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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte AUSTIN CURBOW and DANIEL MARTIN

Appeal 2019-003598
Application 15/382,172
Technology Center 2800

Before JAMES R. HUGHES, LINZY T. McCARTNEY, and
JOYCE CRAIG, *Administrative Patent Judges*.

CRAIG, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1–20. *See* Final Act. 1. We have jurisdiction under 35 U.S.C. § 6(b).

An oral hearing was held on June 11, 2020.

We affirm.

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as CREE FAYETTEVILLE, INC. Appeal Br. 3.

CLAIMED SUBJECT MATTER

The claims are directed to power modules having an integrated clamp circuit. Spec. ¶ 2. Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A power module apparatus, comprising:
 - a power substrate;
 - at least one power device electrically connected to the power substrate;
 - a gate-source board mounted relative to the power substrate, the gate-source board electrically connected to the at least one power device;
 - a housing secured to the power substrate;
 - a clamping circuit electrically connected to the at least one power device, the clamping circuit configured to clamp an input to a gate of the at least one power device, the input to the gate comprising gate drive signals generated from a gate driver implemented separate from the power module apparatus; and
 - the clamping circuit being integrated in the power module apparatus and the clamping circuit being arranged with at least one of the following:
 - a base plate, the power substrate, one of at least two power contacts, the at least one power device, the gate-source board, gate drive connectors, and the housing.

REJECTION

Claims 1–20 stand rejected under 35 U.S.C. § 103 as unpatentable over the combination of McPherson et al. (US 9,426,883 B2, issued Aug. 23, 2016) (“McPherson”) and Pang (US 9,300,285 B2, issued Mar. 29, 2016). Final Act. 3–8.

ANALYSIS

We have reviewed the rejections of claims 1–20 in light of Appellant’s arguments that the Examiner erred. We have considered in this decision only those arguments Appellant actually raised in the Briefs. Any

other arguments Appellant could have made, but chose not to make, in the Briefs are waived. *See* 37 C.F.R. § 41.37(c)(1)(iv).

Appellant's arguments are not persuasive of error. We agree with and adopt as our own the Examiner's findings of facts and conclusions as set forth in the Answer and in the Action from which this appeal was taken. We provide the following explanation for emphasis.

With respect to independent claim 1, Appellant contends the cited portions of McPherson do not teach or suggest a "clamping circuit being integrated with the power device," as recited in claim 1. Appeal Br. 8 (emphasis omitted). Appellant also argues that the cited portions of Pang do not teach or suggest that limitation. Appeal Br. 10. Appellant argues that "McPherson does not disclose a clamping circuit; and Pang does not disclose a clamping circuit being integrated in the power module apparatus." *Id.* at 11 (emphasis omitted).

Appellant's arguments do not persuade us that the Examiner erred. Appellant attacks McPherson and Pang individually, even though the Examiner relied on the combination of McPherson and Pang in rejecting claim 1. *In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981)). The test for obviousness is not whether the claimed invention is expressly suggested in any one or all of the references, but whether the claimed subject matter would have been obvious to those of ordinary skill in the art in light of the combined teachings of those references. *See In re Keller*, 642 F.2d at 425. Here, Appellant provides no persuasive argument that the claimed subject matter would not have been obvious in light of the combined teachings of McPherson and Pang.

For these reasons, we are not persuaded that the Examiner erred in finding that the combination of McPherson and Pant teaches or suggests the disputed limitations of claim 1.

Appellant next argues that the Examiner erred in combining the teachings of McPherson and Pang because “there is no proper ‘reason that would have prompted’ a person of ordinary skill in the art to combine the elements as set forth in the Office Action.” Appeal Br. 13. Appellant contends that the Examiner engaged in impermissible hindsight in combining the cited references. *Id.*

We are not persuaded that the combination of McPherson and Pang is the result of improper hindsight, as the Examiner has set forth articulated reasoning with rational underpinnings for the combination. Ans. 5–6. Appellant has not identified any knowledge relied upon by the Examiner that was gleaned only from Appellant’s disclosure and that was not otherwise within the level of ordinary skill in the art at the time of invention. *See In re McLaughlin*, 443 F.2d 1392, 1395 (CCPA 1971). Nor has Appellant provided objective evidence of secondary considerations, which “operates as a beneficial check on hindsight.” *Cheese Sys., Inc. v. Tetra Pak Cheese and Powder Sys., Inc.*, 725 F.3d 1341, 1352 (Fed. Cir. 2013).

For these reasons, we are not persuaded that the Examiner erred in combining the cited teachings of McPherson and Pang.

Appellant also attacks the Examiner’s use of Lui (US 9,013,848 B2 issued Apr. 21, 2015) as an example in taking Official Notice that it was notoriously well known that a clamping circuit may be integrated with a power device. Appeal Br. 16–17; *see also* Final Act. 5, Ans. 6. Appellant argues that “Lui teaches a clamp protection circuit 100 connected across a

drain and source of a power transistor M1,” which is not a “clamping circuit configured to clamp an input to a gate of the at least one power device,” as recited in claim 1. Appeal Br. 16.

We are not persuaded of error by Appellant’s arguments regarding Lui. Appellant does not adequately challenge the Examiner’s Official Notice that it was notoriously well known that a clamping circuit may be integrated with a power device, as recited in claim 1. Final Act. 5; Ans. 6 (citing Lui Figs. 4 and 5, col. 6:6–15). Rather, Appellant argues, with regard to a different claim limitation, that Lui does not teach “a clamping circuit clamping a gate input of a power device.” Appeal Br. 16–17.

The Examiner also provided Briere (US 2015/0162321 A1, published June 11, 2015) as another example in taking Official Notice that it was notoriously well known that a clamping circuit may be integrated with a power device. Ans. 6. The Examiner found that Briere discloses that a gate of MOSFET 220/420 in Figure 4 of Briere may be protected from high voltage using clamp 430, where the entire structure in Figure 4 may be monolithically integrated on common die 450. Ans. 6 (citing Briere ¶¶ 25, 38). Appellant responds only that Briere does not teach a “clamping circuit configured to clamp an input to a gate of the at least one power device, the input to the gate comprising gate drive signals generated from a gate driver implemented separate from the power module apparatus,” as recited by claim 1. Reply Br. 11.

To adequately traverse the taking of Official Notice, Appellant must come forth with information or argument that, on its face, casts reasonable doubt regarding the justification of the Official Notice. *See In re Boon*, 439 F.2d 724, 728 (CCPA 1971) (explaining that an applicant has the right to

challenge the official notice and demand production of evidence in support thereof, provided such challenge is accompanied by adequate information or argument that, on its face, creates a reasonable doubt regarding the circumstances justifying the official notice); *see also* MPEP § 2144.03(C).

Because Appellant does not state persuasively why the noticed fact that it was notoriously well known that a clamping circuit may be integrated with a power device is not considered common knowledge or well-known in the art, Appellant has not adequately traversed the Examiner's taking of Official Notice. Thus, the facts of which the Examiner took Official Notice are admitted prior art. *See In re Ahlert*, 424 F.2d 1088, 1091 (CCPA 1970) (where an applicant for a patent has failed to challenge a fact officially noticed by the Examiner, and it is clear that the applicant has been amply apprised of such finding so as to have the opportunity to make such challenge, the Examiner's finding shall be considered conclusive).

For these reasons, we are not persuaded that the Examiner erred in concluding that claim 1 is obvious in light of the teachings of McPherson and Pang. Appellant makes similar arguments for independent claims 10 and 16 (Appeal Br. 17, 26), which we find unpersuasive for the reasons discussed above.

Appellant next argues that the Examiner erred in rejecting dependent claim 2, which recites "wherein the clamping circuit comprises a Miller clamp; and wherein the Miller clamp is integrated into the power module apparatus." Appeal Br. 35. Appellant argues that "Pang does not explicitly disclose 'a Miller clamp.'" *Id.* Appellant argues that Pang's teaching that "the NMOS transistor MN31 is turned on and enhances a pull down of the gate of

the power switch element PSW, thereby performing a miller clamp function” does not teach or suggest the recited “Miller clamp.” *Id.* at 36.

We are not persuaded that the Examiner erred. Appellant’s argument is conclusory, merely reciting the claim limitation, the teachings of Pang, and stating that the two are not the same. *Id.* As stated by the Federal Circuit, Rule 41.37 “require[s] more substantive arguments in an appeal brief than a mere recitation of the claim elements and a naked assertion that the corresponding elements were not found in the prior art.” *In re Lovin*, 652 F.3d 1349, 1357 (Fed. Cir. 2011). Moreover, the test for obviousness is not whether the claimed invention is expressly suggested in any one or all of the references, but whether the claimed subject matter would have been obvious to those of ordinary skill in the art in light of the combined teachings of those references. *See Keller*, 642 F.2d at 425.

Accordingly, we are not persuaded by Appellant’s argument that the Examiner erred in rejecting claim 2. Appellant’s arguments for dependent claim 11 are similarly conclusory. *See Appeal Br.* 42. Accordingly, we are not persuaded by Appellant’s arguments that the Examiner erred in rejecting these claims.

Accordingly, we sustain the Examiner’s § 103 rejection of independent claims 1, 10, and 16, as well as the Examiner’s § 103 rejection of dependent claims 2 and 11.

Appellant presented no separate arguments for dependent claims 4, 7, 9, 13, 15, and 18. Accordingly we sustain the Examiner’s § 103 rejection of dependent claims 4, 7, 9, 13, 15, and 18.

Appellant argues claims 3, 5, 6, 8, 12, 14, 17, 19, and 20 in a conclusory manner by attacking the McPherson and Pang references

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individually. Appeal Br. 36–49; *see Lovin*, 652 F.3d at 1357; *Keller*, 642 F.2d at 425. Because Appellant’s arguments are not persuasive, we also sustain the Examiner’s § 103 rejection of dependent claims 3, 5, 6, 8, 12, 14, 17, 19, and 20.

DECISION

We affirm the decision of the Examiner rejecting claims 1–20.

DECISION SUMMARY

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–20	103	McPherson, Pang	1–20	

TIME PERIOD FOR RESPONSE

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

AFFIRMED