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13/401,053	02/21/2012	James Saloio JR.	PA0017949U-U100.12-336KL	8078
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Kinney & Lange, P.A. The Kinney & Lange Building 312 South Third Street Minneapolis, MN 55415			POTHEN, FEBA	
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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* JAMES JR. SALOIO and AN NGUYEN

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Appeal 2015-006468  
Application 13/401,053  
Technology Center 2800

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Before LINDA M. GAUDETTE, WESLEY B. DERRICK, and BRIAN D. RANGE, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION ON APPEAL

SUMMARY

Appellants<sup>1</sup> appeal under 35 U.S.C. § 134(a) from the Examiner's decision rejecting claims 1–11. We have jurisdiction. 35 U.S.C. § 6(b).

We REVERSE.

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<sup>1</sup> According to the Appellants, the real party in interest is Hamilton Sundstrand Corporation. Appeal Br. 2.

STATEMENT OF THE CASE

Appellants describe the invention as relating to testing over-current fault detection. Spec. ¶ 1. In particular, the invention includes a monitor circuit, microcontroller, and resistor configured to test over current. *Id.* at ¶¶ 14, 16. Over current could be, for example, a rush or in-rush current. Spec. ¶ 16; *see also* Ans. 2 (explaining that “in-rush current” is “the maximum current drawn during start-up”). Appellants’ Specification explains that, in the past, over-current fault detection required applying an external fault to the system such that over-current fault handling could not be tested in the field. Spec. at ¶ 4. The present invention seeks to address this problem by “provid[ing] an ability to self-test the over-current fault detection in the field.” *Id.* at ¶ 11. Claims 1 and 7, reproduced below with emphases added to certain key recitations, are the two independent claims on appeal and are illustrative of the claimed subject matter:

1. A system for testing over-current fault detection comprising:

a first switch to connect a voltage to a load and a capacitor;  
a monitor circuit that monitors a current from the first switch to the load;

**a microcontroller configured to test over-current fault detection by enabling the first switch to produce an in-rush current through the capacitor**, wherein the microcontroller indicates a successful test of the over-current fault detection if the in-rush current is greater than a reference value.

7. A method for testing over-current fault detection comprising:

a. **enabling a first switch for a predefined time in order to generate an in-rush current through a capacitor**;

b. monitoring the in-rush current using a monitor circuit; and

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c. indicating, by a controller, a successful test of the over-current fault detection if the in-rush current is larger than a reference value during the predefined time.

Appeal Br.<sup>2</sup> 8–9 (Claims Appendix).

Application No. 13/559,128 is a continuation-in-part of the present application. Appellants have also appealed from the rejection of the claims in that application. *See* Appeal No. 2015-006537.

### REFERENCES

The Examiner relies upon the prior art below in rejecting the claims on appeal:

Suzuki	US 7,420,414 B2	Sept. 2, 2008
Fukushi et al. (hereinafter “Fukushi”)	US 2010/0181984 A1	July 22, 2010
Davis et al. (hereinafter “Davis”)	US 2011/0194217 A1	Aug. 11, 2011
Linder et al. (hereinafter “Linder”)	US 2012/0116482 A1	May 10, 2012

### REJECTIONS

The Examiner maintains the following rejections on appeal:

Rejection 1. Claims 1, 3–7, 9, and 10 under 35 U.S.C. § 103 as unpatentable over Fukushi in view of Suzuki. Final Act. 2.

Rejection 2. Claims 2 and 11 under 35 U.S.C. § 103 as unpatentable over Fukushi in view of Suzuki in further view of Linder. *Id.* at 5.

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<sup>2</sup> In this decision, we refer to the Final Office Action mailed June 5, 2014 (“Final Act.”), the Appeal Brief filed November 3, 2014, along with the Claims Appendix for the Appeal Brief filed December 18, 2014 (collectively, “Appeal Br.”), the Examiner’s Answer mailed April 24, 2015 (“Ans.”), and the Reply Brief filed June 23, 2015 (“Reply Br.”).

Rejection 3. Claim 8 under 35 U.S.C. § 103 as unpatentable over Fukushi in view of Suzuki in view of Davis. *Id.* at 6.

#### ANALYSIS

The Examiner rejects all independent claims as obvious over Fukushi in view of Suzuki. Final Act. 2. The Examiner finds that Fukushi discloses certain elements of claims 1 and 7, but also finds that “Fukushi does not explicitly disclose that the first switch produces an inrush current through the capacitor.” *Id.* at 4. The Examiner originally found that Suzuki teaches a switch producing an in-rush current (*id.*), but the Examiner later states that “Suzuki is only used to show the concept of an in-rush current.” Ans. 3.

Appellants argue that neither Fukushi nor Suzuki teaches a microcontroller that produces an in-rush current as recited in claim 1. Appeal Br. 5. Similarly, Appellants argue that neither Fukushi nor Suzuki teaches “enabling a first switch for a predefined time in order to generate an in-rush current through a capacitor” as recited by claim 7. Appeal Br. 7. Appellants explain that while Fukushi teaches detection of overcurrent, it does not disclose production of an in-rush current. Appeal Br. 5; Reply Br. 2.

The Examiner identifies production of an over-current in Fukushi (Ans. 2–3), but, as Appellants explain, the Examiner does not persuasively identify any teaching or suggestion of a “microcontroller configured to test over-current fault detection by enabling the first switch to produce an in-rush current” (as recited in claim 1) or of a method including “enabling a first switch for a predefined time in order to generate an in-rush current through a

capacitor” (as recited in claim 7).<sup>3</sup> Appeal Br. 4–7. Rather, the Examiner concludes “it would be obvious to enable a switch to produce a desired current, such as an inrush current, to detect an overcurrent in a device startup situation.” Ans. 3. Based on the present record, however, the Examiner has not directed us to sufficient factual underpinnings to support a determination that it would have been obvious to enable a switch to create an inrush current. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (“[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.”) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Accordingly, we do not sustain the Examiner’s rejection of claims 1 and 7. We also do not sustain the Examiner’s rejection of claims 3–6, 9, and 10 because those claims depend from claims 1 and 7.

The Examiner applies additional references to dependent claims 2, 8, and 11, but the Examiner does not find that these references address the recitations of claims 1 and 7 discussed above. Final Act. 5–7. We therefore do not sustain the Examiner’s rejection of claims 2, 8, and 11.

#### DECISION

For the above reasons, we reverse the Examiner’s rejections of claims 1–11.

#### REVERSED

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<sup>3</sup> In the event of further prosecution, the Examiner may wish to evaluate the technical features of prior art “test equipment used to apply an external fault” as discussed by the Specification at paragraph 4 and consider whether such “test equipment,” when combined with Fukushi, would have taught or suggested systems and/or methods within the scope of the claims at issue.