

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC. and FITBIT, INC.
Petitioners

v.

VALENCELL, INC.
Patent Owner

Case IPR2017-00317¹
Patent 8,989,830

**DECLARATION OF BRIAN W. ANTHONY, PH.D.
IN SUPPORT OF PETITIONER APPLE INC.'S
OPPOSITION TO PATENT OWNER'S MOTION TO AMEND**

Mail Stop "Patent Board"
Patent Trial and Appeal Board
U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-145

¹ IPR2017-01553 has been joined to this current proceeding.

TABLE OF CONTENTS

I.	Background.....	3
II.	My Understanding of Legal Principles.....	5
III.	Level of Ordinary Skill in the Art.....	10
IV.	Substitute Claims 26 and 35 Lack Reasonable Certainty.....	11
V.	Overview of the Applied References.....	12
	A. Goodman.....	12
	B. Hicks.....	13
	C. Asada.....	15
	D. Hannula.....	20
	E. Delonzor.....	22
	F. Han.....	23
VI.	The Combination of Goodman and Han Renders Substitute Claims 21–24, 27, 30–33, and 36 Obvious.....	25
	A. The Combination of Goodman and Han Renders Substitute Claims 21 and 30 Obvious.....	25
	B. The combination of Goodman and Han renders substitute claims 22, 23, 31, and 32 obvious.....	34
	C. The combination of Goodman and Han renders substitute claims 24 and 33 obvious.....	34
	D. The combination of Goodman and Han renders substitute claims 27 and 36 obvious.....	35
	E. The combination of Goodman and Han renders substitute claims 28 and 37 obvious.....	37
VII.	The Combination of Goodman, Han, and Hicks Renders Substitute Claims 25 and 34 Obvious.....	38
VIII.	The Combination of Goodman, Han, Hannula, and Asada Renders Substitute Claims 26 and 35 Obvious.....	39
	A. The combination of Goodman, Han, Hannula, and Asada teaches or suggests “a light reflective material on at least a portion of one or both of the inner and outer surfaces of the [inner/first] layer”.....	39

B. The combination of Goodman, Han, Hannula, and Asada teaches or suggests that “the at least one optical detector comprises first and second optical detectors”39

C. The combination of Goodman, Han, Hannula, and Asada discloses that “a signal processor, and wherein at least a portion of light reflected by the second optical detector is processed by the signal processor as a motion noise reference for attenuating motion noise from signals produced by the first optical detector”42

IX. The Combination of Goodman, Han, and Delonzor Renders Substitute Claims 29 and 38 Obvious.....43

X. Conclusion44

I, Dr. Brian W. Anthony, make this supplemental declaration to support the opposition to the motion to amend in IPR2017-00317. To that end, I hereby declare as follows:

I. Background

1. I am an expert in the relevant field of U.S. Patent No. 8,989,830 (the '830 patent). My qualifications and work experience are set forth in my opening declaration submitted in connection with the petition. *See* APL1003. A copy of my *curriculum vitae* was submitted as APL1004.

2. I understand that the Board instituted an *inter partes* review of the '830 patent in IPR2017-00317. I have reviewed the Board's institution decision and am familiar with all of the prior art supporting those grounds. The instituted grounds include:

Instituted Grounds		
Type	References	Claims
§ 103	Goodman	1-4 and 11-14
§ 103	Goodman and Hicks	5 and 15
§ 103	Goodman, Hannula, and Asada	6 and 16
§ 103	Goodman and Asada	8, 9, 18, and 19

Instituted Grounds		
§ 103	Goodman and Delonzor	10 and 20

3. I understand that Valencell, Inc. (“Patent Owner”) filed a contingent motion to amend in the *inter partes* review proceeding on September 22, 2017. In the motion to amend, Patent Owner proposes to substitute claims 21-38 in place of original claims 1-6, 8-16, and 18-20 of the ’830 patent only if each of original claims 1-6, 8-16, and 18-20 are found unpatentable. I have been asked to provide my technical review, analysis, insights, and opinions about the motion to amend.

4. In reaching my opinions, I carefully reviewed the motion to amend, the petition for *inter partes* review of the ’830 patent, my opening declaration, and various exhibits, such as the ’830 patent and prior-art references. Specific to this declaration, I reviewed and refer to the following exhibits:

Exhibit	Description
1001	U.S. Patent No. 8,989,830 to LeBoeuf <i>et al.</i> titled “Wearable Light-Guiding Devices for Physiological Monitoring,” issued March 24, 2015
1002	U.S. Patent No. 8,989,830 File History
1003	Declaration of Dr. Brian W. Anthony in Support of Petition for <i>Inter Partes</i> Review of U.S. Patent No. 8,989,830
1005	Asada, H. <i>et al.</i> “Mobile Monitoring with Wearable Photoplethysmographic Biosensors,” IEEE Engineering in Medicine and Biology Magazine, May/June 2003; pp. 28-40
1007	U.S. Patent No. 4,830,014 to Goodman <i>et al.</i> titled “Sensor

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.