



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.
11/295,168	12/05/2005	Kerry Bradley	BSNC-1-418.0	7430
50638	7590	09/20/2019	EXAMINER	
Boston Scientific Neuromodulation Corp. c/o Lowe Graham Jones 701 Fifth Avenue Suite 4800 Seattle, WA 98104			D ABREU, MICHAEL JOSEPH	
			ART UNIT	PAPER NUMBER
			3792	
			NOTIFICATION DATE	DELIVERY MODE
			09/20/2019	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):

patentdocketing@lowegrahamjones.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KERRY BRADLEY, LJUBOMIR MANOLA, and
JAN HOLSHEIMER

Appeal 2018-003598
Application 11/295,168
Technology Center 3700

Before EDWARD A. BROWN, MICHAEL L. HOELTER, and
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

MARSCHALL, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ seeks our review under 35 U.S.C. § 134(a) of the Examiner's rejection of claims 1–19 and 21–23. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

¹ We refer to the named inventors collectively as “Appellant.” According to Appellant, the real party in interest is Boston Scientific Neuromodulation Corporation. Appeal Br. 2.

THE CLAIMED SUBJECT MATTER

The claimed subject matter “relates to therapeutic electrical stimulation systems and methods and, more specifically, relates to activating electrodes in an implanted stimulator device.” Spec. ¶ 2. Claims 1 and 11 are independent. Claim 1 is reproduced below.

1. A method of using a plurality of electrodes of a stimulator device implanted in a patient, the method comprising:

providing a stimulator device comprising a plurality of electrodes, wherein the stimulator device is implanted in a patient;

taking a first type of measurement for each of the plurality of electrodes of the stimulator device;

taking a second different type of measurement for each of the plurality of electrodes of the stimulator device, wherein the measurements are indicative of the ability of the respective electrode if activated to provide useful therapy to the patient in which the stimulator device is implanted;

applying a first weight to the first type of measurements to respectively arrive at first weighted measurements for the respective electrodes;

applying a second weight to the second type of measurements to respectively arrive at second weighted measurements for the respective electrodes;

computing a function of the first and second weighted measurements to arrive at a value;

using the value to determine a subset of the electrodes; and activating at least one electrode of the subset of the electrodes to deliver therapy to the patient.

Appeal Br. 20 (Claims App.).

THE REJECTIONS

Appellant appeals from the following rejections:

1. Claims 1–4 under 35 U.S.C. § 103(a) as unpatentable over Bradley,² Tu,³ and Netherly.⁴
2. Claims 5 and 21–23 under 35 U.S.C. § 103(a) as unpatentable over Bradley, Tu, Netherly, and Faltys.⁵

ANALYSIS

Independent Claims 1 and 11

Claims 1 and 11 require “applying a first weight to the first type of measurements to respectively arrive at first weighted measurements for the respective electrodes,” and a similar limitation directed to “applying a second weight.” Appeal Br. 20, 22 (Claims App.). The Examiner finds that Bradley discloses most of the limitations of claims 1 and 11, but “fails to expressly disclose applying a first and second weight to the first and second type of measurements.” Final Act. 3. The Examiner finds that “Tu teaches detection of both monopolar and bipolar measurements and the application of a first and second weight to the measurements in the form of automatically eliminating artifacts via known methods in order to ensure the impedance measurements are not contaminated.” *Id.* at 4. The Examiner further finds that “Netherly teaches the application of weights or filters to remove the noise in the monopolar or bipolar impedance measurements.”

² U.S. Patent Publication No. 2003/0139781 A1, published July 24, 2003 (“Bradley”).

³ U.S. Patent Publication No. 2003/0088189 A1, published May 8, 2003 (“Tu”).

⁴ U.S. Patent No. 6,007,532, issued December 28, 1999 (“Netherly”).

⁵ U.S. Patent No. 5,626,629, issued May 6, 1997 (“Faltys”).

Id. (citing Netherly, 18:61–19:20). The Examiner determined that “it would have been an obvious design choice to one of ordinary skill in the art at the time of the invention to incorporate a similar application of a filter or weight to the signal which would allow the impedance signals to be denoised with the removal of any artifacts, so that the following analysis taught by Bradley would not be negatively affected by those invalid values.” *Id.*

Appellant argues that neither Tu nor Netherly mention or otherwise suggest applying a weight to measurements. App. Br. 9–11. As to Tu, Appellant argues that the portion of Tu the Examiner appears to rely upon⁶ “only requires repetition of measurement,” which does not involve applying a weight to reduce noise. *Id.* at 9. As to Netherly, Appellant argues that even if it does disclose filtering, “there are many forms of filtering and many of them do not use the application” of weights to measurements as claimed. *Id.* at 10. As an example, Appellant contends that filtering may use averaging of measurements, which does not involve weighting. *Id.*

In the Answer, the Examiner “notes that although the term ‘weight’ is not used, or a specific weight isn’t actively applied, the meaning of the term ‘weight’ is broader than what the term would be expected to mean.” Ans. 2. The Examiner cites to portions of the Specification, and concludes, “there are many different logical ways to arrive at a value for each of the electrodes, and disclosure of a weighted sum should not be understood as limiting.” *Id.* at 3 (citing Spec. ¶¶ 78, 79, 86). The Examiner finds that in

⁶ Appellant notes that the Examiner did not cite any specific portion of Tu in support of the finding regarding Tu, but the Examiner acknowledges in the Answer that Appellant correctly focus on Tu’s paragraph 52. Appeal Br. 9; Ans. 2.

Tu and Netherly, “‘weighting’ is occurring of impedance values” based on the Examiner’s construction of “weight.” *Id.* As to Tu, the Examiner finds that Tu discloses “a fast analysis based on a plurality of measurements which are weighted purposely to eliminate artifacts.” *Id.* at 4. As to Netherly, the Examiner finds that detecting impedances “through” noise “must be overcome by some sort of filter resulting in a ‘weight’ applied to the originally measured impedance data.” *Id.* at 4–5.

We agree with Appellant that the Examiner has not adequately supported the finding that either Tu or Netherly discloses the weighting limitations of claims 1 and 11. As to claim construction, although the Examiner states that “weight” means something “broader than what the term would be expected to mean,” the Examiner does not adopt a specific construction much less support a specific construction with cites to the record or other evidence. *Ans.* 2; *see also id.* at 3 (determining that “weighted sum” approach “should not be understood as limiting” but not providing an explicit construction). The Specification describes weighting as associating a numeric value to “measurements taken,” and applying that value to these measurements as part of an equation that arrives at “a weighted sum” of the measurements taken. *Spec.* ¶ 62. The Specification’s paragraphs 78 and 79, relied on by the Examiner, similarly describe weighing a “ratio” of measurements or “various measurements” taken. *Id.* at ¶¶ 78, 79. The Examiner refers to the Specification’s description of “averaging the measurements,” but the Specification does not describe averaging as a form of weighting the measurements as the claims describe. *Ans.* 3 (citing *Spec.* ¶ 86). We agree with Appellant that “weight” in the context of these claim limitations, which require arriving at “weighted

measurements,” suggests that “weight” is a mathematical term applied to first and second “type[s] of measurements.” Reply Br. 3. At a minimum, “applying” a “weight” requires assigning a relative value to measurements that indicates a preference (or lack of a preference) for those measurements relative to other measurements. *See, e.g.*, Spec. Fig. 10A.

Turning to the prior art the Examiner relies on, we agree with Appellant that neither Tu nor Netherly mentions “weight” or “weighting” in the portions relied on by the Examiner. Appeal Br. 9–10. Accordingly, the references do not expressly disclose “applying” a “weight” as required by claims 1 and 11. In addition, the Examiner has not supported adequately a finding of inherency. As to Tu, the Examiner finding that Tu discloses “a fast analysis based on a plurality of measurements” does not establish that multiple measurements are necessarily weighted. *See* Ans. 4. As to Netherly, the Examiner’s finding that Netherly filters noise does not suggest that Netherly necessarily applies a weight in order to perform the filtering. *Id.* at 4–5. As Appellant notes, there are other potential methods that Tu and Netherly may employ to achieve their respective goals, such as averaging measurements, without resorting to weighting the measurements. Appeal Br. 9–10; Reply Br. 5–7. Under these circumstances, the Examiner does not establish with sufficient evidence and analysis that the references inherently disclose applying a weight to the measurements.

Because the Examiner did not support adequately the finding that Tu or Netherly disclose “applying” a “weight” as required by claims 1 and 11, the Examiner’s related determination that it would have been an “obvious design choice” to add weighting to Bradley’s teachings lacks an adequate

Appeal 2018-003598
Application 11/295,168

foundation. *See* Final Act. 4. Based on the foregoing, we do not sustain the rejection of claims 1 and 11.

Dependent Claims

The Examiner's rejections of the dependent claims rely on the same findings that we discussed above in the context of independent claims 1 and 1, and do not rely on additional references in a manner that remedies the deficiencies noted above. *See* Final Act. 4–5. Accordingly, we do not sustain the rejection of dependent claims 2–10, 12–19, and 21–23, for the same reasons discussed above.

DECISION

We reverse the decision of the Examiner to reject claims 1–19 and 21–23.

REVERSED