



(12) **United States Patent**  
**LeBoeuf et al.**

(10) **Patent No.:** **US 8,989,830 B2**  
(45) **Date of Patent:** **\*Mar. 24, 2015**

(54) **WEARABLE LIGHT-GUIDING DEVICES FOR PHYSIOLOGICAL MONITORING**

USPC ..... 600/310  
See application file for complete search history.

(71) Applicant: **Valencell, Inc.**, Raleigh, NC (US)

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(72) Inventors: **Steven Francis LeBoeuf**, Raleigh, NC (US); **Jesse Berkley Tucker**, Knightdale, NC (US); **Michael Edward Aumer**, Raleigh, NC (US)

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(73) Assignee: **Valencell, Inc.**, Raleigh, NC (US)

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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This patent is subject to a terminal disclaimer.

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(22) Filed: **Sep. 12, 2014**

(65) **Prior Publication Data**

US 2015/0032009 A1 Jan. 29, 2015

*Primary Examiner* — Rodney Fuller

(74) *Attorney, Agent, or Firm* — Myers Bigel Sibley & Sajovec

**Related U.S. Application Data**

(63) Continuation of application No. 14/184,364, filed on Feb. 19, 2014, now Pat. No. 8,886,269, which is a continuation of application No. 12/691,388, filed on Jan. 21, 2010, now Pat. No. 8,700,111.

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(57) **ABSTRACT**

A monitoring device configured to be attached to the body of a subject includes an outer layer and an inner layer secured together. The inner layer includes light transmissive material and has inner and outer surfaces. A base is secured to at least one of the outer and inner layers and includes an optical emitter and optical detector. A layer of cladding material is positioned near the outer surface of the inner layer, and at least one window is formed in the layer of cladding material that serves as a light-guiding interface to the body of the subject. The light transmissive material delivers light from the optical emitter to the body of the subject along a first direction and collects light from the body of the subject and delivers the collected light in a second direction to the optical detector. The first and second directions are substantially parallel.

(51) **Int. Cl.**

**A61B 5/00** (2006.01)  
**A61B 5/1455** (2006.01)

(52) **U.S. Cl.**

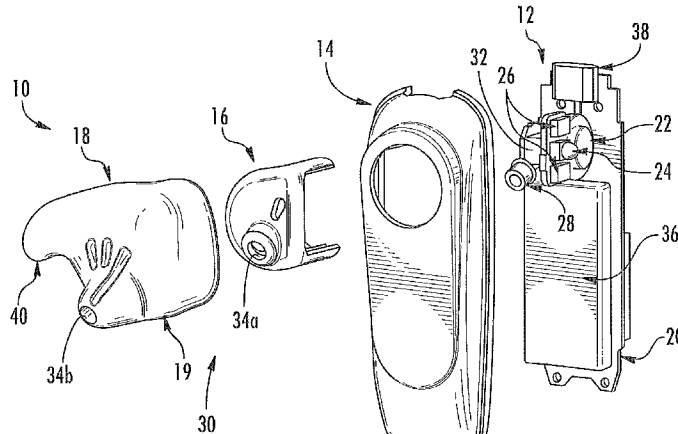
CPC ..... **A61B 5/0082** (2013.01); **A61B 5/6838** (2013.01); **A61B 5/418** (2013.01); **A61B 5/1455** (2013.01); **A61B 5/6803** (2013.01)

USPC ..... **600/310**

(58) **Field of Classification Search**

CPC ..... A61B 5/0082

**20 Claims, 21 Drawing Sheets**



**Related U.S. Application Data**

- (60) Provisional application No. 61/208,567, filed on Feb. 25, 2009, provisional application No. 61/208,574, filed on Feb. 25, 2009, provisional application No. 61/212,444, filed on Apr. 13, 2009, provisional application No. 61/274,191, filed on Aug. 14, 2009.

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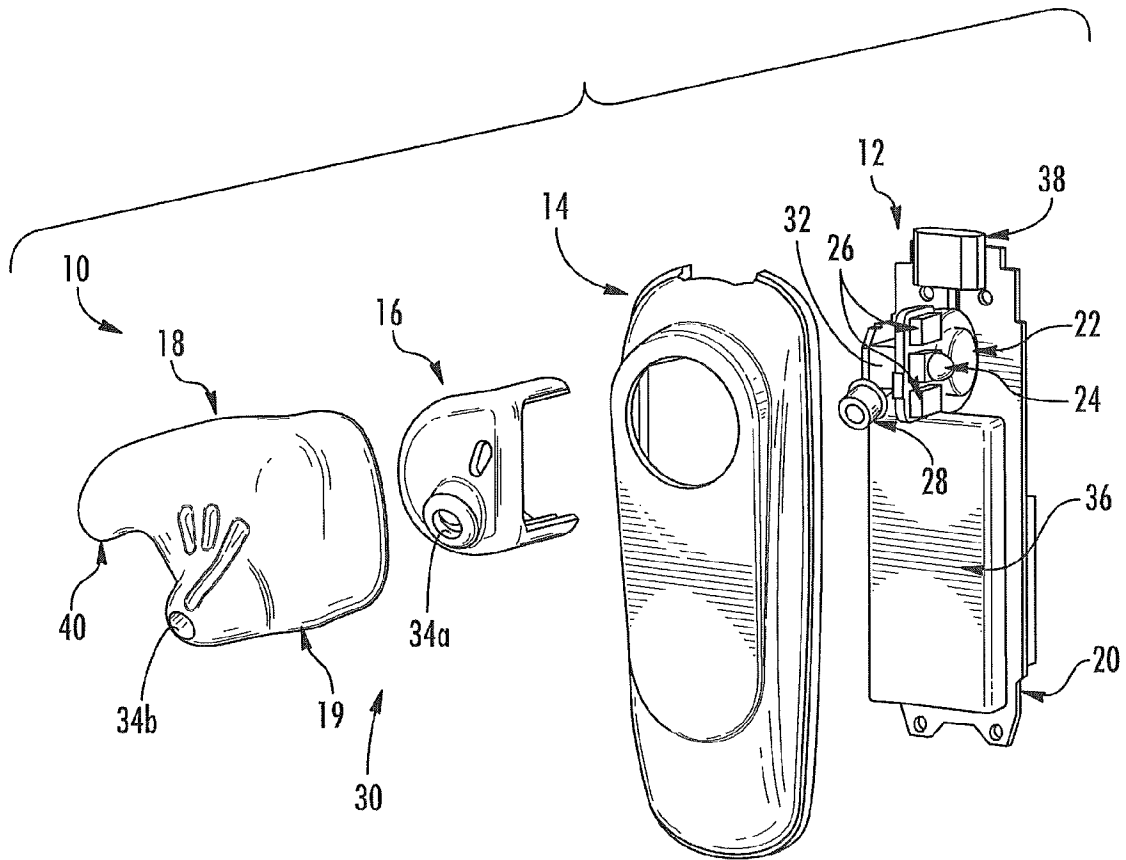


FIG. 1

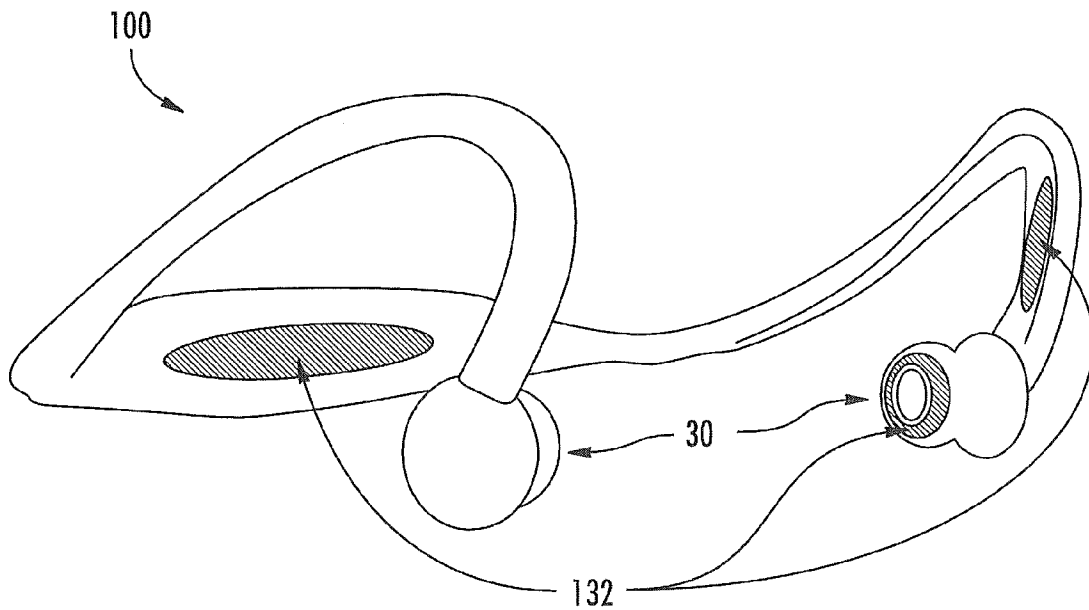


FIG. 2

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