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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* PRASAD DEV HANUMALAGUTTI,  
MICHAEL W. DEGNER and FRANCO LEONARDI

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Appeal 2019-005840  
Application 15/137,182  
Technology Center 2800

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Before ROMULO H. DELMENDO, KAREN M. HASTINGS, and  
DEBRA L. DENNETT, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant<sup>1</sup> seeks our review under 35 U.S.C. § 134(a) of the Examiner's decision rejecting claims 7–9, 12–16 and 18 under 35 U.S.C. § 102(a)(1) as anticipated by Adaniya (US 2011/01450551 A1 pub. June 16, 2011); claims 1–4, 11 and 17 under 35 U.S.C. § 103 as unpatentable over the combined prior art of Adaniya with Takahashi (US 2011/0316367 A1, pub. Dec. 29, 2011); and claim 10 under 35 U.S.C. § 103

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

as unpatentable over the combined prior art of Adaniya with Matsui (US 2010/0264760 A1, pub. Oct. 21, 2010).

We have jurisdiction over the appeal under 35 U.S.C. § 6(b).

We AFFIRM.

Independent claims 1, 7 and 13 are illustrative<sup>2</sup> (emphasis added to highlight key disputed limitations):

1. A vehicle electric machine comprising:

a stator including a core having an end face, and end windings extending from the end face; and

*a cooling tunnel having an arcuate cross-section* encasing the end windings, sealing against the end face at opposing sides of the end windings, and defining an inlet configured to receive coolant, the cooling tunnel arranged to contain the coolant during passage over the end windings and direct the coolant toward an outlet

7. A vehicle electric machine comprising:

a rotor;

a stator including a core having an end face, and end windings extending from the end face; and

*a plurality of cooling tunnels* encasing the end windings, *sealing against the end face* at opposing sides of the end windings and each end of the tunnels, and each defining an inlet configured to receive coolant, the cooling tunnels arranged to contain the coolant during passage over the end windings and direct the coolant toward outlets.

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<sup>2</sup> At the outset, we note that the claim 7 and 13 as presented in the Claims Appendix are incorrect as they include an amendment filed October 19, 2018 which was not entered by the Examiner (Advisory Act. mailed October 19, 2018; *see also*, e.g., Ans. 4;). The correct version of these claims is set out here.

13. A vehicle electric machine comprising:

a rotor;

a stator including a core having an end face, and end windings extending from the end face; and

a cooling conduit encasing the end windings, having a cooling tunnel portion and a cooling trough portion, *the cooling tunnel portion sealing against the end face* at opposing sides of the end windings and the cooling trough portion *sealing against the end face at one of the sides of the end windings*, and defining an inlet configured to receive coolant, the cooling conduit arranged to retain the coolant during passage over the end windings and direct the coolant toward an outlet.

Appellant only presents arguments directed to each independent claim. Thus, we select claims 1, 7 and 13 as representative.

#### ANALYSIS

We have reviewed each of Appellant's arguments for patentability. However, we determine that a preponderance of the evidence supports the Examiner's finding that the claimed subject matter of representative claims 7 and 13 is anticipated within the meaning of § 102 in view of the applied prior art of Adaniya, as well as the Examiner's obviousness determination of claim 1. Accordingly, we sustain the Examiner's §§ 102 and 103 rejections on appeal for essentially those reasons expressed in the Answer, including the Examiner's Response to Argument section.

We add the following primarily for emphasis.

We review the appealed rejections for error based upon the issues identified by Appellant and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (Fed. Cir. 2011) (BPAI

2010) (precedential), *cited with approval in In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011) (“[I]t has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections.”).

“[T]he PTO must give claims their broadest reasonable construction consistent with the specification . . . . Therefore, we look to the specification to see if it provides a definition for claim terms, but otherwise apply a broad interpretation.” *In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379 (Fed. Cir. 2007). “[A]s applicants may amend claims to narrow their scope, a broad construction during prosecution creates no unfairness to the applicant or patentee.” *Id.*

The main dispute for claim 7 is whether the claim language “a plurality of cooling tunnels . . . sealing against the end face” encompasses the cooling tunnels described in Adaniya (Appeal Br. 3, 4; Reply Br. 2).<sup>3</sup> The main dispute for claim 13 is whether the claim language “the cooling tunnel portion sealing against the end face” and “the cooling trough portion sealing against the end face” encompasses the cooling tunnel described in Adaniya (Appeal Br. 5; Reply Br. 2).<sup>4</sup>

Appellant first incorrectly bases the argument on the presence of a term “same end face” that is not in either of claim 7 or claim 13 (Appeal Br. 3-5; Ans. 4, 8). These arguments are not persuasive of reversible error since limitations not appearing in the claim may not be relied upon for patentability. *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982).

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<sup>3</sup> Appellant does not dispute the remainder of the Examiner’s findings with respect to claim 7.

<sup>4</sup> Appellant does not dispute the remainder of the Examiner’s findings with respect to claim 13.

Notwithstanding that the claims do not contain the term “same”, Appellant argue that the broadest reasonable interpretation of claims 7 and 13 requires the construction urged by Appellant that the cooling tunnels of claim 7 be against the “same” end face (Reply Br. 2, Appeal Br. 4) and that the cooling tunnel portion and cooling trough portions be sealed against the “same” end face (Reply Br. 2, Appeal Br. 5). We do not agree.

Each of claims 7 and 13 is open-ended, permitting other structural elements therein, as each contains the open-ended transitional word “comprising”. Each claim recites “a stator having a core having an end face” in the body of the claim. It has been established that “[a]s a general rule, the words ‘a’ or ‘an’ in a patent claim carry the meaning of ‘one or more.’” *TiVo, Inc. v. EchoStar Commc’ns Corp.*, 516 F.3d 1290, 1303 (Fed. Cir. 2008). It has also been held that “[t]he exceptions to this rule are extremely limited: a patentee must evince a clear intent to limit ‘a’ or ‘an’ to ‘one.’” *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008) (internal quotation marks and citation omitted). Even, when as here, a subsequent use of the definite article occurs, “‘the’ or ‘said’ in a claim to refer back to the same claim term does not change the general plural rule, but simply reinvokes that non-singular meaning.” *Id.* The only exception to this general rule arises “where the language of the claims themselves, the specification, or the prosecution history necessitate a departure from the rule.” *Id.* at 1342-43. *See also Communique Lab., Inc. v. LogMeIn, Inc.*, 687 F.3d 1292 (Fed. Circ. 2012)(reaffirming that “a” or “an” in a patent claim means one or more).

Thus, “a stator having a core having an end face” encompasses a core having one or more end faces. Notably, the Examiner points out that

Appellant's described embodiments are not limited to the constructions urged by Appellant with respect to the "same" end face (e.g., Ans. 6, 9, 10). The Examiner explains that the language as recited in claims 7 and 13, when interpreted in light of Appellant's Specification and the figures in the Drawings, reasonably encompasses various embodiments of Adaniya's (Ans. 4–10). Appellant's Specification contains no limiting or special definition of "an end face", such that it reasonably encompasses plural end faces. Indeed, as pointed out by the Examiner, the Drawings illustrate in Appellant's Fig. 5 a cooling tunnel at each of two opposing axial end faces (reproduced at Ans. 6). Thus, the Examiner's interpretation of "a plurality of cooling tunnels encasing the end windings, sealing against the end face" in claim 7 reasonably encompasses Adaniya's cooling tunnels/heat absorbing jackets 10, 11 as these jackets are "fixed to the stator core 7 on the opposite axial ends thereof" (Adaniya ¶¶ 29, 42; Ans. 9, 10). Likewise, the Examiner's interpretation of "sealing against the end face" in claim 13 reasonably encompasses the sealing of Adaniya's troughs/tunnels/heat absorbing jackets 10, 11 as these jackets are "fixed to the stator core 7 on the opposite axial ends thereof" (Adaniya ¶¶ 29, 42; Ans. 9, 10).

Accordingly, applying the broadest reasonable interpretation of the argued claim terms, we agree with the Examiner that the respective embodiments of Adaniya as detailed by the Examiner are encompassed by the claim language (Ans. 4–10). Accordingly, Appellant does not provide any persuasive reasoning or evidence that the Examiner's finding of anticipation based on Adaniya is unreasonable.

A preponderance of the evidence supports the Examiner’s § 102 rejection of claims 7 and 13 and their dependent claims not separately argued, and also the § 103 rejection including separately rejected claim 10.

The only dispute with claim 1 (as well as claims dependent thereon) is whether the Examiner’s obviousness determination for the “arcuate cross-section” shape of the cooling tunnel recited therein is in error. A preponderance of the evidence supports the Examiner’s obviousness determination for the reasons set forth by the Examiner (Appeal Br. 6; Ans. 12 (pointing out that Appellant does not fully address the Examiner’s obviousness rejection that relies upon, e.g., Figs 4B, 4C of Takahashi to exemplify that arcuate shaped cooling conduits are known)). Appellant has failed to show any reversible error in the Examiner’s findings and conclusion of obviousness.

Accordingly we sustain all of the Examiner’s rejections of the claims on appeal.

#### DECISION SUMMARY

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
7-9, 12-16, 18	102	Adaniya	7-9, 12-16, 18	
1-4, 11, 17	103	Adaniya, Takahashi	1-4, 11, 17	
10	103	Adaniya, Matsui	10	
<b>Overall Outcome</b>			1-4, 7-18	



Appeal 2019-005840  
Application 15/137,182

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).

AFFIRMED