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THOMAS, LUCY M	

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MICHAEL SUCHOFF

Appeal 2015-000628
Application 12/917,087[1]
Technology Center 2800

Before ROBERT E. NAPPI, MICHAEL J. STRAUSS, and JOHN D. HAMANN, *Administrative Patent Judges*.

HAMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant files this appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b). We heard oral arguments on November 17, 2016. A transcript of the hearing will be added to the record in due course.

We reverse.

THE CLAIMED INVENTION

Appellant's claimed invention relates to "controlling the delivery of power to a load, and more particularly relates to power control techniques

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[1] According to Appellant, the real party in interest is Raritan Americas, Inc. App. Br. 1.

that improve reliability and reduce power consumption." Spec. ¶ 1. Claim 1 is illustrative of the subject matter of the appeal and is reproduced below.

> 1. An apparatus, comprising:
> at least one electromechanical relay including a coil and at least one pair of contacts, the contacts transitioning between a de-energized state and an energized state in response to current through the coil;
> a microcontroller having at least one tri-state output operating to produce ON, OFF, and FLOAT states; and
> a driver circuit operating, in conjunction with the tri-state output of the microcontroller, to control the current through the coil of the relay such that:
> (i) a transition of the tri-state output from OFF to FLOAT maintains the contacts of the relay in their de-energized state through the transition, and
> (ii) a transition of the tri-state output from ON to FLOAT maintains the contacts of the relay in their energized state through the transition.

REJECTIONS ON APPEAL

(1) The Examiner rejected claims 1–16 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Bedingfield et al. (US 2009/0213520 A1; published Aug. 27, 2009) (hereinafter "Bedingfield") and Peterson et al. (US 5,055,962; issued Oct. 8, 1991) (hereinafter "Peterson").

(2) The Examiner rejected claims 17–20 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Bedingfield, Peterson, and Kernahan (US 2005/0162144 A1; published July 28, 2005).

DISPOSITIVE ISSUE ON APPEAL

The dispositive issue for this appeal is whether the Examiner errs in finding the cited portions of Bedingfield teach or suggest "a microcontroller

having at least one tri-state output operating to produce ON, OFF, and FLOAT states," as recited in claims 1, 10, and 17.

ANALYSIS

We find Appellant's arguments persuasive with respect to the cited portions of Bedingfield failing to teach or suggest the above dispositive, disputed limitation.

Appellant argues the combination, and Bedingfield in particular, fails to teach or suggest the above disputed limitation. *See* App. Br. 8–9. Appellant argues[2] the Examiner incorrectly finds Bedingfield's teaching of a control element 30 (e.g., a microprocessor) providing a reduced power level output to hold a relay in its current state constitutes a FLOAT state in accordance with the claim language. *See* App. Br. 8–9. Specifically, Appellant argues Bedingfield teaches using a pulse width modulation signal to supply power to the relay where the "'reduced power' results from decreasing the duty cycle of the PWM waveform, and not by reducing the level of the 'ON' portion of the PWM waveform. To the contrary, in the reduced duty cycle waveform, the levels of 'ON' and 'OFF' states remain the same." *See id.* (citing Bedingfield ¶ 9); *see also* Reply Br. 3–4 (noting the Examiner agrees that reducing the duty cycle reduces the current and power, but not the amplitude of the waveform, in arguing that Bedingfield fails to teach a FLOAT state).

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[2] Appellant also argues the Examiner incorrectly conflates Bedingfield's teachings of control element 30 and supervisory controller 32 to find a microcontroller having at least one tri-state output. *See* App. Br. 6–7 (citing Bedingfield ¶ 40). We do not reach this issue.

The Examiner finds the combination, and Bedingfield in particular, teaches the disputed limitation. *See* Ans. 4–5; Final Act. 2 (citing Bedingfield ¶¶ 9, 41). The Examiner finds Bedingfield's reduced power level is the FLOAT state. *See id.* The Examiner also finds "reducing the duty cycle of waveforms . . . reduces ON and OFF time of the transistors and correspondingly the duration of ON current and OFF current through the coil, not the amplitude of the current through the transistors or amplitude of the ON current through the coil." Ans. 5 (citing Kernahan[3] Fig. 44a).

We are persuaded by Appellant's arguments. We agree with Appellant that the cited portions of the combination, and Bedingfield in particular, fail to teach or suggest a FLOAT state in accordance with the disputed limitation. Specifically, we find the cited portions of Bedingfield do not teach a third state output (i.e., a FLOAT state), but rather teach the frequency (i.e., duty cycle) with which the two state outputs (i.e., ON and OFF) occur. *See, e.g.*, Bedingfield ¶¶ 9, 40, 42, 53; Fig. 1.

Accordingly, we do not sustain the Examiner's § 103(a) rejection of claims 1, 10, and 17, as well as claims 2–9, 11–16, and 18–20, which depend from one of these claims.

DECISION

We reverse the Examiner's decision rejecting claims 1–20.

REVERSED

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[3] We agree with the Examiner that the rejection of claim 1 does not rely upon Kernahan, however, we also agree with Appellant that Kernahan provides an example of duty cycles and waveforms as taught in Bedingfield. *See* Ans. 5; Reply Br. 3–4.