UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NINTENDO CO., LTD., and
NINTENDO OF AMERICA INC.
Petitioners

v.

POLARIS POWERLED TECHNOLOGIES, LLC
Patent Owner

Case IPR 2023-00778
U.S. Patent No. 8,223,117 B2
Issue Date: July 27, 2012

Title: METHOD AND APPARATUS TO CONTROL DISPLAY BRIGHTNESS WITH AMBIENT LIGHT CORRECTION

DECLARATION OF R. JACOB BAKER, PH.D., P.E.

I, R. Jacob Baker, declare as follows:

I. INTRODUCTION AND QUALIFICATIONS

1. My name is R. Jacob Baker Ph.D., P.E., and I am a Professor of Electrical and Computer Engineering at the University of Nevada, Las Vegas. I have prepared this declaration as an expert witness on behalf of Petitioner Nintendo Co., Ltd., and Nintendo of America Inc. In this declaration, I will give my opinion as to whether claims 1, 2, 7, 9, 15, and 16 of U.S. Patent No. 8,223,117 ("the '117 patent") (**EX1001**) are valid. I also provide herein the technical bases for these opinions, as appropriate.

2. This declaration contains statements of my opinions formed to date, and the bases and rationale for these opinions. I may offer additional opinions based on further review of materials in this case, including opinions and/or testimony of other expert witnesses.

3. For my efforts in connection with the preparation of this declaration, I have been compensated at my usual and customary rate for this type of consulting activity. My compensation is in no way contingent on the results of these or any other proceedings related to the '117 patent.

A. Qualifications / Professional Background

4. My qualifications generally are set forth in my Curriculum Vitae, which

Mierzwinski, "[v]ariable resistor **63** being effectively in series with the light dependent resistor **41** may be varied to compensate for differences in specific light dependent resistors so as to establish a desired level of picture brightness, contrast and color saturation for a given level of ambient light. Variable resistance **65** which is in parallel with the light dependent resistor **41** may be varied so as to effectively change the range of variation in brightness, contrast and color saturation for a specific range of variations in the ambient light conditions." (Mierzwinski, 5:25-34.) Stoughton's circuit, in view of Mierzwinski, would easily have had the video signal processor **12** controlling both the brightness and contrast of kinescope **15** based on VC.

148. ***Rationale and Motivation to Combine (Stoughton with Mierzwinski)***: A POSITA would have been motivated to combine Stoughton with Mierzwinski, in the manner described above. The combination would have predictably resulted in the signal VC in Stoughton's Figure 1 circuit being used to control both the brightness and contrast of kinescope **15**.

149. Stoughton and Mierzwinski are analogous references. Both are in the same field as the '117 patent. Just like Stoughton, Mierzwinski relates to ambient light control for television receivers. (*E.g.*, Mierzwinski, 1:12-21, 1:46-52, Abstract, Title.)

150. A POSITA would have been motivated to combine Mierzwinski with Stoughton because Mierzwinski discloses that when the ambient light level changes, a user will "obtain the optimum viewing situation by changing" the level of contrast and brightness of a screen. (Mierzwinski, 1:22-29; *see also id.* at 1:47-53.) Thus, a POSITA would have understood based on Mierzwinski that Stoughton only changes one of the features of a display—contrast—that a user would want adjusted based on changes in ambient light. Therefore, a user would have been motivated to change screen brightness using Stoughton's circuit, since Mierzwinski teaches that this is another feature a user would want adjusted based on changing ambient light.

151. A POSITA would have been further motivated to combine Mierzwinski with Stoughton because a POSITA would have recognized that to yield an optimal picture in changing ambient lighting conditions, both brightness and contrast need to be adjusted. This understanding of a POSITA is confirmed by U.S. Patent No. 3,096,399 ("Thomas") (**EX1009**), which discloses that "an image that may have acceptable contrast and brightness with low ambient illumination on the tube face, may appear to be 'washed out' (too little brightness and contrast) with greater ambient illumination on the face. It may therefore be necessary for the viewer to adjust manually the brightness or contrast, or both with changing light conditions to restore an acceptable brightness and contrast to the image." (Thomas, 1:17-25.)

circuitry and causing it to have no impact on the output signal VC.

166. The above examples are nonlimiting. Adding a switch to any position in Stoughton's Figure 1 circuit that would have caused the circuit to operate like Nagai's Figure 1 circuit—with the ambient light sensor circuitry enabled in auto mode and disabled in manual mode—would have been obvious to a POSITA. Further, it would have been obvious to a POSITA to make other small adjustments to the resulting circuit like holding the voltage VP at the emitter of transistor 40 constant when the circuit is in manual mode so that the signal at the output of BRM 24 is not being multiplied by a voltage value of 0 V.

167. ***Rationale and Motivation to Combine (Stoughton and Mierzwinski with Nagai)***: A POSITA would have been motivated to combine Stoughton with Nagai, in the manner described above. The combination would have predictably resulted in the brightness control circuit of Figure 1 of Stoughton, where a switch is added that a user can adjust to switch the circuit between an auto and a manual mode in which the ambient light sensor circuitry is enabled or disabled, respectively.

168. Stoughton and Nagai are analogous references. Both are in the same field as the '117 patent. Just like Stoughton, Nagai relates to ambient light control for television receivers. (Nagai, *e.g.*, 1:6-21, Abstract, Title.)

169. A POSITA would have further recognized many parallels between

354. I hereby declare that all statements made herein of my own knowledge are true and that all statements are made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001.

Dated: MARCH 27, 2023

Respectfully submitted,

R. Jacob Baker