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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte XIAO GUANG YANG and THEODORE JAMES MILLER¹

Appeal 2019-000850
Application 14/336,741
Technology Center 2800

Before BEVERLY A. FRANKLIN, MICHELLE N. ANKENBRAND, and
CHRISTOPHER C. KENNEDY, *Administrative Patent Judges*.

KENNEDY, *Administrative Patent Judge*.

DECISION ON REQUEST FOR REHEARING

The Appellant filed a Request for Rehearing (“Request” or “Req.”) under 37 C.F.R. § 41.52 seeking reconsideration of our Decision dated June 15, 2020 (“Decision” or “Dec.”), in which we affirmed the Examiner’s rejections of claims 9–11, 13, 14, 16, 17, 19, and 20.

We DENY the Request.

ANALYSIS

A request for rehearing “must state with particularity the points believed to have been misapprehended or overlooked by the Board.”

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. The Appellant identifies the real party in interest as Ford Global Technologies, LLC. Appeal Br. 2.

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37 C.F.R. § 41.52(a). It may not rely upon new evidence or new arguments except as permitted by § 41.52 paragraphs (a)(2) though (a)(4). *Id.*

We have considered the Request and determine that the Appellant has not persuasively identified any points that our original Decision misapprehended or overlooked that would warrant a different outcome on rehearing. In particular, we find that the Appellant’s arguments on rehearing are new arguments that could have—and should have—been made in the Appeal Brief. *See* 37 C.F.R. § 41.52(a).

The Appellant first states that “[t]he Board asserts that . . . it would have been obvious . . . to terminate charging at the maximum voltage disclosed by Andrieu, i.e., $U_r = U_f + (I_c \times R)$, because that is the voltage at which Andrieu teaches ending a first charging step.” Req. 2 (quoting Dec. 7). The Appellant then quotes certain portions of Andrieu and alleges that Andrieu desires a final charge factor of 75% to 95%, but that termination at the end of Andrieu’s first charging step would result in a charge factor of only 60%. *See* Req. 2. The Appellant argues: “Modifying Andrieu to terminate charging at the end of the first charging step (when the charge factor is 60%) as suggested by the Board would prevent [Andrieu] from achieving its very purpose of achieving a charge factor in the traditional range of 75% to 95%.” *Id.*

As an initial matter, that argument is untimely. Consistent with our original Decision, the most reasonable understanding of the Final Action is that the Examiner proposes terminating charging at the end of Andrieu’s first charging step:

Andrieu teaches terminating the charging when the battery voltage exceeds a recommended maximum voltage (U_f) by a variable amount defined by the current and a battery resistance ($I_i \times R$ or R-term shown in Fig. 1, the U_i term [*i.e.* reference

voltage] in Fig. 1 shows the amount; the constant current charging is terminated at this time).

Final Act. 4 (bracketed material in original; emphasis added). In particular, the Examiner's reference to the "U_i term" of Figure 1 (i.e., $U_i = U_f + (I_i \times R)$, *see* Andrieu Fig. 1), and the Examiner's observation that "the constant current charging is terminated at this time," indicates reliance on Andrieu's first charging step because Andrieu discloses constant current during its first charging step. *See* Andrieu at 3:46–4:10 (referring to "a first step at constant current" and stating that, "during the second step . . . [c]urrent decreases down to a very low final value"). The Examiner goes on to find that "Lee teaches performing *constant current* [charging] until the battery reaches a predetermined voltage (i.e. the U_f value of Andrieu), whereby the battery charging is terminated." Final Act. 5 (emphasis added). The Examiner then determines that it would have been obvious "to modify Andrieu with Lee to protect the battery, decrease size, and increase the efficiency." *Id.*

In view of the Examiner's discussion, the Examiner's rationale in the Final Action is most reasonably understood as proposing termination of charging at the end of Andrieu's first charging step in view of Lee.² *See*

² We recognize that, in the Examiner's Answer, the Examiner appears to additionally rely on Andrieu's second step. *See* Ans. 3, 5. Although we acknowledge that the Examiner's discussion in the Answer of Andrieu's second step creates some ambiguity as to the Examiner's rationale, for the reasons set forth herein, we find that it was sufficiently apparent in the Final Action that the Examiner was relying on Andrieu's first step that the Appellant's arguments about Andrieu's first step could have and should have been raised prior to a rehearing request. Additionally, we note that our affirmance of the Examiner's rejection was based on our understanding of the Examiner's rationale set forth in the Final Action; we did not rely on Andrieu's second step. *See generally* Dec. The Appellant has not argued

Final Act. 4–5. In effect, in the Final Action the Examiner finds that it would have been obvious to substitute Lee’s termination step for Andrieu’s second (decreasing current) step as a known alternative method of protecting a battery from damage due to overcharging. *See id.*

The arguments in the Appeal Brief reflect that the Appellant also had that understanding of the Final Action. *See generally* Appeal Br. For example, the Appellant argued in the Appeal Brief:

Andrieu teaches that “[t]he reference voltage U_r determining the end of *the first step* is set by the following equation $U_r = U_f + (I_c \times R)$.” Andrieu, col. 2, lines 20-23. Andrieu further teaches that “[a] single measurement suffices to determine the reference voltage for the first step since current is then constant.” Andrieu, col. 2, lines 34-35. Andrieu teaches that the reference voltage during *the first step* is constant. As the claims require that a cell voltage exceeds a recommended maximum voltage by an amount that varies during charging, Andrieu does not teach or suggest this feature.

Appeal Br. 6 (emphasis added). That discussion, on its face, concerns only the first step of Andrieu’s method, and it argues only that Andrieu teaches a constant voltage rather than a voltage that varies during charging. *See id.* It does not suggest that terminating charging at the end of Andrieu’s first step would have prevented Andrieu from achieving its purpose, as argued in the Request; nor does it raise arguments about Andrieu’s second step or otherwise indicate that the Appellant understood the Final Action to be relying on the Andrieu’s second step. Similarly, in the Appellant’s Reply Brief, the Appellant argued that “[t]he first phase of Andrieu . . . does not teach or suggest exceeding a recommended voltage by an amount that varies

that our affirmance of the Examiner’s rejection should be designated as a new ground of rejection. *See generally* Req.

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during charging as claimed.” Reply 2. The Appellant did not argue that terminating Andrieu’s charging at the end of Andrieu’s first step in view of Lee would have defeated Andrieu’s purpose. *See id.*

Accordingly, we determine that the Appellant’s argument concerning Andrieu’s purpose is untimely. *See* 37 C.F.R. § 41.52(a).

Even if the Appellant’s argument were timely, however, it would fail to persuasively identify a basis for us to reach a different result on rehearing. In particular, we observe that the 60% charge factor on which the Appellant relies in the Request concerns an embodiment of Andrieu on which the Examiner does not rely. Andrieu teaches a 60% charge factor for an embodiment in which a first step ends when a voltage of 4.2 is reached. *See* Andrieu at 3:47–56. The Examiner’s rejection, and our Decision, rely on the “alternative[.]” embodiment of Andrieu’s first step in which the “reference voltage is calculated by summing the end-of-charge voltage (4.2 V) and the product of the current (1 A) multiplied by the ohmic resistance (0.1 Ω) of the storage cell.” *See id.* at 3:57–65. The Appellant does not allege that termination of charging at the end of that alternative first step would have resulted in a charge factor that defeats Andrieu’s purpose. *See* Req.

The second argument in the Request is also untimely. The Appellant argues:

Andrieu already provides techniques for rapid cell charging “without any risk of damaging [cells] and reducing their lifetime.” And where a secondary reference (Lee) purports to add a feature (“protect the battery from damage due to overcharging”) already present in a primary reference (Andrieu), there is no motivation to combine.

Req. 2.

In the Final Action, the Examiner finds that “[i]t would have been obvious to modify Andrieu with Lee *to protect the battery*, decrease size, and increase the efficiency.” Final Act. 5 (emphasis added).

Notwithstanding the Examiner’s explicit finding in the Final Action that battery protection would have been a motivation “to modify Andrieu with Lee,” *id.*, we do not discern in either the Appeal Brief or the Reply Brief the argument that the Appellant now raises on rehearing; i.e., that no motivation exists because Andrieu’s battery is already protected without any need for modification in view of Lee. *See* Req. 2. The Appellant has not asserted that, or identified where, such an argument was previously made. *See id.*

Accordingly, we determine that the Appellant’s argument concerning motivation to combine Andrieu and Lee is untimely, and we decline to consider it on rehearing. *See* 37 C.F.R. § 41.52(a).

CONCLUSION

The Decision has been reconsidered, but, for the reasons set forth above, the Request is DENIED with regard to modifying the result of the Decision.

Outcome of Decision on Rehearing:

Claims Rejected	35 U.S.C. §	References	Denied	Granted
9, 11, 13, 14, 16, 17	103	Andrieu, Zhong, Lee	9, 11, 13, 14, 16, 17	
10	103	Andrieu, Zhong, Lee, Schaefer	10	
19	103	Andrieu, Zhong, Lee, Ostergaard	19	
20	103	Andrieu, Lee, Frey, Dong	20	
Overall			9–11, 13, 14,	

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Claims Rejected	35 U.S.C. §	References	Denied	Granted
Outcome			16, 17, 19, 20	

Final Outcome of Appeal after Rehearing:

Claims Rejected	35 U.S.C. §	References	Affirmed	Reversed
9, 11, 13, 14, 16, 17	103	Andrieu, Zhong, Lee	9, 11, 13, 14, 16, 17	
10	103	Andrieu, Zhong, Lee, Schaefer	10	
19	103	Andrieu, Zhong, Lee, Ostergaard	19	
20	103	Andrieu, Lee, Frey, Dong	20	
Overall Outcome			9-11, 13, 14, 16, 17, 19, 20	

DENIED