Apple Inc. (Petitioner)
v.
Masimo Corporation (Patent Owner)

Petitioner Demonstratives

Case Nos. IPR2022-01291 and IPR2022-01465
U.S. Patent No. 10,687,745

Before Hon. Josiah C. Cocks, George R. Hoskins, and Robert A. Pol
Administrative Patent Judges

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’745 Patent Overview

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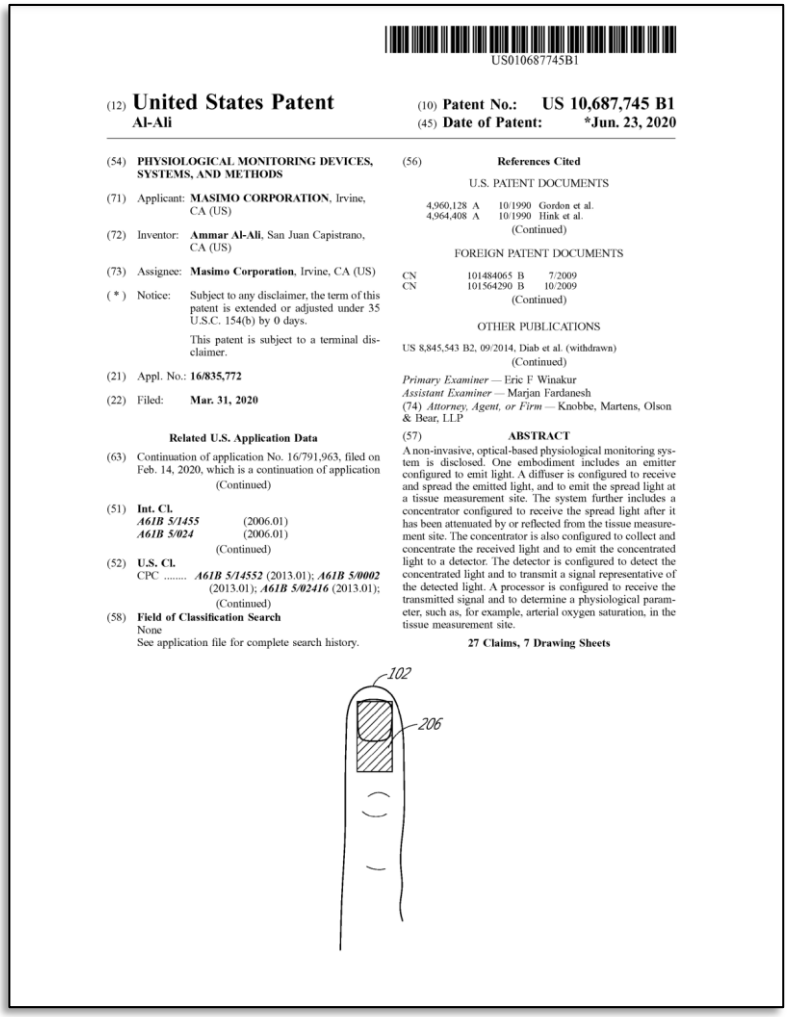
Overview of the ’745 Patent



US010687745B1

(12) **United States Patent**
Al-Ali

(10) **Patent No.: US 10,687,745 B1**
(45) **Date of Patent: *Jun. 23, 2020**

(54) **PHYSIOLOGICAL MONITORING DEVICES, SYSTEMS, AND METHODS**

(71) Applicant: **MASIMO CORPORATION**, Irvine, CA (US)

(72) Inventor: **Ammar Al-Ali**, San Juan Capistrano, CA (US)

(73) Assignee: **Masimo Corporation**, Irvine, CA (US)

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

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **16/835,772**

(22) Filed: **Mar. 31, 2020**

Related U.S. Application Data

(63) Continuation of application No. 16/791,963, filed on Feb. 14, 2020, which is a continuation of application (Continued)

(51) **Int. Cl.**
A61B 5/1455 (2006.01)
A61B 5/024 (2006.01)
(Continued)

(52) **U.S. Cl.**
CPC ***A61B 5/14552*** (2013.01); ***A61B 5/0002*** (2013.01); ***A61B 5/02416*** (2013.01);
(Continued)

(58) **Field of Classification Search**
None
See application file for complete search history.

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(57) **ABSTRACT**

A non-invasive, optical-based physiological monitoring system is disclosed. One embodiment includes an emitter configured to emit light. A diffuser is configured to receive and spread the emitted light, and to emit the spread light at a tissue measurement site. The system further includes a concentrator configured to receive the spread light after it has been attenuated by or reflected from the tissue measurement site. The concentrator is also configured to collect and concentrate the received light and to emit the concentrated light to a detector. The detector is configured to detect the concentrated light and to transmit a signal representative of the detected light. A processor is configured to receive the transmitted signal and to determine a physiological parameter, such as, for example, arterial oxygen saturation, in the tissue measurement site.

27 Claims, 7 Drawing Sheets

- The ’745 Patent was filed Mar
2020, and its earliest claimed
date is July 2, 2015.
- The ’745 Patent includes 27 c
- The IPR2022-01291 Petition c
claims 1, 9, 15, 18, 20, and 27
claims 1, 15, and 20 are indep
- The IPR2022-01465 Petition c
claims 2-6, 8, 10-14, 17, 19, a

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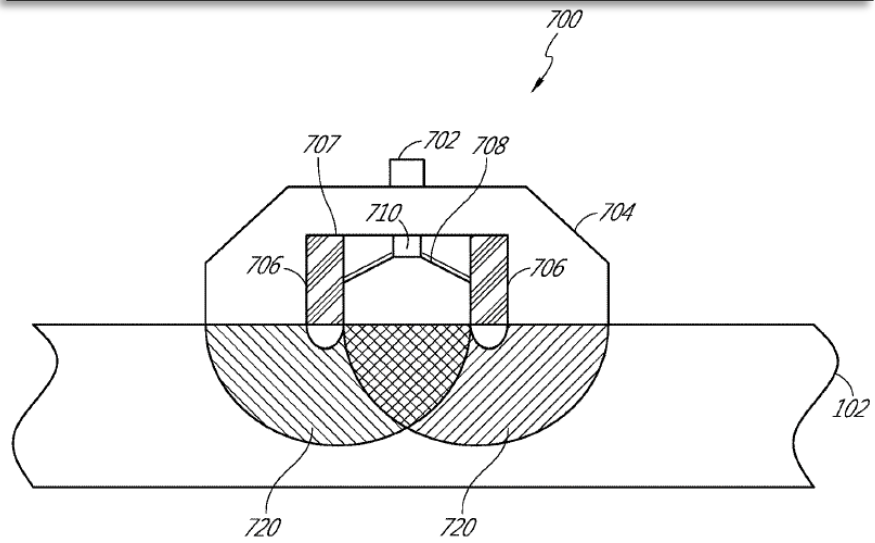
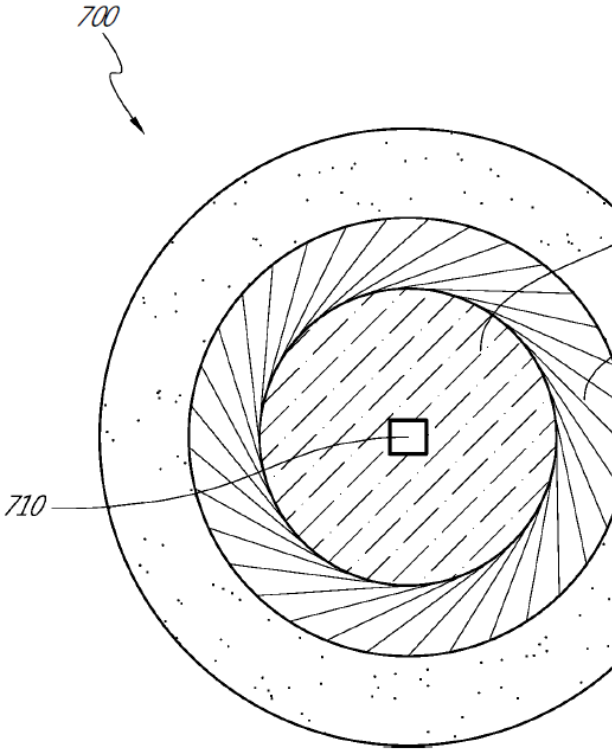
Overview of the ’745 Patent

FIGS. **7**A and **7**B are simplified schematic side and top views, respectively, of a 3D reflective pulse oximetry sensor **700** according to an embodiment of the present disclosure. In the illustrated embodiment, the 3D sensor **700** irradiates the tissue measurement site **102** and detects the emitted light that is reflected by the tissue measurement site **102**. The 3D sensor **700** can be placed on a portion of the patient’s body that has relatively flat surface, such as, for example a wrist, because the emitter **702** and detector **710** are on located the same side of the tissue measurement site **102**. The 3D sensor **700** includes an emitter **702**, a light diffuser **704**, a light block **706**, a light concentrator **708**, and a detector **710**.





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