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EXAMINER

YOUNG, STEVE R

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BRADFORD JAMES CAMPBELL,
ARITON E. XHAFA, and ANUJ BATRA

Appeal 2018-002463
Application 13/951,839
Technology Center 2400

Before JASON V. MORGAN, JOSEPH P. LENTIVECH, and
DAVID J. CUTITTA II, *Administrative Patent Judges*.

LENTIVECH, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellants¹ appeal from the Examiner's decision to reject claims 1–20, the only claims pending in the application on appeal. We have jurisdiction over the pending claims under 35 U.S.C. § 6(b).

We reverse.

¹ According to Appellants, the real party in interest is Texas Instruments Incorporated. App. Br. 1.

STATEMENT OF THE CASE

Appellants' Invention

Appellants' invention generally relates to “optimizing power consumption of energy harvesting nodes in a wireless sensor network.”

Spec. ¶ 3. Claim 1, which is illustrative, reads as follows:

1. A method comprising:

determining, by a network coordinator of a wireless network, whether a wireless device that is wirelessly communicating with the network coordinator is powered via energy harvesting; and

scheduling, by the network coordinator, based on a determination that the wireless device is powered by energy harvesting, the wireless device to communicate via the wireless network using a priority timeslot of a superframe of the wireless network, wherein the priority timeslot is a timeslot occurring in an initial portion of the superframe.

App. Br. (Claims Appendix).

Rejection

Claims 1–20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Oh et al. (US 2012/0163263 A1; published June 28, 2012) (“Oh”) and Ding (US 8,432,887 B1; issued Apr. 30, 2013). Final Act. 2–14.

Dispositive Issue on Appeal

Did the Examiner err in finding that the combination of Oh and Ding teaches or suggests “determining, by a network coordinator of a wireless network, whether a wireless device that is wirelessly communicating with

the network coordinator is powered via energy harvesting,” as recited in claim 1?

ANALYSIS

Appellants contend the Examiner erred in finding the combination of Oh and Ding teaches or suggests the disputed limitation. App. Br. 8–12; Reply Br. 1–13. In particular, Appellants argue Oh, upon which the Examiner relies (*see* Final Act. 3 (citing Oh ¶¶ 60–61; Fig. 3)), fails to provide “any teaching or suggestion of developing a protocol that determined whether or not a wireless device ‘is powered via energy harvesting’ (*versus* ‘is not powered via energy harvesting[]’).” App. Br. 10 (citing Oh ¶ 7). Appellants further argue Oh “teaches that the terminal transmits an ‘**energy harvesting speed to the base station**’” and that “[t]he beacon transmission period may be determined **based on the energy harvesting speed and the sensing period**” but “there is no determination as to whether the terminal implements ‘energy harvesting,’” as required by claim 1. App. Br. 10–11 (citing Oh ¶¶ 12–15) (underlining omitted).

Additionally, Appellants argue:

Paragraphs [0060] & [0061] teach that a terminal using “energy harvesting” can only be scheduled using Beacon B in response to the energy harvesting speed being reported to the base station by the terminal. Yet paragraphs [0060] & [0061] fail to teach or suggest . . . “determining, by a network coordinator of a wireless network, whether a wireless device that is wirelessly communicating with the network coordinator *is powered via energy harvesting*”, as required by Claim 1.

App. Br. 12.

We find Appellants’ arguments persuasive. The Examiner finds “the claim language is broad and vague in terms of what this ‘determination’ is” and “[d]etermining’ whether a device is powered via energy harvesting

could be broadly construed as determining whether a device is being ‘currently’ powered via energy harvesting (i.e., the] device is being recharged using energy harvesting).” Ans. 16–17. The Examiner further finds:

Oh in [0054] teaches that energy harvesting is performed during a sleep mode/low power mode period (also [0028] which shows that a charging preamble signal is sent when device is in low power mode). Therefore it can be construed that when the device is in the sleep mode period, it is determined that the wireless device is “powered via energy harvesting” and when the wireless device is in the normal mode period, it is determined that the wireless device is not “powered via energy harvesting” [0067] (as charging is only performed in low power mode).

Ans. 17. However, the Examiner’s findings are insufficient to show that Oh teaches or suggests that the base station (e.g., network coordinator) actually makes a determination as to whether the terminal is in a sleep/low power mode or a normal mode. Instead, we agree with Appellants (Reply Br. 6–7) that Oh merely teaches that “the base station determines a period of receiving a beacon B signal in response to a request of the terminal and reports the determined period to the terminal” (Oh ¶ 61); that “[w]hen packet transmission or packet reception is not required, the terminal enters a sleep mode period” (Oh ¶ 56); and that the terminal “may harvest energy from surroundings in the sleep mode period” (*id.*).

Additionally, the Examiner finds the disputed limitation reads on “the step in Oh where the wireless device informs the network coordinator (i.e. base station) of energy harvesting speed information” because “the network coordinator functionally changes/performs transmissions and actions differently after receiving the energy harvesting information (i.e. subsequent ‘scheduling’ steps).” Ans. 17 (citing Oh ¶¶ 60–61). The Examiner finds the

transmission of the energy harvesting information “can be construed as an implied notification of the fact that the wireless device is being ‘powered via energy harvesting.’” Ans. 17–18. The Examiner also finds that “[i]n order for the network coordinator to perform energy harvesting response type of functionality, at some point, the network coordinator would need to ‘determine’ that the device it is talking to is capable of energy harvesting.” Ans. 19. We disagree.

While Oh’s base station *could* determine that the terminal is powered via energy harvesting based on receiving the energy harvesting speed information, we agree with Appellants (*see* Reply Br. 7–8) that the Examiner’s findings that the base station performs certain actions in response to receiving energy harvesting speed information and that the transmission of the energy harvesting speed information is an implied notification, without more, are insufficient to show that at the determination is actually made or that it would be obvious to do so.

For the foregoing reasons, we find the Examiner has failed to show that the combination of Oh and Ding teaches or suggests the disputed limitation. Accordingly, we do not sustain the Examiner’s rejection of claim 1; independent claims 8 and 16, which recite corresponding limitations and were rejected on the same basis as claim 1 (*see* Final Act. 7, 11); and claims 2–7, 9–15, and 17–20, which depend from claims 1, 8, and 16.

We do not reach Appellants’ further allegations of error because we find the issue discussed above to be dispositive as to the rejection of all the pending claims.

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Application 13/951,839

DECISION

We reverse the Examiner's rejection of claims 1–20 under 35 U.S.C.
§ 103(a).

REVERSED