

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AVATION MEDICAL, INC.,
Petitioner,

v.

EMKINETICS, INC.,
Patent Owner.

IPR2024-01378
Patent 9,002,477 B2

Before ERICA A. FRANKLIN, JOHN G. NEW, and JASON W. MELVIN,
Administrative Patent Judges.

MELVIN, *Administrative Patent Judge.*

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Avation Medical, Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting institution of *inter partes* review of claims 1–10 (“the challenged claims”) of U.S. Patent No. 9,002,477 B2 (Ex. 1001, “the ’477 patent”). Patent Owner EMKinetics, Inc. (“Patent Owner”) timely filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

An *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). “When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.” 37 C.F.R. § 42.108(a) (2021).

For the reasons that follow, and based on the present record, we conclude that Petitioner has shown a reasonable likelihood it will prevail with respect to at least one challenged claim, and we institute *inter partes* review of the ’477 patent.

A. REAL PARTIES IN INTEREST

The parties identify themselves as real parties in interest. Pet. xii; Paper 5, 2.

B. RELATED MATTERS

Petitioner and Patent Owner identify *Avation Medical, Inc. v. EMKinetics, Inc.*, No. 4:24-cv-01702 (N.D. Cal.) (“NDCA litigation”) as a related matter involving the ’477 patent. Pet. xii (citing Ex. 1051); Paper 5, 2.

The parties also identify U.S. Patent No. 11,844,943 (“the ’943 patent”), and U.S. Patent No. 11,224,742 (“the ’742 patent”) as being involved in the NDCA litigation. Pet. xii (citing Ex. 1051); Paper 5, 2. The parties further identify that the ’943 patent is the subject of PGR2024-00043, and the ’742 patent is the subject of IPR2024-01375. Pet. xii; Paper 5, 2.

C. THE ’477 PATENT (EX. 1001)

The ’477 patent is entitled “Methods and Devices for Performing Electrical Stimulation to Treat Various Conditions” and is directed to systems and/or methods for electromagnetic induction therapy. Ex. 1001, codes (54), (57). The ’477 patent describes “treating a variety of ailments by providing energy to a target nerve.” *Id.* at 8:13–14. The energy may be in the form of “magnetic energy, electrical energy or ultrasound energy.” *Id.* at 8:15–16.

The ’477 patent describes an exemplary embodiment based on electromagnetic induction therapy, wherein “one or more conductive . . . coils may be configured to generate a magnetic field focused on a target nerve, muscle[,] or other body tissues in proximity to the coil[s].” Ex. 1001, 5:32–36. One or more sensors may be used to detect electrical conduction in the target nerve, to detect a muscular response caused by an electrical conduction in the target nerve, or to detect stimulation of a nerve, muscle or other body tissues, and to provide feedback about the efficacy of the applied electromagnetic induction therapy. *Id.* at 5:36–42.

The ’477 patent depicts an embodiment of a system for magnetic induction therapy in Figure 1, which is reproduced below.

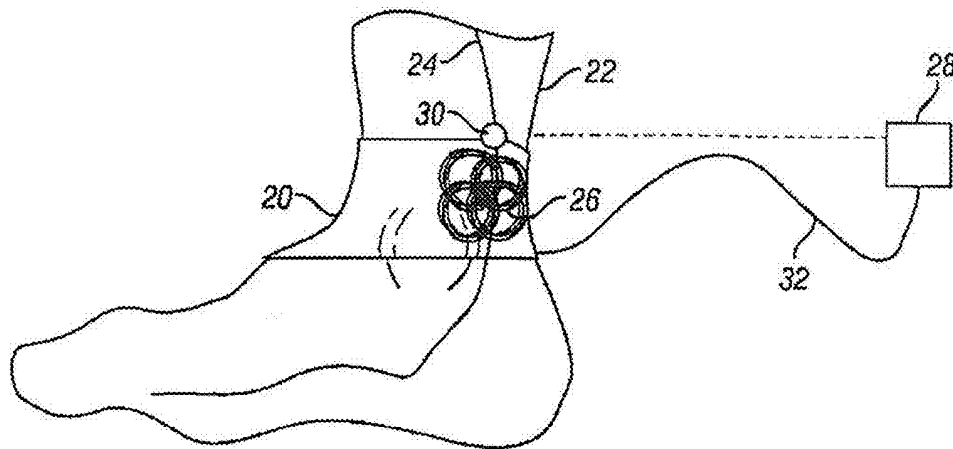


FIG. 1

Figure 1 shows “a coil wrap 20 . . . disposed over ankle 22 circumferentially to surround a portion of tibial nerve 24.” Ex. 1001, 9:50–52. According to the ’477 patent,

[c]oil wrap 20 contains one or more conductive coils 26 arranged to produce a pulsed magnetic field that will flow across tibial nerve 24 and generate a current that will flow along tibial nerve 24 and spread along the length of tibial nerve 24 all the way to its sacral or pudendal nerve root origins.

Id. at 10:8–13. A programmable logic controller 28 supplies the electrical current that flows through coils 26 and produces the magnetic field. *Id.* at 10:37–40. Figure 1 also shows a sensor 30, whose purpose is “to detect and record the firing of the target nerve and to provide related information to logic controller 28, so to render the intended therapy most effective.” *Id.* at 10:43–46.

The ’477 patent also depicts an embodiment of a system for providing electrical stimulation in Figure 11, which is reproduced below:

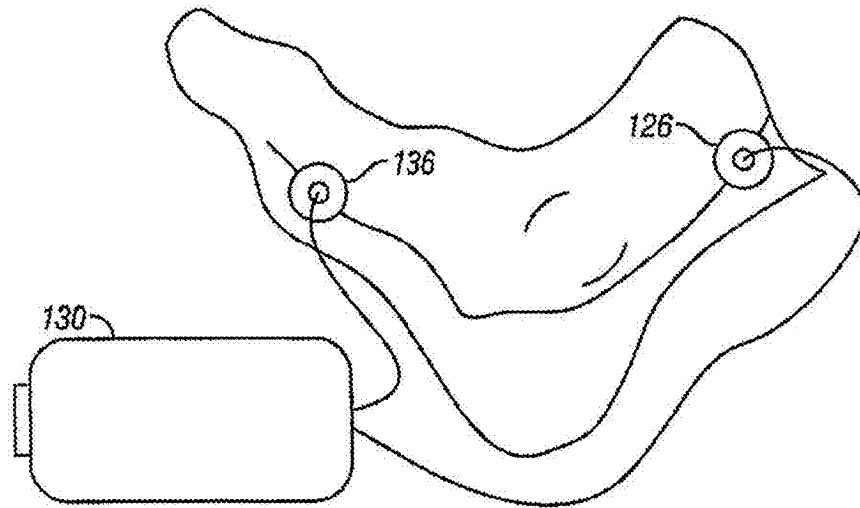


FIG. 11

Figure 11 shows a transcutaneous stimulator, such as an electrode 126, that dispenses electrical energy for nerve stimulation. Ex. 1001, 16:25–29.

Electrical pulse controller 130 is connected to electrode 126 and to sensor 136. *Id.* at 16:33–35. According to the '477 patent, “nerve conduction may be detected at a site sufficiently distant from the site of stimulation, so to enable detection of nerve conduction despite the confounding interference from the direct electrical stimuli.” *Id.* at 16:36–40.

D. THE CHALLENGED CLAIMS

Petitioner challenges claims 1–10 of the '477 patent. Pet. 2–4. Claim 1 is independent and is reproduced below¹:

- [1.p] 1. A method of performing electrical stimulation therapy, comprising:

¹ We adopt the bracketed identifiers added by Petitioner.

- [1.a] non-invasively positioning a first portion of a patient's body relative to an electrical stimulator such that a posterior tibial nerve or branch thereof within the first portion of the body is in proximity to the electrical stimulator;
- [1.b] passing a current through the electrical stimulator;
- [1.c] delivering an electrical stimulus from the electrical stimulator to the posterior tibial nerve or branch thereof;
- [1.d] detecting electrical conduction through the posterior tibial nerve or branch thereof or detecting a muscular response caused by an electrical conduction through the posterior tibial nerve or branch thereof via at least one sensor positioned along a second portion of the body;
- [1.e] receiving a signal from the at least one sensor indicative of the detected electrical conduction or muscular response thereby providing feedback about the efficacy of the applied electrical stimulation therapy; and
- [1.f] adjusting the current via a controller in communication with the electrical stimulator based on the feedback.

Ex. 1001, 45:20–46:6. The remaining claims depend directly from claim 1.
Id. at 46:7–33.

E. PRIOR ART AND ASSERTED GROUNDS

Petitioner asserts the following unpatentability grounds:

Claim(s) Challenged	35 U.S.C. § ²	Reference(s)/Basis
1	102(b)	Svihra ³

² The '477 patent claims priority to an October 2, 2006, provisional application. Ex. 1001, codes (60), (63); *see* Pet. 13. Therefore, the pre-AIA statutes apply.

³ Svihra et al., *Neuromodulative Treatment of Overactive Bladder – Noninvasive Tibial Nerve Stimulation*, 103(12) Bratisl Lek Listy 480–83 (2002) (Ex. 1004). All citations are to the native pagination.

Claim(s) Challenged	35 U.S.C. § ²	Reference(s)/Basis
1–10	103(a)	Svihra, Mann ⁴ , DiLorenzo ⁵ , Gerber ⁶ , Bourget ⁷
1–10	103(a)	Amarenco, ⁸ Mann, DiLorenzo, Gerber, Bourget

Pet. 2–4.⁹ Petitioner relies also on the Declaration of Dr. Brett Wingeier. Ex. 1003. For the obviousness challenges directed to dependent claims 2–10, Petitioner relies additionally on the “Knowledge of [Persons of Ordinary Skill in the Art].” Pet. 3. When explaining the grounds, Petitioner relies on teachings from additional references to explain why skilled artisans would have found each claimed subject matter obvious. *See id.* at 28–43, 50–62. We will consider the asserted teachings from those additional references to the extent justified by Petitioner.

⁴ U.S. Patent No. 6,941,171 B2, issued Sept. 6, 2005 (Ex. 1084).

⁵ U.S. Patent No. 6,366,813 B1, issued Apr. 2, 2002 (Ex. 1054).

⁶ U.S. Patent No. 7,515,965 B2, filed Apr. 28, 2005, issued Apr. 7, 2009 (Ex. 1055).

⁷ U.S. Patent No. 7,853,322 B2, filed Apr. 28, 2006, issued Dec. 14, 2010 (Ex. 1056).

⁸ Amarenco et al., *Urodynamic Effect of Acute Transcutaneous Posterior Tibial Nerve Stimulation in Overactive Bladder*, 169 J. Urology 2210–15 (June 2003) (Ex. 1005). All citations are to the native pagination.

⁹ In the Identification of Challenge section of the Petition, Petitioner includes claims 2–10 as separate obviousness grounds including “Knowledge of [Persons of Ordinary Skill in the Art]” (Pet. 3) but we group those together with the obviousness challenges to claim 1.

II. ANALYSIS

A. LEGAL STANDARDS

1. Anticipation

A claim is unpatentable as anticipated under 35 U.S.C. § 102 only when “every element and limitation of the claim was previously described in a single prior art reference, either expressly or inherently, so as to place a person of ordinary skill in possession of the invention.” *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1082 (Fed. Cir. 2008). A reference may inherently anticipate if a claim limitation that is not expressly disclosed “is necessarily present, or inherent, in the single anticipating reference.” *Verizon Servs. Corp. v. Cox Fibernet Va., Inc.*, 602 F.3d 1325, 1337 (Fed. Cir. 2010). Thus, the “very essence of inherency is that one of ordinary skill in the art would recognize that a reference unavoidably teaches the property in question.” *Agilent Technologies, Inc. v. Affymetrix, Inc.*, 567 F.3d 1366, 1383 (Fed. Cir. 2009).

2. Obviousness

A claim is unpatentable “if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a). The question of obviousness involves resolving underlying factual determinations including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and when presented (4)

objective evidence of non-obviousness, *i.e.*, secondary considerations.¹⁰ *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). Further, “there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

B. LEVEL OF ORDINARY SKILL IN THE ART

Petitioner contends that a person of ordinary skill in the art at the time of filing “would have had an undergraduate degree in the field of biomedical engineering, or a related discipline, such as electrical engineering, and at least two years of experience in the design and/or analysis of biomedical devices” and that “[a]dditional work experience could substitute for a formal degree and vice versa.” Pet. 14 (citing Ex. 1003 ¶ 21).

Patent Owner does not dispute Petitioner’s proposal. *See generally* Prelim. Resp. Because Petitioner’s proposed level of ordinary skill in the art appears to be consistent with the challenged patent and prior art, we adopt it and use “skilled artisans” to refer to people with such skill at the time the invention was filed.

C. CLAIM CONSTRUCTION

We construe claims according to the standard used in the federal courts in civil actions under 35 U.S.C. § 282(b), which is articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). Under *Phillips*, the “words of a claim ‘are generally given their ordinary and customary meaning,’” which is “the meaning that

¹⁰ In the present record, neither party presents arguments or evidence relating to secondary considerations.

the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1312–13.

Petitioner argues that “no terms require construction for purposes of this Petition.” Pet. 14. Patent Owner does not contest Petitioner’s argument. *See generally* Prelim. Resp. We agree and do not expressly construe any terms at this stage. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))). Should either party believe that a position taken during trial depends on a particular claim construction, we encourage the party to explain that dependence and why its asserted construction is correct.

D. ANTICIPATION BY SVIHRA

Petitioner contends that claim 1 is anticipated by Svihra. *See* Pet. 3, 14–20.

1. Svihra (Ex. 1004)

a. Summary

Svihra is directed to “non-invasive stimulation of the tibial nerve . . . to achieve desired therapeutic effects without iatrogenic nerve damage using a superficial electrostimulation.” Ex. 1004, 480. According to Svihra, the non-invasive stimulation had improved subjective symptom related to overactive bladder, had no adverse events, and was well tolerated. *Id.*

According to Svihra, “[t]he original invasive Stoller’s afferent nerve stimulation (SANS) uses the region of medial ankle for percutaneous tibial nerve stimulation using a needle electrode inserted in the vicinity of the nerve.” Ex. 1004, 481. Svihra aims to produce non-invasive stimulation achieving comparable effect by superficial electrode without iatrogenic damage to the tibial nerve. *Id.* Svihra describes a modified non-invasive stimulation SANS by using surface electrodes for the area of medial ankle and stimulation of tibial nerve with values different from those set by the original SANS stimulator. *Id.* In this method, Svihra describes that:

the electrodes were placed behind the medial ankle of the left lower extremity. Cathode was placed proximally and anode distally. After a control stimulation accompanied by optimalization of the electrode position and set intensity of stimulation we had proceeded on with a therapeutic stimulation of tibial nerve. Intensity of the surface SANS was equal to 70 % of intensity, at which the maximal amplitude of response was registered from the abductor hallucis muscle (stimulation by a constant voltage and regulated intensity of direct current). Frequency of stimulation was 1 Hz and duration of square impulse was 0.1 ms. Surface stimulation of 30 minutes duration was repeated once a week for a period of 5 weeks.

Id. According to Svihra, its “results document good tolerance of non-invasive SANS and comparable efficacy with invasive SANS.” *Id.* at 482.

b. Svihra’s Availability as Prior Art

Petitioner asserts that Svihra published in 2002 and is therefore prior art under at least pre-AIA 35 U.S.C. § 102(b). Pet. 14. Petitioner assumes an October 2, 2006, effective filing date for the ’477 patent. *Id.* at 13. Patent Owner argues that “the Petition does not identify any evidence that Svihra

was, in fact, publicly accessible before the alleged critical date.” Prelim. Resp. 2.

It has long been recognized that the touchstone as to whether an asserted reference qualifies as prior art is public accessibility. *See In re Hall*, 781 F.2d 897, 899 (Fed. Cir. 1986). “[A]t the institution stage, the petition must identify, with particularity, evidence sufficient to establish a reasonable likelihood that the reference was publicly accessible before the critical date of the challenged patent and therefore that there is a reasonable likelihood that it qualifies as a printed publication.” *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29, 13 (PTAB Dec. 20, 2019) (precedential).

Patent Owner argues that “beyond potentially looking like an article, there is no evidence cited in the Petition that Svihra was publicly accessible at any time, let alone before the alleged critical date.” Prelim. Resp. 2. Patent Owner notes that the reference does not bear a copyright notice, does not include a publication page or an International Standard Book Number (ISBN), and does not “state that it was published.” *Id.* at 3. Patent Owner asserts that Svihra does not “bear the name of any known publication.” *Id.*

Patent Owner recognizes that Svihra states that it was “[r]eceived” and “[a]ccepted” in 2002 in connection with “some entity known as ‘Bratisl Lek Listy.’” *Id.* at 5 (citing Ex. 1004, 483). In Patent Owner’s view, however, dates listed in the exhibit itself—(“2002,” “Received May 30, 2002,” “Accepted December 9, 2002”)—are hearsay, absent further information regarding “the source or publication of Svihra.” *Id.* at 5–6. Thus, Patent Owner argues that Petitioner lacks any evidence tending to establish

that Svihra was a publicly accessible reference prior to the critical date. *Id.* at 4–5.

Patent Owner’s arguments at this stage are not persuasive. A simple internet search reveals that “Bratisl Lek Listy,” which appears on the header of Svihra, is an abbreviation for Bratislavské lekárske listy—the Bratislava Medical Journal—an international medical journal founded in 1921, published monthly in English, and currently in its 126th volume. *See* Ex. 3001.¹¹ Svihra’s header states, in full: “Bratisl Lek Listy 2002; 103 (12): 480-483,” which we find skilled artisans would understand to mean that Svihra appeared as an article appearing in volume 103, number 12, of the Bratislava Medical Journal at pages 480–483 and was published in December 2002 (i.e., number 12). *See* Ex. 1004, 480. Thus, on its face, the reference supports Petitioner’s assertion under § 102(b).

Based on the present record, Petitioner has established a reasonable likelihood that Svihra was publicly accessible before the critical date of the ’477 patent. Svihra exhibits the necessary hallmarks to support such a finding. Indeed, it exhibits many of the same hallmarks as Amarenco—*e.g.*, journal title and volume number, page numbers, date of acceptance for publication—and Patent Owner does not dispute those references are applicable prior art. *See* Ex. 1005. We conclude that Petitioner has established the public accessibility of Svihra sufficiently for purposes of institution. The parties may develop this issue further at trial, potentially including supplemental information under 37 C.F.R. § 42.123 (as to public

¹¹ Available at <https://link.springer.com/journal/44411/aims-and-scope>.

availability) and supplemental evidence under 37 C.F.R. § 42.64(b) (as to admissibility).

2. Claim 1

- a. *[1.p] A method of performing electrical stimulation therapy, comprising:*

Petitioner contends that Svihra discloses “us[ing] non-invasive stimulation of the tibial nerve with the intention to achieve desired therapeutic effects . . . using a superficial electrostimulation” in patients “suffer[ing] from overactive bladder (OAB).” Pet. 15 (citing Ex. 1004, 480, *see also id.*, 481, 482; Ex. 1003 ¶ 63). Patent Owner does not dispute that Svihra discloses a method of performing electrical stimulation therapy. *See* Prelim. Resp. 6–17. We agree with Petitioner that Svihra discloses the preamble, regardless of whether it is limiting.

- b. *[1.a] non-invasively positioning a first portion of a patient's body relative to an electrical stimulator such that a posterior tibial nerve or branch thereof within the first portion of the body is in proximity to the electrical stimulator;*

Petitioner argues that Svihra performs “non-invasive stimulation of the tibial nerve” via “electrode[s] attached behind the medial ankle of the left lower extremity,” where “surface electrodes” provided “stimulation by a constant voltage and regulated intensity of direct current” and “tibial nerve” is the PTN. Pet. 15–16 (citing Ex. 1004, 480–481; Ex. 1003 ¶¶ 64–66, 68–69). Petitioner contends that skilled artisans would have understood that “surface electrodes” are a noninvasive procedure because they do not break the skin and that electrostimulation would necessarily require connecting the electrodes to an electrical stimulator source. Pet. 15 (citing Ex. 1003 ¶ 65).

Petitioner further argues that skilled artisans would have understood placing electrodes behind the medial ankle of the left lower extremity for PTN stimulation necessarily indicates a portion of the patients' bodies were positioned relative to an electrical stimulator, as claimed. Pet. 16 (citing Ex. 1003 ¶ 67). Petitioner contends that, while the '477 patent does not explain what "in proximity to" means, skilled artisans "would understand Svihra positioned electrodes 'in proximity to' the patients' PTN in the same way, by placing 'surface electrodes' 'behind the medial ankle of the left lower extremity.'" *Id.* (citing Ex. 1003 ¶ 69; Ex. 1004, 481). Patent Owner's Preliminary Response does not specifically address limitation 1.a. We agree with Petitioner that Svihra discloses limitation 1.a.

c. [1.b] passing a current through the electrical stimulator;

Petitioner contends that Svihra's application of electrical stimulation through "surface electrodes" necessitates connection "to an electrical stimulator source through which current was passed." Pet. 16 (citing Ex. 1004, 481; Ex. 1003 ¶ 70). Patent Owner's Preliminary Response does not specifically address limitation 1.b. We agree with Petitioner that Svihra discloses limitation 1.b.

d. [1.c] delivering an electrical stimulus from the electrical stimulator to the posterior tibial nerve or branch thereof;

Petitioner contends that Svihra delivers electrical stimulus from an electrical stimulator through the electrodes to the PTN because the method states: "[a]fter a control stimulation accompanied by optimalization of the electrode position and set intensity of stimulation we had proceeded on with a therapeutic stimulation of tibial nerve," which involved "stimulation by a

constant voltage and regulated intensity of direct current.” Pet. 17 (citing Ex. 1004, 481). Patent Owner’s Preliminary Response does not specifically address limitation 1.c. We agree with Petitioner that Svihra discloses limitation 1.c.

- e. [1.d] detecting electrical conduction through the posterior tibial nerve or branch thereof or detecting a muscular response caused by an electrical conduction through the posterior tibial nerve or branch thereof via at least one sensor positioned along a second portion of the body;*

Petitioner argues that skilled artisans would understand the detecting limitation “to encompass detecting using techniques such as EMG based on the claim language and specification,” where “EMG is a measure of muscle response and electrical activity in response to stimulation of muscle by nerves.” Pet. 17 (citing Ex. 1003 ¶¶ 71, 73; Ex. 1042, 120–21; Ex. 1043, 174; Ex. 1084, 23:8–11). Petitioner also contends that it is typical of EMG procedures to detect conduction by placing electrodes at secondary locations, distinct from the stimulation site, and measuring electrical activity, which “necessarily indicate[s] the presence (or lack of presence) of electrical conduction in the nerve that stimulates the muscle.” *Id.* at 18 (citing Ex. 1003 ¶ 74; Ex. 1028, 367; Ex. 1030, 10). Petitioner argues that sensors, including EMG sensors, were known in the art for detection of electrical conductivity and muscular response and further reasons that Svihra discloses that “‘an electromyographic [EMG] device Nicolet Viking II E’ was used to measure ‘the maximal amplitude of response [] registered from the abductor hallucis muscle’ resulting from PTN stimulation” and skilled artisans would understand that sensors/electrodes necessarily must have been used with the referenced EMG device “measurement of the ‘maximal

amplitude of response’ of the muscle (which is a measure of the electrical signal emanating from the muscle measured via EMG).” Pet. 18–19 (citing Ex. 1001, 36:32–37, 25:53–60, 43:5–12; Ex. 1003 ¶ 75; Ex. 1004, 481; Ex. 1003 ¶¶ 76, 77).

Patent Owner challenges Petitioner’s reasoning, arguing that Svihra “discloses using an EMG device to provide electrical stimulation, not to detect electrical conduction, as claimed.” Prelim. Resp. 7. Patent Owner asserts that the EMG device in Svihra provides electrical stimulation and, while the parties agree that a response was “registered,” Patent Owner distinguishes that from the EMG device itself “detecting” electrical conduction. *Id.* (citing Pet. 19; Ex. 1004, 481). Rather, in Patent Owner’s view, the response was registered “by mere visual observation.” *Id.*

We agree with Petitioner that Svihra’s use of an EMG device shows that Svihra discloses detecting electrical conduction as claimed. As Petitioner points out, the ’477 patent instructs that EMG devices may be used to detect electrical conduction. Ex.1001, 36:32–37, 25:53–60, 43:5–12; *see* Ex. 1003 ¶ 75. Indeed, that functionality is fundamental to an EMG device. Ex. 1003 ¶ 73. And we agree with Petitioner that an EMG device necessarily involves sensors as claimed. Ex.1003 ¶¶ 76, 77. Thus, we agree with Petitioner that Svihra discloses limitation 1.d.

f. [1.e] receiving a signal from the at least one sensor indicative of the detected electrical conduction or muscular response thereby providing feedback about the efficacy of the applied electrical stimulation therapy

Petitioner submits that Svihra’s approach included receiving a signal indicative of the electrical conduction as measured by the EMG device, as shown by Svihra’s reference to knowing the “maximal amplitude of

response” for a particular stimulation current. Pet. 19–20 (quoting Ex. 1004, 481; citing Ex. 1003 ¶ 77).

Patent Owner contends that the response in Svihra was received visually, not through the EMG device. Prelim. Resp. 8. As discussed above regarding the “detecting” limitation, we agree with Petitioner that EMG devices function to measure electrical response and that Svihra’s reference to the amplitude of response therefore refers to a signal received as part of the EMG measurements. Thus, we agree with Petitioner that Svihra discloses limitation 1.e.

g. *[1.f] adjusting the current via a controller in communication with the electrical stimulator based on the feedback.*

Petitioner contends that Svihra discloses adjusting current as claimed because it discusses that the stimulation current was “regulated” to determine maximal response. Pet. 20 (quoting Ex. 1004, 481; citing Ex. 1003 ¶ 78).

Patent Owner argues that Svihra describes the operator of the EMG device visually observing the effects of stimulation and adjusting the stimulation. Prelim. Resp. 9–10. In Patent Owner’s view, that is not consistent with the claim language, which Patent Owner appears to interpret as requiring *automated* adjustment rather than *operator*-implemented adjustment. *Id.*

At this stage, it is not clear whether limitation 1.f requires automatic control, or just control generally, which might be implemented through a manual process. Neither party expressly seeks a specific claim construction or definition for any claim term. Pet. 14; *see generally* Prelim. Resp. We view the dispute regarding Svihra’s disclosure of limitation 1.f as depending

on claim construction, and best resolved on a more-developed record. Although the plain claim language does not expressly require automatic adjustment, it requires adjusting current “via a controller.” That language may be understood by skilled artisans to encompass manual adjustment, or may be understood to require automated adjustment. Therefore, for our consideration of this issue, it may be useful for the parties to explain their respective claim-construction positions and support those positions with record evidence. As explained below, we view the other grounds as justifying institution and therefore leave this issue for possible resolution after trial.

h. Summary

While we agree with Petitioner that Svihra sufficiently discloses the preamble and limitations 1.a through 1.e, we do not address limitation 1.f at this time. To the extent briefed by the parties and required to resolve the proceeding, we will address this ground during trial.

E. OBVIOUSNESS OVER SVIHRA, MANN, DiLORENZO, GERBER, BOURGET

Petitioner contends that claims 1–10 would have been obvious when considering Svihra in view of Mann, DiLorenzo, Gerber, Bourget, and other references. *See* Pet. 3, 14–43.

1. Mann (Ex. 1084)

Mann is titled, “Implantable stimulator methods for treatment of incontinence and pain.” Ex. 1084, code (54). Mann discloses, *inter alia*, “the injection, direct implantation, endoscopic, or laparoscopic implantation of one or more battery- or radio-frequency-powered microstimulators on or near the tibial nerve.” *Id.* at 9:48–51.

Mann depicts an embodiment of a system in Figure 1, which is reproduced below.

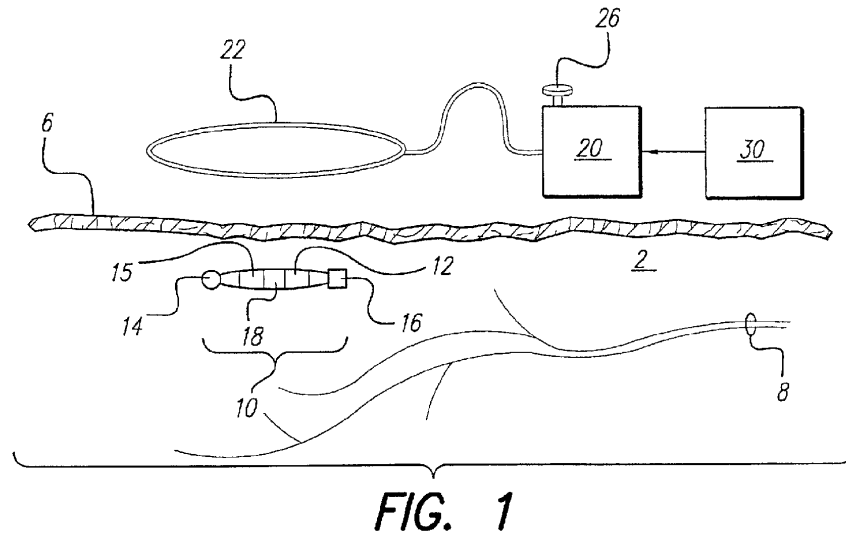


Figure 1 illustrates a battery-powered microstimulator 10 implanted under skin 6 into subcutaneous region 2, where current pulses delivered from its electrodes 14 and 16 stimulate nerve fibers 8. Ex. 1084, 14:53–57.

According to Mann, microstimulator 10 contains electronic circuitry 12, which includes, for example, “an inductive coil for receiving and transmitting RF data and/or power, [and] an integrated circuit (IC) chip for decoding and storing stimulation parameters and generating stimulation pulses (either intermittent or continuous).” *Id.* at 14:63–15:5. Electronic circuitry 12 also includes “a programmable memory 18 for storing a set(s) of data, stimulation, and control parameters,” which “allows electrical and/or drug stimulation to be adjusted to settings that are safe and efficacious with minimal discomfort for each individual.” *Id.* at 15:11–15. Electronic circuitry 12 receives power and data to be stored in memory 18 by inductive coupling from external controller and its associated antenna coil 22. *Id.* at

15:37–42. According to Mann, “[e]ach time stimulator(s) 10 are recharged by controller 20, the stimulation parameters required from each stimulator 10 are transmitted via coil 22, along with the power required for recharging.” *Id.* at 15:46–50.

Mann describes an embodiment for sensing “a patient’s response to and/or need for treatment” “to help determine the strength and/or duration of electrical stimulation . . . required to produce the desired therapeutic effect.” Ex. 1084, 23:4–8. For example, “the muscle activity produced in response to stimulation may be detected, e.g., via recording of the associated electromyograph (EMG).” *Id.* at 23:8–11. According to Mann, “the sensed information is transmitted to the stimulating stimulator(s)” and “the parameters used by the stimulator(s) are automatically adjusted based on the sensed information.” *Id.* at 26:4–7. In this way, “the electrical and/or drug stimulation parameters are adjusted in a closed-loop manner to provide stimulation tailored to the need for and/or response to the electrical and/or drug stimulation.” *Id.* at 26:7–10.

2. DiLorenzo (Ex. 1054)

DiLorenzo is titled, “Apparatus and method for closed-loop intracranial stimulation for optimal control of neurological disease.” Ex. 1054, code (54). DiLorenzo discloses a neurological control system that “generates neural modulation signals delivered to a nervous system component through one or more intracranial (IC) stimulating electrodes in accordance with treatment parameters,” wherein the “treatment parameters may be derived from a neural response to previously delivered neural modulation signals sensed by one or more sensors.” *Id.* at 3:39–45.

DiLorenzo's neurological control system includes at least one sensor "constructed and arranged to sense at least one parameter, including but not limited to physiologic values and neural signals, which is indicative of at least one of disease state, magnitude of symptoms, and response to therapy." Ex. 1054, 4:9–14. DiLorenzo's system also includes "a stimulating and recording unit constructed and arranged to generate said neural modulation signal based upon a neural response sensed by said at least one sensor in response to a previously delivered neural modulation signal." *Id.* at 4:14–18.

According to DiLorenzo, sensory feedback signals are provided "to clinicians to augment their manual selection of optimum treatment magnitude and pattern." Ex. 1054, 4:65–5:1. Such sensory feedback signals "include but are not limited to tremor estimates, electromyography (EMG) signals, EEG signals, accelerometer signals, acoustic signals, peripheral nerve signals, cranial nerve signals, cerebral or cerebellar cortical signals, signals from basal ganglia, signals from other brain or spinal cord structures, and other signals." *Id.* at 5:1–8.

3. Gerber (Ex. 1055)

Gerber is titled, "Implantable medical device providing adaptive neurostimulation therapy for incontinence." Ex. 1055, code (54). Gerber discloses "an implantable neurostimulator and system capable of providing adaptive neurostimulation therapy to alleviate fecal or urinary incontinence," wherein the neurostimulator "operates according to a set of stimulation parameters stored in memory." *Id.* at 2:3–7. According to Gerber, "information is obtained from the patient, the implanted neurostimulator, one or more implanted sensors, or some combination thereof" during operation. *Id.* at 2:7–10. Gerber describes a processor that "analyzes the

information to automatically generate proposed adjustments to the stimulation parameters applied by the neurostimulator.” *Id.* at 2:10–12.

Gerber depicts an embodiment of a system in Figure 1, which is reproduced below.

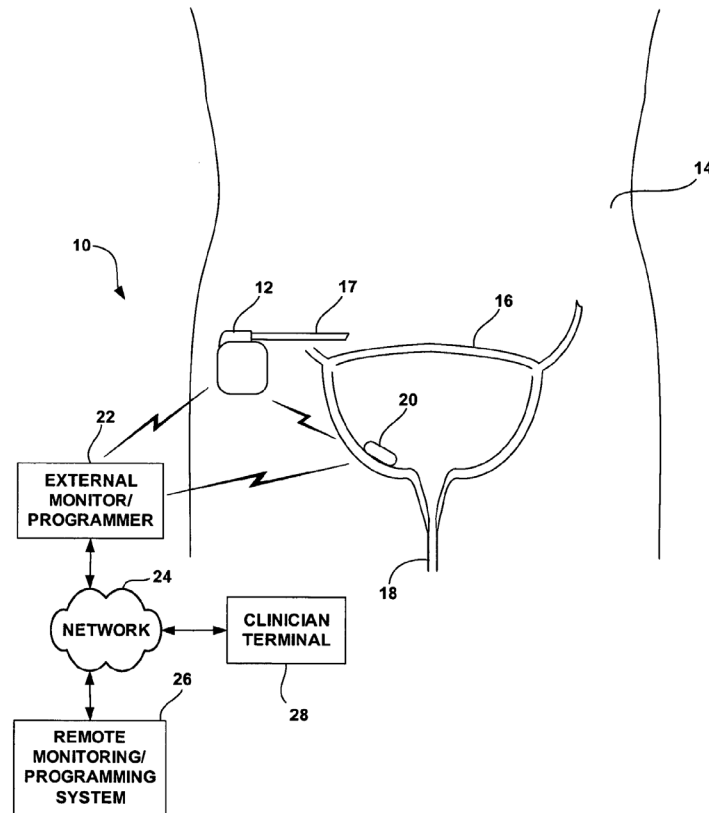


FIG. 1

Figure 1 illustrates a “neurostimulation system 10 for providing adaptive neurostimulation therapy for incontinence.” Ex. 1055, 3:35–37. The system 10 includes an implantable neurostimulator 12 with at least one lead 17 carrying one or more electrodes for delivery of neurostimulation pulses to sacral nerves within the pelvic floor of patient 14, and a sensor 20 to sense physiological condition. *Id.* at 3:40–46. Gerber describes that sensor 20

“may provide a variety of information indicative of the level of efficacy achieved by the neurostimulation therapy delivered by neurostimulator 12.” *Id.* at 5:39–41.

According to Gerber, “neurostimulator 12 may receive information from sensor 20 via wireless telemetry.” Ex. 1055, 3:50–52. Gerber further describes that “an external monitor/programmer 22 may receive information from neurostimulator 12 and/or sensor 20 by wireless telemetry,” “record the received information, analyze the information, and adjust stimulation parameters based on the information or some combination thereof.” *Id.* at 3:52–54, 3:66–4:2.

4. *Bourget (Ex. 1056)*

Bourget is titled, “Closed-loop therapy adjustment.” Ex. 1056, code (54). Bourget discloses “a system comprising a medical device that delivers a therapy to a patient, a sensor that senses a parameter of the patient, a user interface, and a processor.” *Id.* at 2:45–48. The sensor may sense the patient’s physiological parameters, such as “heart rate, electromyography (EMG), an electroencephalogram (EEG), an electrocardiogram (ECG), temperature, respiration rate, or pH.” *Id.* at 7:32–36. Bourget describes the processor of the system as follows:

The processor receives a therapy adjustment from the patient via the user interface, determines therapy information based on the therapy adjustment, automatically associates a value of the sensed parameter detected via the sensor with the therapy information in response to receiving the therapy adjustment, subsequently detects the value via the sensor, and automatically controls the medical device to deliver therapy to the patient according to the therapy information associated with the value in response to the detection.

Id. at 2:48–57. According to Bourget, the processor “may ‘learn’ to automatically adjust the therapy in the manner desired by the patient as the sensed parameter of the patient changes.” *Id.* at 1:48–53.

5. Analogous art

Patent Owner contends that Petitioner fails to adequately show that Mann, DiLorenzo, Gerber, and Bourget are analogous to the ’477 patent. Prelim. Resp. 18.¹² According to Patent Owner, Petitioner’s assertion that the references are from “similar fields” is insufficient. *Id.* (citing Pet. 47); *see also* Pet. 26 (asserting the same similarities for the Svihra-based ground).

We note that the analogous-art test requires comparing the asserted art to the challenged patent. *Sanofi-Aventis Deutschland GmbH v. Mylan Pharm.*, 66 F.4th 1373, 1377 (Fed. Cir. 2023). Petitioner asserts that the ’477 patent “relates to simulation therapy.” Pet. 11. Thus, its assertions regarding the prior art appear to show that the art is from the same field as the ’477 patent. *See* Pet. 25–26 (citing Ex. 1004, 480 (electrostimulation for OAB); Ex. 1055, 3:19–49 (electrostimulation for urinary/fecal control disorders); Ex. 1054, 3:35–4:3 (electrostimulation for treating various conditions); Ex. 1056, 3:52–4:14, 4:41–51 (electrostimulation for, *e.g.*, incontinence); Ex. 1084, 10:65–11:19 (electrostimulation for incontinence)); *accord* Pet. 47 (addressing the Amarenco-based ground and further citing Ex. 1005, 2210 (electrostimulation for OAB)). Although Patent Owner

¹² Although Patent Owner raises this argument in connection with Amarenco, it relates to whether Mann, DiLorenzo, Gerber, and Bourget are available as prior art, and we therefore address it here.

asserts that Petitioner does not make an adequate showing, Patent Owner does not directly challenge whether the references are from the same field as the '477 patent or address a problem reasonably pertinent to one addressed by the '477 patent. Prelim. Resp. 18. We consider Petitioner's assertions sufficient for institution and leave this potential dispute for resolution at trial.¹³

6. Claim 1

- a. *[1.p] A method of performing electrical stimulation therapy, comprising:*

Petitioner contends that Svihra discloses this limitation and Patent Owner's Preliminary Response does not specifically address this limitation, as described above. *See supra* at 14 (§ II.D.2.a). We agree that Svihra discloses the preamble.

- b. *[1.a] non-invasively positioning a first portion of a patient's body relative to an electrical stimulator such that a posterior tibial nerve or branch thereof within the first portion of the body is in proximity to the electrical stimulator;*

Petitioner contends that Svihra discloses this limitation and Patent Owner's Preliminary Response does not specifically address this limitation, as described above. *See supra* at 14 (§ II.D.2.b). We agree that Svihra discloses limitation 1.a.

¹³ This conclusion applies also to our conclusion for Petitioner's Amarenco-based ground. *See infra* at 35 § II.F.2.f.

c. [1.b] passing a current through the electrical stimulator;

Petitioner contends that Svihra discloses this limitation and Patent Owner's Preliminary Response does not specifically address this limitation, as described above. *See supra* at 15 (§ II.D.2.c). We agree that Svihra discloses limitation 1.b.

d. [1.c] delivering an electrical stimulus from the electrical stimulator to the posterior tibial nerve or branch thereof;

Petitioner contends that Svihra discloses this limitation and Patent Owner's Preliminary Response does not specifically address this limitation, as described above. *See supra* at 16 (§ II.D.2.d). We agree that Svihra discloses limitation 1.c.

e. [1.d]–[1.f] detecting conduction and adjusting current

[1.d] detecting electrical conduction through the posterior tibial nerve or branch thereof or detecting a muscular response caused by an electrical conduction through the posterior tibial nerve or branch thereof via at least one sensor positioned along a second portion of the body;

[1.e] receiving a signal from the at least one sensor indicative of the detected electrical conduction or muscular response thereby providing feedback about the efficacy of the applied electrical stimulation therapy; and

[1.f] adjusting the current via a controller in communication with the electrical stimulator based on the feedback.

We address these three limitations together, as does Petitioner, because they relate to the modification Petitioner proposes. *See Pet.* 21–28. Petitioner argues that “Mann, DiLorenzo, Gerber, and Bourget disclose electrostimulation systems and methods that include detecting electrical conduction through nerves and/or resulting muscular response via EMG

sensors, receiving the feedback, and automatically adjusting stimulation parameters including current.” *Id.* at 21–25 (citing Ex. 1003 ¶¶ 90–108); *accord id.* at 9–10.

Petitioner argues that it would have been obvious to modify Svihra’s method to perform the “detecting,” “receiving,” and “adjusting” limitations based on Mann, DiLorenzo, Gerber, or Bourget. *Id.* at 25–28. Petitioner reasons that such a modification:

would involve predictable use of prior art elements (e.g., EMG sensors, receiving feedback, adjusting parameters including current, etc.) according to established functions (e.g., sensing EMG signals, transmitting and receiving information, using sensor feedback to adjust parameters including current, etc.) or simple substitution of known elements (e.g., Svihra’s EMG device, sensors, current adjustment for the systems/techniques of Mann, DiLorenzo, Gerber, or Bourget . . .).”

Id. at 27 (citing Ex. 1003 ¶¶ 112–113). Further, reasons Petitioner, DiLorenzo indicates that using measured response to regulate stimulation would “expedite satisfactory treatment, reduce physician/patient interactions, and optimize energy efficiency.” *Id.* at 28 (citing Ex.1054, 4:38–5:38); *accord id.* (citing Ex. 1056, 2:23–34, 3:5–14, 3:65–4:14, 7:54–65; Ex.1055, 2:14–16; Ex.1084, 10:12–16). Thus, submits Petitioner, skilled artisans had reason to make the proposed modification “to achieve . . . improved feedback, better treatment and side effect regulation, and quicker/more effective treatment.” *Id.* (citing Ex. 1003 ¶ 114).

Patent Owner challenges Petitioner’s reasoning, arguing that DiLorenzo’s stated benefits arise from its “entire system,” not from just the feedback aspects. Prelim. Resp. 10. Patent Owner additionally points out that DiLorenzo incorporated qualitative feedback regarding patient

symptomatology and neuromotor circuitry function, and distinguishes those from the claimed feedback using electrical conduction. *Id.* at 11–12. Patent Owner claims also that DiLorenzo’s feedback “is simply to inform the clinician about the characteristics of the existing patient’s symptomatology and motor function” and not to adjust stimulation current via the controller. *Id.* at 12. DiLorenzo, however, discloses that its invention “performs automated determination of the optimum magnitude of treatment” (Ex. 1054, 4:44–45), undermining Patent Owner’s argument. We view DiLorenzo’s disclosures as also supporting Petitioner’s contentions. *See* Ex. 1054, 3:43–45 (sensing neural response), 6:58–59 (sensing using EMG electrodes), 12:21–25 (adjusting stimulation parameters including pulse width and amplitude).

For Bourget, Patent Owner argues that because Bourget relates to pacemakers and drug pumps, it does not teach “detecting electrical conduction resulting from the delivery of electrical stimulation via sensors, receiving feedback signals from such sensors, or adjusting treatment based on such sensors.” Prelim. Resp. 13. That argument improperly cabins the analysis, which does not require that Bourget discloses exactly what is claimed. Rather, Petitioner relies on Bourget as disclosing adjusting electrical stimulation based on measured signals such as EMG. Pet. 10, 24–25. Indeed, Bourget expressly discloses sensing a patient parameter using EMG. Ex. 1056, 7:34–35. And Bourget discloses using those sensed parameters to control the amplitude, width, and rate of simulation pulses. *Id.* at 8:32–41. Thus, Bourget is not as limited as Patent Owner contends, and supports Petitioner’s contention that its teachings would apply to Svihra’s approach to facilitate feedback control as claimed.

As to Gerber, Patent Owner contends that it “focuses on incorporating information about the patient not information about ‘an electrical conduction through the posterior tibial nerve or branch,’ as claimed.” Prelim. Resp. 14. But Gerber’s “focus” is not determinative; rather, we consider Gerber’s specific teachings as relied on by Petitioner. Gerber specifically discloses using a sensor to measure “electromyographic activity” as “indicative of the level of efficacy achieved by the neurostimulation therapy.” Ex. 1055, 5:39–41, 5:60–64. And Gerber discloses that adjustments may be based on information received from a sensor. *Id.* at 3:59–62. Finally, Gerber discloses that “the processor can, without further input, or authorization from any other source, input and utilize the new stimulation parameters” determined based on feedback. *Id.* at 8:47–49. Those disclosures directly support Petitioner’s contentions.

As to Mann, Patent Owner asserts that Petitioner relies on a single sentence without adequate explanation. Prelim. Resp. 14–15. Petitioner, however cites to multiple disclosures in Mann. Pet. 24 (citing Ex. 1084, 15:8–24, 15:54–16:2, 21:48–59, 22:55–23:34, 25:65–26:9); *accord id.* at 9 (citing Ex. 1084, code (57), 10:65–11:19, 11:43–12:7, 12:42–54, 16:28–41, 25:65–26:9). In particular, we note Mann’s disclosure of sensing via electromyograph and also using a “specialized implantable device . . . to adjust electrical stimulation.” Ex. 1084, 26:21–27. Those disclosures directly support Petitioner’s contentions.

In sum, Patent Owner asserts that the precise teachings of the asserted secondary references do not amount to detecting electrical conduction through the posterior tibial nerve. That argument does not consider that Petitioner relies on a combination in which Svihra’s approach is modified by

the secondary references such that Svihra's stimulation of the PTN is detected and used to automatically control the stimulation parameters. Pet. 21–28. As discussed, we view the references' disclosures as supporting Petitioner's contentions.

f. Summary

We conclude that Petitioner has identified sufficient reason that skilled artisans would have modified Svihra's approach to incorporate the systems and techniques of Mann, DiLorenzo, Gerber, and Bourget, and that the asserted combination renders obvious claim 1's limitations. Accordingly, this ground supports institution.

7. Claims 2-10

Other than as discussed above, Patent Owner does not contest Petitioner's showing regarding obviousness of claims 2–10 over Svihra, Mann, DiLorenzo, Gerber, Bourget, and additional references discussed by Petitioner. Because we determine that Petitioner's contentions regarding claim 1 discussed above warrant institution, we do not address the additional contentions for dependent claims 2–10 at this stage (*see* Pet. 28–43). These grounds are included in the instituted review and we will address any disputes raised during trial. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348 (2018); Guidance on the Impact of SAS on AIA Trial Proceedings (Apr. 26, 2018).¹⁴

¹⁴ Available at <https://www.uspto.gov/patents/ptab/trials/guidance-impact-sas-aia-trial>.

F. OBVIOUSNESS OVER AMARENCO, MANN, DiLORENZO, GERBER,
BOURGET

Petitioner contends that claims 1–10 are unpatentable as obvious over Amarengo in combination with Mann, DiLorenzo, Gerber, Bourget, and other references. Pet. 3, 43–62.

1. Amarengo (Ex. 1005)

Amarengo relates to urodynamic changes during acute posterior tibial nerve stimulation. Ex. 1005, 2210. In view of the result of improved bladder overactivity, Amarengo proposes posterior tibial nerve stimulation as a noninvasive treatment modality in clinical practice. *Id.*

Amarengo describes posterior tibial nerve stimulation used in the study as follows:

Stimulation was done using a self-adhesive surface stimulation electrode without an implanted needle electrode. Contact electrodes were placed with electrode gel on the ankle skin with the negative electrode behind the internal malleolus and the positive electrode 10 cm. above the negative electrode. The correct position of the negative electrode was determined by visualization of rhythmic flexion of the toes secondary to plantar muscle contraction during stimulation delivered at 1 hz. The intensity level was then chosen as the intensity immediately under the threshold determining motor contraction. In addition, no pain was to be noted during the stimulation procedure, which necessarily had to be comfortable for the patient. Stimulation frequency during cystometry was then applied at 10 Hz. and a pulse width of 200 milliseconds in continuous mode.

Ex. 1005, 2211. Amarengo concludes that posterior tibial nerve stimulation is a minimally invasive technique that can suppress detrusor instability or hyperreflexia and the finding of improved bladder capacity further supports its use as a noninvasive treatment modality in clinical practice. *Id.* at 2214.

2. Claim 1

- a. *[1.p] A method of performing electrical stimulation therapy, comprising:*

Petitioner contends that “Amarenco studied ‘acute tibial nerve stimulation in a population presenting with symptoms (urge incontinence and frequency) secondary to [OAB]’” and “[t]he procedure involved ‘left [PTN] stimulation using a surface self-adhesive electrode on the ankle skin behind the internal malleolus with shocks in continuous mode at 10Hz. frequency and 200 milliseconds wide.’” Pet. 43 (citing Ex. 1005, 2210; Ex. 1003 ¶ 164). Patent Owner’s Preliminary Response does not specifically address limitation 1.p. We agree that Amarenco discloses the preamble, regardless of whether it is limiting.

- b. *[1.a] non-invasively positioning a first portion of a patient's body relative to an electrical stimulator such that a posterior tibial nerve or branch thereof within the first portion of the body is in proximity to the electrical stimulator;*

Petitioner contends that Amarenco’s procedure involved “left [PTN] stimulation,” which “was done using a self-adhesive surface stimulation electrode without an implanted needle electrode. Contact electrodes were placed with electrode gel on the ankle skin with the negative electrode behind the internal malleolus and the positive electrode 10 cm. above the negative electrode.” Pet. 43–44 (citing Ex. 1005, 2210, 2211; Ex. 1003 ¶ 165). Petitioner argues that Amarenco explicitly states the procedure was noninvasive and skilled artisans would have understood “electrodes ‘on the ankle skin with the negative electrode behind the internal malleolus and the positive electrode 10 cm. above the negative electrode’” necessarily indicates both proximity and relative position towards an electrical stimulator, as

claimed. Pet. 44–45 (citing Ex. 1005, 2211; Ex. 1003 ¶ 166). Patent Owner’s Preliminary Response does not specifically address limitation 1.a. We agree that Amarengo discloses limitation 1.a.

c. [1.b] passing a current through the electrical stimulator;

Petitioner argues that Amarengo applied stimulation via surface self-adhesive electrodes, which “necessarily would have been connected to an electrical stimulator source through which current was passed.” Pet. 45. Patent Owner’s Preliminary Response does not specifically address limitation 1.b. We agree that Amarengo discloses limitation 1.b.

d. [1.c] delivering an electrical stimulus from the electrical stimulator to the posterior tibial nerve or branch thereof;

Petitioner contends that “Amarengo delivered electrical stimulus from an electrical stimulator through the electrodes to the PTN” and “included patients ‘presenting with symptoms (urge incontinence and frequency) secondary to overactive bladder.’” Pet. 45–46. Patent Owner’s Preliminary Response does not specifically address limitation 1.c. We agree that Amarengo discloses limitation 1.c.

e. [1.d]–[1.f] detecting conduction and adjusting current

[1.d] detecting electrical conduction through the posterior tibial nerve or branch thereof or detecting a muscular response caused by an electrical conduction through the posterior tibial nerve or branch thereof via at least one sensor positioned along a second portion of the body;

[1.e] receiving a signal from the at least one sensor indicative of the detected electrical conduction or muscular response thereby providing feedback about the efficacy of the applied electrical stimulation therapy; and

[1.f] adjusting the current via a controller in communication with the electrical stimulator based on the feedback.

Petitioner contends that “Amarenco provides EMG results, indicating the researchers measured EMG signals via EMG sensors/electrodes” (Pet. 46 (citing Ex. 1005, 2212, Figs. 3–4)) and further argues that it would have been obvious to skilled artisans to modify Amarenco’s method based on Mann, DiLorenzo, Gerber, and Bourget. Pet. 46–50 (citing Ex. 1003 ¶¶ 170–194). Petitioner’s explanation mirrors that explained above regarding modifying Svihra. *Id.* Similarly, Patent Owner’s reasons for disagreeing mirror those raised against the Svihra-based ground. *See* Prelim. Resp. 17, 19. Accordingly, for the reason discussed above, we conclude that the record supports Petitioner’s contention that skilled artisans would have had reason to modify Amarenco’s approach to incorporate detecting electrical conduction and using it to adjust stimulation current, as disclosed by Mann, DiLorenzo, Gerber, and Bourget. *See supra* at 27–31 (§ II.E.6.e). We agree with Petitioner that the asserted combination discloses limitations 1.d–1.f.

f. Summary

Other than as discussed above, Patent Owner does not contest Petitioner’s showing regarding obviousness of claim 1 over Amarenco in combination with Mann, DiLorenzo, Bourget, or Gerber. We have reviewed Petitioner’s contentions, including the uncontested aspects, and conclude that Petitioner has adequately supported institution. *See* Pet. 43–50.

3. Claims 2–10

Petitioner asserts that claims 2–10 would also have been obvious over Amarenco, Mann, DiLorenzo, Gerber, and Bourget. Pet. 50–63. Patent

Owner argues that Petitioner's grounds with respect to claims 2–10 fail for the same reasons as Petitioner's grounds with respect to claim 1 discussed above. Prelim. Resp. 20.

Because we determine that Petitioner's contentions for claim 1 discussed above warrant institution, we do not address the additional grounds with respect to dependent claims 2–10 at this stage. These grounds are included in the instituted review and we will address any disputes raised during trial.

III. CONCLUSION

For the reasons discussed above, we conclude that Petitioner has shown a reasonable likelihood of prevailing with respect to unpatentability of at least one claim. Accordingly, we institute *inter partes* review.

IV. ORDER

Accordingly, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review of claims 1–10 of the '477 patent is instituted on the grounds raised in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), notice is hereby given of the institution of trial, which will commence on the entry date of this Decision.

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Patent 9,002,477 B2

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