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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte PETER LUERKENS, ALBERT GARCIA TORMO,
and BERND ACKERMANN

Appeal 2019-005257
Application 15/112,451
Technology Center 2800

Before ADRIENE LEPIANE HANLON, ROMULO H. DELMENDO, and
JAMES C. HOUSEL, *Administrative Patent Judges*.

DELMENDO, *Administrative Patent Judge*.

DECISION ON APPEAL

The Appellant¹ appeals under 35 U.S.C. § 134(a) from the Primary Examiner’s final decision to reject claims 1, 2, and 4–16.² We have jurisdiction under 35 U.S.C. § 6(b).³

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42—namely, “KONINKLIJKE PHILIPS N.V.” (Application Data Sheet filed July 19, 2016 at 6), which is also identified as the real party in interest (Appeal Brief filed January 28, 2019 at 3).

² *See* Appeal Br. 8–16; Reply Brief filed June 28, 2019 (“Reply Br.”) at 2–11; Final Office Action entered August 30, 2018 (“Final Act.”) at 3–9; Examiner’s Answer entered May 3, 2019 (“Ans.”) at 3–21.

³ Both the Appeal Brief and the Examiner’s Answer address whether the finality of the Final Office Action was premature (Appeal Br. 17–18; Ans. 21–25). This issue relates to a non-appealable matter that should have been

We affirm.

I. BACKGROUND

The subject matter on appeal relates to a device for controlling a plurality of cells of a battery, a battery comprising such a device, an X-ray source comprising such a battery, and a method for controlling a plurality of cells of a battery (Specification filed July 19, 2016 (“Spec.”) at 2, l. 18–3, l. 4). Representative claim 1 is reproduced from the Claims Appendix to the Appeal Brief, as follows:

1. A device for controlling a plurality of cells of a battery, the device comprising:

a battery control module, comprising a plurality of cell control units, wherein each cell control unit is assigned to one of the cells and is configured to change a charge balance of the assigned cell and to measure at least one cell parameter of the assigned cell; and

a main control module, which is configured to define a preferred range of a state-of-charge of the battery cells for a charging-discharging-cycle, wherein the preferred range is reduced compared to a full range, the main control module further configured to provide a first group of selected cells, on which the charging-discharging-cycle is performed including a fully charged state within the full range, and a second group of non-selected cells, on which the charging-discharging-cycle is performed within the preferred range,

wherein the main control module is configured to calibrate the preferred range utilizing the measure of the at least one cell parameter of the assigned cell of the first group of selected cells at the fully charged state.

(Appeal Br. 20 (emphasis added)).

raised by way of a timely-filed petition pursuant to 37 C.F.R. § 1.181. *See* M.P.E.P. § 1002.02(c), Item 3.a (Rev. 8.2017, Jan. 2018).

II. REJECTION ON APPEAL

Claims 1, 2, and 4–16 stand rejected under 35 U.S.C. § 103 as unpatentable over Ishibashi et al.⁴ (“Ishibashi”) in view of Abe et al.⁵ (“Abe”) (Ans. 3–21; Final Act. 3–9).

III. DISCUSSION

1. *Grouping of Claims*

The Appellant relies on the same arguments for all claims on appeal, focusing primarily on independent claim 1 (Appeal Br. 11–16).⁶ Therefore, we decide this appeal on the basis of claim 1, which we designate as representative pursuant to 37 C.F.R. § 41.37(c)(1)(iv). Claims 2 and 4–16 stand or fall with claim 1.

2. *The Examiner’s Position*

The Examiner finds that Ishibashi discloses every limitation recited in claim 1 except it “fails to explicitly teach calibrating the preferred range utilizing the measure of the at least one cell parameter” (Final Act. 3–5). The Examiner finds, however, that “Abe . . . teaches calibrating [a] preferred range utilizing the measure of . . . at least one cell parameter” and that Abe’s device “provides reduced degradation and costs, and improved longevity” (*id.* at 5). The Examiner concludes from these findings that “[i]t would have

⁴ US 2016/0200214 A1, published July 14, 2016.

⁵ US 2014/0239900 A1, published August 28, 2014.

⁶ The Appellant argues that the preambles recited in independent claims 1 and 13 constitute structural limitations that must be considered (Appeal Br. 9–11). The Examiner agrees but nonetheless maintains that these limitations fail to impart patentability to the claimed subject matter over the prior art (Ans. 4). Because the issue relating to the preambles is now moot, we do not address it.

been obvious to a person having ordinary skill in the art to modify Ishibashi with Abe to provide improved longevity and reduced degradation and costs” (*id.*).

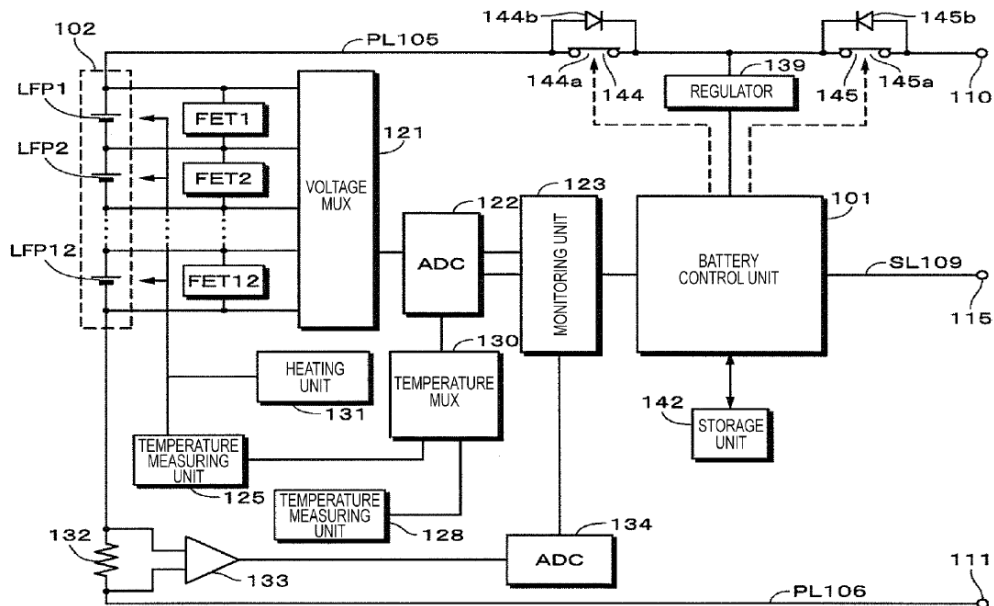
3. *The Appellant’s Contentions*

The Appellant does not dispute the Examiner’s articulated reason for combining Ishibashi with Abe (Appeal Br. 11–16). Rather, the Appellant’s principal argument is that Ishibashi does not disclose the disputed “a battery control module” limitations highlighted in reproduced claim 1 above because “Ishibashi is directed to adjusting and balancing the charging and input/output between two batteries”—not “**a battery**” (*id.* at 12–13). The Appellant also argues that Ishibashi does not disclose the configuration limitations recited for the “main control module” recited in claim 1 (*id.* at 13). According to the Appellant, “the secondary reference Abe does cure [sic] the above identified deficiencies in Ishibashi” (*id.* at 16).

4. *Opinion*

The Appellant’s arguments fail to identify reversible error in the Examiner’s rejection. *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011).

Ishibashi’s Figure 6 is reproduced, as follows:



Ishibashi’s Figure 6 above depicts a first battery module in a battery apparatus that also contains a second battery module (not shown) that is connected to the first battery module in parallel, wherein a maximum output voltage of the first battery module is set to be larger than a maximum output voltage of the second battery module and a use range of the first battery module is set to differ from a use range of the second battery module (Ishibashi ¶¶ 8, 17).

As the Examiner explains (Ans. 5–6), Ishibashi’s first battery module (i.e., a battery module LFPM (lithium iron phosphate module)⁷), as shown in Figure 6, includes a battery cell unit **102** formed of twelve cells LFP1–LFP12, which are balanced by field effect transistors FET1–FET12, respectively (Ishibashi ¶¶ 64, 69, 98). In this regard, the Appellant does not dispute the Examiner’s finding that the “FETs allow measurements via monitoring units 123 & 223 [via 121 & 221] and perform charge balance

⁷ See Ishibashi ¶ 37; Spec. 3, ll. 11–17.

[i.e., control or participate in controlling charge] as described in ¶[98] where voltage is taken across the FETs” (*compare* Final Act. 4 (bracketed material original) *with* Appeal Br. 11–16; *see also* Ishibashi ¶ 69). In addition, Ishibashi teaches that “the voltages of the twelve pieces of battery cells LFP of the battery module LFPM are monitored” and that “where a value of the smallest voltage reaches, for example, 2.0 V among the voltages of the twelve pieces of battery cells LFP, the battery control unit **101** performs control to stop the discharge” (Ishibashi ¶ 109). Similarly, Ishibashi teaches that “[m]onitoring of the voltages of the twelve pieces of battery cells LFP is performed during charging” until the “maximum voltage among the voltages of the twelve pieces of battery cells LFP has reached the terminating voltage [e.g., 3.6 V]” (*id.* ¶ 125).

Thus, although we agree with the Appellant that the Examiner’s reliance on Ishibashi’s Figure 4 showing a battery apparatus including battery cell units in two different battery modules—as opposed to only one as required by claim 1—was misplaced (Ans. 6), that error was harmless. Here, the Examiner also relies on Ishibashi’s LFPM battery module as shown in Figure 6, which shows controlling and monitoring twelve different cell units in the same battery module, as the Examiner explains (Ans. 5; Final Act. 4). The fact that Ishibashi’s battery apparatus also contains a second battery module LIBM is immaterial because claim 1 uses the transitional term “comprising” to define the claimed device and, therefore, does not exclude Ishibashi’s second battery module LIBM.

The configuration language recited in claim 1 for the “main control module” does not save claim 1 from the prior art’s reach because the recitation “preferred range” can reasonably be interpreted to be any range

(e.g., 2.0–3.6 V) that is subsumed or within a “full range” (e.g., 0–3.6 V) (*compare* Ishibashi ¶¶ 109, 125 *with* Spec. 4, l. 31–5, l. 17). In Ishibashi, when a “*smallest* voltage” (emphasis added) among the monitored voltages of the battery cells LFP1–LFP12 reaches 2.0 V, battery control unit **101** necessarily receives an indication to stop the discharge of the entire battery module (Ishibashi ¶ 109). Consequently, charging is performed on all battery cells (*id.* ¶ 125; Fig. 9)—i.e., charging is performed on some cells (i.e., cells with voltages above 2.0 V) that were operating within a preferred range and at least one cell (i.e., at least one cell with a voltage of 2.0 V) that was operating within the full range. Thus, the configuration limitations for the “main control module” fail to confer patentability to claim 1. *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007) (“[W]e look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation. As this court has discussed, this methodology produces claims with only justifiable breadth.”).

For these reasons, we uphold the Examiner’s rejection as maintained against claim 1 and all other rejected claims standing or falling therewith.

IV. CONCLUSION

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 4–16	103	Ishibashi, Abe	1, 2, 4–16	

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

AFFIRMED