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EXAMINER

TADESSE, MARTHA

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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* VINCENT GEORGE JOHNSTON,  
CURT RAMOND O'DONNELL, WULFER ADRIJAN de BRUIJN,  
and MARCO ELKENKAMP

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Appeal 2018-005231<sup>1</sup>  
Application 13/459,112<sup>2</sup>  
Technology Center 3700

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Before BIBHU R. MOHANTY, NINA L. MEDLOCK, and  
KENNETH G. SCHOPFER, *Administrative Patent Judges*.

SCHOPFER, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the rejection of  
claims 26–40. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> Our decision references the Appeal Brief (“Appeal Br.,” filed Oct. 2, 2017), the Reply Brief (“Reply Br.,” filed Apr. 23, 2018), the Examiner’s Answer (“Ans.,” mailed Feb. 22, 2018), and the Final Office Action (“Final Act.,” mailed Mar. 31, 2017).

<sup>2</sup> According to Appellants, the real party in interest is Tesla Motors Inc. Appeal Br. 2.

## BACKGROUND

According to Appellants, “[t]he present invention relates generally to thermal control systems and, more particularly, to a system for controlling the level of heat rejection from the coolant fluid in a vehicle cooling system to the refrigerant of a refrigeration system in the coolant-to-refrigerant heat exchanger of a vehicle thermal management system.” Spec. ¶ 2.

## CLAIMS

Claims 26 and 34 are the independent claims on appeal. Claim 26 is illustrative of the appealed claims and recites:

26. A method of regulating thermal dissipation of a battery pack of a vehicle, the vehicle including a coolant loop coupled to and in thermal communication with the battery pack and a heat exchanger, a refrigeration system coupled to and in thermal communication with the heat exchanger and an evaporator, a coolant within the coolant loop, and a by-pass valve coupled to the coolant loop to regulate a first amount of the coolant that flows through the heat exchanger and a second amount of the coolant that is diverted around the heat exchanger, the method comprising:

determining a first temperature corresponding to the coolant;

comparing the first temperature to a first preset temperature range;

adjusting the by-pass valve at a first time based on comparing the first temperature to the first preset temperature range;

comparing a second temperature corresponding to an evaporator outlet temperature before adjusting the by-pass valve at the first time to a third temperature corresponding to the evaporator outlet temperature after adjusting the by-pass valve at the first time; and

adjusting the by-pass valve at a second time after the first time to decrease the first amount of the coolant that flows through the heat exchanger and increase the second amount of the coolant that is diverted around the heat exchanger if the second temperature and third temperature are not within a preset range.

Appeal Br. 15.

#### REJECTIONS

1. The Examiner rejects claims 26–40 under 35 U.S.C. § 112, second paragraph, as indefinite.
2. The Examiner rejects claims 26–40 under 35 U.S.C. § 103(a) as unpatentable over Nemesh<sup>3</sup> in view of Dogariu.<sup>4</sup>

#### DISCUSSION

##### *Indefiniteness*

The Examiner finds that limitations drawn to an “evaporator outlet temperature” render the claims indefinite because it “is unclear as to if said limitations refer to the evaporator outlet air temperature or the evaporator outlet refrigerant temperature.” Final Act. 2. Appellants do not present argument regarding the substance of the rejection of claims 26–40 under 35 U.S.C. § 112, second paragraph. *See* Appeal Br. 7–8. Rather, Appellants assert that an after final amendment regarding the claim language at issue should have been entered and that “the amendment will be made after the appeal which will cause this rejection to be moot.” *Id.* Thus, Appellants

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<sup>3</sup> Nemesh et al., US 2010/0012295 A1, pub. Jan. 21, 2010.

<sup>4</sup> Dogariu et al., US 2009/0317697 A1, pub. Dec. 24, 2009.

have not shown any error in the rejection as it stands.<sup>5</sup> Accordingly, we summarily sustain this rejection.

*Obviousness*

We are persuaded of reversible error in the rejection of independent claims 26 and 34 because the Examiner has failed to establish that it would have been obvious for the proposed combination to be operable to compare first and second temperatures at an evaporator outlet and to adjust the by-pass valve if the first and second evaporator outlet temperatures are not within a preset range.

Even if we were to agree with the Examiner that it would have been obvious to combine Nemesh and Dogariu as proposed, we find that the Examiner has not established that the combination would result in the method and device required by the independent claims. Each of the claims requires comparing a “second temperature” at an evaporator outlet to a “third temperature” at the evaporator outlet and adjusting the by-pass valve when the second and third temperatures are not within a preset range. *See* Appeal Br. 15–17. Yet, we fail to see how either reference individually teaches such a comparison, and the Examiner has not otherwise explained why the combination would teach such a comparison.

The Examiner finds that Nemesh teaches a system including a temperature sensor for measuring the temperature at an evaporator outlet. Final Act. 3–4 (citing Nemesh ¶ 20). Although the Examiner indicates that Nemesh teaches “comparing a second temperature . . . corresponding to an

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<sup>5</sup> We note that Appellants’ argument regarding the Examiner’s refusal to enter an amendment is a petitionable matter that is not before us on Appeal.

evaporator outlet temperature,” we agree with Appellants that the cited portion of Nemesh discloses only that “sensor 90 may be employed to measure the temperature of air flowing out of the evaporator.” *See id.*; *see also* Nemesh ¶ 20. Nemesh does not appear to disclose the comparison indicated by the Examiner, and Nemesh does not otherwise disclose a use for this temperature sensor.

Further, the Examiner relies on Dogariu as teaching “comparing a second temperature . . . corresponding to an evaporator outlet temperature . . .; and [then] adjusting the by-pass valve.” Final Act. 4–5. However, we agree with Appellants that the Examiner’s indication that the evaporator air temperature corresponds to the ambient air temperature disclosed in Dogariu is not supported on the record before us. *See* Reply Br. 3. The Examiner finds, without explanation, that the evaporator air temperature corresponds to the ambient air temperature disclosed in Dogariu. Final Act. 4–5. But the Examiner does not explain how these temperatures correspond to each other, and it is not clear from the cited portions of Dogariu that they do. Further, as Appellants point out, the Specification distinguishes cabin temperature, i.e. ambient temperature, and HVAC evaporator air outlet temperature. *See* Spec. ¶ 23; Fig. 5. Thus, without further explanation, we find error in the Examiner’s finding that “Dogariu teaches the concept of a controller 68 . . . comparing a second temperature corresponding to an evaporator outlet temperature . . . to a third temperature corresponding to the evaporator outlet temperature . . . and adjusting the by-pass valve” based on that comparison, because Dogariu does not appear to teach any measurement of the evaporator outlet temperature.

Further, we are not persuaded by the Examiner's assertion that the claim limitations at issue would have been obvious simply because the combination "would or could" be used to control a by-pass valve in the manner claimed. An invention "composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Instead, a determination of unpatentability on a ground of obviousness must include "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Here, the Examiner has not set forth any reason why one of ordinary skill in the art would have found it obvious to compare temperatures at an evaporator outlet and adjust the by-pass valve according to that comparison, which is of particular import here because, as discussed above, neither reference discloses measuring and comparing evaporator outlet temperatures for any reason.

Based on the foregoing, we are persuaded of reversible error in the rejection of independent claims 26 and 34. Accordingly, we do not sustain the rejection of these claims as obvious. For the same reasons, we also do not sustain the rejection of dependent claims 27–33 and 35–40 as obvious.

#### CONCLUSION

We AFFIRM the rejection of claims 26–40 under 35 U.S.C. § 112, second paragraph. We REVERSE the rejection of claims 26–40 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

Appeal 2018-005231  
Application 13/459,112

AFFIRMED