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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MEDTRONIC XOMED, INC., Petitioner,

v.

NEUROVISION MEDICAL PRODUCTS, INC., Patent Owner.

> Case IPR2016-01847 Patent 8,467,844 B2

Before MEREDITH C. PETRAVICK, WILLIAM V. SAINDON, and RICHARD E. RICE, *Administrative Patent Judges*.

PETRAVICK, Administrative Patent Judge.

DECISION Institution of *Inter Partes* Review 37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

Medtronic Xomed, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–7 of U.S. Patent No. 8,467,844 B2 (Ex. 1001, "the '844 patent") pursuant to 35 U.S.C. §§ 311–319. Paper 1 ("Pet.").

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Neurovision Medical Products, Inc. ("Patent Owner") filed a Preliminary Response to the Petition. Paper 12 ("Prelim. Resp."). Under 35 U.S.C. § 314 an *inter partes* review may not be instituted "unless . . . the information presented in the petition . . . 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." We conclude that the Petition shows that there is a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims. For the reasons discussed below, we institute an *inter partes* review as to claims 1–7 of the '844 patent.

B. Related Proceedings

Both Petitioner and Patent Owner state that the '844 patent is involved in *Neurovision Med. Prods. v. Medtronic Pub. Ltd. Co.*, Case No. 2:16-cv-00127-JRG-RSP in the Eastern District of Texas. Pet. 1, Paper 6, 2.

U.S. Patent No. 8,634,894 B2 ("the '894 patent") claims priority to the '844 patent (Ex. 2024, [62]) and is the subject of pending *inter partes reviews*, IPR2016-01405, IPR2016-01406, and IPR2017-00456. Pet. 1, Paper 11, 1. Additionally, the '894 patent was the subject of IPR2015-00502, which terminated due to settlement prior to the Board issuing a final written decision. Paper 11, 1.

C. The '844 patent

The '844 patent is titled "Electrode for Prolonged Monitoring of Laryngeal Electromyography" and issued on June 18, 2013, from U.S. Patent Application No. 12/887,427, filed on September 21, 2010. Ex. 1001, [54], [45], [21], [22]. U.S. Patent Application No. 12/887,427 claims

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priority to U.S. Provisional Application No. 61/244,402, filed on September 21, 2009. *Id.* at [60], 1:5–6.

The '844 patent discloses a laryngeal electromyography tube having electrodes, electrical traces, and conductive pads directly imprinted on, and thus substantially flush with, the surface of the tube. *See id.* at 5:56–60. The electrodes, electrical traces, and conductive pads are imprinted on the surface of the tube by "painting, screen printing, transfer printing, gravure, flexographic or offset printing, as well as inkjet or electrostatic printing methods." *Id.* at 6:3–6. The electrodes, electrical traces, and conductive pads are formed with conductive ink or paint that comprises a mixture of conductive materials dissolved or suspended in a liquid carrier. *See id.* at 4:47–5:15.

The '844 patent discloses various embodiments, in which the number and placement of the electrodes vary. *See id.* at Figs. 1, 2, 4, 7. Figure 7 depicts an embodiment in which two electrodes are placed on the tube such that an electrode is in contact with the vocal cords and another is in contact with the tongue when the tube is in use. *Id.* at 4:41–44. Figure 7 is reproduced below.



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Figure 7 depicts laryngeal electromyography tube 60 having an endotracheal tube 12 imprinted with two electrode plates 62 and 64. *Id.* at 4:41–44. Electrode plate 62 is positioned to contact the vocal cords, and electrode plate 64 is positioned to contact the tongue. *Id.* Conductive traces 20 connect the electrode plates to conductive pads 22, which attach to lead wires of an external device. *Id.* at 4:4–7, 4:44–46. Tube 60 also has an endotracheal tube balloon 15, which, when inflated, holds tube 60 in a desired position when in use. *See id.* at 3:67–4:1, Fig. 8. Figure 8 depicts tube 60 in use and is reproduced below.



Figure 8 depicts tube 60 placed within the trachea with one electrode plate adjacent the vocal cords and one electrode contacting the tongue. *Id.* at 3:50–52.

D. Illustrative Claim

Claims 1 and 4 are independent. Claims 2 and 3 depend from claim 1. Claims 5–7 depend from claim 4. Claim 1, reproduced below, is illustrative of the claimed subject matter.

1. A device for use in monitoring electrical signals during laryngeal electromyography comprising:

an endotracheal tube having a retention balloon at or adjacent a distal end thereof, said tube having on its outer surface one or more electrically conductive electrode plates applied proximal of the balloon directly to the surface of the tube, without the inclusion of a carrier film between the tube surface and the electrode plates,

said tube having on its surface electrically conductive traces connected to or integral with the electrode plates, the traces applied directly to the tube surface and running along the length of the endotracheal tube to a proximal end thereof,

conductive pads connected to or integral with the conductive traces, the pads applied directly to the tube surface at the proximal end of the endotracheal tube, and

electrical leads connected to the pads, said leads adapted to connect to monitoring equipment,

the electrically conductive traces covered by an insulating material along their length from a point adjacent the electrode plates to a point adjacent the conductive pads[,]

wherein a first of said electrode plates is located proximal of the balloon and positioned to contact the vocal cords when placed within the trachea and a second electrode plate is located further proximal thereof and positioned to contact the tongue when the first electrode plate is positioned to contact the vocal cords.

Ex. 1001, 7:5–31.

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