Paper No. 7 Entered: June 5, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. Petitioner,

v.

VALENCELL, INC. Patent Owner.

IPR2017-00317 Patent 8,989,830 B2

Before BRIAN J. McNAMARA, JAMES B. ARPIN, and SHEILA F. McSHANE, *Administrative Patent Judges*.

McSHANE, Administrative Patent Judge.

DECISION
Instituting Inter Partes Review
37 C.F.R. § 42.108



I. INTRODUCTION

A. Background

Apple Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–6, 8–16, and 18–20 ("the challenged claims") of U.S. Patent No. 8,989,830 B2 (Ex. 1001, "the '830 patent") pursuant to 35 U.S.C. §§ 311–319. Paper 2 ("Pet."). Valencell, Inc. ("Patent Owner") filed a Preliminary Response to the Petition. Paper 6 ("Prelim. Resp.").

We have authority under 35 U.S.C. § 314(a), which provides that 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 determine that Petitioner has demonstrated that there is a reasonable likelihood that it would prevail with respect to at least one of the challenged claims. For the reasons set forth below, we institute an *inter* partes review of claims 1–6, 8–16, and 18–20.

B. Related Proceedings

The parties indicate that the '830 patent is at issue in *Valencell, Inc. v. Apple Inc.*, Case No. 5:16-cv-00001 (E.D.N.C), and *Valencell, Inc. v. Fitbit, Inc.*, Case No. 5:16-cv-00002 (E.D.N.C). Pet. 3; Paper 5, 1. Patent Owner indicates the '830 patent is also at issue in *Valencell, Inc. v. Bragi Store, LLC*, Case No. 5:16-cv-00895 (E.D.N.C.). Paper 5, 1.

In addition to this Petition, Petitioner indicates that it filed another *inter partes* review petition challenging claims of the '830 patent (IPR2017-00316), and also filed another *inter partes* review petition (IPR2017-00318)



IPR2017-00317
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challenging claims of U.S. Patent No. 8,886,269 B2, which is the parent of the '830 patent. Pet. 3.

C. The '830 Patent

The '830 patent is entitled "Wearable Light-Guiding Devices For Physiological Monitoring" and issued on March 24, 2015 from an application filed on September 12, 2014. Ex. 1001, [22], [45], [54]. The '830 patent claims priority to U.S. Patent Application No. 14/184,364, filed on February 19, 2014 (now U.S. Patent No. 8,886,269 B2), and U.S. Patent Application No. 12/691,388, filed on January 21, 2010 (now U.S. Patent 8,700,111). *Id.* at [63].

The '830 patent is directed to monitoring devices configured to be attached to the body of a subject. Ex. 1001, Abstract. The monitoring devices may include physiological sensors to measure, for example, heart rate, pulse rate, breathing rate, and a variety of other physical parameters. *Id.*, 4:33–67. The sensors, for example, may be photoplethysmography ("PPG") sensors for measuring blood flow properties, such as blood oxygen level. *Id.* at 3:67–4:5. The '830 patent discloses various embodiments of the monitoring devices, such as that depicted in Figures 22A and 22B, reproduced below.



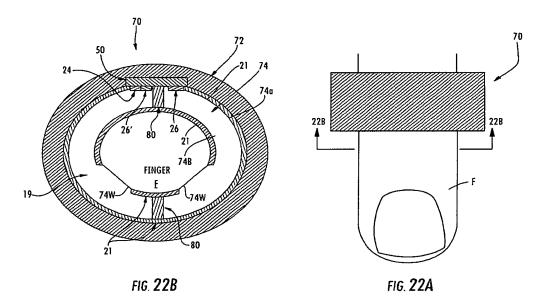


Figure 22A is a top plan of an embodiment of monitoring device 70 configured to be attached to the finger of a subject, and Figure 22B is a cross-sectional view of the monitoring device. Ex. 1001, 8:16–20. The monitoring device that fits over the finger has outer body portion 72 that may include a flex circuit, and base 50 secured to inner body portion 74 and outer body portion 72. *Id.* at 28:1–10. Base 50 supports optical emitter 24, optical detector 26, and optical noise detector 26'. *Id.* at 28:19–21. Layer of cladding material 21 is applied to (or near) outer surface 74a of inner body portion 74, as well as inner surface 74b, to serve as a light guide to deliver light from optical emitter 24 to the finger and to collect light from the finger and deliver it to optical detectors 26, 26'. *Id.* at 28:30–38. "[W]indows 74w are formed in the cladding material 21 and serve as light-guiding interfaces to the finger." *Id.* at 28:44–46. The device also may be embodied in "a patch, such as a bandage that sticks on a person's body." *Id.* at 11:53–58.

The '830 patent discloses an embodiment of the invention illustrated in Figure 3, reproduced below.



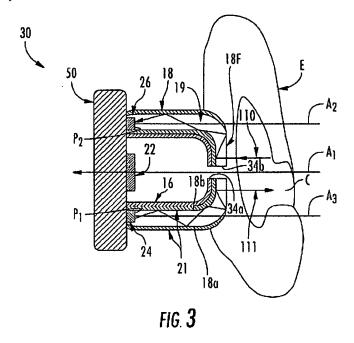


Figure 3 depicts an embodiment of monitoring device showing a side section view of a headset with a light-guiding earbud. Ex. 1001, 7:7–9.

Earbud 30 includes optical detector 26 and optical emitter 24. Ex. 1001, 14:52–53. Cladding material 21 is used to confine light within light guiding region 19. *Id.* at 14:60–63.

Claim 1, reproduced below, is illustrative of the challenged claims of the '830 patent.

1. A monitoring device configured to be attached to the body of a subject, comprising:

an outer layer and an inner layer secured together, the inner layer comprising light transmissive material, and having inner and outer surfaces;

a base secured to at least one of the outer and inner layers and comprising at least one optical emitter and at least one optical detector;

a layer of cladding material near the outer surface of the inner layer; and

at least one window formed in the layer of cladding material that serves as a light-guiding interface to the body of the



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