

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,  
Petitioner,

v.

MASIMO CORPORATION,  
Patent Owner.

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IPR2020-01526  
Patent 6,771,994 B2

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Before JOSIAH C. COCKS, ROBERT L. KINDER, and  
AMANDA F. WIEKER, *Administrative Patent Judges*.

KINDER, *Administrative Patent Judge*.

JUDGMENT  
Final Written Decision  
Determining the Challenged Claim Unpatentable  
*35 U.S.C. § 318(a)*

## I. INTRODUCTION

### A. *Background*

Apple Inc. (“Petitioner”) filed a Petition requesting an *inter partes* review of claim 15 of U.S. Patent No. 6,771,994 B2 (Ex. 1001, “the ’994 patent”). Paper 2 (“Pet.”). Masimo Corporation (“Patent Owner”) waived filing a Preliminary Response. Paper 6. We instituted an *inter partes* review of the challenged claim on all asserted grounds of unpatentability, pursuant to 35 U.S.C. § 314. Paper 7 (“Institution Decision” or “Inst. Dec.”).

After institution, Patent Owner filed a Response (Paper 12, “PO Resp.”) to the Petition, Petitioner filed a Reply (Paper 17, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 19, “Sur-reply”). An oral hearing was held on January 19, 2022, and a transcript of the hearing is included in the record. Paper 30 (“Tr.”).

We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. Based on the record before us and for the reasons set forth below, Petitioner has met its burden of showing, by a preponderance of the evidence, that claim 15 of the ’994 patent is unpatentable.

### B. *Related Matters*

The parties identify the following matters related to the ’994 patent:  
*Masimo Corporation v. Apple Inc.*, Civil Action No. 8:20-cv-00048 (C.D. Cal.) (filed Jan. 9, 2020);

*Apple Inc. v. Masimo Corporation*, IPR2020-01520 (PTAB Aug. 31, 2020) (challenging claims of U.S. Patent No. 10,258,265 B1);

*Apple Inc. v. Masimo Corporation*, IPR2020-01521 (PTAB Sept. 2, 2020) (challenging claims of U.S. Patent No. 10,292,628 B1);

IPR2020-01526  
Patent 6,771,994 B2

*Apple Inc. v. Masimo Corporation*, IPR2020-01523 (PTAB Sept. 9, 2020) (challenging claims of U.S. Patent No. 8,457,703 B2);  
*Apple Inc. v. Masimo Corporation*, IPR2020-01524 (PTAB Aug. 31, 2020) (challenging claims of U.S. Patent No. 10,433,776 B2);  
*Apple Inc. v. Masimo Corporation*, IPR2020-01536 (PTAB Aug. 31, 2020) (challenging claims of U.S. Patent No. 10,588,553 B2);  
*Apple Inc. v. Masimo Corporation*, IPR2020-01537 (PTAB Aug. 31, 2020) (challenging claims of U.S. Patent No. 10,588,553 B2);  
*Apple Inc. v. Masimo Corporation*, IPR2020-01538 (PTAB Sept. 2, 2020) (challenging claims of U.S. Patent No. 10,588,554 B2); and  
*Apple Inc. v. Masimo Corporation*, IPR2020-01539 (PTAB Sept. 2, 2020) (challenging claims of U.S. Patent No. 10,588,554 B2).  
Pet. 68; Paper 3, 2.

The parties further identify certain pending patent applications, as well as other issued applications, that claim priority to, or share a priority claim with, the '994 patent. Paper 3, 1.

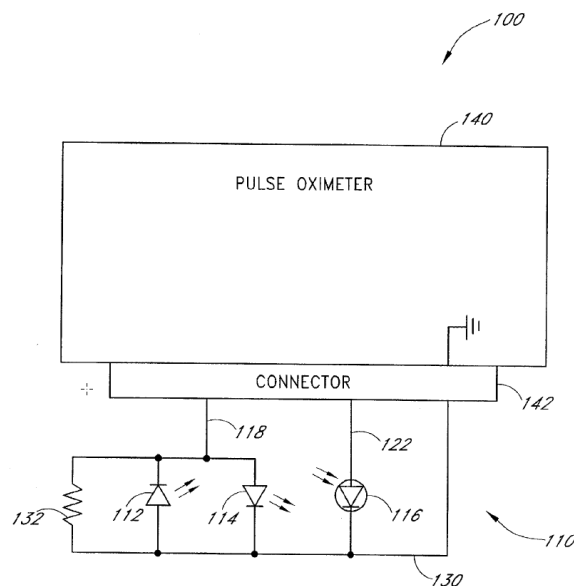
### C. *The '994 Patent*

The '994 patent is titled "Pulse Oximeter Probe-Off Detection System," and issued on August 3, 2004, from U.S. Patent Application No. 10/374,303, filed February 24, 2003. Ex. 1001, codes (21), (22), (45), (54). The '994 patent claims priority through a series of applications to Provisional Application No. 60/140,000, filed June 18, 1999. *Id.* at codes (60), (62).

The '994 patent relates to a pulse oximeter probe that detects when a probe has become dislodged from a patient or that acts to prevent a potential probe-off condition. Ex. 1001, code (57). The '994 patent relies on

electrical contacts that contact the skin of a patient when the probe is properly attached and a number of louvers placed in front of a sensor's photodetector to filter out oblique light rays that do not originate from a point in front of the detector. *Id.* According to one aspect of the invention, if the emitter and photodetector are not properly aligned, the photodetector will not produce a signal within the valid operating range of the pulse oximeter, which may trigger an alarm or warning. *Id.*

As depicted in Figure 1 below, pulse oximeter 140 is attached through connector 142 to probe 110 and probe 110 comprises LEDs 112, 114, which are "preferably configured to produce different wavelengths of light." *Id.* at 3:21–55, Fig. 1.

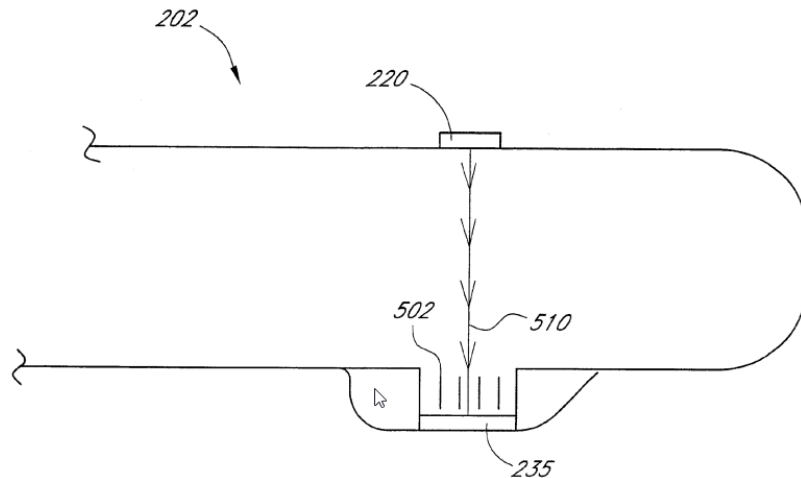


**FIG. 1**

Figure 1 illustrates a schematic of a pulse oximeter system. *Id.* at 2:30–31. The wavelengths of light pass through the flesh of a patient to be detected by photodetector 116. *Id.* at 3:34–37, Fig. 1. The '994 patent describes certain embodiments where the photodetector is placed opposite the light emitters to detect transmitted light as it emerges from the user's body tissue. *See id.* at

1:41–43 (describing the configuration of known pulse oximetry probes as positioning the detector “opposite the LED”), 4:19–25 (“the emitters located within the probe are spaced opposite the detector assembly 235 . . . such that the light from the emitters passes . . . through the finger 250 and is incident upon the detector assembly 235”), Figs. 2A–B, 4, 5A–B.

As illustrated in Figure 5B below, if probe 202 is properly attached emitter aperture 220 will be directly in front of detector assembly 235 and light rays will pass directly through louvers 502 along direct path 510. *Id.* at 6:29–33.



**FIG. 5B**

Figure 5B illustrates a properly attached probe wherein a number of louvers (502) are placed in front of the detector assembly. Ex. 1001, 2:60–62.

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