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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte THOMAS WULFF, ALISTAIR HAMILTON, SUDHIR BHATIA, DAVID BELLOWS, and KEVIN CORDES

Appeal 2015-003511
Application 13/097,287
Technology Center 2400

Before DEBRA K. STEPHENS, KEVIN C. TROCK, and JESSICA C. KAISER, *Administrative Patent Judges*.

KAISER, *Administrative Patent Judge*.

DECISION ON APPEAL

Introduction

Appellants[1] appeal under 35 U.S.C. § 134(a) from a non-final rejection of claims 45, 46, 48–56, and 58–60.[2] We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

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[1] According to Appellants, the real party in interest is Symbol Technologies, Inc. (Br. 3).

[2] The January 2, 2014 Non-Final Action lists claims 47 and 57 as pending. (Non-Final Act. 1). However, claims 47 and 57 have been cancelled. (Br. 7).

EXEMPLARY CLAIMS

Claims 45 and 46, reproduced below, are illustrative of the claimed subject matter with some paragraphing added and with disputed limitations emphasized:

> 45. A mobile computing device, comprising:
>
> a camera capturing an image using a plurality of image capture frames;
>
> *a gravitational sensor coupled to the camera, the gravitational sensor generating a sensor signal in response to detecting a motion of the camera when the camera captures the image*; and
>
> a processor receiving the sensor signal from the gravitational sensor, the processor *associating the sensor signal to the plurality of image capture frames* and
>
> *determining whether an amplitude of the motion of the camera is within a predetermined threshold value when the camera captures each of the plurality of image capture frames* of the image based on the sensor signal associated to the plurality of image capture frames of the image.
>
> 46. The mobile computing device of claim 45, *wherein the processor executes a software application that compensates for the motion of the camera when the camera captures the image.*

REJECTIONS

The Examiner made the following rejections:

Claims 45, 46, 48–51, 54–56, and 58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nurmi (US 2005/0154798 A1; published July 14, 2005), Yamazaki (US 2003/0122804 A1; published July

3, 2003), and Yamada (US 2004/0246229 A1; published Dec. 9, 2004). (Non-Final Act. 2–6).[3]

Claims 52, 53, 59, and 60 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nurmi, Yamazaki, Yamada, and Melaku (US 2003/0144793 A1; published July 31, 2003). (Non-Final Act. 6–7).

ISSUES

Issue 1: Did the Examiner err in finding the combination of Nurmi and Yamazaki teaches or suggests "a gravitational sensor coupled to the camera . . . generating a sensor signal in response to detecting a motion of the camera when the camera captures the image," and "determining whether an amplitude of the motion of the camera is within a predetermined threshold value when the camera captures . . . the image," as recited in independent claim 45 and similarly recited in independent claim 55?

Issue 2: Did the Examiner err in finding the combination of Nurmi and Yamazaki teaches or suggests "receiving the sensor signal from the gravitational sensor . . . associating the sensor signal to the plurality of image capture frames," as recited in independent claim 45 and similarly recited in independent claim 55?

Issue 3: Did the Examiner improperly combine the teachings and suggestions of Nurmi, Yamazaki, and Yamada?

Issue 4: Did the Examiner err in finding the combination of Nurmi and Yamazaki teaches or suggests "compensat[ing] for the motion of the

[3] We understand the Examiner's inclusion of canceled claims 61–64 in the summary of this rejection (Non-Final Act. 2) to be a harmless typographical error because those claims are not substantively addressed in the rejection (*id.* at 2–6).

camera when the camera captures the image," as recited in dependent claim 46 and similarly recited in dependent claim 56?

ANALYSIS

We have reviewed the Examiner's rejections in light of Appellants' arguments that the Examiner has erred. We disagree with Appellants' conclusions. We adopt as our own the findings and reasons set forth by the Examiner in the Non-Final Action from which the appeal is taken (Non-Final Act. 2–8) and the reasons set forth in the Examiner's Answer in response to Appellants' Appeal Brief (Ans. 7–12). We highlight and address specific findings and arguments for emphasis as follows.

Issue 1

Appellants argue Nurmi does not teach or suggest "a gravitational sensor coupled to the camera . . . generating a sensor signal in response to detecting a motion of the camera when the camera captures the image," and "determining whether an amplitude of the motion of the camera is within a predetermined threshold value when the camera captures . . . the image," as recited in claim 45 and similarly recited in claim 55. (Br. 5–6). Specifically, Appellants argue "Nurmi nowhere discloses that the sensor is coupled to any camera of the device." (*Id.* at 5 (emphasis omitted)). Additionally, Appellants argue Nurmi does not teach that its "sensor is detecting the motion of the device (or the device with camera) *when the camera captures the image*" or that Nurmi's device even "captur[es] any image." (*Id.* at 5–6).

We are not persuaded by Appellants' arguments. The Examiner finds, and we agree, Nurmi teaches or suggests a mobile device including a camera and a motion sensor. (Ans. 8 (citing Nurmi Fig. 1); Non-Final Act. 2–3 (citing Nurmi ¶¶ 10, 29, Fig. 1)). The Examiner further finds, and we agree, Nurmi's device provides motion compensation when a sensor detects motion (Final Act. 3 (citing Nurmi ¶ 29); Ans. 10 (citing Nurmi ¶ 10)). The Examiner additionally finds, and we agree, Yamazaki teaches a camera which captures images and generates corresponding motion signals. (Ans. 8 (citing Yamazaki ¶¶ 13–15)).

Appellants' argument that Nurmi does not disclose a camera is not persuasive. Figure 1 of Nurmi shows a device with a camera icon that a user can select and use. (*See* Nurmi ¶ 23, Fig. 1). Moreover, the Examiner's combination relies on Yamazaki to teach a camera which captures images (Ans. 8 (citing Yamazaki ¶¶ 15–18)), and Appellants' arguments directed to Nurmi's camera (Br. 5) do not address the Examiner's reliance on Yamazaki's camera which captures images.

To the extent Appellants argue that the sensor is not coupled to a camera (*see* Br. 5), we note that Nurmi teaches sensors connected to its device's controller (Nurmi ¶¶ 35–36, Fig. 8) and Yamazaki teaches a camera connected to its device's controller (Yamazaki ¶ 92, Fig. 5); because the sensor and camera are both connected to a device's controller, we are not persuaded the Examiner erred in finding the references teach the recited coupling.

Additionally, Appellants' arguments that Nurmi does not "detect[ ] the motion of the device (or the device with camera) *when the camera captures the images*," and as a result, does not generate sensor signals (Br.

5) or "determin[e] whether the amplitude of the motion of the camera is within the predetermined threshold" (*id.* at 6 (emphasis omitted)), do not address the Examiner's findings regarding Yamazaki. In particular, the Examiner finds that Yamazaki's "camera part 25 captures images" and uses those images to detect motion and generate a motion signal. (Ans. 8 (citing Yamazaki ¶¶ 14–15); *see also* Yamazaki ¶ 121).

Furthermore, Nurmi teaches determining whether a device is in motion or not using a sensor, i.e., Nurmi's sensor signal is at a level which indicates motion (Nurmi ¶¶ 22, 29), and thus teaches "determin[ing] whether the amplitude of the motion of the camera is within the predetermined threshold." Appellants' arguments against Nurmi alone do not address the Examiner's combination of Nurmi and Yamazaki which determines whether Yamazaki's camera is in motion or not when capturing images (Final Act. 3; Ans. 10).

Accordingly, we are not persuaded the Examiner erred in finding the combination of Nurmi and Yamazaki teaches or suggests "a gravitational sensor coupled to the camera . . . generating a sensor signal in response to detecting a motion of the camera when the camera captures the image," and "determining whether an amplitude of the motion of the camera is within a predetermined threshold value when the camera captures . . . the image," as recited in claim 45 and similarly recited in claim 55.

Issue 2

Appellants argue Yamazaki does not teach or suggest "receiving the sensor signal from the gravitational sensor . . . associating the sensor signal to the plurality of image capture frames," as recited in claim 45 and similarly

recited in claim 55. (Br. 5). Specifically, Appellants argue Yamazaki "generat[es] motion vectors from the captured images but fails to disclose associating any sensor signal (sensed by any gravitational sensor) to the captured images." (*Id.*).

We are not persuaded by Appellants' arguments. The Examiner finds, and we agree, Nurmi teaches a processor which receives a signal from a gravitational sensor. (Ans. 8 (citing Nurmi ¶¶ 10, 22); Non-Final Act. 2–3 (citing Nurmi ¶¶ 2, 29)). The Examiner further finds, and we agree, Yamazaki associates a sensor signal with its captured images by associating a motion vector with those captured images. (Ans. 9 (citing Yamazaki ¶¶ 13–15); Yamazaki ¶ 121). The Examiner combines Nurmi and Yamazaki to associate Nurmi's gravitational sensor signal with Yamazaki's captured images. (*See* Ans. 9; *see also* Non-Final Act. 3). Appellants' arguments against Yamazaki alone (Br. 5) do not address the Examiner's combination of Nurmi and Yamazaki. Accordingly, we are not persuaded the Examiner erred in finding the combination of Nurmi and Yamazaki teaches or suggests "receiving the sensor signal from the gravitational sensor . . . associating the sensor signal to the plurality of image capture frames," as recited in claim 45 and similarly recited in claim 55.

Issue 3

Appellants argue the Examiner improperly combined Nurmi, Yamazaki, and Yamada. (Br. 6–7). Specifically, Appellants argue that the Examiner has "not provided a reasonable explanation as to why the combination of teachings is proper," that "there is no motivation apparent in the references to combine Nurmi, Yamazaki, and Yamada," and that the

Examiner "appears to rely solely on hindsight analysis." (*Id.* (emphasis omitted)).

We are not persuaded. The Examiner articulates reasoning with rational underpinning why one of ordinary skill in the art would have combined Nurmi, Yamazaki, and Yamada, namely, "to provide a system that can better stabilize [its] images by actually viewing the images themselves when making its[ ] determinations" (Non-Final Act. 3). Appellants' arguments describe features taught by Nurmi, Yamazaki, and Yamada (Br. 6–7), but do not explain why the Examiner's rationale is unreasonable, and thus, are unpersuasive because Appellants have not proffered sufficient evidence or argument to persuade us the Examiner relied on impermissible hindsight or that the Examiner's reasoning is in error.

Furthermore, Appellants' argument that "there is no motivation apparent in the references" (Br. 6) is unpersuasive because the Examiner's reason for combining references need not come from the references themselves. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 419 (2007). Accordingly, we are not persuaded the Examiner improperly combined Nurmi, Yamazaki, and Yamada.

Issue 4

Appellants argue that Nurmi does not teach or suggest "compensat[ing] for the motion of the camera when the camera captures the image," as recited in claim 46 and similarly recited in claim 56. (Br. 7). Specifically, Appellants argue Nurmi "compensate[s] for the motion of the device by steading a user interface" rather than compensating for images taken by a camera in motion. (*Id.*). Appellants also argue Yamazaki

"merely discloses detecting movement based on the captured images but fails to disclose compensating [for] the movements of the device when the images were captured." (*Id.* (emphasis omitted)).

We are not persuaded. The Examiner finds, and we agree, Nurmi teaches a device which compensates for "undesirable movement." (Ans. 8, 11–12 (citing Nurmi ¶¶ 10, 22); Non-Final Act. 4 (citing Nurmi ¶ 29)). As discussed above, the Examiner finds Yamazaki teaches a device having a camera which captures images. (Ans. 8 (citing Yamazaki ¶¶ 15–18); Non-Final Act. 4). The Examiner's combination of Nurmi and Yamazaki teaches a system which compensates for undesirable movement when the device captures images. (Ans. 12; *see* Non-Final Act. 4).

Appellants' arguments against the references individually are not persuasive because the Examiner relies on the combination of Nurmi and Yamazaki. Appellants have not persuasively addressed the Examiner's combination of Nurmi and Yamazaki, which applies Nurmi's motion compensation to Yamazaki's image capture in order to provide motion compensation during image capture. (Ans. 12; *see* Non-Final Act. 4). Accordingly, we are not persuaded the Examiner erred in finding the combination of Nurmi and Yamazaki teaches or suggests "compensat[ing] for the motion of the camera when the camera captures the image," as recited in claim 46 and similarly recited in claim 56.

Remaining Claims

Appellants do not argue separate patentability for dependent claims 48–54 and 58–60 which depend directly or indirectly from claims 45 or 55. (*See* Br. 7–8). For the reasons set forth above, therefore, we are not

persuaded the Examiner erred in rejecting these claims. Accordingly, we sustain the Examiner's rejections of claims 48–54 and 58–60. *See* 37 C.F.R. § 41.37(c)(1)(iv).

DECISION

The Examiner's rejections of claims 45, 46, 48–51, 54–56, and 58 under 35 U.S.C. § 103(a) as being unpatentable over Nurmi, Yamazaki, and Yamada is affirmed.

The Examiner's rejections of claims 52, 53, 59, and 60 under 35 U.S.C. § 103(a) as being unpatentable over Nurmi, Yamazaki, Yamada, and Melaku is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED