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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
19/272,521	07/17/2025	Robert E. Wright	NBUS.004C1C1C1C1	2423
148468	7590	04/23/2026		
Laurence & Phillips IP Law 1050 Connecticut Ave., N.W. Suite 500 Washington, DC 20036			EXAMINER DEDOULIS, CHRISTINE A	
			ART UNIT	PAPER NUMBER
			3794	
			NOTIFICATION DATE	DELIVERY MODE
			04/23/2026	ELECTRONIC

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 the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 19/272,521	Applicant(s) Wright et al.	
	Examiner CHRISTINE A DEDOULIS	Art Unit 3794	AIA (First Inventor to File) Status No

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

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2026.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ 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.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-3,5-24 and 28-33 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-3,5-24 and 28-33 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, 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.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 17 July 2025 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ 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)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date ____.
- 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 4) ☐ Other: ____.

DETAILED ACTION

1. The amendment filed March 31, 2026, has been entered and fully considered. Claims 1-3, 5-24, 28-33 are pending. Claims 1-3, 5-7, 9-24, 28-30 are amended and claims 30-33 are newly added.

Notice of Pre-AIA or AIA Status

2. The present application is being examined under the pre-AIA first to invent provisions.

3. In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis (i.e., changing from AIA to pre-AIA) for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on nonstatutory double patenting provided the reference application or patent either is shown to be commonly owned with the examined application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement. See MPEP § 717.02 for applications subject to examination under the first inventor to file provisions of the AIA as explained in MPEP § 2159. See MPEP § 2146 *et seq.* for applications not

subject to examination under the first inventor to file provisions of the AIA. A terminal disclaimer must be signed in compliance with 37 CFR 1.321(b).

The filing of a terminal disclaimer by itself is not a complete reply to a nonstatutory double patenting (NSDP) rejection. A complete reply requires that the terminal disclaimer be accompanied by a reply requesting reconsideration of the prior Office action. Even where the NSDP rejection is provisional the reply must be complete. See MPEP § 804, subsection I.B.1. For a reply to a non-final Office action, see 37 CFR 1.111(a). For a reply to final Office action, see 37 CFR 1.113(c). A request for reconsideration while not provided for in 37 CFR 1.113(c) may be filed after final for consideration. See MPEP §§ 706.07(e) and 714.13.

The USPTO Internet website contains terminal disclaimer forms which may be used. Please visit www.uspto.gov/patent/patents-forms. The actual filing date of the application in which the form is filed determines what form (e.g., PTO/SB/25, PTO/SB/26, PTO/AIA/25, or PTO/AIA/26) should be used. A web-based eTerminal Disclaimer may be filled out completely online using web-screens. An eTerminal Disclaimer that meets all requirements is auto-processed and approved immediately upon submission. For more information about eTerminal Disclaimers, refer to www.uspto.gov/patents/apply/applying-online/eterminal-disclaimer.

5. Claims 1-3, 5-24, and 28-33 are rejected on the grounds of nonstatutory double patenting as being unpatentable over claims 1-29 of U.S. Patent No. 10,966,782 and over claims 1-72 of U.S. Patent No. 10,716,618. Although the claims at issue are not identical, they are not patentably distinct from each other because the claims of U.S. Patent No. 10,966,782 and U.S. Patent No. 10,716,618 anticipate the claims of the application. Accordingly, the application claims are not patentably distinct from the patent claims. Here, the more specific patent claims encompass the broader application claims. Following the rationale in *In re Goodman* cited in the preceding paragraph, where applicant has once been granted a patent containing a claim for the specific narrow invention, applicant may not obtain a second patent with a claim for the generic or broader invention without first submitting an appropriate terminal disclaimer.

Claim Objections

6. Claim 13 is objected to because of the following informalities: line 1 recites “system of claim 0” and should recite -- claim 1 --. If Applicant intended claim 13 to depend off of a different independent claim, that correction should be made. Appropriate correction is required.

7. Accordingly, claims 14-17 are also objected to for failing to properly indicate dependency.

Reasons for Allowance

8. The following is a statement of reasons for the indication of allowable subject matter: the most pertinent piece of prior art is **Racz et al., (U.S. Pat. No. 6,146,380)**. Racz teaches a similar system for performing spinal radiofrequency neurotomy on a target medial branch nerve of a human patient (see col. 7, ll. 56-60, for medial branches). Racz teaches the system comprising: a radiofrequency probe assembly (Figs. 1 and 2B) comprising: a radiofrequency probe (22, 52) that emits radiofrequency energy (col. 3, ll. 39-65); a temperature sensor that measures temperature at a distal end of the radiofrequency probe (col. 5, ll. 26-30, “probe tip 56 comprises a temperature sensor.”); a connector (at 22, 52 in Figs. 1 and 2B, respectively) at a proximal end of the radiofrequency probe (22, 52); and a cable (24); and a radiofrequency neurotomy needle (10) comprising: a first hub (20); an elongate member (cannula 10) that comprises a tube that is fixedly attached to the first hub (42) and is 16 gauge or smaller (see col. 8, ll. 10-22, for “from extremely small gauges (e.g., 30 gauge) to much larger sizes (e.g., 10 gauge)”); a layer of insulation around at least a portion of the tube (insulated portion 36 (illustrated by hatched lines)); a tip (14, 38) at a distal end of the elongate member that is conductive (electrode cannula 10) and comprises a beveled shape to pierce tissue of the human patient (self-penetrating point 18, 40; see col. 4, l. 59-col. 5, l. 6, “The tip portion 38 of the shaft 34 has a distal pointed end 40, which as described above can be useful in penetrating tough tissue.”).

9. **Behl et al., (U.S. Pat. 7,195,629)** is another pertinent piece of prior art. Behl teaches a similar radiofrequency probe (50) and a plurality of filaments (52) that are conductive and are movable between a retracted position and a deployed position (Fig. 2). Behl further teaches a distal slider (58) interconnected to the plurality of filaments (52) and an actuator (rotatable portion 72), wherein rotation of the actuator

(72) relative to the stationary portion (70) in a first direction causes the distal slider (58) to move axially to advance the plurality of filaments to the deployed position (col. 12, 11. 62-67). Behl teaches, “[w]hen fully deployed, a distal electrode array 52, as shown in FIGS. 2 and 3, is in electrical contact with the distal conductor 86 so that the array and conductor form an integrated electrode array of the type illustrated in FIG. 1.” (col. 13, 11. 14-18).

10. **Young (U.S. PGPub. No. 2009/0112201)** is another pertinent piece of prior art. Young (Figs. 1-3) teaches a similar radiofrequency ablation device comprising an electrode array (40) “formed from a plurality of electrode tines 44, each of which resembles the shape of a needle or wire. Each tine 44 may be in the form of a slender metal element, which can penetrate into tissue as it is advanced to a target site within the target region.” ([0030]; [0034]). Young also provides an optional elongate tubular member (60) which may comprise “electrically conductive composite materials, or a combination of composite material and metal.” ([0036]).

11. **Regarding claim 1,** while these reference discuss the relationship between a radiofrequency probe, radiofrequency needle, temperature sensor, and set of filaments, these reference fail to teach “the set of filaments being in electrical communication with the tip when in the fully deployed position, each filament having a pre-set bias to curve when deployed; a tube of which only a portion is housed by the elongate member, the tube being conductive and defining a lumen configured to accept the radiofrequency probe for transmission of radiofrequency energy to the tube, the lumen further being configured to transport fluid toward a distal end of the radiofrequency neurotomy needle for delivery to a region of tissue near the distal end of the radiofrequency neurotomy needle when the radiofrequency probe is absent from the lumen; a second hub interconnected to the set of filaments; and a rotatable actuator interconnected to the second hub, wherein rotation of the actuator relative to the first hub in a first direction causes the second hub to move axially to advance the set of filaments to the fully deployed position and rotation of the actuator relative to the first hub in a second direction that is opposite the first direction causes the second hub to move axially to retract the set of filaments to the retracted position, wherein, when the set of filaments is in the retracted position, the distal end of the radiofrequency

neurotomy needle is straight; wherein the radiofrequency probe assembly is movable relative to the radiofrequency neurotomy needle such that the radiofrequency probe is insertable into the lumen of the tube; wherein when the radiofrequency probe is inserted in the lumen of the tube and is interconnected to a radiofrequency generator via the cable and when the set of filaments is in the fully deployed position; each filament is curved radially outwardly away from a central longitudinal axis of the radiofrequency neurotomy needle; the tube is in electrical communication with the set of filaments and the hypotube; the tube conducts radiofrequency energy from the radiofrequency probe and directs the radiofrequency energy to the set of filaments; the set of filaments transmits the radiofrequency energy to a target volume in which the target medial branch nerve is situated” as claimed in claim 1 and in combination with the other limitations of the claim.

12. **Regarding claim 18,** while these reference discuss the relationship between a radiofrequency probe, radiofrequency needle, temperature sensor, and set of filaments, these reference fail to teach “a first tube that is conductive and is fixedly attached to the first hub, the first tube being 16 gauge or smaller . . . a layer of insulation around at least a portion of the first tube that leaves a conductive area at a distal end of the radiofrequency neurotomy needle exposed; a second tube of which only a portion is housed by the first tube, the second tube being conductive and defining a lumen that accepts the radiofrequency probe for transmission of radiofrequency energy to the second tube, the lumen being configured to transport fluid toward the distal end of the radiofrequency neurotomy needle for delivery to a region of tissue near the distal end of the radiofrequency neurotomy needle . . . the plurality of filaments being in electrical communication with the tip when in the fully deployed position, each filament having a pre-set bias to curve outwardly relative to a central longitudinal axis of the radiofrequency neurotomy needle when deployed; a second hub interconnected to the plurality of filaments; and a rotatable actuator interconnected to the second hub, wherein rotation of the actuator relative to the first hub in a first direction causes the second hub to move axially to advance the plurality of filaments to the fully deployed position and rotation of the actuator relative to the first hub in a second direction that is opposite the first direction causes the second hub to move axially to retract the plurality of filaments to the retracted

position, wherein, when the radiofrequency probe is accepted in the lumen of the second tube and is interconnected to a radiofrequency generator via the cable and when the plurality of filaments are in the fully deployed position; the second tube is in electrical communication with the conductive area at the distal end of the radiofrequency neurotomy needle that is left exposed by the layer of insulation, wherein the conductive area comprises a distal portion of the first tube and a portion of each filament that curves radially outwardly relative to the central longitudinal axis; the second tube is configured to conduct radiofrequency energy that has been emitted from the radiofrequency probe; plurality of filaments transmit radiofrequency energy that has been conducted through the second tube to a target volume in which the target nerve is situated” as claimed in claim 18 and in combination with the other limitations of the claim.

13. **Regarding claim 24,** while these reference discuss the relationship between a radiofrequency probe, radiofrequency needle, temperature sensor, and set of filaments, these reference fail to teach “an elongate member that comprises a first tube that is conductive, is 16 gauge or smaller, and is attached to the first hub; a layer of insulation around at least a portion of the first tube; a tip at a distal end of the elongate member that is conductive and is tapered to a point so as to pierce tissue of the human patient; a second tube of which only a portion is housed by the elongate member, the second tube being conductive and defining a lumen that accepts the radiofrequency probe for transmission of radiofrequency energy to the second tube, wherein the lumen is configured to transport fluid toward a distal end of the radiofrequency neurotomy needle for delivery to a region of tissue near the distal end of the radiofrequency neurotomy needle; a plurality of filaments that are conductive and are simultaneously movable between a retracted position and a fully deployed position, the plurality of filaments being in electrical communication with the tip when in the fully deployed position, each filament having a pre-set bias to curve outwardly relative to a central longitudinal axis of the radiofrequency neurotomy needle when deployed; a second hub interconnected to the plurality of filaments; and a rotatable actuator interconnected to the second hub, wherein rotation of the actuator relative to the first hub in a first direction causes the second hub to move axially to advance the plurality of filaments to the fully deployed

position and rotation of the actuator relative to the first hub in a second direction that is opposite the first direction causes the second hub to move axially to retract the plurality of filaments to the retracted position, wherein, when the radiofrequency probe is accepted in the lumen of the second tube and is interconnected to a radiofrequency generator via the cable so as to emit radiofrequency energy, and when the plurality of filaments are in the fully deployed position: the second tube is in electrical communication with the plurality of filaments and the first tube; the second tube is configured to conduct radiofrequency energy that is emitted by the radiofrequency probe and direct the radiofrequency energy to the plurality of filaments” as claimed in claim 24 and in combination with the other limitations of the claim.

14. **Claims 1-3, 5-24, and 28-33 are rejected due to the double patenting rejection set forth above.** The double patenting rejection may be overcome with the filing of a terminal disclaimer. If the double patenting rejection is overcome, the dependent claims would be allowable due to their dependency on independent claims 1, 18 and 24, respectively, which are indicated as having allowable subject matter.

Response to Arguments

15. Applicant's arguments, see Remarks, filed March 31, 2026, with respect to claims 1-3, 5-24, 28-33 have been fully considered and are persuasive. The rejection of claims 1-3, 5-24, 28-33 has been withdrawn.

16. The Double Patenting Rejection is maintained.

17. See Claim Objection above.

Conclusion

18. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any nonprovisional extension fee (37 CFR 1.17(a)) pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

19. 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 M-F, 8am to 5pm.

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 at 571-272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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**/LINDA C DVORAK/
Primary Examiner, Art Unit 3794**

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

Notice of References Cited	Application/Control No. 19/272,521		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 YYYY-MM-DD	Name	CPC Classification	US Classification
*	A	US-6146380-A	2000-11-14	Racz; Gabor B.	A61N1/0551	606/41
*	B	US-20090112201-A1	2009-04-30	Young; Kimbolt	A61B18/148	606/33
*	C	US-7195629-B2	2007-03-27	Behl; Robert S.	A61B18/1477	606/41
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FOREIGN PATENT DOCUMENTS

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NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages
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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in YYYY-MM-DD format are publication dates. Classifications may be US or foreign.