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Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO. Includes details for application 12/121,580, inventor Robert R. Rotzoll, and examiner QUDDUS, NUSRAT.

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ROBERT R. ROTZOLL

Appeal 2018-003292
Application 12/121,580
Technology Center 2800

Before: JEFFREY B. ROBERTSON, DONNA M. PRAISS, and
AVEYLYN M. ROSS, *Administrative Patent Judges*.

ROBERTSON, *Administrative Patent Judge*.

DECISION ON APPEAL¹

¹ This Decision includes citations to the following documents: Specification filed May 15, 2008 (“Spec.”); Final Office Action mailed June 3, 2016 (“Final Act.”); Appeal Brief filed November 30, 2016 (“Appeal Br.”); Examiner’s Answer mailed December 8, 2017 (“Ans.”); and Reply Brief filed February 7, 2018 (“Reply Br.”).

STATEMENT OF THE CASE

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–6, 8, and 10–14.² (Appeal Br. 4.) We have jurisdiction pursuant to 35 U.S.C. § 6(b).

We REVERSE.

THE INVENTION

Appellant states that the invention relates to direct current to alternating current power conversion. (Spec. 1, ll. 12–13.)

Claim 1, as reproduced from the Claims Appendix, below is representative (emphasis added):

1. An inverter for use in a photovoltaic module comprising:
 - a DC input terminal for receiving a DC input;
 - an AC output terminal for providing an AC output generated from the DC input;
 - and
 - a communications system for receiving and sending information, using power line communications, via a modulated carrier signal superimposed on an AC voltage of the AC output at the AC output terminal.*

(Appeal Br. 13, Claim Appendix.)

² Appellant identifies Enphase Energy Inc. as the real party in interest. (Appeal Br. 4.)

REJECTIONS

The Examiner rejected claims under 35 U.S.C. § 103(a) as follows:

1. Claims 1–5 as obvious over Nakata et al. (US 5,625,539, issued April 29, 1997, “Nakata”) in view of Stevens (US 2002/0145886 A1, published October 10, 2002);
2. Claims 6 and 10–14 as obvious over Nakata, Stevens, and Ueda et al. (JP 09-135571 A, published May 20, 1997, “Ueda”);³ and
3. Claim 8 as obvious over Nakata, Stevens, and Appellant’s Admitted Prior Art.

(Final Act. 2–5.)

DISCUSSION

Rejection 1

We limit our discussion to independent claim 1, which is sufficient for disposition of this appeal.

Regarding claim 1, the Examiner found, inter alia, that Nakata discloses an inverter for a photovoltaic module including a communications system for receiving and sending information via a modulated carrier signal superimposed on an AC voltage of the AC output terminal. Specifically, the Examiner found that Nakata discloses that the control circuit 9 sends information to switches in inverter apparatus 200 via gate drive units 10 and 11. (Final Act. 2; *see also* Ans. 3, 5 (citing Nakata Figs.1–17, and col. 13, ll. 23–38).) The Examiner found that Nakata fails to teach that power line communications are used to receive and send information via a modulated

³ Citations to English Translation of Record.

carrier signal superimposed on an AC voltage of the AC output terminal. (Final Act. 2.) The Examiner found that Stevens discloses a communications system for receiving and sending information using power line communications superimposed on an AC voltage of the AC output terminal. (Final Act. 3.) The Examiner determined that it would have been obvious to have modified Nakata's inverter to include a communications system using power line communications as disclosed by Stevens "as doing so would have improved on load variation power achievement by adjusting the frequency or the pulse width of each half cycle and, in case where a lamp or panel is involved, as taught by Stevens (abstract)." (Final Act 3.)

Appellant argues that Stevens and Nakata are silent as to the claimed feature of sending information using power line communications as recited in claim 1. (Appeal Br. 9; *see also* Reply Br. 3.)

Claim 1 recites: "a communication system for receiving *and sending* information, using power line communications." (Emphasis added.) The plain language of the claim requires that the communication system is capable of sending information through the power line, in the form of a modulated carrier signal superimposed on an AC voltage of the AC output at the AC output terminal. The mere fact that information received from a power line may be used by the control unit of the inverter to send information in order to operate the photovoltaic module itself does not satisfy the claim. This interpretation is also consistent with the Specification, which discloses that the integrated circuit generates communication signals over power lines that are used to report inverter and photovoltaic module status information, as well as local identification codes. (Spec. 4, ll. 14–18; *see also* Spec. 9, l. 13–10, l. 9.)

As discussed above, the Examiner expressly found that Nakata does not disclose the use of power line communications. (Final Act. 2.) Thus, the Examiner relied on Stevens for the use of power line communications. The Examiner stated that Stevens discloses “use of power line communications to receive and send[] information, as shown in Para 13.” (Ans. 5.) Stevens, in paragraph 13, discloses “[a]nother [method of control] is to have, the microprocessor monitor for information on the power line such as a power line carrier signal or a phase chop dimming system like a SCR wall dimmer to request different output levels, in other words, dimming the lamp.” Stevens, however, is silent as to sending information over power lines.

Thus, we agree with Appellant, that Stevens discloses only that the power lines are monitored to receive information pertaining to, e.g., a SCR wall dimmer, and does not provide any disclosure regarding sending information using power line communications via a modulated carrier signal superimposed on an AC voltage of the AC output at the AC output terminal. (*See Reply Br. 3.*)

The Examiner appears to be of the position that because Nakata discloses that the control circuit sends information via a modulated carrier signal, when modified by Stevens’s disclosure of monitoring power line carrier signals for information, the modified communications system of Nakata would be “using power line communications” to send information to switches in inverter apparatus 200 via gate drive units 10 and 11 via a modulated carrier signal generated at carrier signal generator 19 superimposed on an AC voltage from signal processing unit 18 through circuits 22–24. (Ans. 3–4.) As discussed above, we are of the view that

such sending of information is insufficient to meet the requirements of claim 1, because it does not include sending information using power line communications in the manner required in claim 1.

As a result, we reverse the Examiner's decision to reject claim 1 as obvious over Nakata in view of Stevens.

Rejections 2 and 3

Ueda and the alleged Admitted Prior Art relied on by the Examiner to reject claims 6, 8, and 10–14, all dependent from claim 1 do not remedy the deficiencies as discussed above. Accordingly, we reverse Rejections 2 and 3 for similar reasons.

DECISION

We reverse the Examiner's decision rejecting claims 1–6, 8, and 10–14.

REVERSED