UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,

Petitioner,

v.

JAWBONE INNOVATIONS, LLC,

Patent Owner.

Patent No. 11,122,357
Filing Date: August 5, 2013
Issue Date: September 14, 2021

Inventors: Gregory C. Burnett
Title: FORMING VIRTUAL MICROPHONE ARRAYS USING DUAL OMNIDIRECTIONAL MICROPHONE ARRAY (DOMA)

DECLARATION OF ANDREW P. DEJACO

Case No. IPR2022-01124

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A. Kanamori (U.S. Patent Application Publication No. 2004/0185804) 12

B. McCowan (Iain A. McCowan et al., *Near-Field Adaptive Beamformer for Robust Speech Recognition*, Digital Signal Processing, Vol. 12, Issue 1 (2002), 87-106) 14

C. Elko (U.S. Patent No. 8,942,387) 17

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A. GROUND 1: The Combination of Kanamori in View of McCowan and Elko Does Not Render Obvious Claims 1-20 18

1. A POSITA Would Not Have Been Motivated to Combine the Teachings of Kanamori, McCowan, and Elko to Arrive at the Claimed Invention 18

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i. A POSITA Would Not Have Been Motivated to Combine the Teachings of Kanamori and McCowan Because They Are Directed to Incompatible Applications and Would Not Have Resulted in an Improved System 18

ii. A POSITA Would Not Have Been Motivated to Combine the Teachings of McCowan with Kanamori Because Kanamori Does Not Teach that the Linear Responses of its Microphones to Noise Should Be as Similar as Possible 30

iii. A POSITA Would Not Have Been Motivated to Combine the Teachings of Elko with Kanamori Because the Addition of Elko's "calibration filter" is Based on Hindsight Without Considering the References as a Whole 35

iv. The Combination Does Not Disclose or Render Obvious "wherein the first virtual microphone and the second virtual microphones are distinct virtual directional microphones with substantially similar responses to noise and substantially dissimilar responses to speech" as Required by Independent Claims 1 and 20 39

v. The Combination Does Not Disclose or Render Obvious "a virtual microphone array including the first and second virtual microphones and having a single null oriented in a direction toward a source of speech" as Required by Claim 15 43

X. CONCLUSION 44

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I, Andrew P. DeJaco, declare as follows:

1. I have been asked by counsel for Patent Owner Jawbone Innovations, LLC ("Jawbone" or "Patent Owner") to review U.S. Patent No. 11,122,357 (the "'357 Patent") entitled FORMING VIRTUAL MICROPHONE ARRAYS USING DUAL OMNIDIRECTIONAL MICROPHONE ARRAY (DOMA) and to provide my technical review, analysis, insights, and opinions regarding the '357 Patent in view of the prior art cited by Petitioner Google LLC ("Google" or "Petitioner"). I submit this Declaration in support of Patent Owner's Response in this IPR proceeding. I have personal knowledge of the matters stated herein and would be competent to testify to them if required.

2. I have been retained on behalf of Jawbone for the above-captioned *inter partes* review proceeding. I understand that the '357 Patent is currently assigned to Jawbone.

3. I am over 18 years of age. I have personal knowledge of the facts stated in this Declaration and could testify competently if asked to do so.

I. INTRODUCTION

A. Background and Qualifications

4. I have reviewed and am familiar with the specification of the '357 Patent. I understand the '357 Patent has been provided as Exhibit 1001. I will cite to the specification using the following format: '357 Patent at col.:line.

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5. My CV is being submitted simultaneously herewith (Ex. 2010).

6. I received a Bachelor of Science in Electrical Engineering from the University of Dayton in 1986. I received a Master of Science in Electrical Engineering from the University of Michigan in 1989. During my time at the University of Michigan, I completed all the required coursework for a Ph.D. in Digital Signal Processing and Communication.

7. From 1991 to 1997 I worked as an Electrical Engineer for Qualcomm focusing on the research, development, and implementation of digital signal processing algorithms. From 1997 to 2003 I worked as a Vice President of Engineering for Qualcomm, directing the functional group covering voice processing, digital media and digital signal processing needs in a cell phone, including speech coding, acoustic echo cancellation, noise suppression, and voice recognition to name a few.

8. I am currently self-employed as a business broker and advisor having a franchise with WebsiteClosers LLC. From 2013 to January 2021, I was a co-owner of Judee's Gluten Free Ingredient brand where we doubled Amazon sales each year from 2013-2020 and sold the brand in 2021. From 2003 to June 2012, I taught High School Advanced Placement Calculus/Statistics and Computer Science at St. Charles Preparatory School in Bexley, Ohio.

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