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.

GESTURE TECHNOLOGY PARTNERS LLC
Patent Owner

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Inter Partes Review Case No. IPR2021-00922
U.S. Patent No. 8,553,079

**SUPPLEMENTAL DECLARATION OF DR. BENJAMIN B. BEDERSON**

I, Benjamin B. Bederson, hereby declare the following:

1.   My name is Benjamin B. Bederson, Ph.D and I am over 21 years of age and otherwise competent to make this Declaration. I make this Declaration based on facts and matters within my own knowledge and on information provided to me by others.

2.   I submitted an initial declaration in support of Apple's petition for *Inter Partes* Review of U.S. Patent No. 8,533,079 ("the *'079 Patent*"). I understand the PTAB instituted the requested review and that the proceeding involves the full scope of the proposed grounds addressed in my initial declaration. I have been asked to address a few additional issues in response to Patent Owner's Response (Paper 13) and Patent Owner's expert's declaration (Ex. 2002).

I.   **Numazaki's eighth embodiment's "photo-detection *sensor* unit" implements the first embodiment's photo-detection *sensors***

3.   As set forth in my initial declaration (Ex. 1010) at ¶ 35, Numazaki describes a unique image differencing structure configured with two photo-detection units 109, 110 and a lighting unit 101:
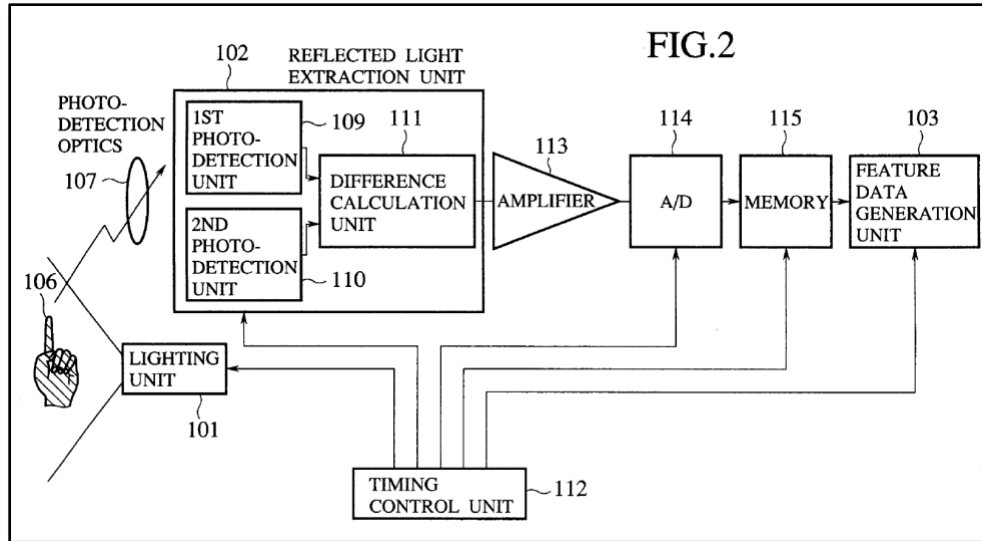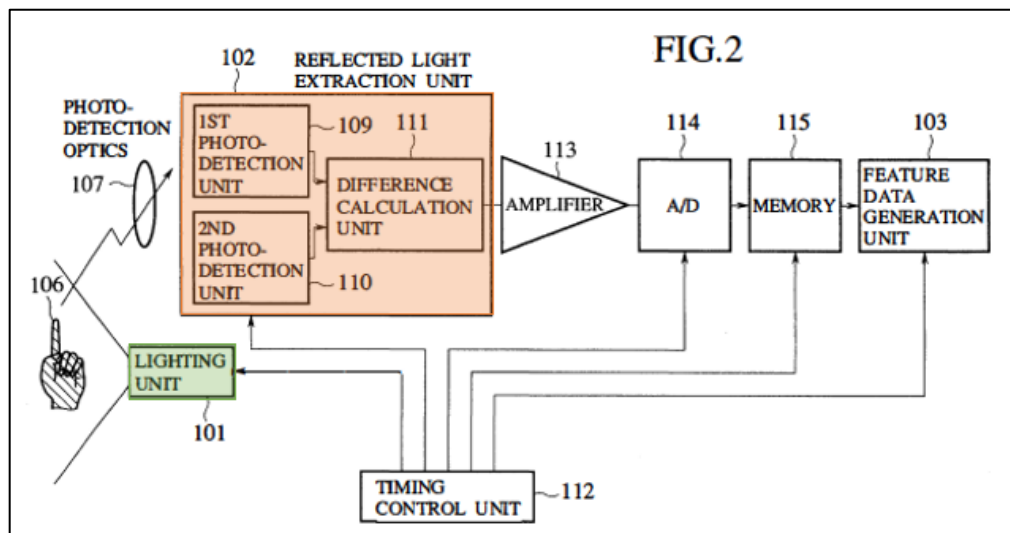
FIG.2

Ex. 1004, Fig. 2, 11:9-11 (noting Fig. 2 illustrates an "information input generation apparatus"). I also explained at ¶ 36 that Numazaki's photo-detection units 109, 110 are imaging sensors. More specifically, they are electro-optical sensors that convert captured light into electrical signals. At ¶¶ 40-43, I explained that Numazaki's eighth embodiment (directed to allowing users to control portable devices through gestures) incorporates "the controlled light and two-camera configuration described in its first embodiment." Namely, the eighth embodiment's "photo-detection sensor unit" 702 and light source 701 are implemented using the components depicted in Fig. 2 and described with respect to the first embodiment.

4. I understand that Patent Owner and its expert, Mr. Occhiogrosso, have suggested that a PHOSITA would not have agreed that Numazaki's eighth embodiment implements the structure depicted in Fig. 2 based on an alleged terminology discrepancy. Namely, Patent Owner and its expert take issue with the

fact that Numazaki describes component 702 in its eighth embodiment as a "photo-detection sensor unit" and the components within reflected light extraction unit 102 in its first embodiment as "photo-detection units." Paper 13, 9-11; Ex. 2002, 48-51. In fact, Numazaki's terminology is entirely consistent—both internally consistent and consistent with my conclusion that Numazaki's eighth embodiment implements the structure from Fig. 2.

5.   As illustrated below, the first embodiment's information input generation apparatus includes lighting unit 101 (green) and reflected light extraction unit 102 (orange):

Ex. 1004, Fig. 2 (annotated). Numazaki's eighth embodiment utilizes lighting unit 701 (green) and a photo-detection sensor unit 702 (orange):
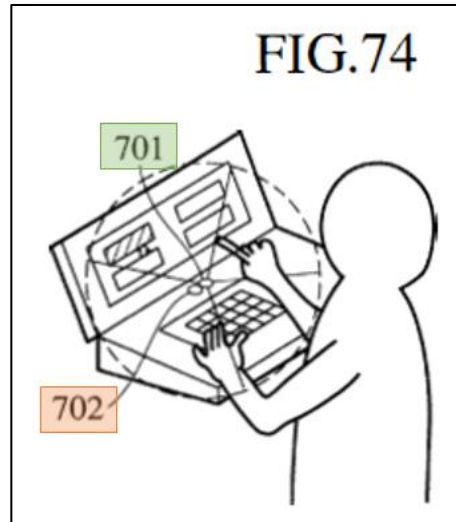
FIG.74

Id. at Fig. 74 (annotated). As I explained in my original declaration at ¶¶ 42-43, "Numazaki's eighth embodiment portable devices incorporate the controlled lighting and two-camera sensor structure described with respect to the first embodiment." Numazaki clearly states that the eighth embodiment incorporates the apparatus of the earlier embodiments, including the first embodiment. "This eighth embodiment is directed to a system configuration incorporating the information input generation apparatus of the present invention as described in the above embodiments." *Id.* at 50:21-24. Furthermore, Numazaki describes its eighth embodiment's photo-detection sensor unit 702 as consisting of multiple "photo-detection sections." *Id.* at 50:34. Accordingly, Numazaki's "photo-detection sensor unit" 702 includes both photo-detection units 109 and 110. And, as noted above, photo-detection units 109 and 110 are sensors. Specifically, they are electro-optical sensors.

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