

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AMIT AGARWAL,
Petitioner,

v.

IMMERSION CORPORATION,
Patent Owner.

Case IPR2016-00807
Patent No. 8,773,356

**CORRECTED DECLARATION OF NATHAN J. DELSON, PH.D.
IN SUPPORT OF IMMERSION CORPORATION'S
CORRECTED PATENT OWNER PRELIMINARY RESPONSE**

I, Nathan J. Delson, declare as follows:

I. INTRODUCTION

1. My name is Nathan J. Delson. I am a Teaching Professor and the Director of the Mechanical Engineering Design Center at the University of California, San Diego (UCSD).

2. I have been engaged by Immersion Corporation (“Immersion”) as an expert in connection with matters raised in the Petition for *Inter Partes* Review (“Petition”) of U.S. Patent No. 8,773,356 (the “’356 patent”) filed by Amit Agarwal (“Petitioner”).

3. This declaration is based on the information currently available to me. To the extent that additional information becomes available, I reserve the right to continue my investigation and study, which may include a review of documents and information that may be produced, as well as testimony from depositions that have not yet been taken.

II. SUMMARY OF OPINIONS

4. The ’356 Patent in general describes mobile devices such as mobile telephones or Personal Digital Assistants (“PDA”) and in particular discloses providing tactile sensations in such devices when a user interacts with such devices. Multiple embodiments are disclosed. Exhibit 1001, at Abstract,

Summary. The Petition challenges claims 1-3, 5, 7, 9-13, 15, 17, 19-23, 25, and 26 of the '356 patent.

5. The Petition raises a single prior art reference for anticipation of claims 1-3, 9-13, 19-23, and 25, and 26 of the '356 patent. Petition at 1. The single prior art reference is U.S. Patent Application No. 09/487,737 (“’737 Application”) which was published as U.S. 2001/0035854. Exhibit 1002.

According to the Petition, the '737 Application incorporates by reference another application, U.S. Application No. 09/103,281 (“’281 Application”). Petition at 5-7. I understand that the Petition did not raise any obviousness ground of rejection for claims 1-3, 9-13, 19-23, and 25, and 26 of the '356 patent. Based on studying the Petition and the exhibits cited in the Petition as well as other documents, it is my opinion that claims 1-3, 9-13, 19-23, and 25, and 26 of the '356 patent are not anticipated by the cited reference.

6. The Petition also raises an obviousness ground of rejection for dependent claims 5, 7, 15, and 17. Petition at 1. It is my opinion that the Petition's challenge of claims 5, 7, 15, and 17 also fails.

III. QUALIFICATIONS AND EXPERIENCE

7. I obtained my Ph.D. degree in Mechanical Engineering from Massachusetts Institute of Technology (MIT) in 1994.

8. I have worked for 20 years as a faculty teaching mechanical engineering design, first at Yale University and now at the University of California at San Diego. My current position is Associate Teaching Professor and Director of the Mechanical Engineering Design Center in the Department of Mechanical and Aerospace Engineering. I have performed research in Robotics, Medical Devices, and Design Education. I have lead a team that developed software that uses touchscreen user interfaces for the educational market. I have also worked for two years in the Aerospace Industry for United Technologies. I have consulted in mechanical engineering for companies such as Design Continuum, Sixense, DriveCam, and others. I have received awards from the National Inventors Hall of Fame and for teaching design.

9. I was co-founder of Coactive Drive Corporation (“Coactive”), which developed and licensed technology for force feedback in computer gaming. Coactive licensed the technology to Sony and Immersion. I sold my share in Coactive in 2009. I hold a de minimis amount of Immersion stock as a result of my former association with Coactive and I also own shares of Apple stock. While at Coactive, I invented and co-invented several inventions, including an actuator arrangement and force feedback joystick and was awarded several patents:

- U.S. 6,002,184: Actuator With Opposing Repulsive Magnetic Forces
- U.S. 6,147,422: Actuator With Opposing Repulsive Magnetic Forces

- U.S. 6,307,285: Actuator With Repulsive Magnetic Forces
- U.S. 7,683,508: Vibration Device
- U.S. 7,919,945: Synchronized Vibration Device For Haptic Feedback
- U.S. 7,994,741: Vibration Device
- U.S. 8,384,316: Synchronized Vibration Device For Haptic Feedback
- U.S. 8,390,218: Synchronized Vibration Device For Haptic Feedback
- U.S. 8,981,682: Asymmetric and General Vibration Waveforms From Multiple Synchronized Vibration Actuators

10. The vibration devices that were invented were controlled by a microprocessor to achieve a desired haptic effect. The force feedback joystick I invented has a magnetic actuation that allows for stiffness control without the need for a high speed feedback loop. Based on my education, work, and experience, I am familiar with both microprocessor control for haptic applications as well as alternative control methods to deal with challenges and the limitations of haptic control.

11. In my classes at the University of California at San Diego, I teach machine design and mechatronics. Over the past 10 years, hundreds of students have built and analyzed microprocessor controlled mechanisms.

12. I lead the development of a software package that uses touchscreens to teach spatial visualization and engineering sketching. In this package students sketch assignments on a touchscreen with their finger or a stylus, and an algorithm

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