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OBLON, MCCLELLAND, MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			PATEL, RONAK C	
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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* MICHAEL PAUL ROWE, SEAN EVAN SULLIVAN, and  
DAISUKE OKAMOTO

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Appeal 2019–000925  
Application 13/942,116  
Technology Center 1700

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Before BEVERLY A. FRANKLIN, JAMES C. HOUSEL, and  
MONTÉ T. SQUIRE, *Administrative Patent Judges*.

BEVERLY A. FRANKLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner’s decision to reject claims 3, 6, 7, 9, and 13–17.<sup>2</sup> We have

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<sup>1</sup> 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 Toyota Motor Engineering & Manufacturing NA. Appeal Br. 1.

<sup>2</sup> Appellant has withdrawn pending claims 11 and 12 from consideration and claims 1, 2, 4, 5, 8, 10, 18, and 19 are cancelled. Appeal Br. 23–25 (Claims Appendix).

jurisdiction under 35 U.S.C. § 6(b). An oral hearing was held on June 11, 2020.

We AFFIRM.

### CLAIMED SUBJECT MATTER

Claim 6 is illustrative of Appellant's subject matter on appeal and is set forth below (with text in bold for emphasis):

6. A magnetic core, comprising:  
superparamagnetic grains of an iron cobalt alloy; and  
a matrix of silicon dioxide;  
wherein  
a diameter of the iron cobalt alloy grain is from 3 to 35 nm,  
the magnetic core is superparamagnetic, and  
the magnetic core is a monolithic structure obtained by a process  
comprising:  
wet chemical precipitation of the iron cobalt alloy grain;  
coating of the grain with a silicon dioxide shell to obtain a thermally  
untreated core shell nanoparticle having a magnetic saturation ( $M_s$ );  
thermal annealing of the untreated core shell nanoparticle to obtain a  
thermally annealed superparamagnetic core shell nanoparticle having a  
magnetic saturation ( $^{TA}M_s$ ), wherein  $^{TA}M_s$  is equal to or greater than  $1.25M_s$ ;  
and  
sintering the thermally annealed core shell nanoparticles under  
pressure to form the monolithic structure of thermally annealed

superparamagnetic core grains of an iron cobalt alloy directly bonded by the silicon dioxide shells, which form the matrix,

**wherein the monolithic structure obtained in the sintering has a length dimension and a thickness dimension greater than 1 mm.**

Appeal Br. 23–24 (Claims Appendix).

#### REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Bumb et al.	US 2010/0092384 A1	Apr. 15, 2010
Yoshizawa	US 2002/0189718 A1	Dec. 19, 2002
Chang et al.	US 5,763,108	June 9, 1998
Xiao et al.	US 2008/0087314 A1	Apr. 17, 2008

#### REJECTIONS

1. Claims 3, 6, 7, 9, and 13–17 are rejected under 35 U.S.C. §112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement.<sup>3</sup>

2. Claims 3, 6, 7, 9 and 17 are rejected under 35 U.S.C. §103 as being unpatentable over Bumb, Yoshizawa or Chang, and further in view of Xiao.

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<sup>3</sup> We note that on page 4 of the Answer, claims 2, 3, 7–12, and 15–17 are incorrectly listed as being rejected in Rejection 1. However, we view this as harmless error because the Examiner specifically discusses claim 6 in the body of the rejection, and all other appealed claims either directly or indirectly depend upon independent claim 6. Also, claims 3, 6, 7, 9, and 13–17 are correctly listed on page 2 of the non-final rejection mailed February 26, 2018 as being rejected, from which this appeal is taken.

## OPINION

We review the appealed rejections for error based upon the issues Appellant identifies, and in light of the arguments and evidence produced thereon. *Ex parte Frye*, 94 USPQ2d 1072, 1075 (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.”). After considering the argued claims and each of Appellant’s arguments, we are not persuaded of reversible error regarding Rejection 1, but are persuaded of reversible error regarding Rejection 2.

### Rejection 1

Appellant presents arguments solely for the patentability of independent claim 6. Appeal Br. 4–10. We thus select claim 6 as representative, and the remaining claims stand or fall with claim 6. 37 C.F.R. § 41.37(c)(1)(iv).

The test for compliance with the written description requirement is “whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc).

The Examiner determines that adequate written descriptive support is not provided in the originally-filed Specification for a monolithic structure having “a length dimension and a thickness dimension greater than 1 mm” as recited in claim 1. Ans. 4. The Examiner states that the only disclosure

directed to dimensions of a magnet core is on page 14 of the Specification, which discloses dimensions for a disc of 9 mm in diameter and 2.5 mm thickness. Ans. 10. The Examiner explains that this is just one example of a monolithic magnetic core structure, whereas the claim broadly recites a monolithic magnetic core structure having a length dimension and a thickness dimension greater than 1 mm, and thus determines that the Specification does not have support for reciting any known monolithic structure in the art having a length dimension and a thickness dimension greater than 1 mm. Ans. 10–11.

Appellant argues the Examiner’s rejection of claim 6 should be reversed because the originally-filed Specification provides written description that fully supports the claimed subject matter, including each element recited in the claim for the reasons stated by Appellant in the Appeal Brief and Reply Brief. *See* Appeal Br. 4–11; Reply Br. 1–4.

In particular, Appellant argues that one of ordinary skill would have recognized Appellant was in possession of a magnetic core structure, which adequately supports the magnetic core having “a length dimension and a thickness dimension greater than 1 mm” as claimed. Appeal Br. 4–6 (arguing that one skilled in the art “based on the descriptions provided above recognizes that the toroid obtained in the example was obtained from a monolithic structure disc”). Appeal Br. 6. Relying on the Declaration under 37 C.F.R. § 1.132 of Inventor, Dr. Michael Paul Rowe, filed Feb. 6, 2018 (“Rowe Decl.”) (Appeal Br. 6–7), Appellant further argues

it is entirely obvious and common knowledge to anyone of ordinary skill in the art that these electronic devices are typically

a few millimeters to several inches in size, with large examples of the technology measuring several feet in diameter.

Appeal Br. 6–7.

We do not find Appellant’s arguments persuasive of reversible error in the Examiner’s rejection based on the fact-finding and for the reasons provided by the Examiner in the Final Office Action and in the Answer, with the following emphasis.

Rather, on the record before us, we agree with the Examiner that a monolithic structure having “a length dimension and a thickness dimension greater than 1 mm” as claimed in claim 1 is not adequately supported by the originally-filed Specification. We have reviewed the portions of the Specification relied upon by Appellant, but find that the written description does not adequately describe and is not commensurate in scope with this element of the claim. As mentioned, *supra*, although the Specification describes an example of a structure having a diameter of 9 mm and a thickness of 2.5 mm (Spec. 14), we do not find that disclosure, without more, sufficient to reasonably convey to one of ordinary skill in the art that the Inventors had possession of a magnetic core encompassing a length dimension and a thickness dimension greater than 1 mm, as claimed.

We also do not find the Rowe Declaration and Appellant’s arguments regarding the Rowe Declaration persuasive because whether it may have been “entirely obvious” and “common knowledge” (Appeal Br. 7; Declaration, p. 2), or not, to one of ordinary skill, that devices, such as the device of claim 6, are typically a few millimeters to several inches in size, without more, does not establish reversible error in the Examiner’s rejection. Contrary to what Appellant’s argument seems to suggest, as discussed

above, the test for compliance with the written description requirement is not whether the claimed subject matter would have been obvious to one of ordinary skill, but whether the disclosure of the application relied upon reasonably conveys to one of ordinary skill in the art that the inventor had possession of the claimed subject matter as of the filing date. *Ariad Pharm.*, 598 F.3d at 1351. Indeed, it is well-settled

[t]he question is not whether a claimed invention is an obvious variant of that which is disclosed in the specification. Rather, a prior application itself must describe an invention, and do so in sufficient detail that one skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought.

*Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997) (citations omitted).

Accordingly, we affirm Rejection 1.

## Rejection 2

Appellant presents arguments for the patentability of independent claim 6. Appeal Br. 11–21. We thus select claim 6 as representative, and the remaining claims stand or fall with claim 6. 37 C.F.R. § 41.37(c)(1)(iv).

We refer to the Examiner’s rejection as set forth on pages 5–9 of the Answer regarding the Examiner statement of the rejection for Rejection 2.

We are persuaded by Appellant’s arguments for the reasons presented on pages 11–21 of the Appeal Brief. We add that we agree with Appellant that the proposed modification of Bumb would render Bumb unsatisfactory for its intended purpose. The Examiner relies upon Xiao as showing consolidation of core-shell particles to a monolithic composite structure and



alleges that Xiao’s description of “improved uniformity in the distribution of metal component” in paragraph [0124] would be motivation to consolidate the core-shell particles of Bumb. Ans. 7–8.

We agree with Appellant that uniformity of metal distribution in a monolithic structure may be a property important to thermoelectric performance for Xiao, but has no place in Bumb because consolidation of the nanoparticles of Bumb, according to the description of Xiao, to a monolithic unit having a length dimension and a thickness dimension greater than 1 mm, would preclude in vivo utility as sought by Bumb, and therefore, convert the particle of Bumb to a large size unsuitable for its intended use for in vivo imaging. Appeal Br. 14.

We thus reverse Rejection 2.

### CONCLUSION

We affirm Rejection 1, but reverse Rejection 2.

### 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>
3, 6, 7, 9, 13–17	112	lack of written description	3, 6, 7, 9, 13–17	
3, 6–7, 9, 17	103	Bumb, Yoshizawa, Chang, Xiao		3, 6, 7, 9, 17
<b>Overall Outcome</b>			3, 6, 7, 9, 13–17	3, 6, 7, 9, 17

**AFFIRMED**