UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

IMMERSION CORPORATION,
Patent Owner.

Case IPR2016-01372
Patent 8,659,571 B2

Before MICHAEL R. ZECHER, BRYAN F. MOORE, and MINN CHUNG, *Administrative Patent Judges*.

CHUNG, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

In this *inter partes* review, instituted pursuant to 35 U.S.C. § 314, Apple Inc. ("Petitioner") challenges the patentability of claims 1–4, 6, 23–26, and 28 of (the "challenged claims") of U.S. Patent No. 8,659,571 B2 (Ex. 1001, "the '571 patent"), owned by Immersion Corporation ("Patent Owner"). We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. With respect to the ground instituted in this trial, we have considered the papers submitted by the parties and the evidence cited therein. For the reasons discussed below, we determine Petitioner has shown by a preponderance of the evidence that claims 1–4, 6, 23–26, and 28 of the '571 patent are unpatentable.

II. BACKGROUND

A. Procedural History

On July 7, 2016, Petitioner filed a Petition (Paper 1, "Pet.") requesting an *inter partes* review of claims 1–7, 12–18, and 23–29 of the '571 patent. Petitioner also filed a Declaration of Dr. Patrick Baudisch (Ex. 1002, "Baudisch Decl.") in support of the Petition. Patent Owner filed a Preliminary Response (Paper 6, "Prelim. Resp."). On January 11, 2017, we instituted an *inter partes* review only as to claims 1–4, 6, 23–26, and 28 of the '571 patent based on the ground that these claims are unpatentable under 35 U.S.C. § 103(a) as obvious over Burrough[1] (Paper 7, "Dec. on Inst.," 45).

[1] U.S. Patent Application Pub. No. 2010/0156818 Al (published June 24, 2010) (Ex. 1005, "Burrough").

After institution, Patent Owner filed a Patent Owner Response (Paper 14, "PO Resp."), to which Petitioner filed a Reply (Paper 20, "Pet. Reply"). Patent Owner filed a Declaration of Yon Visell, Ph.D. (Ex. 2009, "Visell Decl.") in support of its Patent Owner Response, and Petitioner filed a Reply Declaration of Dr. Patrick Baudisch in support of its Reply (Ex. 1014, "Baudisch Reply Decl."). In addition, Patent Owner filed a Motion for Observations on certain cross-examination testimony of Dr. Baudisch (Paper 27, "Obs."), to which Petitioner filed Responses (Paper 28, "Obs. Resp."). An oral hearing was held on October 5, 2017. A transcript of the hearing is included in the record as Paper 34 ("Tr.").

B. Related Proceedings

According to the parties, the '571 patent is the subject of the following proceedings: (1) *Immersion Corp. v. Apple Inc.*, No. 1:16-cv-00077 (D. Del.); and (2) *In the Matter of: Certain Mobile Electronic Devices Incorporating Haptics (Including Smartphones and Smartwatches) and Components Thereof*, ITC Investigation No. 337-TA-990 (USITC), which has been consolidated with *In the Matter of: Certain Mobile and Portable Electronic Devices Incorporating Haptics (Including Smartphones and Laptops) and Components Thereof*, ITC Investigation No. 337-TA-1004 (USITC). Pet. 1–2; Paper 4, 2.

C. The '571 Patent

The '571 patent describes a system and method for producing a dynamic haptic effect based on a gesture signal and a device sensor signal. Ex. 1001, Abstract, col. 1, l. 66–col. 2, l. 5. According to the '571 patent, a dynamic haptic effect is a haptic effect that evolves over time as it responds to input parameters, such as a gesture signal or a device sensor signal. *Id.* at col. 2, ll. 64–66, col. 3, ll. 12–15.

Figure 1 of the ’571 patent is reproduced below.

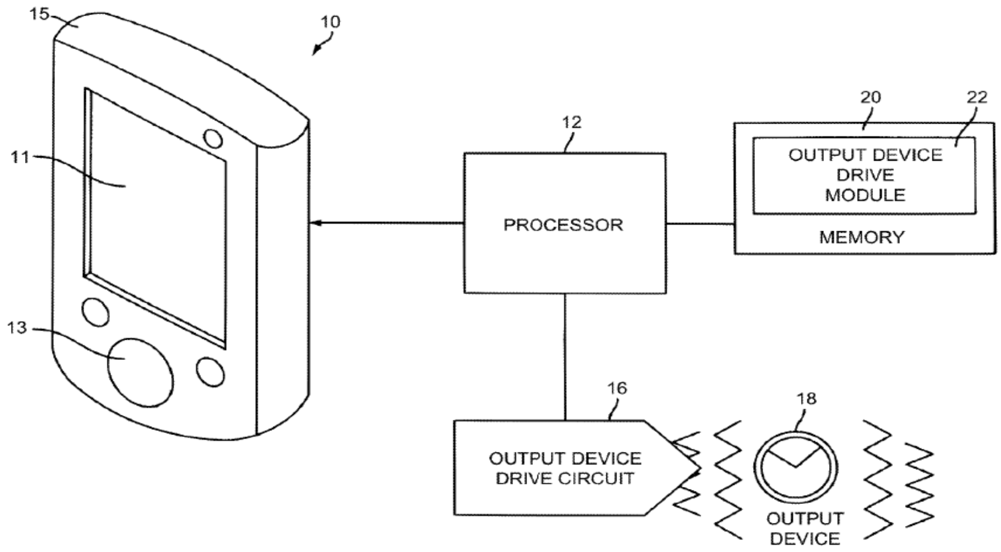

FIG. 1

Figure 1 depicts a block diagram of haptically-enabled system 10 in an exemplary embodiment of the ’571 patent. *Id.* at col. 3, ll. 63–64. As shown in Figure 1 above, system 10 includes touch-sensitive surface 11 and may also include mechanical keys or buttons 13. *Id.* at col. 3, ll. 64–67. Further, system 10 includes a haptic feedback system that generates vibrations on system 10 (e.g., on touch surface 11). *Id.* at col. 3, l. 67–col. 4, l. 3. As also illustrated in Figure 1, the haptic feedback system includes processor 12, which is coupled to memory 20 and actuator drive circuit 16, which, in turn, is coupled to haptic actuator 18. *Id.* at col. 4, ll. 4–6.

Touch surface 11 recognizes touches and also may recognize the position and the magnitude or pressure of the touches on the surface. *Id.* at col. 4, ll. 41–43. The data corresponding to the touches is sent to processor

12, which interprets the touches and generates haptic effect signals. *Id.* at col. 4, ll. 43–46. Touch surface 11 may detect multi-touch contacts and may be capable of distinguishing between multiple touches that occur at the same time. *Id.* at col. 4, ll. 49–51.

According to the ’571 patent, a gesture is any movement of the body that conveys meaning or user intent. *Id.* at col. 3, ll. 34–35. Simple gestures, such as a “finger on” or “finger off” gesture, may be combined to form more complex gestures, for example, a “tapping” or “swiping” gesture. *Id.* at col. 3, ll. 35–49. In addition, any number of simple or complex gestures may be combined to form other gestures, such as gestures based on multiple finger contacts. *Id.* at col. 3, ll. 52–56. Hence, multiple touch inputs may be received from a single gesture such as a swipe gesture performed on a touch sensitive display. *Id.* at col. 10, ll. 36–40. For example, when an index finger is swiped across the touch sensitive display during a swipe gesture, multiple inputs are received from the single swipe gesture, each of the multiple inputs occurring at a different time and indicating a different two dimensional position of the contact point of the index finger with the touch sensitive display. *Id.* at col. 10, ll. 36–43.

Dynamic haptic effects are produced by changing a haptic effect according to an interaction parameter, which may be derived from a gesture using information such as the position, direction, and velocity of the gesture. *Id.* at col. 10, ll. 24–29. An interaction parameter also may be derived from device sensor data, such as the device acceleration, gyroscopic, or ambient information. *Id.* at col. 11, ll. 4–6. Additionally, an interaction parameter may incorporate a mathematical model related to a real-world physical

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