ | US-5019076-$ | US-5035696-$ | US-5037379-$ | US-5047026-$ | US-5047027-$ | US-5052391-$ | US-5057107-$ | US-5058605-$ | US-5062031-$ | US-5071418-$ | US-5080660-$ | US-5083565-$ | US-5085659-$ | US-5088997-$ | US-5098431-$ | US-5098843-$ | US-5099840-$ | US-5108391-$ | US-5108407-$ | US-5112311-$ | US-5117978-$ | US-5122005-$ | US-5122138-$ | US-5133365-$ | US-5133738-$ | US-5134070-$ | US-5154698-$ | US-5158561-$ | US-5167658-$ | US-5167659-$ | US-5171255-$ | US-5171311-$ | US-5173158-$ | US-5178620-$ | US-5190517-$ | US-5193537-$ | US-5195959-$ | US-5196007-$ | US-5197963-$ | US-5201743-$ | US-5207675-$ | US-5217457-$ | US-5217458-$ | US-5217459-$ | US-5221281-$ | US-5226912-$ | US-5230623-$ | US-5232442-$ | US-5233515-$ | US-5239773-$ | US-5244462-$ | US-5249585-$ | US-5250047-$ | US-5250247-$ | US-5257630-$ | US-5258006-$ | US-5259395-$ | US-5261906-$ | US-5265606-$ | US-5267994-$ | US-5267997-$ | US-5269808-$ | US-5273525-$ | US-5277201-$ | US-5277696-$ | US-5281213-$ | US-5281216-$).DID.				
S165	196	(US-5282799-$ | US-5282845-$ | US-5283194-$ | US-5290282-$ | US-5290283-$ | US-5291896-$ | US-5300068-$ | US-5300069-$ | US-5300070-$ | US-5304114-$ | US-5304115-$ | US-5304141-$ | US-5304214-$ | US-5306238-$ | US-5312329-$ | US-5312391-$ | US-5318013-$ | US-5318563-$ | US-5320627-$ | US-5324255-$ | US-5328451-$ | US-5330470-$ | US-5330471-$ | US-5334183-$ | US-5334193-$ | US-5334198-$ | US-5336222-$ | US-5342292-$ | US-5342357-$ | US-5342391-$ | US-5344428-$ | US-5352222-$ |	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

		US-5354296-$ | US-5366443-$ | US-5370645-$ | US-5370675-$ | US-5372596-$ | US-5374278-$ | US-5377685-$ | US-5379900-$ | US-5382247-$ | US-5383874-$ | US-5383876-$ | US-5383917-$ | US-5383923-$ | US-5389069-$ | US-5395363-$ | US-5395368-$ | US-5397301-$ | US-5401272-$ | US-5403311-$ | US-5419767-$ | US-5421923-$ | US-5422567-$ | US-5423808-$ | US-5423809-$ | US-5423810-$ | US-5423811-$ | US-5425746-$ | US-5425752-$ | US-5431649-$ | US-5433739-$ | US-5437662-$ | US-5437726-$ | US-5438302-$ | US-5439440-$ | US-5441499-$ | US-5443470-$ | US-5447417-$ | US-5454809-$ | US-5458597-$ | US-5458625-$ | US-5462521-$ | US-5472441-$ | US-5472442-$ | US-5472443-$ | US-5474057-$ | US-5480397-$ | US-5480398-$ | US-5484398-$ | US-5487739-$ | US-5496312-$ | US-5496314-$ | US-5503092-$ | US-5505728-$ | US-5505730-$ | US-5507743-$ | US-5507777-$ | US-5507802-$ | US-5511564-$ | US-5514129-$ | US-5514130-$ | US-5514131-$ | US-5520684-$ | US-5520685-$ | US-5522815-$ | US-5531744-$ | US-5532657-$ | US-5533999-$ | US-5536240-$ | US-5536267-$ | US-5540680-$ | US-5540681-$ | US-5540682-$ | US-5540683-$ | US-5540684-$ | US-5540685-$ | US-5540778-$ | US-5541376-$ | US-5542268-$ | US-5542916-$ | US-5542945-$ | US-5545161-$ | US-5545193-$ | US-5549605-$ | US-5554172-$ | US-5555618-$ | US-5556396-$ | US-5556397-$ | US-5558671-$ | US-5560358-$ | US-5562685-$ | US-5562703-$ | US-5562720-$ | US-5569164-$ | US-5569242-$ | US-5569244-$ | US-5569245-$ | US-5569302-$ | US-5571147-$ | US-5575789-$ | US-5575811-$ | US-5578007-$ | US-5580665-$ | US-5582609-$ | US-5582610-$ | US-5584830-$ | US-5591141-$ | US-5599344-$ | US-5599345-$ | US-5599346-$ | US-5599347-$ | US-5599348-$ | US-5599349-$ | US-5603711-$ | US-5603712-$ | US-5607003-$ | US-5607422-$ | US-5609151-$ | US-5609573-$ | US-5611709-$ | US-5611798-$ | US-5613966-$ | US-5620481-$ | US-5624439-$ | US-5626146-$ | US-5626560-$ | US-5626575-$ | US-5626576-$ | US-5626578-$ | US-5628743-$ | US-5628745-$ | US-5628771-$ | US-5630426-$ | US-5633578-$ | US-5634899-$ | US-5634924-$ | US-5639506-$ | US-5643628-$ | US-5648003-$ | US-5649962-$ | US-5662111-$ | US-5662620-$ | US-5662680-$ | US-5667488-$ | US-5669904-$ | US-5672173-$ | US-5672174-$ | US-5672375-$ | US-5674267-$ | US-5683025-$ | US-5683349-$ | US-5683366-$ | US-5683384-$ | US-5687739-$ | US-5693045-$ | US-5697281-$ | US-5697536-$ | US-5697882-$ | US-5697909-$ | US-5700262-$ | US-5701575-$ | US-5702359-$ | US-5709692-$ | US-5713872-$ | US-5720744-$).DID.				
S166	196	(US-5720921-$ | US-5728143-$ | US-5735847-$ | US-5738648-$ | US-5743882-$ | US-5748703-$ | US-5749689-$ | US-5749846-$ | US-5755754-$ | US-5766153-$ | US-5768679-$ | US-5769822-$ | US-5772659-$ | US-5778043-$ | US-5778894-$ | US-5782827-$ | US-5782882-$ | US-5792146-$ | US-5797906-$ | US-5800378-$ | US-5800482-$ | US-5800484-$ | US-5807309-$ | US-5807395-$ |	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

		US-5810762-$ | US-5810764-$ | US-5810804-$ | US-5827271-$ | US-5827276-$ | US-5836905-$ | US-5843019-$ | US-5843026-$ | US-5848967-$ | US-5855576-$ | US-5860951-$ | US-5863290-$ | US-5868740-$ | US-5871469-$ | US-5873849-$ | US-5873855-$ | US-5888198-$ | US-5891095-$ | US-5891166-$ | US-5891247-$ | US-5897044-$ | US-5911739-$ | US-5913855-$ | US-5919142-$ | US-5921992-$ | US-5925042-$ | US-5928229-$ | US-5934275-$ | US-5935123-$ | US-5947889-$ | US-5951547-$ | US-5954242-$ | US-5964756-$ | US-5968040-$ | US-5980517-$ | US-5983131-$ | US-5983141-$ | US-5991697-$ | US-5991957-$ | US-5995875-$ | US-5999847-$ | US-6006126-$ | US-6009347-$ | US-6010613-$ | US-6013076-$ | US-6014590-$ | US-6015406-$ | US-6016452-$ | US-6031018-$ | US-6035916-$ | US-6039733-$ | US-6041252-$ | US-6041260-$ | US-6044846-$ | US-6050992-$ | US-6051180-$ | US-6053086-$ | US-6053937-$ | US-6055453-$ | US-6059780-$ | US-6068627-$ | US-6068650-$ | US-6071280-$ | US-6080150-$ | US-6085115-$ | US-6090105-$ | US-6090106-$ | US-6092528-$ | US-6102885-$ | US-6106521-$ | US-6109270-$ | US-6117134-$ | US-6122341-$ | US-6122599-$ | US-6123084-$ | US-6126676-$ | US-6129726-$ | US-6132419-$ | US-6132425-$ | US-6139519-$ | US-6139547-$ | US-6143003-$ | US-6146380-$ | US-6159163-$ | US-6161048-$ | US-6167295-$ | US-6179834-$ | US-6208893-$ | US-6210402-$ | US-6210403-$ | US-6212433-$ | US-6213999-$ | US-6216034-$ | US-6217554-$ | US-6219577-$ | US-6228080-$ | US-6228083-$ | US-6231570-$ | US-6234178-$ | US-6235023-$ | US-6241702-$ | US-6241725-$ | US-6241726-$ | US-6245070-$ | US-6246912-$ | US-6251106-$ | US-6254598-$ | US-6259952-$ | US-6261831-$ | US-6262008-$ | US-6268200-$ | US-6270464-$ | US-6275725-$ | US-6277117-$ | US-6278895-$ | US-6280441-$ | US-6300108-$ | US-6312426-$ | US-6326177-$ | US-6330478-$ | US-6331180-$ | US-6334861-$ | US-6347247-$ | US-6349233-$ | US-6351674-$ | US-6352536-$ | US-6379353-$ | US-6387671-$ | US-6402743-$ | US-6402747-$ | US-6402770-$ | US-6403348-$ | US-6405072-$ | US-6419653-$ | US-6419680-$ | US-6419798-$ | US-6425887-$ | US-6440127-$ | US-6447477-$ | US-6447505-$ | US-6451018-$ | US-6454765-$ | US-6458130-$ | US-6459769-$ | US-6464704-$ | US-6468273-$ | US-6470211-$ | US-6471698-$ | US-6478793-$ | US-6482619-$ | US-6493592-$ | US-6500173-$ | US-6500175-$ | US-6506189-$ | US-6517534-$ | US-6526320-$ | US-6530922-$ | US-6533987-$ | US-6536482-$ | US-6551311-$ | US-6562033-$ | US-6562604-$ | US-6565562-$ | US-6569159-$ | US-6575967-$ | US-6575969-$ | US-6585735-$ | US-6602249-$ | US-6605085-$ | US-6607529-$ | US-6610054-$ | US-6611706-$).DID.				
S167	186	(US-6613211-$ | US-6622731-$ | US-6623481-$ | US-6627421-$ | US-6632221-$ | US-6632222-$ | US-6638275-$ | US-6641580-$ | US-6645201-$ | US-6652515-$ | US-6652516-$ | US-6653091-$ | US-6660002-$ | US-6660362-$ | US-6663624-$ | US-6669691-$ |	US-PGPUB;	OR	ON	2019/03/05 15:49

		US-6669693-$ | US-6682526-$ | US-6682528-$ | US-6685701-$ | US-6689127-$ | US-6692490-$ | US-6692493-$ | US-6697669-$ | US-6697670-$ | US-6699205-$ | US-6702808-$ | US-6706152-$ | US-6723092-$ | US-6730042-$ | US-6739024-$ | US-6743226-$ | US-6743229-$ | US-6746570-$ | US-6749719-$ | US-6770070-$ | US-6780180-$ | US-6795728-$ | US-6801804-$ | US-6803013-$ | US-6803549-$ | US-6814712-$ | US-6837956-$ | US-6846448-$ | US-6847848-$ | US-6852091-$ | US-6865416-$ | US-6866663-$ | US-6881213-$ | US-6881214-$ | US-6888919-$ | US-6889089-$ | US-6892099-$ | US-6896675-$ | US-6912417-$ | US-6927049-$ | US-6958062-$ | US-6958064-$ | US-6962587-$ | US-6964660-$ | US-6966908-$ | US-6972014-$ | US-6974455-$ | US-6994706-$ | US-6997925-$ | US-7025767-$ | US-7033353-$ | US-7044949-$ | US-7048733-$ | US-7053063-$ | US-7056320-$ | US-7063698-$ | US-7074484-$ | US-7076399-$ | US-7087051-$ | US-7099712-$ | US-7108696-$ | US-7112197-$ | US-7115124-$ | US-7130697-$ | US-7138088-$ | US-7150743-$ | US-7150744-$ | US-7160296-$ | US-7163536-$ | US-7179256-$ | US-7179258-$ | US-7198625-$ | US-7207990-$ | US-7211083-$ | US-7258688-$ | US-7266414-$ | US-7267676-$ | US-7270660-$ | US-7270661-$ | US-7270662-$ | US-7276064-$ | US-7281666-$ | US-7294127-$ | US-7306596-$ | US-7311702-$ | US-7340307-$ | US-7354436-$ | US-7357798-$ | US-7371234-$ | US-7387626-$ | US-7387630-$ | US-7416549-$ | US-7449020-$ | US-7455675-$ | US-7468062-$ | US-7480533-$ | US-7517346-$ | US-7524318-$ | US-7533002-$ | US-7549986-$ | US-7561907-$ | US-7593778-$ | US-7596469-$ | US-7615050-$ | US-7670336-$ | US-7670337-$ | US-7699844-$ | US-7704248-$ | US-7761964-$ | US-7771401-$ | US-7771420-$ | US-7794458-$ | US-7794459-$ | US-7797049-$ | US-7799021-$ | US-7815571-$ | US-7819869-$ | US-7819871-$ | US-7824404-$ | US-7828796-$ | US-7874986-$ | US-7875025-$ | US-7892231-$ | US-7896874-$ | US-8206300-$ | US-8292822-$ | US-8414509-$ | US-8511317-$ | US-8753335-$ | US-9629946-$ | US-9903397-$ | US-D372086-$ | US-20010018586-$ | US-20010031941-$ | US-20020026185-$ | US-20020029037-$ | US-20020077627-$ | US-20020143302-$ | US-20020176734-$ | US-20020188275-$ | US-20030018332-$ | US-20030078595-$ | US-20040006336-$ | US-20040015176-$ | US-20040015218-$ | US-20040024300-$ | US-20040096033-$ | US-20040122482-$ | US-20040143262-$ | US-20040199179-$ | US-20040230187-$ | US-20040260282-$ | US-20050004563-$ | US-20050059964-$ | US-20050101944-$ | US-20050165391-$ | US-20050171522-$ | US-20050177209-$ | US-20050177211-$ | US-20050203503-$ | US-20050222565-$ | US-20050234445-$ | US-20050240174-$ | US-20050261570-$ | US-20050267552-$ | US-20050283148-$ | US-20050288759-$ | US-20060089635-$ | US-20060111702-$ | US-20060122686-$).DID.	USPAT			

S168	18	(US-20060142756-$ | US-20060173359-$ | US-20060200121-$ | US-20060206111-$ | US-20060206127-$ | US-20060206129-$ | US-20060206130-$ | US-20060206132-$ | US-20060206133-$ | US-20060217705-$ | US-20060229645-$ | US-20060247616-$ | US-20060259027-$ | US-20070006215-$ | US-20070077230-$ | US-20070287996-$ | US-20080048786-$ | US-20090105640-$).DID.	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49
S169	960	S163 S164 S165 S166 S167 S168	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49
S170	73	("2006/0229645").URPN.	USPAT	OR	ON	2019/03/05 15:58
S171	57738	S155 and needle	US-PGPUB; USPAT	OR	ON	2019/03/05 16:17
S172	8211	S155 and needle and ((plurality multiple) with (filament or electrodes))	US-PGPUB; USPAT	OR	ON	2019/03/05 16:17
S173	695	S172 and hypotube	US-PGPUB; USPAT	OR	ON	2019/03/05 16:18
S174	155175	a61b5/$.cpc.	US-PGPUB; USPAT	OR	ON	2019/03/05 17:54
S175	187124	(a61b18/$.cpc. or a61b2018/$.cpc. or a61b17/$.cpc. or a61b2017/$.cpc.)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:54

S176	328022	S174 or S175	US-PGPUB; USPAT	OR	ON	2019/03/05 17:54
S177	328022	S176	US-PGPUB; USPAT	OR	ON	2019/03/05 17:55
S178	2691077	(rotate$5)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:55
S179	1070705	(rotat$5 and linear longitudinal translational) near5 (motion moving movement advancement advance deploy deployment direction)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:57
S180	70057	S177 and S179	US-PGPUB; USPAT	OR	ON	2019/03/05 17:57
S181	57761	S180 and (cannula trocar insert hub engagement catheter probe)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:58
S182	25249	S181 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/05 18:00
S183	90	("2010/0114017").URPN.	USPAT	OR	ON	2019/03/07 10:58

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Avanos v. Stratus
Stratus Ex. 2012

S184	0	("2010/0076340").URPN.	USPAT	OR	ON	2019/03/07 13:42
S185	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2019/08/23 08:40
S186	1	"7108696".pn.	US-PGPUB; USPAT	OR	ON	2019/08/23 09:00
S187	2	"20060095029"	US-PGPUB; USPAT	OR	ON	2020/02/11 08:35
S188	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2020/02/11 08:36
S189	0	"599346".pn.	US-PGPUB; USPAT	OR	ON	2020/02/11 09:22
S190	1	"5599346".pn.	US-PGPUB; USPAT	OR	ON	2020/02/11 09:22
S191	1	"7918852".pn.	US-PGPUB; USPAT	OR	ON	2020/02/26 10:49

S192	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2020/03/09 13:28
S193	2	"20020143302"	US-PGPUB; USPAT	OR	ON	2020/03/09 13:41
S194	2	"20060095029"	US-PGPUB; USPAT	OR	ON	2020/03/09 16:24
S195	2	"20060095029"	US-PGPUB; USPAT	OR	ON	2020/03/10 08:46
S196	22	09+	US-PGPUB; USPAT	OR	ON	2020/03/10 08:49
S197	7198	606/41.ccls.	US-PGPUB; USPAT	OR	ON	2020/03/10 09:50
S198	4898	606/41.ccls. and (@AD<="20091105")	US-PGPUB; USPAT	OR	ON	2020/03/10 09:51
S199	54	("20040158239" | "20070112340" | "20080161804" | "20080249392" | "20080269558" | "20020022864" | "20020133148" | "20030199862" | "20040064137" | "20060095029" | "20060206111" | "20070010809" | "20070213703" | "20080249523" | "20090292259" | "20090306604" | "20100049192" | "20110184403" | "20130096549" | "20170065335" | "5383917" | "5486161" |	US-PGPUB; USPAT	OR	ON	2020/03/10 10:53

		"5749846" | "5893847" | "6045532" | "6105581" | "6210406" | "6216043" | "6221071" | "6287304" | "6461314" | "6471695" | "6699242" | "6740080" | "6752804" | "6962587" | "6989004" | "7229438" | "7318822" | "7344533" | "7393351" | "7399299" | "7416549" | "7419487" | "7458971" | "7678107" | "7846157" | "7896871" | "8262574" | "8512330" | "8518037" | "8753335" | "9402560" | "9675406").PN.				

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S200	93	((needle or cannula) and probe and filaments).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:46
S201	7	((needle or cannula) and probe and filaments and hub).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:47
S202	2	((needle or cannula) and probe and filaments and hub and conduct$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:47
S203	2	((needle or cannula) and probe and filaments and hub and conduct$4 and tip).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:47
S204	13	((needle or cannula) and probe and filaments and conduct$4 and tip).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:48
S205	3	((needle or cannula) and probe and filaments and actuat$4 and conduct$4 and tip).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:48
S206	19	((needle or cannula) and probe and filaments and actuat$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:49
S207	13	((needle or cannula) and probe and filaments and actuat$4 and lumen).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:49
S208	8	((needle or cannula) and probe and filaments and actuat$4 and lumen and deploy$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:49
S209	124	((needle or cannula) and probe and physical$4 and contact$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:50

S210	253	((needle or cannula) and probe and (physical$4 direct) and contact$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:50
S211	0	((needle or cannula) and probe and (physical$4 direct) and contact$4 and filamnets).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:51
S212	9	((needle or cannula) and probe and (physical$4 direct) and contact$4 and filament).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:51

5/6/2020 6:46:13 PM
C:\Users\cdedoulis2\Documents\EAST\Workspaces\15092945.wsp

IPR2024-01211
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Stratus Ex. 2012

PATENT APPLICATION
Docket No.: NBUS.004C1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Robert E. Wright	
Application No.:	15/092,945	Art Unit: 3794
Filing Date:	April 7, 2016	
Title:	SYSTEMS AND METHODS FOR TISSUE ABLATION	
Examiner:	Christine A. Dedoulis	
Confirmation No.:	5930	
Customer No.:	148468	

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Enclosed for filing in the above-identified application is a PTO/SB/08 Equivalent listing 488 references. Each of these 488 references is of record in U.S. Patent Application No. 13/101,009, titled SYSTEMS AND METHODS FOR TISSUE ABLATION, filed May 4, 2011 ("the Parent Application"), of which the present application is a continuation.

References Have Already Been Considered

As the present application is a continuation of the Parent Application, the Applicant believes the examiner has already considered the 488 references identified herein with respect to the present application, pursuant to MPEP § 609.02(II).

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

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Accordingly, the Applicant is submitting the present information disclosure statement to ensure these references are ultimately printed on the patent, pursuant to MPEP § 609.2(II).

Copies of All References Omitted

Pursuant to 37 C.F.R. § 1.98(a)(2), copies of U.S. patent application publications and U.S. patents are not required. Accordingly, no copies of reference numbers 1 through 433 are submitted.

Further, pursuant to 37 C.F.R. § 1.98(d), copies of reference numbers 434 through 488 are not required because (1) the Parent Application has been properly identified in this information disclosure statement and is relied on for an earlier effective filing date under 35 U.S.C. § 120, and (2) all information disclosure statements submitted in the Parent Application comply with 37 C.F.R. § 1.98, paragraphs (a) through (c).

Table of U.S. Patent Applications

The Applicant provides the following table to aid the Examiner during prosecution:

Attorney Docket No.	Application No.	Filing Date	Title
NBUS.001A	12/940,974	2010-11-05	METHODS AND SYSTEMS FOR SPINAL RADIO FREQUENCY NEUROTOMY
NBUS.001C1	15/098,673	2016-04-14	METHODS AND SYSTEMS FOR SPINAL RADIO FREQUENCY NEUROTOMY
NBUS.004A	13/101,009 ***(the Parent Application)***	2011-05-04	SYSTEMS AND METHODS FOR TISSUE ABLATION
NBUS.004C1	15/092,945 ***(the Present Application)***	2016-04-07	SYSTEMS AND METHODS FOR TISSUE ABLATION

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Copies of these patent applications, including any pending claims, office actions, notices of allowance, and/or other communications, are available through PALM and/or PAIR. However, if the Examiner so requests, the Applicant will be happy to provide the Examiner with copies of any applications, pending claims, office actions, notices of allowance, communications, or any other documents, at any time.

DATED this 23rd day of September, 2019.

Respectfully submitted,

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PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT		
	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 1 OF 20	Attorney Docket No.	NBUS.004C1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	1.	~~0372,086~~	~~07-23-1906~~	~~Crosse et al.~~	
	2.	RE40,279	04-29-2008	Sluijter et al.	/C.A.D./
	3.	RE40,388	06-17-2008	Gines	05/06/2020
	4.	4,011,872	03-15-1977	Kamiya	
	5.	4,206,761	06-10-1980	Cosman	
	6.	4,206,762	06-10-1980	Cosman	
	7.	4,281,667	08-04-1981	Cosman	
	8.	4,353,371	10-12-1982	Cosman	
	9.	4,375,220	03-01-1983	Matvias	
	10.	4,378,809	04-05-1983	Cosman	
	11.	4,385,636	05-31-1983	Cosman	
	12.	4,411,266	10-25-1983	Cosman	
	13.	4,565,200	01-21-1986	Cosman	
	14.	4,573,980	03-04-1986	Karrasch et al.	
	15.	4,583,538	04-22-1986	Onik et al.	
	16.	4,593,703	06-10-1986	Cosman	
	17.	4,618,978	10-21-1986	Cosman	
	18.	4,646,752	03-03-1987	Swann et al.	
	19.	4,653,508	03-31-1987	Cosman	
	20.	4,660,568	04-28-1987	Cosman	
	21.	4,676,255	06-30-1987	Cosman	
	22.	4,698,207	10-06-1987	Bringham et al.	
	23.	4,787,886	11-29-1988	Cosman	
	24.	4,796,615	01-10-1989	Bullock et al.	
	25.	4,827,927	05-09-1989	Newton	
	26.	4,838,265	06-13-1989	Cosman et al.	
	27.	4,886,506	12-12-1989	Lovgren et al.	
	28.	4,907,589	03-13-1990	Cosman	

Examiner Signature	Date Considered

*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
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U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	29.	4,966,597	10-30-1990	Cosman	
	30.	5,010,897	04-30-1991	Leveen	
	31.	5,160,337	11-03-1992	Cosman	
	32.	5,217,457	06-08-1993	Delahuerga et al.	
	33.	5,230,623	07-27-1993	Guthrie et al.	
	34.	5,233,515	08-03-1993	Cosman	
	35.	5,244,462	09-14-1993	Delahuerga et al.	
	36.	5,257,630	11-02-1993	Braitman et al.	
	37.	5,291,896	03-08-1994	Fonger et al.	
	38.	5,304,114	04-19-1994	Cosman et al.	
	39.	5,304,115	04-19-1994	Pflueger et al.	
	40.	5,312,329	05-17-1994	Beaty et al.	
	41.	5,312,391	05-17-1994	Wilk	
	42.	5,318,013	06-07-1994	Wilk	
	43.	5,324,255	06-28-1994	Passafaro et al.	
	44.	5,334,183	08-02-1994	Wuchinich	
	45.	5,342,292	08-30-1994	Nita et al.	
	46.	5,370,645	12-06-1994	Klicek et al.	
	47.	5,370,675	12-06-1994	Edwards et al.	
	48.	5,372,596	12-13-1994	Klicek et al.	
	49.	5,377,685	01-03-1995	Kazi et al.	
	50.	5,397,301	03-14-1995	Pflueger et al.	
	51.	5,401,272	03-28-1995	Perkins	
	52.	5,421,923	06-06-1995	Clarke et al.	
	53.	5,422,567	06-06-1995	Matsunaga	
	54.	5,423,809	06-13-1995	Klicek	
	55.	5,433,739	07-18-1995	Sluijter et al.	
	56.	5,447,417	09-05-1995	Kuhl et al.	

Examiner Signature	Date Considered

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	15/092,945
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SHEET 3 OF 20	Attorney Docket No.	NBUS.004C1

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Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	57.	5,458,597	10-17-1995	Edwards et al.	
	58.	5,472,441	12-05-1995	Edwards et al.	
	59.	5,472,442	12-05-1995	Klicek	
	60.	5,474,057	12-12-1995	Makower et al.	
	61.	5,484,398	01-16-1996	Stoddard	
	62.	5,496,312	03-05-1996	Klicek	
	63.	5,507,743	04-16-1996	Edwards et al.	
	64.	5,511,564	04-30-1996	Wilk	
	65.	5,514,129	05-07-1996	Smith	
	66.	5,536,267	07-16-1996	Edwards et al.	
	67.	5,541,376	07-30-1996	Ladtkow et al.	
	68.	5,560,358	10-01-1996	Arnold et al.	
	69.	5,562,703	10-08-1996	Desai	
	70.	5,571,147	11-05-1996	Sluijter et al.	
	71.	5,580,665	12-03-1996	Taguchi et al.	
	72.	5,599,345	02-04-1997	Edwards et al.	
	73.	5,599,346	02-04-1997	Edwards et al.	
	74.	5,611,709	03-18-1997	McAnulty	
	75.	5,613,966	03-25-1997	Makower et al.	
	76.	5,628,743	05-13-1997	Cimino	
	77.	5,662,111	09-02-1997	Cosman	
	78.	5,662,620	09-02-1997	Lieber et al.	
	79.	5,662,680	09-02-1997	Desai	
	80.	5,667,488	09-16-1997	Lundquist et al.	
	81.	5,669,904	09-23-1997	Platt, Jr. et al.	
	82.	5,672,173	09-30-1997	Gough et al.	
	83.	5,672,174	09-30-1997	Gough et al.	
	84.	5,683,349	11-04-1997	Makower et al.	

Examiner Signature	Date Considered

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PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 4 OF 20	Attorney Docket No.	NBUS.004C1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	85.	5,683,384	11-04-1997	Gough et al.	
	86.	5,701,575	12-23-1997	Taguchi et al.	
	87.	5,720,744	02-24-1998	Eggleston et al.	
	88.	5,728,143	03-17-1998	Gough et al.	
	89.	5,735,847	04-07-1998	Gough et al.	
	90.	5,738,648	04-14-1998	Lands et al.	
	91.	5,748,703	05-05-1998	Cosman	
	92.	5,749,689	05-12-1998	Konig	
	93.	5,755,754	05-26-1998	Rudie et al.	
	94.	5,768,679	06-16-1998	Taguchi et al.	
	95.	5,772,659	06-30-1998	Becker et al.	
	96.	5,778,043	07-07-1998	Cosman	
	97.	5,782,827	07-21-1998	Gough et al.	
	98.	5,792,146	08-11-1998	Cosman	
	99.	5,797,906	08-25-1998	Rhum et al.	
	100.	5,800,484	09-01-1998	Gough et al.	
	101.	5,807,309	09-15-1998	Lundquist et al.	
	102.	5,810,804	09-22-1998	Gough et al.	
	103.	5,827,271	10-27-1998	Buysse et al.	
	104.	5,827,276	10-27-1998	LeVeen et al.	
	105.	5,848,967	12-15-1998	Cosman	
	106.	5,855,576	01-05-1999	LeVeen et al.	
	107.	5,863,290	01-26-1999	Gough et al.	
	108.	5,868,740	02-09-1999	LeVeen et al.	
	109.	5,911,739	06-15-1999	Kordis et al.	
	110.	5,913,855	06-22-1999	Gough et al.	
	111.	5,921,992	07-13-1999	Costales et al.	
	112.	5,925,042	07-20-1999	Gough et al.	

Examiner Signature	Date Considered
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U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	113.	5,928,229	07-27-1999	Gough et al.	
	114.	5,935,123	08-10-1999	Edwards et al.	
	115.	5,951,547	09-14-1999	Gough et al.	
	116.	5,968,040	10-19-1999	Swanson et al.	
	117.	5,980,517	11-09-1999	Gough	
	118.	5,983,141	11-09-1999	Sluijter et al.	
	119.	6,006,126	12-21-1999	Cosman	
	120.	6,013,076	01-11-2000	Goble et al.	
	121.	6,014,590	01-11-2000	Whayne et al.	
	122.	6,015,406	01-18-2000	Goble et al.	
	123.	6,016,452	01-18-2000	Kasevich	
	124.	6,039,733	03-21-2000	Buysse et al.	
	125.	6,041,260	03-21-2000	Stern et al.	
	126.	6,044,846	04-04-2000	Edwards	
	127.	6,050,992	04-18-2000	Nichols	
	128.	6,053,937	04-25-2000	Edwards et al.	
	129.	6,059,780	05-09-2000	Gough et al.	
	130.	6,068,627	05-30-2000	Orszulak et al.	
	131.	6,071,280	06-06-2000	Edwards et al.	
	132.	6,080,150	06-27-2000	Gough	
	133.	6,090,105	07-18-2000	Zepeda et al.	
	134.	6,106,521	08-22-2000	Blewett et al.	
	135.	6,117,134	09-12-2000	Cunningham et al.	
	136.	6,122,341	09-19-2000	Butler et al.	
	137.	6,129,726	10-10-2000	Edwards et al.	
	138.	6,132,425	10-17-2000	Gough	
	139.	6,139,519	10-31-2000	Blythe	
	140.	6,139,547	10-31-2000	Lontine et al.	

Examiner Signature	Date Considered
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	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 6 OF 20	Attorney Docket No.	NBUS.004C1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	141.	6,143,003	11-07-2000	Cosman	
	142.	6,146,380	11-14-2000	Racz et al.	
	143.	6,161,048	12-12-2000	Sluijter et al.	
	144.	6,165,169	12-26-2000	Panescu et al.	
	145.	6,167,295	12-26-2000	Cosman	
	146.	6,179,834	01-30-2001	Buysse et al.	
	147.	6,210,403	04-03-2001	Klicek	
	148.	6,213,999	04-10-2001	Platt, Jr. et al.	
	149.	6,217,554	04-17-2001	Green	
	150.	6,228,080	05-08-2001	Gines	
	151.	6,228,083	05-08-2001	Lands et al.	
	152.	6,231,570	05-15-2001	Tu et al.	
	153.	6,234,178	05-22-2001	Goble et al.	
	154.	6,235,023	05-22-2001	Lee et al.	
	155.	6,241,725	06-05-2001	Cosman	
	156.	6,241,726	06-05-2001	Chia et al.	
	157.	6,246,912	06-12-2001	Sluijter et al.	
	158.	6,251,106	06-26-2001	Becker et al.	
	159.	6,259,952	07-10-2001	Sluijter et al.	
	160.	6,268,200	07-31-2001	Tucker et al.	
	161.	6,275,725	08-14-2001	Cosman	
	162.	6,277,117	08-21-2001	Tetzlaff et al.	
	163.	6,280,441	08-28-2001	Ryan	
	164.	6,312,426	11-06-2001	Goldberg et al.	
	165.	6,330,478	12-11-2001	Lee et al.	
	166.	6,331,180	12-18-2001	Cosman et al.	
	167.	6,334,861	01-01-2002	Chandler et al.	
	168.	6,352,536	03-05-2002	Buysse et al.	

Examiner Signature	Date Considered
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
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U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	169.	6,402,743	06-11-2002	Orszulak et al.	
	170.	6,402,747	06-11-2002	Lindermann et al.	
	171.	6,405,072	06-11-2002	Cosman	
	172.	6,416,520	07-09-2002	Kynast et al.	
	173.	6,419,653	07-16-2002	Edwards et al.	
	174.	6,419,680	07-16-2002	Cosman et al.	
	175.	6,419,798	07-16-2002	Topolkaraev et al.	
	176.	6,425,887	07-30-2002	McGuckin et al.	
	177.	6,440,127	08-27-2002	McGovern et al.	
	178.	6,447,477	09-10-2002	Burney et al.	
	179.	6,447,505	09-10-2002	McGovern et al.	
	180.	6,451,018	09-17-2002	Lands et al.	
	181.	6,454,765	09-24-2002	Leveen et al.	
	182.	6,458,130	10-01-2002	Frazier et al.	
	183.	6,459,769	10-01-2002	Cosman	
	184.	6,464,704	10-15-2002	Schmaltz et al.	
	185.	6,468,273	10-22-2002	Leveen et al.	
	186.	6,471,698	10-29-2002	Edwards et al.	
	187.	6,478,793	11-12-2002	Cosman et al.	
	188.	6,500,175	12-31-2002	Gough et al.	
	189.	6,506,189	01-14-2003	Rittman, III et al.	
	190.	6,517,534	02-11-2003	McGovern et al.	
	191.	6,530,922	03-11-2003	Cosman et al.	
	192.	6,533,987	03-18-2003	Topolkaraev et al.	
	193.	6,551,311	04-22-2003	Lee et al.	
	194.	6,562,033	05-13-2003	Shah et al.	
	195.	6,565,562	05-20-2003	Shah et al.	
	196.	6,569,159	05-27-2003	Edwards et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
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U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	197.	6,575,967	06-10-2003	Leveen et al.	
	198.	6,575,969	06-10-2003	Rittman, III et al.	
	199.	6,585,735	07-01-2003	Frazier et al.	
	200.	6,602,249	08-05-2003	Stoddard et al.	
	201.	6,606,085	08-12-2003	Edwards	
	202.	6,610,054	08-26-2003	Edwards et al.	
	203.	6,622,731	09-23-2003	Daniel et al.	
	204.	6,623,481	09-23-2003	Garbagnati et al.	
	205.	6,632,221	10-14-2003	Edwards et al.	
	206.	6,632,222	10-14-2003	Edwards et al.	
	207.	6,638,275	10-28-2003	McGaffigan et al.	
	208.	6,641,580	11-04-2003	Edwards et al.	
	209.	6,645,201	11-11-2003	Utley et al.	
	210.	6,652,515	11-25-2003	Maguire et al.	
	211.	6,652,516	11-25-2003	Gough	
	212.	6,660,002	12-09-2003	Edwards et al.	
	213.	6,660,362	12-09-2003	Lindsay et al.	
	214.	6,663,624	12-16-2003	Edwards et al.	
	215.	6,669,693	12-30-2003	Friedman	
	216.	6,682,526	01-27-2004	Jones et al.	
	217.	6,682,528	01-27-2004	Frazier et al.	
	218.	6,685,701	02-03-2004	Orszulak et al.	
	219.	6,689,127	02-10-2004	Gough et al.	
	220.	6,690,210	02-10-2004	Hadjizada et al.	
	221.	6,692,490	02-17-2004	Edwards	
	222.	6,706,152	03-16-2004	Burazin et al.	
	223.	6,723,092	04-20-2004	Brown et al.	
	224.	6,743,226	06-01-2004	Cosman et al.	

Examiner Signature	Date Considered

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	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
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U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	225.	6,743,229	06-01-2004	Buysse et al.	
	226.	6,746,570	06-08-2004	Burazin et al.	
	227.	6,749,719	06-15-2004	Burazin et al.	
	228.	6,770,070	08-03-2004	Balbierz	
	229.	6,780,180	08-24-2004	Goble et al.	
	230.	6,803,549	10-12-2004	Yu	
	231.	6,814,712	11-09-2004	Edwards et al.	
	232.	6,837,956	01-04-2005	Cowell et al.	
	233.	6,846,448	01-25-2005	Rymer et al.	
	234.	6,847,848	01-25-2005	Sterzer et al.	
	235.	6,852,091	02-08-2005	Edwards et al.	
	236.	6,866,663	03-15-2005	Edwards et al.	
	237.	6,881,214	04-19-2005	Cosman et al.	
	238.	6,889,089	05-03-2005	Behl et al.	
	239.	6,896,675	05-24-2005	Leung et al.	
	240.	6,932,810	08-23-2005	Ryan	
	241.	6,958,062	10-25-2005	Gough et al.	
	242.	6,958,064	10-25-2005	Rioux et al.	
	243.	6,961,602	11-01-2005	Fuimaono et al.	
	244.	6,964,660	11-15-2005	Maguire et al.	
	245.	6,966,908	11-22-2005	Maguire et al.	
	246.	6,974,455	12-13-2005	Garabedian et al.	
	247.	6,997,925	02-14-2006	Maguire et al.	
	248.	7,025,767	04-11-2006	Schaefer et al.	
	249.	7,033,353	04-25-2006	Stoddard et al.	
	250.	7,044,949	05-16-2006	Orszulak et al.	
	251.	7,048,733	05-23-2006	Hartley et al.	
	252.	7,056,320	06-06-2006	Utley et al.	

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	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
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U.S. PATENT DOCUMENTS

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	253.	7,074,484	07-11-2006	Topolkaraev et al.	
	254.	7,076,399	07-11-2006	Godara	
	255.	7,087,051	08-08-2006	Bourne et al.	
	256.	7,099,712	08-29-2006	Fuimaono et al.	
	257.	7,108,696	09-19-2006	Daniel et al.	
	258.	7,112,197	09-26-2006	Hartley et al.	
	259.	7,115,124	10-03-2006	Xiao	
	260.	7,138,088	11-21-2006	Wariar et al.	
	261.	7,150,743	12-19-2006	Zvuloni et al.	
	262.	7,150,744	12-19-2006	Edwards et al.	
	263.	7,160,296	01-09-2007	Pearson et al.	
	264.	7,163,536	01-16-2007	Godara	
	265.	7,179,256	02-20-2007	Mest	
	266.	7,179,258	02-20-2007	Buysse et al.	
	267.	7,207,990	04-24-2007	Lands et al.	
	268.	7,258,688	08-21-2007	Shah et al.	
	269.	7,266,414	09-04-2007	Cornelius et al.	
	270.	7,270,660	09-18-2007	Ryan	
	271.	7,270,662	09-18-2007	Visram et al.	
	272.	7,276,064	10-02-2007	Paul et al.	
	273.	7,281,666	10-16-2007	Smith	
	274.	7,294,127	11-13-2007	Leung et al.	
	275.	7,306,596	12-11-2007	Hillier et al.	
	276.	7,311,702	12-25-2007	Tallarida et al.	
	277.	7,340,307	03-04-2008	Maguire et al.	
	278.	7,354,436	04-08-2008	Rioux et al.	
	279.	7,357,798	04-15-2008	Sharps et al.	
	280.	7,371,234	05-13-2008	Young	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
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U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	281.	7,387,626	06-17-2008	Edwards et al.	
	282.	7,387,630	06-17-2008	Mest	
	283.	7,416,549	08-26-2008	Young et al.	
	284.	7,449,020	11-11-2008	Edwards et al.	
	285.	7,468,062	12-23-2008	Oral et al.	
	286.	7,480,533	01-20-2009	Cosman et al.	
	287.	7,517,346	04-14-2009	Sloan et al.	
	288.	7,524,318	04-28-2009	Young et al.	
	289.	7,533,002	05-12-2009	Godara	
	290.	7,549,986	06-23-2009	Rioux et al.	
	291.	7,561,907	07-14-2009	Fuimaono et al.	
	292.	7,593,778	09-22-2009	Chandran et al.	
	293.	7,596,469	09-29-2009	Godara	
	294.	7,615,050	11-10-2009	Cross et al.	
	295.	7,670,336	03-02-2010	Young et al.	
	296.	7,670,337	03-02-2010	Young	
	297.	7,678,106	03-16-2010	Lee	
	298.	7,699,844	04-20-2010	Utley et al.	
	299.	7,704,248	04-27-2010	Dicarlo	
	300.	7,771,420	08-10-2010	Butty et al.	
	301.	7,794,458	09-14-2010	McIntyre et al.	
	302.	7,794,459	09-14-2010	Faure	
	303.	7,797,049	09-14-2010	Christopherson et al.	
	304.	7,799,021	09-21-2010	Leung et al.	
	305.	7,815,571	10-19-2010	Deckman et al.	
	306.	7,819,869	10-26-2010	Godara et al.	
	307.	7,819,871	10-26-2010	Paul et al.	
	308.	7,824,404	11-02-2010	Godara et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
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U.S. PATENT DOCUMENTS

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	309.	7,828,796	11-09-2010	Wong et al.	
	310.	7,874,986	01-25-2011	Deckman et al.	
	311.	7,875,025	01-25-2011	Cockburn et al.	
	312.	7,892,231	02-22-2011	Elliott	
	313.	7,896,874	03-01-2011	Young et al.	
	314.	2002/0026185	02-28-2002	Gough	
	315.	2002/0029037	03-07-2002	Kim	
	316.	2002/0188275	12-12-2002	McGuckin, Jr.	
	317.	2003/0018332	01-23-2003	Schmaltz et al.	
	318.	2003/0078595	04-24-2003	Cosman	
	319.	2004/0006336	01-08-2004	Swanson	
	320.	2004/0015176	01-22-2004	Cosman	
	321.	2004/0015218	01-22-2004	Finch et al.	
	322.	2004/0100376	05-27-2004	Lye et al.	
	323.	2004/0122482	06-24-2004	Tung et al.	
	324.	2004/0143262	07-22-2004	Visram et al.	
	325.	2004/0176759	09-09-2004	Krishnamurthy et al.	
	326.	2004/0230187	11-18-2004	Lee et al.	
	327.	2004/0260282	12-23-2004	Gough et al.	
	328.	2005/0033279	02-10-2005	Edwards et al.	
	329.	2005/0059964	03-17-2005	Fitz	
	330.	2005/0101944	05-12-2005	Williams	
	331.	2005/0101950	05-12-2005	Gough et al.	
	332.	2005/0165391	07-28-2005	Maguire et al.	
	333.	2005/0171522	08-04-2005	Christopherson	
	334.	2005/0177209	08-11-2005	Leung et al.	
	335.	2005/0177211	08-11-2005	Leung et al.	
	336.	2005/0203503	09-15-2005	Edwards et al.	

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	First Named Inventor	Robert E. Wright
	Art Unit	3794
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U.S. PATENT DOCUMENTS

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	337.	2005/0234445	10-20-2005	Conquergood et al.	
	338.	2005/0240174	10-27-2005	Pearson et al.	
	339.	2005/0267552	12-01-2005	Conquergood et al.	
	340.	2005/0277918	12-15-2005	Shah et al.	
	341.	2006/0015161	01-19-2006	Longo et al.	
	342.	2006/0089635	04-27-2006	Young et al.	
	343.	2006/0095115	05-04-2006	Bladillah et al.	
	344.	2006/0111702	05-25-2006	Oral et al.	
	345.	2006/0122686	06-08-2006	Gilad et al.	
	346.	2006/0122692	06-08-2006	Gilad et al.	
	347.	2006/0142756	06-29-2006	Davies et al.	
	348.	2006/0173359	08-03-2006	Lin et al.	
	349.	2006/0189972	08-24-2006	Grossman	
	350.	2006/0200121	09-07-2006	Mowery	
	351.	2006/0206127	09-14-2006	Conquergood et al.	
	352.	2006/0206128	09-14-2006	Conquergood et al.	
	353.	2006/0206129	09-14-2006	Conquergood et al.	
	354.	2006/0206130	09-14-2006	Conquergood et al.	
	355.	2006/0206131	09-14-2006	Conquergood et al.	
	356.	2006/0206132	09-14-2006	Conquergood et al.	
	357.	2006/0206133	09-14-2006	Conquergood et al.	
	358.	2006/0206134	09-14-2006	Conquergood et al.	
	359.	2006/0217705	09-28-2006	Godara et al.	
	360.	2006/0247616	11-02-2006	Edwards et al.	
	361.	2006/0259026	11-16-2006	Godara et al.	
	362.	2006/0259027	11-16-2006	Kwan et al.	
	363.	2006/0271036	11-30-2006	Garabedian et al.	
	364.	2007/0006215	01-04-2007	Epstein et al.	

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	First Named Inventor	Robert E. Wright
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	365.	2007/0016183	01-18-2007	Lee et al.	
	366.	2007/0027449	02-01-2007	Godara et al.	
	367.	2007/0060921	03-15-2007	Janssen et al.	
	368.	2007/0112342	05-17-2007	Pearson et al.	
	369.	2007/0118191	05-24-2007	Godara	
	370.	2007/0123964	05-31-2007	Davies et al.	
	371.	2007/0156136	07-05-2007	Godara et al.	
	372.	2007/0161905	07-12-2007	Munrow	
	373.	2007/0167943	07-19-2007	Janssen et al.	
	374.	2007/0179380	08-02-2007	Grossman	
	375.	2007/0179491	08-02-2007	Kratoska et al.	
	376.	2007/0185522	08-09-2007	Davies et al.	
	377.	2007/0203402	08-30-2007	Godara et al.	
	378.	2007/0203486	08-30-2007	Young	
	379.	2007/0260234	11-08-2007	Mccullagh et al.	
	380.	2007/0282321	12-06-2007	Shah et al.	
	381.	2008/0015569	01-17-2008	Saadat et al.	
	382.	2008/0033493	02-07-2008	Deckman et al.	
	383.	2008/0045939	02-21-2008	Lee	
	384.	2008/0045940	02-21-2008	Lee	
	385.	2008/0048786	02-28-2008	Feldkamp et al.	
	386.	2008/0065062	03-13-2008	Leung et al.	
	387.	2008/0154259	06-26-2008	Gough et al.	
	388.	2008/0167646	07-10-2008	Godara et al.	
	389.	2008/0167649	07-10-2008	Edwards et al.	
	390.	2008/0208121	08-28-2008	Youssef et al.	
	391.	2008/0228180	09-18-2008	Epstein	
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IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

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PTO/SB/08 Equivalent

INFORMATION DISCLOSURE STATEMENT BY APPLICANT		
	Application No.	15/092,945
	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 15 OF 20	Attorney Docket No.	NBUS.004C1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	393.	2008/0269739	10-30-2008	Young et al.	
	394.	2008/0275443	11-06-2008	Oral et al.	
	395.	2009/0024124	01-22-2009	Lefler et al.	
	396.	2009/0054962	02-26-2009	Lefler et al.	
	397.	2009/0099544	04-16-2009	Munrow et al.	
	398.	2009/0131790	05-21-2009	Munrow et al.	
	399.	2009/0138011	05-28-2009	Epstein	
	400.	2009/0187177	07-23-2009	Epstein	
	401.	2009/0187182	07-23-2009	Epstein et al.	
	402.	2009/0187183	07-23-2009	Epstein	
	403.	2009/0198232	08-06-2009	Young et al.	
	404.	2009/0221998	09-03-2009	Epstein et al.	
	405.	2009/0228001	09-10-2009	Pacey	
	406.	2009/0287081	11-19-2009	Grossman et al.	
	407.	2009/0299358	12-03-2009	Lafontaine	
	408.	2010/0004651	01-07-2010	Biyani	
	409.	2010/0042098	02-18-2010	Cross et al.	
	410.	2010/0056926	03-04-2010	Deckman et al.	
	411.	2010/0076303	03-25-2010	McKinley	
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	415.	2010/0185082	07-22-2010	Chandran et al.	
	416.	2010/0222677	09-02-2010	Placek et al.	
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	418.	7,270,661	09-18-2007	Dahla et al.	
	419.	2007/0287996	12-13-2007	Rioux	

Examiner Signature	Date Considered

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	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
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SHEET 16 OF 20	Attorney Docket No.	NBUS.004C1

U.S. PATENT DOCUMENTS

Examiner Initials	Cite No.	Document Number *Number - Kind Code (if known)* Example: 1,234,567 B1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear
	420.	2001/0012956	08-09-2001	Behl et al.	
	421.	2004/0059328	03-25-2004	Daniel et al.	
	422.	2004/0158239	08-12-2004	Behl et al.	
	423.	2006/0084965	04-20-2006	Young	
	424.	2007/0112340	05-17-2007	Thomas et al.	
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		D372,086	07-23-1996	Grasso et al.	

/C.A.D./ 05/06/2020

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SHEET 17 OF 20	Attorney Docket No.	NBUS.004C1

FOREIGN PATENT DOCUMENTS

Examiner Initials	Cite No.	Foreign Patent Document *Country Code-Number-Kind Code* Example: JP 1234567 A1	Publication Date MM-DD-YYYY	Name of Patentee or Applicant	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T[1]
	434.	DE 2124684	11-30-1972	Stadelmayr		
	435.	GB 2423024	08-16-2006	Instrumedical Ltd		
	436.	WO 96/29946	10-03-1996	Board of Regents of the University of Nebraska		
	437.	WO 2011/057157	05-12-2011	Wright		
	438.	JP2000-507844	06-27-2000	RITA MEDICAL SYSTEMS, INC.		X - Abs
	439.	JP2003-527888	09-24-2003	NEOTHERMIA CORPORATION		X - Abs
	440.	WO 97/06739	02-27-1997	ZOMET INT INC.		

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SHEET 18 OF 20	Attorney Docket No.	NBUS.004C1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	441.	BARAUSKAS et al., Investigation of radiofrequency ablation process in liver tissue by finite element modeling and experiment, *Medicina (Kaunas)*, Vol. 43(4), pp. 310-325, 2007.	
	442.	BERJANO, Theoretical modeling for radiofrequency ablation: state-of-the-art and challenges for the future, *BioMedical Engineering OnLine*, Vol. 5(24), 17 pages, April 18, 2006.	
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	444.	CHOI et al., Overlapping Ablation Using a Coaxial Radiofrequency Electrode and Multiple Cannulae System: Experimental Study in ex-Vivo Bovine Liver, *Korean Journal of Radiology*, Vol. 4(2), pp. 117-123, June 2003.	
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	447.	GOVIND et al., Radiofrequency neurotomy for the treatment of third occipital headache, *Journal of Neurology, Neurosurgery & Psychiatry*, Vol. 74(1), pp. 88-93, January 2003.	
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	451.	O'ROURKE et al., Current status of liver tumor ablation devices, *Expert Rev. Med. Devices*, Vol. 4(4), pp. 523-537, 2007.	
	452.	AngioDynamics® Incorporated, RITA® StarBurst® Model 75; StarBurst® SOE Electrosurgical Device, StarBurst® XL Electrosurgical Device, MRI Compatible StarBurst® XL Device, MRI Compatible StarBurst® SEMI-FLEX Electrosurgical Device; Instructions for Use, (no date) in 5 pages.	
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Examiner Signature	Date Considered

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SHEET 19 OF 20	Attorney Docket No.	NBUS.004C1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[1]
	454.	Baylis Medical Company, Inc., Pain Management; Sinergy™ System, April 2008, in 6 pages.	
	455.	Baylis Medical Company, Inc., Pain Management; RF Generator V3 Platform, May 2008, in 6 pages.	
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	457.	Boston Scientific, LeVeen® Needle Electrodes; The Choice for Open, Laparoscopic or Percutaneous Radiofrequency Ablation, 2006, in 2 pages.	
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	459.	Diros Technology Inc., OWL Pain Management Sets, http://www.dirostech.com/22.php, (no date), in 3 pages.	
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	462.	FDA, Design Control Guidance for Medical Device Manufacturers, March 11, 1997, in 53 pages.	
	463.	Leibinger®, Electrodes for Neurosurgical Applications, pp. 4-10, 12 (no date).	
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	465.	NeuroTherm®, http://www.neurotherm.com/interventional_pain_prod_electrodes.htm, 2007, in 2 pages.	
	466.	NeuroTherm®, One System, Multiple Applications, March 2007, in 2 pages.	
	467.	NeuroTherm®, RF for Pain Management; Disposable RF Electrode, (no date) in 2 pages.	
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	469.	Rex Medical, Quadra-Fuse; Multi-pronged Injection Needle, http://www.rexmedical.com/quadra-fuse.html, 2010, in 2 pages.	
	470.	Smith & Nephew Endoscopy, Electrothermal 20S Spine System, http://endo.smith-nephew.com/fr/node.asp?NodeId=3592, (no date) in 2 pages.	
	471.	Stryker Instruments, "MultiGen™ One Machine; Four Lesions; Multiple Options," July 2008, in 8 pages.	

Examiner Signature	Date Considered

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	Filing Date	April 7, 2016
	First Named Inventor	Robert E. Wright
	Art Unit	3794
(Multiple sheets used when necessary)	Examiner	Christine A. Dedoulis
SHEET 20 OF 20	Attorney Docket No.	NBUS.004C1

NON PATENT LITERATURE DOCUMENTS			
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	472.	International Search Report and Written Opinion of the International Searching Authority for International Application No. PCT/US2010/055744, mailed on March 1, 2011, in 34 pages.	
	473.	International Search Report and Written Opinion of the International Searching Authority for International Application No. PCT/US2011/035253 mailed on August 18, 2011.	
	474.	International Preliminary Report on Patentability issued in PCT/US2011/035253, dated November 27, 2012.	
	475.	Patent Examination Report issued in Australian Application No. 2011256709, dated March 22, 2013.	
	476.	Patent Examination Report issued in Australian Application No. 2010314930, dated July 26, 2013.	
	477.	Notice of Acceptance issued in Australian Application No. 2010314930, dated October 14, 2013.	
	478.	Notice of Acceptance issued in Australian Application No. 2011256709, dated October 10, 2013.	
	479.	Office Action issued in U.S. Application No. 12/940,974, dated February 28, 2014.	
	480.	Office Action issued in Japanese Application No. 2012-538056, dated May 19, 2014.	
	481.	Office Action issued in U.S. Application No. 12/940,974, dated July 7, 2014.	
	482.	Office Action issued in Japanese Application No. 2013-511205, dated August 4, 2014.	X
	483.	Office Action issued in Chinese Application No. 201180035655.7, dated August 25, 2014.	X
	484.	Office Action issued in U.S. Application No. 12/940,974, dated November 13, 2014.	
	485.	Office Action issued in Korean Application No. 10-2012-7033363, dated December 23, 2014.	X
	486.	Patent Examination Report issued in Australian Application No. 2014200132, dated December 1, 2014.	
	487.	Supplemental European Search Report and Search Opinion issued in EP Application No. 10829203.8, mailed May 9, 2014.	
	488.	Supplemental European Search Report and Search Opinion issued in EP Application No. 11783944, dated June 23, 2014.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

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	Art Unit	3794
	Examiner Name	Christine A. Dedoulis
	Attorney Docket Number	NBUS.004C1

	1	CANADIAN INTELLECTUAL PROPERTY OFFICE, Office Action for Canadian Patent Application No. 2,799,505, dated 8 April 2020, 4 pages.
	2	EUROPEAN PATENT OFFICE, Decision to Grant a European Patent Pursuant to Article 97(1) EPC for European Patent Application No. 11783944.9, dated 28 May 2020, 2 pages.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Filing Date	2016-04-07
	First Named Inventor	Robert E. Wright
	Art Unit	3794
	Examiner Name	Christine A. Dedoulis
	Attorney Docket Number	NBUS.004C1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☒ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2020-06-04
Name/Print	Daniel C. Higgs	Registration Number	55265

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Electronic Patent Application Fee Transmittal

Application Number:	15092945
Filing Date:	07-Apr-2016
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	Robert E. Wright
Filer:	Daniel Christopher Higgs
Attorney Docket Number:	NBUS.004C1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

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Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
		Total in USD ($)		**120**

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Stratus Ex. 2012

Electronic Acknowledgement Receipt

EFS ID:	39631827
Application Number:	15092945
International Application Number:	
Confirmation Number:	5930
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	Robert E. Wright
Customer Number:	148468
Filer:	Daniel Christopher Higgs
Filer Authorized By:	
Attorney Docket Number:	NBUS.004C1
Receipt Date:	04-JUN-2020
Filing Date:	07-APR-2016
Time Stamp:	17:58:57
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$120
RAM confirmation Number	E202064H59251487
Deposit Account	602176
Authorized User	Daniel Higgs

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	IDS_NBUS004C1_7.pdf	1034571 7152bcc4dd5bf416a395367a55330592b961638b	no	4
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
2	Non Patent Literature	NBUS004CA_OA3.pdf	3261144 a57bf7e26dd9c7f1648713a02bcb508b9677ee35	no	4
Warnings:					
Information:					
3	Non Patent Literature	NBUS004EU_Decision_to_Grant.pdf	99910 40ea743bdcdda3b1d02186a63fe4c67122686035	no	2
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30336 9a9667b1099646b03b29f45cd8115f9d98c7ee67	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	4425961		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

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New International Application Filed with the USPTO as a Receiving Office

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IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Patent citation information please click the Add button. Add

U.S.PATENT APPLICATION PUBLICATIONS Remove

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1					

If you wish to add additional U.S. Published Application citation information please click the Add button. Add

FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15092945
	Filing Date	2016-04-07
	First Named Inventor	Robert E. Wright
	Art Unit	3794
	Examiner Name	Christine A. Dedoulis
	Attorney Docket Number	NBUS.004C1

	1	DAVID LAWSON MORRIS, Affidavit Submitted in Federal Court of Australia Case No. NSD 438 of 2019, dated 17 April 2020, 29 pages.
	2	SUSANNE MONICA HANTOS, Affidavit Submitted in Federal Court of Australia Case No. NSD 438 of 2019, dated 21 April 2020, 765 pages.
	3	PETER DARMOS, Affidavit Submitted in Federal Court of Australia Case No. NSD 438 of 2019, dated 21 April 2020, 716 pages.
	4	WILLIAM SAMUAL HUNTER, Affidavit Submitted in Federal Court of Australia Case No. NSD 438 of 2019, dated 6 April 2020, 158 pages.
	5	DANIEL CHRISTOPHER HIGGS, Affidavit Submitted in Federal Court of Australia Case No. NSD 438 of 2019, dated 6 April 2020, 26 pages.
	6	IP AUSTRALIA, Examination Report No. 1 for Standard Patent Application for Australian Patent Application No. 2019200358, dated 20 April 2020, 3 pages.
	7	CANADIAN INTELLECTUAL PROPERTY OFFICE, Office Action for Canadian Patent Application No. 2,778,997, dated 15 May 2020, 3 pages.
	8	UNITED STATES PATENT AND TRADEMARK OFFICE, Notice of Allowance for U.S. Patent Application No. 15/098,673, dated 9 April 2020, 95 pages.

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15092945
	Filing Date	2016-04-07
	First Named Inventor	Robert E. Wright
	Art Unit	3794
	Examiner Name	Christine A. Dedoulis
	Attorney Docket Number	NBUS.004C1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2020-06-04
Name/Print	Daniel C. Higgs	Registration Number	55265

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	15092945
Filing Date:	07-Apr-2016
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	Robert E. Wright
Filer:	Daniel Christopher Higgs
Attorney Docket Number:	NBUS.004C1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	120	120
		Total in USD ($)		**120**

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Electronic Acknowledgement Receipt

EFS ID:	39632029
Application Number:	15092945
International Application Number:	
Confirmation Number:	5930
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	Robert E. Wright
Customer Number:	148468
Filer:	Daniel Christopher Higgs
Filer Authorized By:	
Attorney Docket Number:	NBUS.004C1
Receipt Date:	04-JUN-2020
Filing Date:	07-APR-2016
Time Stamp:	18:14:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$120
RAM confirmation Number	E202064I15291716
Deposit Account	602176
Authorized User	Daniel Higgs

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Information Disclosure Statement (IDS) Form (SB08)	IDS_NBUS004C1_8.pdf	1035001 ceacc80c27ff1fe283ef8a1b264abdb0b763aa36	no	4
Warnings:					
Information:					
A U.S. Patent Number Citation or a U.S. Publication Number Citation is required in the Information Disclosure Statement (IDS) form for autoloading of data into USPTO systems. You may remove the form to add the required data in order to correct the Informational Message if you are citing U.S. References. If you chose not to include U.S. References, the image of the form will be processed and be made available within the Image File Wrapper (IFW) system. However, no data will be extracted from this form. Any additional data such as Foreign Patent Documents or Non Patent Literature will be manually reviewed and keyed into USPTO systems.					
2	Non Patent Literature	Affidavit_of_David_Morris.pdf	15137824 aa6c50d5a22935c55ba0269850d13c0e3eea9566	no	29
Warnings:					
Information:					
3	Non Patent Literature	Affidavit_of_Susanne_Hantos_Part_1.pdf	18006260 dc48cd8bb87566b01c6b9fdf55854bceff713d4c	no	380
Warnings:					
Information:					
4	Non Patent Literature	Affidavit_of_Susanne_Hantos_Part_2.pdf	17543712 ccfb12b12534d1bb1e643be67264fcafbf8c3526	no	385
Warnings:					
Information:					
5	Non Patent Literature	Affidavit_of_Peter_Darmos_Part_1.pdf	17831996 37248f55c9654f21acc6c7b6a07603dc83b7a846	no	300
Warnings:					
Information:					

6	Non Patent Literature	Affidavit_of_Peter_Darmos_Part_2.pdf	15815904 a01c66a865258afe4b3e72337f7acfe5793c21c7	no	416
Warnings:					
Information:					
7	Non Patent Literature	Affidavit_of_William_Hunter.pdf	8970777 0ecf382d7053a2dc07405c135129151276a0cd35	no	158
Warnings:					
Information:					
8	Non Patent Literature	Affidavit_of_Daniel_Higgs.pdf	2875944 892270ee29644e44887987d7e3b51c431a2ccf98	no	26
Warnings:					
Information:					
9	Non Patent Literature	NBUS001AUD3_OA1.pdf	121204 5b861cc1de07ba916b9d274826b9e0f8eb201820	no	3
Warnings:					
Information:					
10	Non Patent Literature	NBUS001CA_OA3.pdf	2570979 b27ae228c0f79b60cc9446a3b01d19d54e2f5c2a	no	3
Warnings:					
Information:					
11	Non Patent Literature	NBUS001USC1_NOA.pdf	6023839 22411de4861ef69a645e09bb6de329b106b214e7	no	95
Warnings:					
Information:					
12	Fee Worksheet (SB06)	fee-info.pdf	30335 a8522b2d13b66ae9333df7193a7bbb4e741794b4	no	2
Warnings:					
Information:					
			Total Files Size (in bytes):	105963775	

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

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New International Application Filed with the USPTO as a Receiving Office

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IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

CORRECTED ADS FORM

Application Number	15092945
Title of Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION

Inventor Information

****If no data is shown, no data has been corrected****

	Data of Record	Updated Data
Order Number		
Name		
Residence Information		
Residency		
City		
State		
Country of Residence		
Mailing Address of Inventor		
Address 1		
Address 2		
City,State/Province, Postal Code		
Country		

Application Information

	Data of Record	Updated Data
Title of Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION	
Attorney Docket Number	NBUS.004C1	
Entity Type	Small	

Domestic Benefit/National Stage Information

****If no data is shown, no data has been corrected****

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121,365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S. C. 119(e) or 120, and 37 CFR 1.78(a).

		Data of Record	Updated Data
	Prior Application Status		
	Application Number		
	Continuity Type		
	Prior Application Number		
	Filing Date (YYYY-MM-DD)		
	Patent Number		
	Issue Date (YYYY-MM-DD)		

Foreign Priority Information

****If no data is shown, no data has been corrected****

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

		Data of Record	Updated Data
	Application Number		
	Country		
	Filing Date		
	Access Code		

Applicant Information

****If no data is shown, no data has been corrected****
Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

	Data of Record	Updated Data
Applicant Type	ASG	
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is		
Name of the Deceased or Legally Incapacitated Inventor		
Applicant is an Organization	Yes	
Name		
Organization Name	Stratus Medical, LLC	
Address 1		6030 W. Harold Gatty Dr.
Address 2		

City,State/Province,Postal Code	~~Logan UT 84321~~	Salt Lake City UT 84116
Country	US	
Phone Number		
Fax Number		
Email Address		

Assignee Information including Non-Applicant Assignee Information

****If no data is shown, no data has been corrected****
Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office

	Data of Record	Updated Data
Order		
Applicant is an Organization		
Name		
Organization Name		
Mailing Address		
Address 1		
Address 2		
City,State/Province,Postal Code		
Country		
Phone Number		
Fax Number		
Email Address		

Signature

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Daniel C. Higgs/	Registration Number	55265
First Name	Daniel	Last Name	Higgs

Electronic Acknowledgement Receipt

EFS ID:	39633735
Application Number:	15092945
International Application Number:	
Confirmation Number:	5930
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	
Customer Number:	148468
Filer:	Daniel Christopher Higgs
Filer Authorized By:	
Attorney Docket Number:	NBUS.004C1
Receipt Date:	04-JUN-2020
Filing Date:	07-APR-2016
Time Stamp:	23:07:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet to update/ correct info	CorrectedADS.pdf	65068 586292315402817e465bf1c4ed09632603c9357d	no	5

Warnings:

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Information:	
Total Files Size (in bytes):	65068

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IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Robert E. Wright	)	
Application No.:	15/092,945	)	Art Unit: 3794
Filing Date:	April 7, 2016	)	
Title:	SYSTEMS AND METHODS FOR TISSUE ABLATION	)	
Examiner:	Christine A. Dedoulis	)	
Confirmation No.:	5930	)	
Customer No.:	148468	)	

Comments on Statement of Reasons for Allowance

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

In reply to the Notice of Allowability that issued on March 16, 2020 in the above-identified application, the Applicant respectfully submits the following comments on the Statement of Reasons for Allowance ("Statement").

The Applicant thanks the examiner for her diligent review of the application and agrees that the claims are allowable. However, the Applicant takes no position regarding patentability other than positions taken during prosecution. Therefore, the examiner's Statement should not be attributed to the Applicant as an indication of the basis for Applicant's belief that the claims are patentable. To the extent the Statement summarizes or paraphrases the claims, or otherwise deviates from the language of the claims, the Applicant respectfully submits that the meaning and scope of the claims

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

depend on the actual language of the claims. To the extent the Statement refers to only selected portions of a claim, the Applicant notes that the claims may contain additional limitations other than those mentioned in the Statement, and that patentability is measured against a claim as a whole, not just selected limitations. Other limitations alone or in combination may provide distinguishing aspects over the prior art. To the extent the Statement suggests that the mentioned limitations have any special prominence, the Applicant does not necessarily agree. Further, the dependent claims may include additional limitations that may also provide further reasons for patentability.

DATED this 4th day of June, 2020.

Respectfully submitted,

/Daniel C. Higgs/

Daniel C. Higgs
Attorney for Applicant
Registration No. 55,265

MED VENTURE HOLDINGS, LLC
6030 W. Harold Gatty Drive
Salt Lake City, Utah 84116
(801) 703-1961

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS. This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

148468 7590 03/16/2020
Med Venture Management, LLC
6030 W. Harold Gatty Dr.
Salt Lake City, UT 84116

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/092,945	04/07/2016	Robert E. Wright	NBUS.004C1	5930

TITLE OF INVENTION: SYSTEMS AND METHODS FOR TISSUE ABLATION

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	06/16/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
DEDOULIS, CHRISTINE A	3794	606-041000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Med Venture Management, LLC
2 Daniel C. Higgs
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE: Stratus Medical, LLC

(B) RESIDENCE: (CITY and STATE OR COUNTRY): Salt Lake City, Utah

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 602176

5. **Change in Entity Status** (from status indicated above)

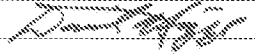
☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature:  Date: June 4, 2020

Typed or printed name: Daniel C. Higgs Registration No. 55,265

IPR2024-01211
Avanos v. Stratus
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Electronic Patent Application Fee Transmittal

Application Number:	15092945
Filing Date:	07-Apr-2016
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	Robert E. Wright
Filer:	Daniel Christopher Higgs
Attorney Docket Number:	NBUS.004C1

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
UTILITY APPL ISSUE FEE	2501	1	500	500

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**500**

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Electronic Acknowledgement Receipt

EFS ID:	39633797
Application Number:	15092945
International Application Number:	
Confirmation Number:	5930
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	Robert E. Wright
Customer Number:	148468
Filer:	Daniel Christopher Higgs
Filer Authorized By:	
Attorney Docket Number:	NBUS.004C1
Receipt Date:	04-JUN-2020
Filing Date:	07-APR-2016
Time Stamp:	23:26:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$500
RAM confirmation Number	E202064N27263883
Deposit Account	602176
Authorized User	Daniel Higgs

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

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Avanos v. Stratus
Stratus Ex. 2012

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	NBUS004C1_Comments.pdf	85941 8c6c81ca73fd82ec9e58cbbdf744e7530bacd252	no	2
Warnings:					
Information:					
2	Issue Fee Payment (PTO-85B)	NBUS004C1_Form_PTOL_85.pdf	1545720 cb096f3565f842983e815cc8d537a4a344f400a5	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30201 c974d69a7fdffcfd0b022a053d8558e9b8d7d193	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1661862		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
15/092,945	04/07/2016	3794	3400	NBUS.004C1	1	1

CONFIRMATION NO. 5930

CORRECTED FILING RECEIPT

148468
Med Venture Management, LLC
6030 W. Harold Gatty Dr.
Salt Lake City, UT 84116

OC000000117523098

Date Mailed: 06/05/2020

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Robert E. Wright, Denver, CO;
Scott A. Brandt, Denver, CO;

Applicant(s)

Stratus Medical, LLC, Salt Lake City, UT;

Assignment For Published Patent Application

Stratus Medical, LLC, Logan, UT

Power of Attorney: The patent practitioners associated with Customer Number 148468

Domestic Priority data as claimed by applicant

This application is a CON of 13/101,009 05/04/2011 ABN
which claims benefit of 61/347,351 05/21/2010
and claims benefit of 61/357,886 06/23/2010
and claims benefit of 61/357,894 06/23/2010

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 04/21/2016
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/092,945**
Projected Publication Date: Not Applicable
Non-Publication Request: No
Early Publication Request: No
**** SMALL ENTITY ****
Title

SYSTEMS AND METHODS FOR TISSUE ABLATION

Preliminary Class

606

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative,

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Stratus Ex. 2012

this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Robert E. Wright	)	
Application No.:	15/092,945	)	Art Unit: 3794
Filing Date:	April 7, 2016	)	
Title:	SYSTEMS AND METHODS FOR TISSUE ABLATION	)	
Examiner:	Christine A. Dedoulis	)	
Confirmation No.:	5930	)	
Customer No.:	148468	)	

Request for Corrected Filing Receipt

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

The Applicant hereby respectfully requests the issuance of a Corrected Filing Receipt in the above-identified application ("the Application"). Further, the Applicant wishes to ensure that the forthcoming patent issuing from the Application will correctly identify on the cover page thereof that ***each of*** the ***Applicant*** and the ***Assignee*** of the patent is:

Stratus Medical, LLC, Salt Lake City, Utah.

Submitted herewith is an amended version of the most recently issued Corrected Filing Receipt in the Application, mailed on June 5, 2020, showing the desired change.

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

In particular, the residence of the Assignee should be changed from "Logan, UT" to "Salt Lake City, UT."

Also submitted herewith is an annotated copy of the form PTOL-85 filed by the Applicant on June 4, 2020, which indicates that the residence of the Assignee is Salt Lake City, UT. Additionally, the Applicant submits herewith an annotated copy of the Notice of Recordation that issued relative to the Application on June 5, 2020 (based on a filing that preceded payment of the issue fee), that likewise indicates the residence of the Assignee is Salt Lake City, UT.

Finally, to confirm all of the foregoing, the Applicant is filing concurrently herewith a Corrected Application Data Sheet that properly lists the Salt Lake City, UT residence information for Stratus Medical, LLC. Again, Stratus Medical, LLC is both the Applicant and Assignee of the Application.

Please contact the undersigned attorney if there are any questions regarding or impediments to the present request.

Kind regards.

DATED this 8th day of June, 2020.

Respectfully submitted,

/Daniel C. Higgs/

Daniel C. Higgs
Attorney for Applicant
Registration No. 55,265

MED VENTURE HOLDINGS, LLC
6030 W. Harold Gatty Drive
Salt Lake City, Utah 84116
(801) 703-1961

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
15/092,945	04/07/2016	3794	3400	NBUS.004C1	1	1

CONFIRMATION NO. 5930

CORRECTED FILING RECEIPT

148468
Med Venture Management, LLC
6030 W. Harold Gatty Dr.
Salt Lake City, UT 84116

Date Mailed: 06/05/2020

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Inventor(s)

Robert E. Wright, Denver, CO;
Scott A. Brandt, Denver, CO;

Applicant(s)

Stratus Medical, LLC, Salt Lake City, UT;

Assignment For Published Patent Application

Stratus Medical, LLC, ~~Logan, UT~~ Salt Lake City, UT

Power of Attorney: The patent practitioners associated with Customer Number 148468

Domestic Priority data as claimed by applicant

This application is a CON of 13/101,009 05/04/2011 ABN
which claims benefit of 61/347,351 05/21/2010
and claims benefit of 61/357,886 06/23/2010
and claims benefit of 61/357,894 06/23/2010

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 04/21/2016
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/092,945**
Projected Publication Date: Not Applicable
Non-Publication Request: No
Early Publication Request: No
**** SMALL ENTITY ****
Title

SYSTEMS AND METHODS FOR TISSUE ABLATION

Preliminary Class

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Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

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this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

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SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

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PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

148468 7590 03/16/2020
Med Venture Management, LLC
6030 W. Harold Gatty Dr.
Salt Lake City, UT 84116

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/092,945	04/07/2016	Robert E. Wright	NBUS.004C1	5930

TITLE OF INVENTION: SYSTEMS AND METHODS FOR TISSUE ABLATION

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	06/16/2020

EXAMINER	ART UNIT	CLASS-SUBCLASS
DEDOULIS, CHRISTINE A	3794	606-041000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 Med Venture Management, LLC
2 Daniel C. Higgs
3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE	(B) RESIDENCE: (CITY and STATE OR COUNTRY)
Stratus Medical, LLC	Salt Lake City, Utah

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☒ Issue Fee ☐ Publication Fee (if required) ☐ Advance Order - # of Copies

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

☒ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☒ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 602176

5. **Change in Entity Status** (from status indicated above)

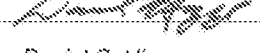
☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature  Date June 4, 2020

Typed or printed name Daniel C. Higgs Registration No. 55,266

PTOL-85 Part B (08-18) Approved for use through 01/31/2020 OMB 0651-0033 U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

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Stratus Ex. 2012

UNITED STATES PATENT AND TRADEMARK OFFICE
UNDER SECRETARY OF COMMERCE FOR INTELLECTUAL PROPERTY AND
DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

JUNE 5, 2020

PTAS

DANIEL C. HIGGS
6030 W. HAROLD GATTY DR.
SALT LAKE CITY, UT 84116

506090794

UNITED STATES PATENT AND TRADEMARK OFFICE
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT

THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT RECORDATION BRANCH OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE ASSIGNMENT RECORDATION BRANCH AT 571-272-3350. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, MAIL STOP: ASSIGNMENT RECORDATION BRANCH, P.O. BOX 1450, ALEXANDRIA, VA 22313.

RECORDATION DATE: 06/04/2020

REEL/FRAME: 052837/0846
NUMBER OF PAGES: 9

BRIEF: CORRECTIVE ASSIGNMENT TO CORRECT THE ADDRESS OF THE ASSIGNEE PREVIOUSLY RECORDED ON REEL 052040 FRAME 0943. ASSIGNOR(S) HEREBY CONFIRMS THE ASSIGNMENT TO STRATUS OF THE PATENTS AND PATENT APPLICATIONS SET FORTH ON SCHEDULE 1 (US 15/092,945 AND US 15/098,673).

DOCKET NUMBER: NBUS

ASSIGNOR:
BIOMERICS, LLC

DOC DATE: 12/23/2019

ASSIGNEE:
STRATUS MEDICAL, LLC
6030 W. HAROLD GATTY DR.
SALT LAKE CITY, UTAH 84116

APPLICATION NUMBER: 15092945
PATENT NUMBER:
TITLE: SYSTEMS AND METHODS FOR TISSUE ABLATION

FILING DATE: 04/07/2016
ISSUE DATE:

APPLICATION NUMBER: 15098673
PATENT NUMBER:
TITLE: METHODS AND SYSTEMS FOR SPINAL RADIO FREQUENCY NEUROTOMY

FILING DATE: 04/14/2016
ISSUE DATE:

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

ASSIGNMENT RECORDATION BRANCH
PUBLIC RECORDS DIVISION

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	NBUS.004C1
	Application Number	15/092,945
Title of Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City		State/Province		Country of Residence	

Mailing Address of Inventor:

Address 1	
Address 2	

City		State/Province	
Postal Code		Country i	

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number		
Email Address		Add Email Remove Email

Application Information:

Title of the Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION	
Attorney Docket Number	NBUS.004C1	Small Entity Status Claimed ☒
Application Type		
Subject Matter		

Total Number of Drawing Sheets (if any)		Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	NBUS.004C1
	Application Number	15/092,945
Title of Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	◉ Customer Number	○ US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number			

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status			Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	NBUS.004C1
	Application Number	15/092,945
Title of Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION	

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	NBUS.004C1
	Application Number	15/092,945
Title of Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	NBUS.004C1
	Application Number	15/092,945
Title of Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

◉ Assignee	○ Legal Representative under 35 U.S.C. 117	○ Joint Inventor
○ Person to whom the inventor is obligated to assign.	○ Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	Stratus Medical, LLC		
Mailing Address Information For Applicant:			
Address 1	~~595 S. Riverwoods Parkway~~ 6030 W. Harold Gatty Dr.		
Address 2	~~Suite 400~~		
City	~~Logan~~ Salt Lake City	**State/Province**	Utah
Country	US	Postal Code	~~84321~~ 84116
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	NBUS.004C1
	Application Number	15/092,945
Title of Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Organization Name	Stratus Medical, LLC

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1	~~595 S. Riverwoods Parkway~~ 6030 W. Harold Gatty Dr.		
Address 2	~~Suite 400~~		
City	~~Logan~~ Salt Lake City	**State/Province**	Utah
Country i	US	Postal Code	~~84321~~ 84116
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Daniel C. Higgs/			Date (YYYY-MM-DD)	2020-06-08
First Name	Daniel	Last Name	Higgs	Registration Number	55,265

Additional Signature may be generated within this form by selecting the Add button.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	NBUS.004C1
	Application Number	15/092,945
Title of Invention	SYSTEMS AND METHODS FOR TISSUE ABLATION	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Electronic Acknowledgement Receipt

EFS ID:	39656529
Application Number:	15092945
International Application Number:	
Confirmation Number:	5930
Title of Invention:	SYSTEMS AND METHODS FOR TISSUE ABLATION
First Named Inventor/Applicant Name:	Robert E. Wright
Customer Number:	148468
Filer:	Daniel Christopher Higgs
Filer Authorized By:	
Attorney Docket Number:	NBUS.004C1
Receipt Date:	08-JUN-2020
Filing Date:	07-APR-2016
Time Stamp:	15:48:37
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Corrected Filing Receipt	NBUS004C1_Request_for_Corrected_Filing_Receipt_w_Attachments.pdf	4540035 29ac63e150436b4f5c3e8b0728067643d815de7a	no	9

Warnings:

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Information:					
2	Application Data Sheet	NBUS004C1_Corrected_ADS.pdf	153545 d290a44ea525aa39233d75e47aec88b2cc9d784f	no	8
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
			Total Files Size (in bytes):	4693580	

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
15/092,945	04/07/2016	3794	3400	NBUS.004C1	1	1

CONFIRMATION NO. 5930

148468
Med Venture Management, LLC
6030 W. Harold Gatty Dr.
Salt Lake City, UT 84116

CORRECTED FILING RECEIPT

OC000000117607233

Date Mailed: 06/09/2020

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Robert E. Wright, Denver, CO;
Scott A. Brandt, Denver, CO;

Applicant(s)

Stratus Medical, LLC, Salt Lake City, UT;

Assignment For Published Patent Application

Stratus Medical, LLC, Salt Lake City, UT

Power of Attorney: The patent practitioners associated with Customer Number 148468

Domestic Priority data as claimed by applicant

This application is a CON of 13/101,009 05/04/2011 ABN
which claims benefit of 61/347,351 05/21/2010
and claims benefit of 61/357,886 06/23/2010
and claims benefit of 61/357,894 06/23/2010

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 04/21/2016
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/092,945**
Projected Publication Date: Not Applicable
Non-Publication Request: No
Early Publication Request: No
**** SMALL ENTITY ****
Title

SYSTEMS AND METHODS FOR TISSUE ABLATION

Preliminary Class

606

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative,

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Stratus Ex. 2012

this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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Avanos v. Stratus
Stratus Ex. 2012

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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/092,945	04/07/2016	Robert E. Wright	NBUS.004C1	5930

148468 7590 06/15/2020

Med Venture Management, LLC
6030 W. Harold Gatty Dr.
Salt Lake City, UT 84116

EXAMINER
DEDOULIS, CHRISTINE A

ART UNIT	PAPER NUMBER
3794	

MAIL DATE	DELIVERY MODE
06/15/2020	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of Allowability	Application No. 15/092,945	Applicant(s) Wright et al.	
	Examiner CHRISTINE A DEDOULIS	Art Unit 3794	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to the IDS filed 06/04/2020.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-17 and 19-73 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information , please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☑ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☐ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/C.A.D./ Examiner, Art Unit 3794	/EUN HWA KIM/ Primary Examiner, Art Unit 3794

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15092945
	Filing Date	2016-04-07
	First Named Inventor	Robert E. Wright
	Art Unit	3794
	Examiner Name	Christine A. Dedoulis
	Attorney Docket Number	NBUS.004C1

	1	DAVID LAWSON MORRIS, Affidavit Submitted in Federal Court of Australia Case No. NSD 438 of 2019, dated 17 April 2020, 29 pages.
	2	SUSANNE MONICA HANTOS, Affidavit Submitted in Federal Court of Australia Case No. NSD 438 of 2019, dated 21 April 2020, 765 pages.
	3	PETER DARMOS, Affidavit Submitted in Federal Court of Australia Case No. NSD 438 of 2019, dated 21 April 2020, 716 pages.
	4	WILLIAM SAMUAL HUNTER, Affidavit Submitted in Federal Court of Australia Case No. NSD 438 of 2019, dated 6 April 2020, 158 pages.
	5	DANIEL CHRISTOPHER HIGGS, Affidavit Submitted in Federal Court of Australia Case No. NSD 438 of 2019, dated 6 April 2020, 26 pages.
	6	IP AUSTRALIA, Examination Report No. 1 for Standard Patent Application for Australian Patent Application No. 2019200358, dated 20 April 2020, 3 pages.
	7	CANADIAN INTELLECTUAL PROPERTY OFFICE, Office Action for Canadian Patent Application No. 2,778,997, dated 15 May 2020, 3 pages.
	8	UNITED STATES PATENT AND TRADEMARK OFFICE, Notice of Allowance for U.S. Patent Application No. 15/098,673, dated 9 April 2020, 95 pages.

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature	/Christine A Dedoulis/	Date Considered	06/08/2020

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☒ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

☒ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2020-06-04
Name/Print	Daniel C. Higgs	Registration Number	55265

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.D./

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /C.A.S./

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"5827276".pn.	US-PGPUB; USPAT	OR	ON	2020/06/08 09:40
L2	2	"20080161804"	US-PGPUB; USPAT	OR	ON	2020/06/08 09:41
L3	4	"20040158239"	US-PGPUB; USPAT	OR	ON	2020/06/08 09:41
L4	1	"20060200121"	US-PGPUB; USPAT	OR	ON	2020/06/08 09:58
L5	2	"20060217705"	US-PGPUB; USPAT	OR	ON	2020/06/08 09:59
L6	1	"7108696".pn.	US-PGPUB; USPAT	OR	ON	2020/06/08 10:00
S1	0	"16061963"	US-PGPUB; USPAT	OR	ON	2018/05/09 16:54
S2	0	"16061963.pn."	US-PGPUB; USPAT	OR	ON	2018/05/09 16:54

S3	0	(US-16061963-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/10 07:21
S4	0	"16061963".pn.	US-PGPUB; USPAT	OR	ON	2018/05/10 07:21
S5	1	(13/101009).APP.	US-PGPUB; USPAT	OR	ON	2018/05/10 07:21
S6	20	2007/0203486	US-PGPUB; USPAT	OR	ON	2018/05/10 08:05
S7	20	"2007/0203486"	US-PGPUB; USPAT	OR	ON	2018/05/10 08:05
S8	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2018/05/10 08:05
S9	2	"20060229645"	US-PGPUB; USPAT	OR	ON	2018/05/10 08:07
S10	10	("20090299357" | "20100198207" | "20120089211" | "20140343542" | "7713266" | "7850683" | "8298216" | "8409185" | "9039688" | "9254162").PN.	US-PGPUB; USPAT	OR	ON	2018/05/10 08:10
S12	4	S10 and neuroma	US-PGPUB; USPAT	OR	ON	2018/05/10 08:15
S13	4	("2014/0343542").URPN.	USPAT	OR	ON	2018/05/10 08:42

S14	1	"7250046".pn.	USPAT	OR	ON	2018/05/10 08:45
S15	0	"2008183164".pn.	USPAT	OR	ON	2018/05/10 08:46
S16	0	"2008183164"	USPAT	OR	ON	2018/05/10 08:46
S17	0	"2008183164"	USPAT	OR	ON	2018/05/10 08:46
S18	1	"20080183164"	USPAT	OR	ON	2018/05/10 08:46
S19	0	"2009248001"	USPAT	OR	ON	2018/05/10 08:46
S20	1	"20090248001"	USPAT	OR	ON	2018/05/10 08:46
S21	1	"20040215294"	USPAT	OR	ON	2018/05/10 08:47
S22	1	"20080154254"	USPAT	OR	ON	2018/05/10 08:47
S23	0	"20110178514"	USPAT	OR	ON	2018/05/10 08:47
S24	0	"2011178514"	USPAT	OR	ON	2018/05/10 08:47
S25	0	"20110178514"	USPAT	OR	ON	2018/05/10 08:47
S26	0	"201100178514"	USPAT	OR	ON	2018/05/10 08:47
S27	0	"2006259029"	USPAT	OR	ON	2018/05/10 08:48
S28	1	"20060259029"	USPAT	OR	ON	2018/05/10 08:48

S29	0	"2010331883"	USPAT	OR	ON	2018/05/10 08:48
S30	0	"20100331883"	USPAT	OR	ON	2018/05/10 08:48
S31	0	"201000331883"	USPAT	OR	ON	2018/05/10 08:48
S32	0	"2010000331883"	USPAT	OR	ON	2018/05/10 08:48
S33	1	"20130053851"	USPAT	OR	ON	2018/05/10 08:49
S34	0	"32" and S28 and S22 and S20 and S21 and S18 and S14	USPAT	OR	ON	2018/05/10 08:50
S35	3,325,542	"32" or S28 S22 S20 S21 S18 S14	USPAT	OR	ON	2018/05/10 08:50
S36	3,325,542	"32" or S28 or S22 or S20 or S21 or S18 or S14	USPAT	OR	ON	2018/05/10 08:50
S37	1	"20140248001"	USPAT	OR	ON	2018/05/10 09:12
S38	0	"2014/0248001"	USPAT	OR	ON	2018/05/10 09:12
S39	0	2014/0248001	USPAT	OR	ON	2018/05/10 09:12
S40	0	2014/0248001	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:12
S41	2	"20140248001"	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:12

S42	2	"20090248001"	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:13
S43	3,238	A61B18/02.cpc.	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:21
S44	634	A61B18/02.cpc. and cryo$2probe	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:21
S45	272	A61B18/02.cpc. and cryo$2probe and mark$4	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:21
S46	15	A61B18/02.cpc. and cryo$2probe and mark$4 and neuroma	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:22
S47	4	("2014/0276539").URPN.	USPAT	OR	ON	2018/05/10 09:29
S48	238	("20020010460" | "20020013602" | "20020045434" | "20020049436" | "20020068929" | "20020120260" | "20020120261" | "20020120263" | "20020128638" | "20020156469" | "20020183731" | "20020193778" | "20030036752" | "20030109912" | "20030130575" | "20030181896" | "20030195436" | "20030220635" | "20030220674" | "20040024391" | "20040082943" | "20040092875" | "20040122482" | "20040143252" | "20040162551" | "20040167505" | "20040191229" | "20040204705" | "20040210212" | "20040215178" | "20040215294" | "20040215295" | "20040220497" | "20040220648" | "20040225276" | "20040243116" |	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:29

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"3889681" | "3951152" | "3993075" | "4140109" | "4207897" |
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"5899897" | "5916212" | "5976505" | "6003539" | "6032675" |
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"6182666" | "6196839" | "6238386" | "6277099" | "6277116" |
"6363730" | "6364899" | "6371943" | "6432102" | "6494844" |
"6503246" | "6506796" | "6546935" | "6551309" | "6562030" |
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"6706037" | "6723092" | "6749624" | "6761715" | "6764493" |
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"7081112" | "7083612" | "7195616").PN. OR ("7217939" |
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S49	238	("20020010460" | "20020013602" | "20020045434" | "20020049436" | "20020068929" | "20020120260" | "20020120261" | "20020120263" | "20020128638" | "20020156469" | "20020183731" | "20020193778" | "20030036752" | "20030109912" | "20030130575" | "20030181896" | "20030195436" | "20030220635" | "20030220674" | "20040024391" | "20040082943" | "20040092875" | "20040122482" | "20040143252" | "20040162551" | "20040167505" | "20040191229" | "20040204705" | "20040210212" | "20040215178" | "20040215294" | "20040215295" | "20040220497" | "20040220648" | "20040225276" | "20040243116" | "20040267248" | "20040267257" | "20050004563" | "20050177147" | "20050177148" | "20050182394" | "20050203505" | "20050203593" | "20050209565" | "20050209587" | "20050224086" | "20050228288" | "20050251103" | "20050261753" | "20050276759" | "20050281530" | "20050283148" | "20060009712" | "20060015092" | "20060069385" | "20060079914" | "20060084962" | "20060089688" | "20060111732" | "20060129142" | "20060142785" | "20060173469" | "20060189968" | "20060190035" | "20060200117" | "20060212028" | "20060212048" | "20060223052" | "20060224149" | "20060258951" | "20070060921" | "20070088217" | "20070129714" | "20070156125" | "20070161975" | "20070167943" | "20070167959" | "20070179509" | "20070198071" | "20070225781" | "20070255362" | "20070270925" | "20080051775" | "20080051776" | "20080077201" | "20080077202" | "20080077211" | "20080154254" | "20080183164" | "20080200910" | "20080287839" | "20090018623").PN. OR ("20090018624" | "20090018625" | "20090018626" | "20090018627" | "20090118722" | "20090171334" | "20090248001" | "20090264876" | "20090299357" | "20100114191" | "20100168725" | "20100305439" | "20100331883" | "20110144631" | "20110196267" | "20120065629" | "20120089211" | "20120259322" | "20120265187" | "20130253605" | "20130324990" | "20140249519" | "20140276539" | "20140343542" | "20140343543" | "20140343544" | "2319542" | "2672032" | "3266492" | "3289424" | "3343544" | "3351063" | "3439680" | "3483869" | "3502081" | "3507283" | "3532094" | "3664344" | "3702114" | "3795245" | "3814095" | "3830239" | "3886945" | "3889681" | "3951152" | "3993075" | "4140109" | "4207897" | "4236518" | "4306568" | "4376376" | "4404862" | "4524771" | "4758217" | "4802475" | "4946460" | "5059197" | "5200170" | "5294325" | "5334181" | "5520681" | "5571147" | "5647868" | "5747777" | "5755753" | "5814040" | "5860970" | "5879378" | "5899897" | "5916212" | "5976505" | "6003539" | "6032675" | "6039730" | "6041787" | "6139545" | "6141985" | "6142991" | "6182666" | "6196839" | "6238386" | "6277099" | "6277116" | "6363730" | "6364899" | "6371943" | "6432102" | "6494844" | "6503246" | "6506796" | "6546935" | "6551309" | "6562030" |	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:29

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S50	8	"51530769".FMID.	US-PGPUB; USPAT; FPRS	OR	ON	2018/05/10 09:30
S51	4	2014/0276539	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:44
S52	2	"20140276539"	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/10 09:44
S53	4	("2014/0276539").URPN.	USPAT	OR	ON	2018/05/10 09:44
S54	1	"7250046".pn.	USPAT	OR	ON	2018/05/10 09:45
S55	1,383	A61B18/02.cpc.	USPAT	OR	ON	2018/05/10 14:45
S56	8,180	A61B18/02.cpc.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:46

S57	46	A61B18/02.cpc. and neuroma$3	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:46
S58	34	A61B18/02.cpc. and neuroma$3 and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:47
S59	3,824	A61B18/02.cpc. and (neuroma$3 or cryo$3probe$3 or cryoprobe or cool$5) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:53
S60	1,061	A61B18/02.cpc. and (neuroma$3 or cryo$3probe$3 or cryoprobe) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:53
S61	25	A61B18/02.cpc. and (neuroma$3 and(cryo$3probe$3 or cryoprobe)) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 14:53

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S62	173	A61B18/02.cpc. and (nerve and(cryo$3probe$3 or cryoprobe)) and (@ad<="20140312")	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO	OR	ON	2018/05/10 16:20
S63	20	(US-20127033363-$ | US-0012956-$ | US-0059328-$ | US-0084965-$ | US-0112340-$ | US-0158239-$ | US-0161804-$ | US-0213356-$ | US-0249392-$ | US-0269558-$ | US-10829203-$ | US-11783944-$ | US-1234567-$ | US-19753966-$ | US-20010012956-$ | US-20040059328-$ | US-20040158239-$ | US-20060084965-$ | US-20070112340-$ | US-20080161804-$ | US-20080249392-$ | US-20080269558-$ | US-20110213356-$ | US-7033363-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/22 14:42
S64	8,858	a61b2018/0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:49
S65	6,351	a61b18/1477,1206.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:51
S66	13,535	a61b2018/00577,1253,1427,143,0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:52
S67	3,120,858	electrode or wire	US-PGPUB; USPAT	OR	ON	2018/05/22 17:53
S68	1,788,120	electrode$3 or filament$4	US-PGPUB; USPAT	OR	ON	2018/05/22 17:55
S69	78	filament$3 and electode$3	US-PGPUB; USPAT	OR	ON	2018/05/22 17:55

S70	81	filament$5 and electode$5	US-PGPUB; USPAT	OR	ON	2018/05/22 17:55
S71	94	filament$10 and electode$10	US-PGPUB; USPAT	OR	ON	2018/05/22 17:56
S72	94	filament$20 and electode$20	US-PGPUB; USPAT	OR	ON	2018/05/22 17:56
S73	0	Nimbus.IN.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:58
S74	0	Nimbus.AAAT.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:59
S75	0	((Nimbus) near2 (concepts)).AAAT.	US-PGPUB; USPAT	OR	ON	2018/05/22 17:59
S76	622	((Robert) near2 (Wright)).IN.	US-PGPUB; USPAT	OR	ON	2018/05/22 18:00
S77	25	((Scott) near2 (Brandt)).IN.	US-PGPUB; USPAT	OR	ON	2018/05/22 18:00
S78	46	S76 and filament$3 or "elongate member having a distal end"	US-PGPUB; USPAT	OR	ON	2018/05/22 18:01
S79	4	S77 and filament$3 or "elongate member having a distal end"	US-PGPUB;	OR	ON	2018/05/22 18:05

			USPAT			
S80	8,836	(S64 or S65 or S66) and (needle$3 or probe$3) and (filament$5 or electrode$5)	US-PGPUB; USPAT	OR	ON	2018/05/22 18:08
S81	3,407	(S64 or S65 or S66) and (needle$3 or probe$3) and (filament$5 or electrode$5) and elongate	US-PGPUB; USPAT	OR	ON	2018/05/22 18:09
S82	1,588	S65 and (needle$3 or probe$3) and (filament$5 or electrode$5) and elongate	US-PGPUB; USPAT	OR	ON	2018/05/22 18:09
S83	4,149	S65 and (needle$3 or probe$3) and (filament$5 or electrode$5) and (first or second near$10 (positon))	US-PGPUB; USPAT	OR	ON	2018/05/22 18:09
S84	6,197	S65 and (first or second near$10 (positon))	US-PGPUB; USPAT	OR	ON	2018/05/22 18:10
S85	14,371	(S64 or S65 or S66) and (filament$5 near$10 move$5)	US-PGPUB; USPAT	OR	ON	2018/05/22 18:11
S86	8,349	S64 and (filament$5 near$10 move$5)	US-PGPUB; USPAT	OR	ON	2018/05/22 18:12
S87	18	S64 and (filament$5 near$10 move$5) and electode$3	US-PGPUB; USPAT	OR	ON	2018/05/22 18:12
S88	1	(US-1234567-$ | US-18125712-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 08:59

S89	2	(US-1234567-$ | US-18125712-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/05/23 09:00
S90	3	(AI-1234567-$ | JP-1234567-$ | JP-2000507844-$ | JP-2003527888-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT	OR	ON	2018/05/23 09:00
S91	1	(13/101009).APP.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:01
S92	175	(US-0004651-$ | US-0006215-$ | US-0006336-$ | US-0015161-$ | US-0015176-$ | US-0015218-$ | US-0015569-$ | US-0016183-$ | US-0018332-$ | US-0024124-$ | US-0026185-$ | US-0027449-$ | US-0029037-$ | US-0033279-$ | US-0033493-$ | US-0042098-$ | US-0045939-$ | US-0045940-$ | US-0048786-$ | US-0054962-$ | US-0056926-$ | US-0059964-$ | US-0060921-$ | US-0065062-$ | US-0076303-$ | US-0078595-$ | US-0089635-$ | US-0095115-$ | US-0099544-$ | US-0099980-$ | US-0100376-$ | US-0101944-$ | US-0101950-$ | US-0111702-$ | US-0112342-$ | US-0114095-$ | US-0118191-$ | US-0122482-$ | US-0122686-$ | US-0122692-$ | US-0123964-$ | US-0130974-$ | US-0131790-$ | US-0138011-$ | US-0142756-$ | US-0143262-$ | US-0154259-$ | US-0156136-$ | US-0161905-$ | US-0165391-$ | US-0167646-$ | US-0167649-$ | US-0167943-$ | US-0171522-$ | US-0173359-$ | US-0176759-$ | US-0177209-$ | US-0177211-$ | US-0179380-$ | US-0179491-$ | US-0185082-$ | US-0185522-$ | US-0187177-$ | US-0187182-$ | US-0187183-$ | US-0188275-$ | US-0189972-$ | US-0198232-$ | US-0200121-$ | US-0203402-$ | US-0203486-$ | US-0203503-$ | US-0206127-$ | US-0206128-$ | US-0206129-$ | US-0206130-$ | US-0206131-$ | US-0206132-$ | US-0206133-$ | US-0206134-$	US-PGPUB; USPAT	OR	ON	2018/05/23 09:02

		| US-0208121-$ | US-0217705-$ | US-0221998-$ | US-0222677-$ | US-0228001-$ | US-0228180-$ | US-0228181-$ | US-0230187-$ | US-0234445-$ | US-0240174-$ | US-0247616-$ | US-0259026-$ | US-0259027-$ | US-0260234-$ | US-0260282-$ | US-0267552-$ | US-0269739-$ | US-0271036-$ | US-0275443-$ | US-0277918-$ | US-0282321-$ | US-0287081-$ | US-0299358-$ | US-11505900-$ | US-1234567-$ | US-20020026185-$ | US-20020029037-$ | US-20020188275-$ | US-20030018332-$ | US-20030078595-$ | US-20040006336-$ | US-20040015176-$ | US-20040015218-$ | US-20040100376-$ | US-20040122482-$ | US-20040143262-$ | US-20040176759-$ | US-20040230187-$ | US-20040260282-$ | US-20050033279-$ | US-20050059964-$ | US-20050101944-$ | US-20050101950-$ | US-20050165391-$ | US-20050171522-$ | US-20050177209-$ | US-20050177211-$ | US-20050203503-$ | US-20050234445-$ | US-20050240174-$ | US-20050267552-$ | US-20050277918-$ | US-20060015161-$ | US-20060089635-$ | US-20060095115-$ | US-20060111702-$ | US-20060122686-$ | US-20060122692-$ | US-20060142756-$ | US-20060173359-$ | US-20060189972-$ | US-20060200121-$ | US-20060206127-$ | US-20060206128-$ | US-20060206129-$ | US-20060206130-$ | US-20060206131-$ | US-20060206132-$ | US-20060206133-$ | US-20060206134-$ | US-20060217705-$ | US-20060247616-$ | US-20060259026-$ | US-20060259027-$ | US-20060271036-$ | US-20070006215-$ | US-20070016183-$ | US-20070027449-$ | US-20070060921-$ | US-20070112342-$ | US-20070118191-$ | US-20070123964-$ | US-20070156136-$ | US-20070161905-$ | US-20070167943-$ | US-20070179380-$ | US-20070179491-$ | US-20070185522-$ | US-20070203402-$ | US-20070203486-$ | US-20070260234-$ | US-20070282321-$ | US-20080015569-$ | US-20080033493-$ | US-20080045939-$ | US-20080045940-$).DID.				
S93	187	(US-20080048786-$ | US-20080065062-$ | US-20080154259-$ | US-20080167646-$ | US-20080167649-$ | US-20080208121-$ | US-20080228180-$ | US-20080228181-$ | US-20080269739-$ | US-20080275443-$ | US-20090024124-$ | US-20090054962-$ | US-20090099544-$ | US-20090131790-$ | US-20090138011-$ | US-20090187177-$ | US-20090187182-$ | US-20090187183-$ | US-20090198232-$ | US-20090221998-$ | US-20090228001-$ | US-20090287081-$ | US-20090299358-$ | US-20100004651-$ | US-20100042098-$ | US-20100056926-$ | US-20100076303-$ | US-20100099980-$ | US-20100114095-$ | US-20100130974-$ | US-20100185082-$ | US-20100222677-$ | US-2124684-$ | US-2423024-$ | US-4011872-$ | US-4206761-$ | US-4206762-$ | US-4281667-$ | US-4353371-$ | US-4375220-$ | US-4378809-$ | US-4385636-$ | US-4411266-$ | US-4565200-$ | US-4573980-$ | US-4583538-$ | US-4593703-$ | US-4618978-$ | US-4646752-$ | US-4653508-$ | US-4660568-$ | US-4676255-$ | US-4698207-$ | US-4787886-$ | US-4796615-$ | US-4827927-$ | US-4838265-$ | US-4886506-$ | US-4907589-$ | US-4966597-$ | US-5010897-$ | US-5160337-$ | US-5217457-$ | US-5230623-$ | US-5233515-$ | US-5244462-$ | US-5257630-$ | US-5291896-$ | US-5304114-$ | US-5304115-$ | US-5312329-$ | US-5312391-$ | US-5318013-$ |	US-PGPUB; USPAT	OR	ON	2018/05/23 09:03

		US-5324255-$ | US-5334183-$ | US-5342292-$ | US-5370645-$ | US-5370675-$ | US-5372596-$ | US-5377685-$ | US-5397301-$ | US-5401272-$ | US-5421923-$ | US-5422567-$ | US-5423809-$ | US-5433739-$ | US-5447417-$ | US-5458597-$ | US-5472441-$ | US-5472442-$ | US-5474057-$ | US-5484398-$ | US-5496312-$ | US-5507743-$ | US-5511564-$ | US-5514129-$ | US-5536267-$ | US-5541376-$ | US-5560358-$ | US-5562703-$ | US-5571147-$ | US-5580665-$ | US-5599345-$ | US-5599346-$ | US-5611709-$ | US-5613966-$ | US-5628743-$ | US-5662111-$ | US-5662620-$ | US-5662680-$ | US-5667488-$ | US-5669904-$ | US-5672173-$ | US-5672174-$ | US-5683349-$ | US-5683384-$ | US-5701575-$ | US-5720744-$ | US-5728143-$ | US-5735847-$ | US-5738648-$ | US-5748703-$ | US-5749689-$ | US-5755754-$ | US-5768679-$ | US-5772659-$ | US-5778043-$ | US-5782827-$ | US-5792146-$ | US-5797906-$ | US-5800484-$ | US-5807309-$ | US-5810804-$ | US-5827271-$ | US-5827276-$ | US-5848967-$ | US-5855576-$ | US-5863290-$ | US-5868740-$ | US-5911739-$ | US-5913855-$ | US-5921992-$ | US-5925042-$ | US-5928229-$ | US-5935123-$ | US-5951547-$ | US-5968040-$ | US-5980517-$ | US-5983141-$ | US-6006126-$ | US-6013076-$ | US-6014590-$ | US-6015406-$ | US-6016452-$ | US-6039733-$ | US-6041260-$ | US-6044846-$ | US-6050992-$ | US-6053937-$ | US-6059780-$ | US-6068627-$ | US-6071280-$ | US-6080150-$ | US-6090105-$ | US-6106521-$ | US-6117134-$ | US-6122341-$ | US-6129726-$ | US-6132425-$ | US-6139519-$ | US-6139547-$ | US-6143003-$ | US-6146380-$ | US-6161048-$ | US-6165169-$ | US-6167295-$ | US-6179834-$ | US-6210403-$ | US-6213999-$ | US-6217554-$ | US-6228080-$ | US-6228083-$ | US-6231570-$ | US-6234178-$ | US-6235023-$ | US-6241725-$ | US-6241726-$).DID.				
S94	157	(US-6246912-$ | US-6251106-$ | US-6259952-$ | US-6268200-$ | US-6275725-$ | US-6277117-$ | US-6280441-$ | US-6312426-$ | US-6330478-$ | US-6331180-$ | US-6334861-$ | US-6352536-$ | US-6402743-$ | US-6402747-$ | US-6405072-$ | US-6416520-$ | US-6419653-$ | US-6419680-$ | US-6419798-$ | US-6425887-$ | US-6440127-$ | US-6447477-$ | US-6447505-$ | US-6451018-$ | US-6454765-$ | US-6458130-$ | US-6459769-$ | US-6464704-$ | US-6468273-$ | US-6471698-$ | US-6478793-$ | US-6500175-$ | US-6506189-$ | US-6517534-$ | US-6530922-$ | US-6533987-$ | US-6551311-$ | US-6562033-$ | US-6565562-$ | US-6569159-$ | US-6575967-$ | US-6575969-$ | US-6585735-$ | US-6602249-$ | US-6605085-$ | US-6610054-$ | US-6622731-$ | US-6623481-$ | US-6632221-$ | US-6632222-$ | US-6638275-$ | US-6641580-$ | US-6645201-$ | US-6652515-$ | US-6652516-$ | US-6660002-$ | US-6660362-$ | US-6663624-$ | US-6669693-$ | US-6682526-$ | US-6682528-$ | US-6685701-$ | US-6689127-$ | US-6690210-$ | US-6692490-$ | US-6706152-$ | US-6723092-$ | US-6743226-$ | US-6743229-$ | US-6746570-$ | US-6749719-$ | US-6770070-$ | US-6780180-$ | US-6803549-$ | US-6814712-$ | US-6837956-$ | US-6846448-$ | US-6847848-$ | US-6852091-$ | US-6866663-$ | US-6881214-$ | US-6889089-$ | US-6896675-$ | US-6932810-$ | US-6958062-$ | US-6958064-$ | US-6961602-$ | US-6964660-$ | US-6966908-$ | US-6974455-$ | US-6997925-$ | US-7025767-$	US-PGPUB; USPAT	OR	ON	2018/05/23 09:03

		| US-7033353-$ | US-7044949-$ | US-7048733-$ | US-7056320-$ | US-7074484-$ | US-7076399-$ | US-7087051-$ | US-7099712-$ | US-7108696-$ | US-7112197-$ | US-7115124-$ | US-7138088-$ | US-7150743-$ | US-7150744-$ | US-7160296-$ | US-7163536-$ | US-7179256-$ | US-7179258-$ | US-7207990-$ | US-7258688-$ | US-7266414-$ | US-7270660-$ | US-7270662-$ | US-7276064-$ | US-7281666-$ | US-7294127-$ | US-7306596-$ | US-7311702-$ | US-7340307-$ | US-7354436-$ | US-7357798-$ | US-7371234-$ | US-7387626-$ | US-7387630-$ | US-7416549-$ | US-7449020-$ | US-7468062-$ | US-7480533-$ | US-7517346-$ | US-7524318-$ | US-7533002-$ | US-7549986-$ | US-7561907-$ | US-7593778-$ | US-7596469-$ | US-7615050-$ | US-7670336-$ | US-7670337-$ | US-7678106-$ | US-7699844-$ | US-7704248-$ | US-7771420-$ | US-7794458-$ | US-7794459-$ | US-7797049-$ | US-7799021-$ | US-7815571-$ | US-7819869-$ | US-7819871-$ | US-7824404-$ | US-7828796-$ | US-7874986-$ | US-7875025-$ | US-7892231-$ | US-7896874-$).DID.				
S95	0	(BI-1234567-$ | AI-1234567-$ | AL-1234567-$ | DE-2124684-$ | GB-2423024-$ | JP-1234567-$ | WO-2011057157-$ | WO-9629946-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:03
S96	10	(BI-1234567-$ | AI-1234567-$ | AL-1234567-$ | DE-2124684-$ | GB-2423024-$ | JP-1234567-$ | WO-2011057157-$ | WO-9629946-$).DID.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2018/05/23 09:03
S97	5	(US-0287996-$ | US-1234567-$ | US-11969039-$ | US-20070287996-$ | US-5507802-$ | US-7270661-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:04
S98	0	(BI-1234567-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:04
S99	0	(BI-1234567-$).DID.	US-PGPUB; USPA	OR	ON	2018/05/23 09:04

			T; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
S100	20	(US-20127033363-$ | US-0012956-$ | US-0059328-$ | US-0084965-$ | US-0112340-$ | US-0158239-$ | US-0161804-$ | US-0213356-$ | US-0249392-$ | US-0269558-$ | US-10829203-$ | US-11783944-$ | US-1234567-$ | US-19753966-$ | US-20010012956-$ | US-20040059328-$ | US-20040158239-$ | US-20060084965-$ | US-20070112340-$ | US-20080161804-$ | US-20080249392-$ | US-20080269558-$ | US-20110213356-$ | US-7033363-$).DID.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:09
S101	13	("2011/0213356").URPN.	USPAT	OR	ON	2018/05/23 09:09
S102	8	("2006/0084965").URPN.	USPAT	OR	ON	2018/05/23 09:10
S103	8,858	a61b2018/0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:12
S104	6,351	a61b18/1477,1206.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:12
S105	13,535	a61b2018/00577,1253,1427,143,0016,00166,00196,00208,00273,00279,0091,00434,0044,1425,1431,1432,1465,1475.cpc.	US-PGPUB; USPAT	OR	ON	2018/05/23 09:12
S106	1,469	S103 and S104 and S105	USPAT	OR	ON	2018/05/23 09:12
S107	3,184	S103 and S104 and S105	US-PGPUB; USPAT;	OR	ON	2018/05/23 09:12

			USOCR			
S108	3,047	S107 and (filament or antenna or electrode or array)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:13
S109	2,220	S108 and needle	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:13
S110	2,594	S108 and (needle or probe)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:14
S111	2,905	S108 and ((needle or probe) near$10 bevel)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:14
S112	2,638	S108 and ((needle or probe) near$10 bevel) and (elongate or long or member)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:14
S113	250	S108 and (form$3 or made or built) with (single near2 wire)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:16
S114	377	S108 and (form$3 or made or built) and (single near2 wire)	US-PGPUB; USPAT;	OR	ON	2018/05/23 09:16

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			USOCR			
S115	219	(filament or electrode) with (form$3 or made or built) with (single near2 wire) and S107	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:17
S116	2,498	S108 and (fluid or port)	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:19
S117	1,477	S108 and (fluid or port)and (@ad<="20100623")	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:20
S118	280	S108 and (form$3 or made or built) and (single near2 wire) and (@ad<="20100623")	US-PGPUB; USPAT; USOCR	OR	ON	2018/05/23 09:20
S119	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2019/01/31 13:28
S120	2	"20060229645"	US-PGPUB; USPAT	OR	ON	2019/01/31 14:17
S121	1	"15092945"	US-PGPUB; USPAT	OR	ON	2019/01/31 16:35
S122	7	wright.in. and brandt.in.	US-PGPUB;	OR	ON	2019/01/31 16:35

			USPAT			
S123	2	"20020143302"	US-PGPUB; USPAT	OR	ON	2019/01/31 16:42
S124	2	"20040260282"	US-PGPUB; USPAT	OR	ON	2019/02/28 14:19
S125	154	"7108696"	US-PGPUB; USPAT	OR	ON	2019/02/28 14:20
S126	0	"7108696.pn."	US-PGPUB; USPAT	OR	ON	2019/02/28 14:21
S127	1	"7108696".pn.	US-PGPUB; USPAT	OR	ON	2019/02/28 14:21
S128	2	"20020143302"	US-PGPUB; USPAT	OR	ON	2019/02/28 14:31
S129	60	("2002/0143302").URPN.	USPAT	OR	ON	2019/02/28 15:00
S130	47	(US-12940974-$ | US-20050059964-$ | US-20110213356-$ | US-20110288540-$ | US-3918455-$ | US-4124153-$ | US-4282637-$ | US-4341094-$ | US-4457128-$ | US-4501133-$ | US-4907741-$ | US-5226912-$ | US-5232442-$ | US-5250247-$ | US-5269808-$ | US-5304141-$ | US-5374278-$ | US-5379900-$ | US-5425746-$ | US-5437726-$ | US-5503092-$ | US-5507777-$ | US-5532657-$ | US-5540778-$ | US-5562685-$ | US-5569302-$ | US-5639506-$ | US-5643628-$ | US-5648003-$ | US-5649962-$ | US-5672375-$ | US-5683025-$ | US-5709692-$ | US-5891166-$ | US-5891247-$ | US-5897044-$ | US-5954242-$ | US-5991957-$ | US-6031018-$ | US-6035916-$ | US-6051180-$ | US-6053086-$ | US-6126676-$ | US-6270464-$ | US-6402770-$ | US-6536482-$ | US-6699205-$ | US-6730042-$ | US-6739024-$ | US-7761964-$ | US-8292822-$).DID.	USPAT	OR	ON	2019/02/28 15:14

S131	50	(US-20130281930-$ or US-8979831-$ or US-20060222667-$ or US-20110319909-$ or US-20050131431-$ or US-20110054612-$ or US-20110213356-$ or US-20110288540-$ or US-20170164942-$ or US-20110319908-$ or US-20020120238-$ or US-6302870-$ or US-20070270757-$ or US-6217554-$ or US-6425887-$ or US-5419777-$ or US-20110009848-$ or US-20040064098-$ or US-20120071832-$ or US-6432092-$ or US-5749846-$ or US-20120323220-$ or US-6689103-$ or US-20020188275-$ or US-20080269763-$ or US-6482178-$ or US-20040186435-$ or US-20040122312-$ or US-6673093-$ or US-6036699-$ or US-5417699-$ or US-20060241723-$ or US-20080269740-$ or US-20110288563-$ or US-6821283-$ or US-8292932-$ or US-20140221830-$ or US-6968238-$ or US-20030171758-$ or US-20060058861-$ or US-5496304-$ or US-5964773-$ or US-6546932-$ or US-6299598-$ or US-5700273-$ or US-5507802-$ or US-7050858-$ or US-6080167-$ or US-6547762-$ or US-7108696-$).did.	US-PGPUB; USPAT	OR	ON	2019/02/28 15:21
S132	12	("2012/0071832").URPN.	USPAT	OR	ON	2019/02/28 15:23
S133	1	"20080027523"	US-PGPUB; USPAT	OR	ON	2019/03/01 08:43
S134	1	"15092945"	US-PGPUB; USPAT	OR	ON	2019/03/01 09:38
S135	14,745	((A61B18/1206 OR A61B18/1477 OR A61B2018/0044 OR A61B2018/00577 OR A61B2018/1253 OR A61B2018/1427 OR A61B2018/143 OR A61B2018/1475).CPC.)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:38
S136	5,619	S135 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/01 09:42
S137	427	S136 and (hub housing) with (actuator actuation rotate rotation rotating)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:46
S138	1,592	S136 and (hub housing) and(actuator actuation rotate rotation rotating)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47

S139	890	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47
S140	1,075	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47
S141	1,119	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract retracting)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:47
S142	535	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract retracting) and (helix helical track)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:48
S143	694	S136 and (hub housing) and(actuator actuation rotate rotation rotating) and (deployment deploy deploed expand retract retracting) and (helix helical track thread)	US-PGPUB; USPAT	OR	ON	2019/03/01 09:48
S144	1	"4051855".pn.	US-PGPUB; USPAT	OR	ON	2019/03/01 10:48
S145	1	"5954686".pn.	US-PGPUB; USPAT	OR	ON	2019/03/01 10:49
S146	1	"7094231".pn.	US-PGPUB; USPAT	OR	ON	2019/03/01 10:49
S147	1	"7108696".pn.	US-PGPUB; USPAT	OR	ON	2019/03/04 15:33
S148	2	"20060229645"	US-PGPUB;	OR	ON	2019/03/05 14:32

			USPAT			
S149	73	("2006/0229645").URPN.	USPAT	OR	ON	2019/03/05 14:32
S150	201,212	(hub housing) with rotate	US-PGPUB; USPAT	OR	ON	2019/03/05 14:35
S151	47,541	S150 and (thread threads threading heliccal helix)	US-PGPUB; USPAT	OR	ON	2019/03/05 14:35
S152	17,638	S151 and (deploy$4 expand retract)	US-PGPUB; USPAT	OR	ON	2019/03/05 14:36
S153	8,815	S152 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/05 14:37
S154	1,283	S153 and (a61b18/$.cpc. or a61b2018/$.cpc. or a61b17/$.cpc. or a61b2017/$.cpc.)	US-PGPUB; USPAT	OR	ON	2019/03/05 14:40
S155	187,124	(a61b18/$.cpc. or a61b2018/$.cpc. or a61b17/$.cpc. or a61b2017/$.cpc.)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:10
S156	27,455	S155 and ((first or second) with (hub housing))	US-PGPUB; USPAT	OR	ON	2019/03/05 15:11
S157	5,904	S156 and (helix or helical)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:11
S158	12,869	S156 and (helix or helical thread)	US-PGPUB;	OR	ON	2019/03/05 15:12

			USPAT			
S159	4,705	S158 and (deploy$4 and retract$3)	US-PGPUB; USPAT	OR	ON	2019/03/05 15:12
S160	3,971	S159 and (second near10 (axial$3 or distal$3))	US-PGPUB; USPAT	OR	ON	2019/03/05 15:13
S161	4,061	S159 and (second near10 (axial$3 or distal$3 or linear$3))	US-PGPUB; USPAT	OR	ON	2019/03/05 15:13
S162	1,327	S161 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/05 15:16
S163	168	(US-20040100376-$ | US-20040176759-$ | US-20050101950-$ | US-20060095115-$ | US-20060122692-$ | US-20060206128-$ | US-20060206131-$ | US-20060259026-$ | US-20070215543-$ | US-0012956-$ | US-0059328-$ | US-0084965-$ | US-0112340-$ | US-0158239-$ | US-0161804-$ | US-0164184-$ | US-0213356-$ | US-0222019-$ | US-0249392-$ | US-0256625-$ | US-0269558-$ | US-1234567-$ | US-1259590-$ | US-1272004-$ | US-12994324-$ | US-1302006-$ | US-13101009-$ | US-1366756-$ | US-15687739-$ | US-15928229-$ | US-1653819-$ | US-1735271-$ | US-1814791-$ | US-1889609-$ | US-1932258-$ | US-1943543-$ | US-1952617-$ | US-1983669-$ | US-20010012956-$ | US-20010044596-$ | US-20020010491-$ | US-20020055731-$ | US-20020077676-$ | US-20020099323-$ | US-20020138117-$ | US-20020183735-$ | US-20020183740-$ | US-20020193831-$ | US-20030009110-$ | US-20030060856-$ | US-20030088189-$ | US-20030130711-$ | US-20030170898-$ | US-20030195406-$ | US-20030208200-$ | US-20030225360-$ | US-2003425-$ | US-20040019371-$ | US-20040059328-$ | US-20040059389-$ | US-20040146877-$ | US-20040153057-$ | US-20040158239-$ | US-20040199159-$ | US-20040243107-$ | US-20040267189-$ | US-20050033279-$ | US-20050043726-$ | US-20050049541-$ | US-20050165393-$ | US-20050171523-$ | US-20050171574-$ | US-20050182462-$ | US-20050261672-$ | US-20050277918-$ | US-20050288730-$ | US-20060015147-$ | US-20060025760-$ | US-20060079883-$ | US-20060084965-$ | US-20060121610-$ | US-20060189972-$ | US-20060206134-$ | US-20060212078-$ | US-20060217703-$ | US-20060264752-$ | US-20060264974-$ | US-20060271-$ | US-20070016183-$ | US-20070043345-$ | US-20070112340-$ | US-20070118069-$ | US-20070203486-$ | US-	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

		20080052786-$ | US-20080154259-$ | US-20080161804-$ | US-20080167649-$ | US-20080249392-$ | US-20080269558-$ | US-20090024124-$ | US-20090062792-$ | US-20090131790-$ | US-20090221998-$ | US-20090228001-$ | US-20090281477-$ | US-20100256625-$ | US-20100049190-$ | US-20100087813-$ | US-20100130975-$ | US-20100222677-$ | US-20110213356-$ | US-20110202053-$ | US-20110288540-$ | US-20120165813-$ | US-20120310236-$ | US-20130110106-$ | US-2014701-$ | US-2014702-$ | US-2022065-$ | US-2050904-$ | US-2056377-$ | US-2124684-$ | US-2196171-$ | US-2282008-$ | US-2423024-$ | US-2888928-$ | US-2994324-$ | US-3035580-$ | US-3112003-$ | US-3460539-$ | US-3595239-$ | US-3601126-$ | US-3614414-$ | US-3648001-$ | US-3685518-$ | US-3699967-$ | US-3707149-$ | US-3801766-$ | US-3815604-$ | US-3840011-$ | US-3845771-$ | US-3847153-$ | US-3885569-$ | US-3898991-$ | US-3901242-$ | US-3902494-$ | US-3903891-$ | US-3918455-$ | US-3920021-$ | US-3920022-$ | US-3923063-$ | US-3929137-$ | US-3939839-$ | US-3945375-$ | US-3963030-$ | US-3964487-$ | US-3970088-$ | US-3974833-$ | US-4011872-$ | US-4016881-$ | US-4016886-$ | US-4024467-$ | US-4033351-$ | US-4040426-$ | US-4043342-$ | US-4051855-$ | US-4060088-$ | US-4069827-$ | US-4074718-$ | US-4092986-$ | US-4114623-$ | US-4116198-$ | US-4119102-$).DID.				
S164	196	(US-4124153-$ | US-4126137-$ | US-4154240-$ | US-4189685-$ | US-4200104-$ | US-4202337-$ | US-4204549-$ | US-4206761-$ | US-4206762-$ | US-4210152-$ | US-4226246-$ | US-4228800-$ | US-4248231-$ | US-4262672-$ | US-4269387-$ | US-4271837-$ | US-4281373-$ | US-4282637-$ | US-4301802-$ | US-4326529-$ | US-4341094-$ | US-4346332-$ | US-4353371-$ | US-4375220-$ | US-4376263-$ | US-4378809-$ | US-4381007-$ | US-4385636-$ | US-4407943-$ | US-4411266-$ | US-4416277-$ | US-4418692-$ | US-4429698-$ | US-4448198-$ | US-4457128-$ | US-4474179-$ | US-4476862-$ | US-4492231-$ | US-4494541-$ | US-4501133-$ | US-4512338-$ | US-4517976-$ | US-4524770-$ | US-4532924-$ | US-4534347-$ | US-4548207-$ | US-4553687-$ | US-4559943-$ | US-4559951-$ | US-4562838-$ | US-4565200-$ | US-4567890-$ | US-4573980-$ | US-4580557-$ | US-4583538-$ | US-4590934-$ | US-4593691-$ | US-4593703-$ | US-4617927-$ | US-4618978-$ | US-4646752-$ | US-4653508-$ | US-4657015-$ | US-4658819-$ | US-4658820-$ | US-4660568-$ | US-4669468-$ | US-4674499-$ | US-4676255-$ | US-4681122-$ | US-4682596-$ | US-4688569-$ | US-4696668-$ | US-4698207-$ | US-4706667-$ | US-4709698-$ | US-4710176-$ | US-4712544-$ | US-4727874-$ | US-4735201-$ | US-4755173-$ | US-4769005-$ | US-4781175-$ | US-4787886-$ | US-4796615-$ | US-4799480-$ | US-4800899-$ | US-4802476-$ | US-4805616-$ | US-4808168-$ | US-4810963-$ | US-4813429-$ | US-4820298-$ | US-4823791-$ | US-4827927-$ | US-4832048-$ | US-4832690-$ | US-4833824-$ | US-4838265-$ | US-4850353-$ | US-4860744-$ | US-4878493-$ | US-4886074-$ | US-4886506-$ | US-4907589-$ | US-4907601-$ | US-4907741-$ | US-4919129-$ | US-4920978-$ | US-4931047-$ | US-4936281-$ | US-4936301-$ | US-4936310-$ | US-4936842-$ | US-4943290-$ | US-4946793-$	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

		| US-4950267-$ | US-4955377-$ | US-4966597-$ | US-4967765-$ | US-4969885-$ | US-4976711-$ | US-4994069-$ | US-4998661-$ | US-4998933-$ | US-5007908-$ | US-5009656-$ | US-5013312-$ | US-5019034-$ | US-5019076-$ | US-5035696-$ | US-5037379-$ | US-5047026-$ | US-5047027-$ | US-5052391-$ | US-5057107-$ | US-5058605-$ | US-5062031-$ | US-5071418-$ | US-5080660-$ | US-5083565-$ | US-5085659-$ | US-5088997-$ | US-5098431-$ | US-5098843-$ | US-5099840-$ | US-5108391-$ | US-5108407-$ | US-5112311-$ | US-5117978-$ | US-5122005-$ | US-5122138-$ | US-5133365-$ | US-5133738-$ | US-5134070-$ | US-5154698-$ | US-5158561-$ | US-5167658-$ | US-5167659-$ | US-5171255-$ | US-5171311-$ | US-5173158-$ | US-5178620-$ | US-5190517-$ | US-5193537-$ | US-5195959-$ | US-5196007-$ | US-5197963-$ | US-5201743-$ | US-5207675-$ | US-5217457-$ | US-5217458-$ | US-5217459-$ | US-5221281-$ | US-5226912-$ | US-5230623-$ | US-5232442-$ | US-5233515-$ | US-5239773-$ | US-5244462-$ | US-5249585-$ | US-5250047-$ | US-5250247-$ | US-5257630-$ | US-5258006-$ | US-5259395-$ | US-5261906-$ | US-5265606-$ | US-5267994-$ | US-5267997-$ | US-5269808-$ | US-5273525-$ | US-5277201-$ | US-5277696-$ | US-5281213-$ | US-5281216-$).DID.				
S165	196	(US-5282799-$ | US-5282845-$ | US-5283194-$ | US-5290282-$ | US-5290283-$ | US-5291896-$ | US-5300068-$ | US-5300069-$ | US-5300070-$ | US-5304114-$ | US-5304115-$ | US-5304141-$ | US-5304214-$ | US-5306238-$ | US-5312329-$ | US-5312391-$ | US-5318013-$ | US-5318563-$ | US-5320627-$ | US-5324255-$ | US-5328451-$ | US-5330470-$ | US-5330471-$ | US-5334183-$ | US-5334193-$ | US-5334198-$ | US-5336222-$ | US-5342292-$ | US-5342357-$ | US-5342391-$ | US-5344428-$ | US-5352222-$ | US-5354296-$ | US-5366443-$ | US-5370645-$ | US-5370675-$ | US-5372596-$ | US-5374278-$ | US-5377685-$ | US-5379900-$ | US-5382247-$ | US-5383874-$ | US-5383876-$ | US-5383917-$ | US-5383923-$ | US-5389069-$ | US-5395363-$ | US-5395368-$ | US-5397301-$ | US-5401272-$ | US-5403311-$ | US-5419767-$ | US-5421923-$ | US-5422567-$ | US-5423808-$ | US-5423809-$ | US-5423810-$ | US-5423811-$ | US-5425746-$ | US-5425752-$ | US-5431649-$ | US-5433739-$ | US-5437662-$ | US-5437726-$ | US-5438302-$ | US-5439440-$ | US-5441499-$ | US-5443470-$ | US-5447417-$ | US-5454809-$ | US-5458597-$ | US-5458625-$ | US-5462521-$ | US-5472441-$ | US-5472442-$ | US-5472443-$ | US-5474057-$ | US-5480397-$ | US-5480398-$ | US-5484398-$ | US-5487739-$ | US-5496312-$ | US-5496314-$ | US-5503092-$ | US-5505728-$ | US-5505730-$ | US-5507743-$ | US-5507777-$ | US-5507802-$ | US-5511564-$ | US-5514129-$ | US-5514130-$ | US-5514131-$ | US-5520684-$ | US-5520685-$ | US-5522815-$ | US-5531744-$ | US-5532657-$ | US-5533999-$ | US-5536240-$ | US-5536267-$ | US-5540680-$ | US-5540681-$ | US-5540682-$ | US-5540683-$ | US-5540684-$ | US-5540685-$ | US-5540778-$ | US-5541376-$ | US-5542268-$ | US-5542916-$ | US-5542945-$ | US-5545161-$ | US-5545193-$ | US-5549605-$ | US-5554172-$ | US-5555618-$ | US-5556396-$ | US-5556397-$ | US-5558671-$ | US-5560358-$ | US-5562685-$ | US-5562703-$ | US-5562720-$	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

		| US-5569164-$ | US-5569242-$ | US-5569244-$ | US-5569245-$ | US-5569302-$ | US-5571147-$ | US-5575789-$ | US-5575811-$ | US-5578007-$ | US-5580665-$ | US-5582609-$ | US-5582610-$ | US-5584830-$ | US-5591141-$ | US-5599344-$ | US-5599345-$ | US-5599346-$ | US-5599347-$ | US-5599348-$ | US-5599349-$ | US-5603711-$ | US-5603712-$ | US-5607003-$ | US-5607422-$ | US-5609151-$ | US-5609573-$ | US-5611709-$ | US-5611798-$ | US-5613966-$ | US-5620481-$ | US-5624439-$ | US-5626146-$ | US-5626560-$ | US-5626575-$ | US-5626576-$ | US-5626578-$ | US-5628743-$ | US-5628745-$ | US-5628771-$ | US-5630426-$ | US-5633578-$ | US-5634899-$ | US-5634924-$ | US-5639506-$ | US-5643628-$ | US-5648003-$ | US-5649962-$ | US-5662111-$ | US-5662620-$ | US-5662680-$ | US-5667488-$ | US-5669904-$ | US-5672173-$ | US-5672174-$ | US-5672375-$ | US-5674267-$ | US-5683025-$ | US-5683349-$ | US-5683366-$ | US-5683384-$ | US-5687739-$ | US-5693045-$ | US-5697281-$ | US-5697536-$ | US-5697882-$ | US-5697909-$ | US-5700262-$ | US-5701575-$ | US-5702359-$ | US-5709692-$ | US-5713872-$ | US-5720744-$).DID.				
S166	196	(US-5720921-$ | US-5728143-$ | US-5735847-$ | US-5738648-$ | US-5743882-$ | US-5748703-$ | US-5749689-$ | US-5749846-$ | US-5755754-$ | US-5766153-$ | US-5768679-$ | US-5769822-$ | US-5772659-$ | US-5778043-$ | US-5778894-$ | US-5782827-$ | US-5782882-$ | US-5792146-$ | US-5797906-$ | US-5800378-$ | US-5800482-$ | US-5800484-$ | US-5807309-$ | US-5807395-$ | US-5810762-$ | US-5810764-$ | US-5810804-$ | US-5827271-$ | US-5827276-$ | US-5836905-$ | US-5843019-$ | US-5843026-$ | US-5848967-$ | US-5855576-$ | US-5860951-$ | US-5863290-$ | US-5868740-$ | US-5871469-$ | US-5873849-$ | US-5873855-$ | US-5888198-$ | US-5891095-$ | US-5891166-$ | US-5891247-$ | US-5897044-$ | US-5911739-$ | US-5913855-$ | US-5919142-$ | US-5921992-$ | US-5925042-$ | US-5928229-$ | US-5934275-$ | US-5935123-$ | US-5947889-$ | US-5951547-$ | US-5954242-$ | US-5964756-$ | US-5968040-$ | US-5980517-$ | US-5983131-$ | US-5983141-$ | US-5991697-$ | US-5991957-$ | US-5995875-$ | US-5999847-$ | US-6006126-$ | US-6009347-$ | US-6010613-$ | US-6013076-$ | US-6014590-$ | US-6015406-$ | US-6016452-$ | US-6031018-$ | US-6035916-$ | US-6039733-$ | US-6041252-$ | US-6041260-$ | US-6044846-$ | US-6050992-$ | US-6051180-$ | US-6053086-$ | US-6053937-$ | US-6055453-$ | US-6059780-$ | US-6068627-$ | US-6068650-$ | US-6071280-$ | US-6080150-$ | US-6085115-$ | US-6090105-$ | US-6090106-$ | US-6092528-$ | US-6102885-$ | US-6106521-$ | US-6109270-$ | US-6117134-$ | US-6122341-$ | US-6122599-$ | US-6123084-$ | US-6126676-$ | US-6129726-$ | US-6132419-$ | US-6132425-$ | US-6139519-$ | US-6139547-$ | US-6143003-$ | US-6146380-$ | US-6159163-$ | US-6161048-$ | US-6167295-$ | US-6179834-$ | US-6208893-$ | US-6210402-$ | US-6210403-$ | US-6212433-$ | US-6213999-$ | US-6216034-$ | US-6217554-$ | US-6219577-$ | US-6228080-$ | US-6228083-$ | US-6231570-$ | US-6234178-$ | US-6235023-$ | US-6241702-$ | US-6241725-$ | US-6241726-$ | US-6245070-$ | US-6246912-$ | US-6251106-$ | US-6254598-$ | US-6259952-$	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

		| US-6261831-$ | US-6262008-$ | US-6268200-$ | US-6270464-$ | US-6275725-$ | US-6277117-$ | US-6278895-$ | US-6280441-$ | US-6300108-$ | US-6312426-$ | US-6326177-$ | US-6330478-$ | US-6331180-$ | US-6334861-$ | US-6347247-$ | US-6349233-$ | US-6351674-$ | US-6352536-$ | US-6379353-$ | US-6387671-$ | US-6402743-$ | US-6402747-$ | US-6402770-$ | US-6403348-$ | US-6405072-$ | US-6419653-$ | US-6419680-$ | US-6419798-$ | US-6425887-$ | US-6440127-$ | US-6447477-$ | US-6447505-$ | US-6451018-$ | US-6454765-$ | US-6458130-$ | US-6459769-$ | US-6464704-$ | US-6468273-$ | US-6470211-$ | US-6471698-$ | US-6478793-$ | US-6482619-$ | US-6493592-$ | US-6500173-$ | US-6500175-$ | US-6506189-$ | US-6517534-$ | US-6526320-$ | US-6530922-$ | US-6533987-$ | US-6536482-$ | US-6551311-$ | US-6562033-$ | US-6562604-$ | US-6565562-$ | US-6569159-$ | US-6575967-$ | US-6575969-$ | US-6585735-$ | US-6602249-$ | US-6605085-$ | US-6607529-$ | US-6610054-$ | US-6611706-$).DID.				
S167	186	(US-6613211-$ | US-6622731-$ | US-6623481-$ | US-6627421-$ | US-6632221-$ | US-6632222-$ | US-6638275-$ | US-6641580-$ | US-6645201-$ | US-6652515-$ | US-6652516-$ | US-6653091-$ | US-6660002-$ | US-6660362-$ | US-6663624-$ | US-6669691-$ | US-6669693-$ | US-6682526-$ | US-6682528-$ | US-6685701-$ | US-6689127-$ | US-6692490-$ | US-6692493-$ | US-6697669-$ | US-6697670-$ | US-6699205-$ | US-6702808-$ | US-6706152-$ | US-6723092-$ | US-6730042-$ | US-6739024-$ | US-6743226-$ | US-6743229-$ | US-6746570-$ | US-6749719-$ | US-6770070-$ | US-6780180-$ | US-6795728-$ | US-6801804-$ | US-6803013-$ | US-6803549-$ | US-6814712-$ | US-6837956-$ | US-6846448-$ | US-6847848-$ | US-6852091-$ | US-6865416-$ | US-6866663-$ | US-6881213-$ | US-6881214-$ | US-6888919-$ | US-6889089-$ | US-6892099-$ | US-6896675-$ | US-6912417-$ | US-6927049-$ | US-6958062-$ | US-6958064-$ | US-6962587-$ | US-6964660-$ | US-6966908-$ | US-6972014-$ | US-6974455-$ | US-6994706-$ | US-6997925-$ | US-7025767-$ | US-7033353-$ | US-7044949-$ | US-7048733-$ | US-7053063-$ | US-7056320-$ | US-7063698-$ | US-7074484-$ | US-7076399-$ | US-7087051-$ | US-7099712-$ | US-7108696-$ | US-7112197-$ | US-7115124-$ | US-7130697-$ | US-7138088-$ | US-7150743-$ | US-7150744-$ | US-7160296-$ | US-7163536-$ | US-7179256-$ | US-7179258-$ | US-7198625-$ | US-7207990-$ | US-7211083-$ | US-7258688-$ | US-7266414-$ | US-7267676-$ | US-7270660-$ | US-7270661-$ | US-7270662-$ | US-7276064-$ | US-7281666-$ | US-7294127-$ | US-7306596-$ | US-7311702-$ | US-7340307-$ | US-7354436-$ | US-7357798-$ | US-7371234-$ | US-7387626-$ | US-7387630-$ | US-7416549-$ | US-7449020-$ | US-7455675-$ | US-7468062-$ | US-7480533-$ | US-7517346-$ | US-7524318-$ | US-7533002-$ | US-7549986-$ | US-7561907-$ | US-7593778-$ | US-7596469-$ | US-7615050-$ | US-7670336-$ | US-7670337-$ | US-7699844-$ | US-7704248-$ | US-7761964-$ | US-7771401-$ | US-7771420-$ | US-7794458-$ | US-7794459-$ | US-7797049-$ | US-7799021-$ | US-7815571-$ | US-7819869-$ | US-7819871-$ | US-7824404-$ | US-7828796-$ | US-7874986-$ | US-7875025-$ | US-7892231-$ | US-7896874-$	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49

		| US-8206300-$ | US-8292822-$ | US-8414509-$ | US-8511317-$ | US-8753335-$ | US-9629946-$ | US-9903397-$ | US-D372086-$ | US-20010018586-$ | US-20010031941-$ | US-20020026185-$ | US-20020029037-$ | US-20020077627-$ | US-20020143302-$ | US-20020176734-$ | US-20020188275-$ | US-20030018332-$ | US-20030078595-$ | US-20040006336-$ | US-20040015176-$ | US-20040015218-$ | US-20040024300-$ | US-20040096033-$ | US-20040122482-$ | US-20040143262-$ | US-20040199179-$ | US-20040230187-$ | US-20040260282-$ | US-20050004563-$ | US-20050059964-$ | US-20050101944-$ | US-20050165391-$ | US-20050171522-$ | US-20050177209-$ | US-20050177211-$ | US-20050203503-$ | US-20050222565-$ | US-20050234445-$ | US-20050240174-$ | US-20050261570-$ | US-20050267552-$ | US-20050283148-$ | US-20050288759-$ | US-20060089635-$ | US-20060111702-$ | US-20060122686-$).DID.				
S168	18	(US-20060142756-$ | US-20060173359-$ | US-20060200121-$ | US-20060206111-$ | US-20060206127-$ | US-20060206129-$ | US-20060206130-$ | US-20060206132-$ | US-20060206133-$ | US-20060217705-$ | US-20060229645-$ | US-20060247616-$ | US-20060259027-$ | US-20070006215-$ | US-20070077230-$ | US-20070287996-$ | US-20080048786-$ | US-20090105640-$).DID.	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49
S169	960	S163 S164 S165 S166 S167 S168	US-PGPUB; USPAT	OR	ON	2019/03/05 15:49
S170	73	("2006/0229645").URPN.	USPAT	OR	ON	2019/03/05 15:58
S171	57,738	S155 and needle	US-PGPUB; USPAT	OR	ON	2019/03/05 16:17
S172	8,211	S155 and needle and ((plurality multiple) with (filament or electrodes))	US-PGPUB; USPAT	OR	ON	2019/03/05 16:17
S173	695	S172 and hypotube	US-PGPUB; USPAT	OR	ON	2019/03/05 16:18
S174	155,175	a61b5/$.cpc.	US-PGPUB; USPAT	OR	ON	2019/03/05 17:54

S175	187,124	(a61b18/$.cpc. or a61b2018/$.cpc. or a61b17/$.cpc. or a61b2017/$.cpc.)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:54
S176	328,022	S174 or S175	US-PGPUB; USPAT	OR	ON	2019/03/05 17:54
S177	328,022	S176	US-PGPUB; USPAT	OR	ON	2019/03/05 17:55
S178	2,691,077	(rotate$5)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:55
S179	1,070,705	(rotat$5 and linear longitudinal translational) near5 (motion moving movement advancement advance deploy deployment direction)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:57
S180	70,057	S177 and S179	US-PGPUB; USPAT	OR	ON	2019/03/05 17:57
S181	57,761	S180 and (cannula trocar insert hub engagement catheter probe)	US-PGPUB; USPAT	OR	ON	2019/03/05 17:58
S182	25,249	S181 and (@ad<="20091105")	US-PGPUB; USPAT	OR	ON	2019/03/05 18:00
S183	90	("2010/0114017").URPN.	USPAT	OR	ON	2019/03/07 10:58
S184	0	("2010/0076340").URPN.	USPAT	OR	ON	2019/03/07 13:42

S185	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2019/08/23 08:40
S186	1	"7108696".pn.	US-PGPUB; USPAT	OR	ON	2019/08/23 09:00
S187	2	"20060095029"	US-PGPUB; USPAT	OR	ON	2020/02/11 08:35
S188	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2020/02/11 08:36
S189	0	"599346".pn.	US-PGPUB; USPAT	OR	ON	2020/02/11 09:22
S190	1	"5599346".pn.	US-PGPUB; USPAT	OR	ON	2020/02/11 09:22
S191	1	"7918852".pn.	US-PGPUB; USPAT	OR	ON	2020/02/26 10:49
S192	2	"20070203486"	US-PGPUB; USPAT	OR	ON	2020/03/09 13:28
S193	2	"20020143302"	US-PGPUB; USPAT	OR	ON	2020/03/09 13:41
S194	2	"20060095029"	US-PGPUB;	OR	ON	2020/03/09 16:24

			USPAT			
S195	2	"20060095029"	US-PGPUB; USPAT	OR	ON	2020/03/10 08:46
S196	22	09+	US-PGPUB; USPAT	OR	ON	2020/03/10 08:49
S197	7,198	606/41.ccls.	US-PGPUB; USPAT	OR	ON	2020/03/10 09:50
S198	4,898	606/41.ccls. and (@AD<="20091105")	US-PGPUB; USPAT	OR	ON	2020/03/10 09:51
S199	54	("20040158239" | "20070112340" | "20080161804" | "20080249392" | "20080269558" | "20020022864" | "20020133148" | "20030199862" | "20040064137" | "20060095029" | "20060206111" | "20070010809" | "20070213703" | "20080249523" | "20090292259" | "20090306604" | "20100049192" | "20110184403" | "20130096549" | "20170065335" | "5383917" | "5486161" | "5749846" | "5893847" | "6045532" | "6105581" | "6210406" | "6216043" | "6221071" | "6287304" | "6461314" | "6471695" | "6699242" | "6740080" | "6752804" | "6962587" | "6989004" | "7229438" | "7318822" | "7344533" | "7393351" | "7399299" | "7416549" | "7419487" | "7458971" | "7678107" | "7846157" | "7896871" | "8262574" | "8512330" | "8518037" | "8753335" | "9402560" | "9675406").PN.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:53
S213	1	D372086.pn.	US-PGPUB; USPAT	OR	ON	2020/05/06 18:29
S214	1	"5749846".pn.	US-PGPUB; USPAT	OR	ON	2020/05/06 18:39

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S200	93	((needle or cannula) and probe and filaments).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:46
S201	7	((needle or cannula) and probe and filaments and hub).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:47
S202	2	((needle or cannula) and probe and filaments and hub and conduct$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:47
S203	2	((needle or cannula) and probe and filaments and hub and conduct$4 and tip).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:47
S204	13	((needle or cannula) and probe and filaments and conduct$4 and tip).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:48
S205	3	((needle or cannula) and probe and filaments and actuat$4 and conduct$4 and tip).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:48
S206	19	((needle or cannula) and probe and filaments and actuat$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:49
S207	13	((needle or cannula) and probe and filaments and actuat$4 and lumen).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:49
S208	8	((needle or cannula) and probe and filaments and actuat$4 and lumen and deploy$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:49
S209	124	((needle or cannula) and probe and physical$4 and contact$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:50
S210	253	((needle or cannula) and probe and (physical$4 direct) and contact$4).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:50
S211	0	((needle or cannula) and probe and (physical$4 direct) and contact$4 and filamnets).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:51
S212	9	((needle or cannula) and probe and (physical$4 direct) and contact$4 and filament).clm.	US-PGPUB; USPAT	OR	ON	2020/03/10 10:51

6/8/2020 10:35:12 AM
C:\Users\cdedoulis2\Documents\EAST\Workspaces\15092945.wsp

IPR2024-01211
Avanos v. Stratus
Stratus Ex. 2012

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15092945
Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

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Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Robert E. Wright
	Art Unit	3794
	Examiner Name	Christine A. Dedoulis
	Attorney Docket Number	NBUS.004C1

	1	CANADIAN INTELLECTUAL PROPERTY OFFICE, Office Action for Canadian Patent Application No. 2,799,505, dated 8 April 2020, 4 pages.
	2	EUROPEAN PATENT OFFICE, Decision to Grant a European Patent Pursuant to Article 97(1) EPC for European Patent Application No. 11783944.9, dated 28 May 2020, 2 pages.

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EXAMINER SIGNATURE

Examiner Signature	/Christine A Dedoulis/	Date Considered	06/08/2020

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Filing Date	2016-04-07
First Named Inventor	Robert E. Wright
Art Unit	3794
Examiner Name	Christine A. Dedoulis
Attorney Docket Number	NBUS.004C1

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

X That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

X The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel C. Higgs/	Date (YYYY-MM-DD)	2020-06-04
Name/Print	Daniel C. Higgs	Registration Number	55265

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/092,945	07/21/2020	10716618	NBUS.004C1	5930

148468 7590 06/30/2020

Med Venture Management, LLC
6030 W. Harold Gatty Dr.
Salt Lake City, UT 84116

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 218 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Stratus Medical, LLC, Salt Lake City, UT;
Robert E. Wright, Denver, CO;
Scott A. Brandt, Denver, CO;

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