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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte MICHAEL T. HOLLY,
MARK T. RIEFE, RICHARD A. KAATZ, CARA L. LEARMAN,
DAVID B. ANTANAITIS, and LISA G. DEVOE

Appeal 2019-001682
Application 14/835,918
Technology Center 1700

Before LINDA M. GAUDETTE, MARK NAGUMO, and
GEORGE C. BEST, *Administrative Patent Judges*.

BEST, Administrative Patent Judge.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner's decision to reject claims 1, 2, 4, 6–10, and 20 of Application 14/835,918. Final Act. (Apr. 24, 2018). We have jurisdiction under 35 U.S.C. § 6.

For the reasons set forth below, we *affirm*.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies General Motors LLC as the real party in interest. Appeal Br. 4.

BACKGROUND

The '918 Application describes a ferritic nitro-carburized (“FNC”) brake rotor. Spec. ¶ 1. Motor vehicle brake rotors can be made from cast iron. *Id.* ¶ 2. The cast iron is often hardened by diffusing carbon and nitrogen into the brake rotor in a process called ferritic nitro-carburizing. *Id.* The resulting FNC brake rotor has a friction surface configured to engage with a friction material to provide braking force. *Id.* A compound zone may be located at the friction surface. *Id.*

Independent claims 1 and 20 are representative of the '918 Application's claims and are reproduced below from the Claims Appendix of the Appeal Brief.

1. A product comprising:

at least one working friction surface comprising at least two layers comprising a compound layer ranging from about 10 to about 20 microns in depth and a nitrogen diffusion layer ranging from about 350 to about 400 microns in depth wherein the compound layer has a porosity ranging from about 19% to about 50%.

Appeal Br. 18.

20. A product comprising:

a part comprising a cast iron comprising G205 cast iron and at least one fine-turned working friction surface comprising at least two layers comprising a compound layer of about 15 microns in depth comprising at least one of an E-carbonate phase, cementite, carbides, or nitrides and having a porosity of about 50% and a nitrogen diffusion layer comprising nitrogen, iron oxides, and nitride needles.

Appeal Br. 19.

REJECTIONS

On appeal, the Examiner maintains the following rejections:

1. Claims 9 and 20 are rejected under 35 U.S.C. § 112(a) as failing to comply with the written description requirement. Final Act. 3.
2. Claim 20 is rejected under 35 U.S.C. § 112(b) as being indefinite. Final Act. 4.
3. Claims 1, 2, 4, and 6–10 are rejected under 35 U.S.C. § 103 as unpatentable over Orr.² Final Act. 5.
4. Claim 20 is rejected under 35 U.S.C. § 103 as unpatentable over the combination of Orr and Lawrence.³ Final Act. 7.

DISCUSSION

Rejection 1. The Examiner rejected claims 9 and 20 as failing to comply with the written description requirement Final Act. 3. We address the rejection of each of these claims separately.

Claim 9. For ease of reference, we reproduce claim 9 below from the Claims Appendix.

9. A product as set forth in claim 1, wherein the working friction surface has a surface finish roughness ranging *from about 1.2 $\mu\text{m Ra}$ to about a maximum of 1.6 $\mu\text{m Ra}$.*

Appeal Br. 19 (emphasis added).

In rejecting Claim 9, the Examiner stated that the original specification and claims fails [sic] to disclose a unit for the surface roughness nor is there any standard provided which may have indicated the unit. Arithmetic average roughness profile may be given in any unit of length

² WO 2013/085698 82, published June 13, 2013.

³ US 5,948,353, issued September 7, 1999.

measurement so there is no way based on the original Specification and claims to determine if the intended unit was μm .

Final Act. 3.

On April 4, 2018, Appellant amended paragraphs 10, 13, 22, and 31 and deleted paragraph 33 of the '918 Application's Specification. Response & Amend. 2–3 (April 4, 2018). The Examiner objected to paragraphs 10, 22, and 31 as introducing new matter—namely adding the unit μm to the surface roughness property—into the disclosure. Final Act. 2. The Examiner required appellant to cancel the new matter. *Id.*

Appellant appeals the objection to the amendment of paragraphs 10, 22, and 31 of the specification and the requirement to cancel the new matter along with the rejection of claim 9 as failing to comply with the written description requirement. Appeal Br. 6.

Ordinarily, an objection to new matter is not reviewable by the Board. However, “[i]f both the claims and specification contained new matter either directly or indirectly, and there has been both a rejection and objection by the examiner, the issue becomes appealable and should not be decided by petition.” MPEP § 2163.06 (II). This is such a case. We, therefore, have jurisdiction to consider the propriety of the Examiner's objection to the Amended Specification.

Appellant argues that the introduction of the unit “micrometer” does not introduce new matter but rather sets forth previously missing descriptive matter that is necessarily present in “Ra.” Appeal Br. 12 (“[A] unit of measure was missing descriptive matter that must necessarily be present, as that is how surface roughness is commonly measured.”).

This argument does not persuade us that the Examiner erred in objecting to the introduction of μm as the unit of length describing Ra. As the Examiner explains, Ra can be expressed in many different units of length. Answer 4. Appellant has not provided any argument reasoning to support its contention that the micrometer is the unit of length that was necessarily present and in the advertently omitted from the Specification.

In view of the foregoing, we affirm the objection to the new matter added in claims 10, 22, and 31 and the rejection of claim 9.

Claim 20. In rejecting Claim 20, the Examiner stated that the original Specification and claims does [sic] not define the G205 cast iron. Further, Applicant has failed to provide any evidence that the term is equivalent to the newly listed standards or that it has the tensile strength and hardness properties listed in the amended Specification. Thus, the claims [sic] contains subject matter which was not described in the specification in such ways to reasonably convey to one skilled in the relevant art that the inventor at the time of the application was filed, had possession of the claimed invention.

Final Act. 3.

On April 4, 2018, Appellant amended para. 13 of the Specification by adding the following:

The term “G205” refers to cast iron equivalent standards of ASTM A159, G3000, or SAE J431 or cast irons that may have minimum tensile strength as ranging from about 125 MPa to about 250 MPa, or from about 175 MPa to about 225 MPa, or about 200 MPa and which have hardness ranging from about 180-240 BHN.

Response & Amend. 3 (April 4, 2018).

The Examiner objected to this amendment as impermissibly introducing new matter into the disclosure. Final Act. 2. The Examiner also rejected claim 20 as not supported by the written description. *Id.* at 3. We,

therefore, have jurisdiction to consider whether the Examiner properly objected to the introduction of new subject matter into paragraph 13 of the Specification. *See* MPEP § 2163.06 (II).

Appellant argues that the amendment merely provides an explicit description of the inherent properties of G205 cast iron. Appeal Br. 10–11. Appellant argues that the doctrine of inherent disclosure applies. *Id.* at 11. Under this doctrine an amendment that recites a property inherent in a device or material described in the original specification does not introduce prohibited new matter. *Id.* (citing *In re Reynolds*, 443 F.2d 384 (CCPA 1971); *In re Smythe*, 480 F.2d 1376 (CCPA 1973); *Yeda Research & Dev. Co. v. Abbott GmbH*, 837 F.3d 1341 (Fed. Cir. 2016)).

Appellant further argues that the Examiner has not considered the non-patent literature reference (“Borui”) provided by Appellant. Appeal Br. 11–12 (citing BORUI CASTING INTERNATIONAL LTD.; <http://www.iron-foundry.com/gray-iron-casting-grades.html>). According to Appellant, Borui describes G205 cast iron as having the same or similar material specifications as GM274M, ASTM A159, G3000, or SAE J431. *Id.* at 11.

We are not persuaded by Appellant’s arguments. Appellant has not provided evidence that supports its position that the content of the portion of paragraph 13 in question reflects inherent properties of G205 cast iron. Indeed, Borui, the sole piece of evidence identified by Appellant, does not support Appellant’s position. Borui identifies which grades of gray cast iron are equal to or similar to cast iron that meets specific standards such as SAE J431. Borui identifies G3000 cast-iron as equal to or similar to SAE J431 cast-iron. *See* Borui. G205 cast-iron is identified as being equal to or similar to cast-iron meeting the GM274M standard. *Id.*

In sum, Appellant has not persuaded us that the properties identified in the objected-to sentence in paragraph 13 are, in fact, inherent in G205 grade gray cast-iron.

In view of the foregoing, we affirm the objection to the new matter added in claims 10, 22, and 31 and the rejection of claim 9 for lack of written description support. We also affirm the objection to the new matter added to paragraph 13 of the Amended Specification and the rejection of claim 20 for lack of written description support.

Rejection 2. The Examiner rejected claim 20 as indefinite. Final Act. 4. In particular, the Examiner concluded that the term “G205 cast iron” in claim 20 should be interpreted to include a broad recitation of a minimal tensile strength and then also recites alternative narrower statements of the range of permissible tensile strength. Final Act. 4 (citing *Ex parte Wu*, 10 USPQ2d 2031, 2033 (BPAI 1989)).

Appellant does not present any substantive arguments for reversal of this rejection in its Appeal Brief. Accordingly, we summarily affirm this rejection.

Rejection 3. The Examiner rejected claims 1, 2, 4, and 6–10 as unpatentable over Orr. Final Act. 5–7.

Appellant argues for reversal of this rejection with respect to the claims as a group. We, therefore, select claim 1 is representative of the group of claims and limit our discussion accordingly. 37 C.F.R. § 41.37(c)(1)(iv).

In particular, Appellant argues that

the modification of Orr suggested by the Examiner, remov[ing] the one of the three layers clearly required by Orr, or so modifying the method of producing a three-layer surface coating to arrive at the subject matter of claim 1, fundamentally

changes the principle of operation of Orr or fundamentally changes the intended function of the Orr disclosure.

Appeal Br. 14.

This argument is not persuasive of reversible error. As the Examiner explains,

the invention is to a “product comprising at least one working friction surface comprising at least two layers comprising...” Thus, the claimed invention is to a surface of two or more layers which would include a surface of three layers as set forth in Orr. The rejection has no proposed modification to Orr as argued by Appellant. Orr does not need to be modified because a three-layer surface reads on the instantly claimed invention.

Answer 5.

We need not consider Appellant’s argument (*see* Reply Br. 6–7) that Orr “teaches away” from the subject matter of claim 1. This argument is untimely because it was presented for the first time in Appellant’s Reply Brief and Appellant has not shown good cause why the argument was not presented earlier. 37 C.F.R. § 41.41(b)(2).

Rejection 4. Appellant argues that the Examiner has not established a prima facie case of obviousness of claim 20. In particular, Appellant argues that neither Orr nor Lawrence describes or suggests G205 cast iron. Appeal Br. 15.

This argument is not persuasive of reversible error.

In rejecting claim 1, the Examiner found that Orr does not describe the cast iron as G205 cast iron. Final Act. 9. The Examiner, however, further found that Lawrence describes the use of a gray iron that satisfies the SAE J431 standard. *Id.* According to the Amended Specification, “[t]he term ‘G205’ refers to cast iron equivalent standards of ASTM A159, G 3000, or

SAE J431.” Amended Spec. ¶ 13. In view of this admission by Appellant, we affirm the rejection of claim 20.

We need not consider Appellant’s argument (*see* Reply Br. 7–8) that Orr “teaches away” from the subject matter of claim 20. This argument is untimely because it was presented for the first time in Appellant’s Reply Brief and Appellant has not shown good cause why the argument was not presented earlier. 37 C.F.R. § 41.41(b)(2).

CONCLUSION

In summary, we affirm the objections to the amended Specification as incorporating new matter. With respect to the rejections of the claims:

Claims Rejected	Basis	Affirmed	Reversed
9 and 20	§ 112(a)	9 and 20	
20	§ 112(b)	20	
1, 2, 4, and 6–10	§ 103 Orr	1, 2, 4, and 6– 10	
20	§ 103 Orr and Lawrence	20	
Overall Outcome		1, 2, 4, 6–10, and 20	

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