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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* JOHN L. MELANSON and ERIC J. KING

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Appeal 2018-000081  
Application 13/077,421  
Technology Center 2800

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Before TERRY J. OWENS, JENNIFER R. GUPTA, and LILAN REN,  
*Administrative Patent Judges.*

GUPTA, *Administrative Patent Judge.*

DECISION ON APPEAL<sup>1</sup>

Appellants<sup>2</sup> appeal under 35 U.S.C. § 134(a) from the Examiner’s final decision rejecting claims 1–38. We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

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<sup>1</sup> In this Decision, we refer to the Specification filed March 31, 2011 (“Spec.”), the Final Office Action dated November 21, 2016 (“Final Act.”), the Appeal Brief filed April 21, 2017 (“Appeal Br.”), the Examiner’s Answer dated July 24, 2017 (“Ans.”), and the Reply Brief filed September 25, 2017 (“Reply Br.”).

<sup>2</sup> Appellants identify the real party in interest as Koninklijke Philips N.V. Appeal Br. 3.

The subject matter of the claims on appeal relates to methods and systems of multiple power sources for a switching power converter controller. Spec. ¶ 2. Claim 1, reproduced below from the Claims Appendix with emphasis to highlight key disputed limitations, is illustrative of the claims on appeal.

1. An apparatus comprising:
  - a first power supply having a first source follower transistor to conduct a start-up current for a controller and supply an operating voltage for the controller; and
  - a second power supply having a second source follower transistor to conduct a steady-state operational current for the controller and supply an operating voltage from a supply node for the controller, wherein a source of the first source follower transistor and a source of the second source follower transistor are coupled to the supply node and, during operation of the apparatus, when the source of the second source follower transistor is biased with the operating voltage at the supply node to cause the second source follower transistor to turn ON, the second source follower transistor changes the operating voltage and the change in the operating voltage at the supply node causes the first source follower transistor to automatically turn OFF.*

Appeal Br. 19 (Claims App.) (emphasis added).

## DISCUSSION

The Examiner maintains the rejection of claims 1–3, 5–13, and 15–38 under pre-AIA 35 U.S.C. § 103(a) over Kasai et al. (US 6,912,140 B2, issued June 28, 2005) (“Kasai”) in view of de Sartre et al. (US 4,692,853, issued September 8, 1987) (“de Sartre”). Ans. 2. The Examiner also maintains the rejection of claims 4 and 14 under pre-AIA 35 U.S.C. § 103(a)

as unpatentable over Kasai in view of de Sartre and Ueta et al. (US 5,581,453, issued December 3, 1996) (“Ueta”). *Id.*

We focus our discussion on claim 1, which includes the argued limitations. *See* Appeal Br. 7–17.

The Examiner finds that Kasai discloses all the elements of claim 1’s apparatus, but does not disclose a steady state current path (through diode D1) that includes a source follower transistor. Final Act. 8–9 (citing Kasai, 5:23–8:7, Fig. 1). The Examiner finds, however, that one of ordinary skill in the art would have been motivated to modify Kasai’s apparatus to replace the diode (D1) with a second follower transistor because “the two components (source follower, diode) are art recognized equivalents for their ability to be switched off by controlling the output voltages (source voltage for the source follower, cathode voltage for the diode).” *Id.* at 9. The Examiner relies on de Sartre as support for this equivalency.

The Examiner finds that de Sartre discloses chopped power supply circuit that includes a first power supply (14, 32, 30) having a first diode (32) to conduct a start-up current for a controller (C11) and supply an operating voltage (via 28) for the controller, and a second power supply (ES3, 24, 26) having a second diode (24) to conduct a steady-state operational current for the controller and supply an operating voltage from a supply node (28) for the controller. *Id.* at 9–10 (citing de Sartre, 4:25–6:3, Fig. 1). The Examiner further finds that the cathode of the first diode (32) and a cathode of the second diode (24) are coupled to the supply node (28) and, during operation, when the cathode of the second diode is biased with the operating voltage at the supply node to cause the second diode to turn ON, the second diode changes the operating voltage and the change in the

operating voltage at the supply node causes the first diode to automatically turn OFF. *Id.* at 10 (citing de Sartre, 4:25–6:3, Fig. 1). According to the Examiner, de Sartre uses two diodes to act as a diode OR'ing circuit. *Id.* When de Sartre's tertiary winding produces a sufficiently high voltage, it biases the first diode to turn off. *Id.* The Examiner finds that this is similar to how Kasai functions; the tertiary winding voltage biases the source follower to turn off. *Id.* Thus, the Examiner finds that de Sartre establishes the equivalent functionality of the two components in a switching power supply; namely, using them in an OR'ing circuit so that the controller only receives voltage from one source. *Id.*

Appellants argue that Kasai and de Sartre do not teach any equivalency between a source follower and a diode in the steady-state operating power supply. Appeal Br. 14.

We are persuaded by Appellants' argument. In the Answer, the Examiner explains that a source follower transistor and start-up diode are equivalent ( $A = B$ ), and a start-up diode and steady state diode are equivalent ( $B = C$ ). Ans. 6. Then, relying on the Transitive Property of Equality (if  $A = B$ , and  $B = C$ , then  $A = C$ ), the Examiner concludes that the source follower and steady state diode are equivalent as well. *Id.* The Examiner's finding, however, is not supported by the teachings of Kasai or de Sartre. That is, on the record before us the Examiner has not established the purported equivalence of a source follower and a steady state current path is recognized in the art. Final Act. 9. Indeed, as Appellants argue, both Kasai and de Sartre use a diode (Kasai's diode D1, de Sartre's diode 24) to establish the steady state operational voltage. Appeal Br. 15; Reply Br. 4.

Additionally, the Examiner has not established the purported equivalence of “the two halves of the OR’ing circuit” is recognized in the art. Ans. 5. Rather, the Examiner concludes without sufficient evidentiary support that, “[T]he equivalence between a first diode and a source follower to achieve the first half of the OR’ing circuit has been demonstrated by the prior art; therefore, that equivalency would apply to the second half of the OR’ing circuit as well.” Ans. 13. Thus, the Examiner’s articulated reasoning for modifying Kasai to include a source follower transistor in a steady state current path based on the teachings of de Sartre does not have adequate rational underpinnings. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) (quoted with approval in *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.”). Accordingly, we do not sustain the Examiner’s rejection of claims 1–3, 5–13, and 15–38 under 35 U.S.C. § 103(a) over Kasai and de Sartre.

The Examiner’s rejection of claims 4 and 14 relies upon the same reason without rational underpinnings discussed above. Thus, for the same reasons, we do not sustain the Examiner’s rejection of claims 4 and 14 under 35 U.S.C. § 103(a) as unpatentable over Kasai in view of de Sartre and Ueta.

#### DECISION

The Examiner’s decision to reject claims 1–38 is reversed.

Appeal 2018-000081  
Application 13/077,421

REVERSED