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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte ANDREW E. FISK

Appeal 2019-003827
Application 13/087,435
Technology Center 1700

Before JEFFREY T. SMITH, JEFFREY W. ABRAHAM, and
MONTÉ T. SQUIRE, *Administrative Patent Judges*.

SQUIRE, *Administrative Patent Judge*.

DECISION ON APPEAL¹

Appellant appeals under 35 U.S.C. § 134(a) from the Examiner’s final decision rejecting claims 1–4, 6–9, and 11–14.^{2,3} We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ In this Decision, we refer to the Specification filed Apr. 15, 2011 (“Spec.”); Final Office Action mailed Aug. 16, 2017 (“Final Act.”); Appeal Brief filed May 16, 2018 (“Br.”); and Examiner’s Answer mailed Feb. 14, 2019 (“Ans.”). There is no reply brief.

² We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies Pulse Technologies, Inc. as the real party in interest. Appeal Br. 2.

³ Claims 5 and 10 are cancelled. *See* Claims Listing dated Feb. 3, 2017.

CLAIMED SUBJECT MATTER

Appellant's disclosure relates to a method for optimizing the surface geometry/coating for electrically active medical devices, and, in particular, to the surface geometry for devices intended to be permanently implanted into the human body for use as electrodes. Spec. ¶¶ 2, 12; Abstract.

Claim 1 illustrates the claimed subject matter on appeal and is reproduced below from the Claims Appendix to the Appeal Brief:

1. A method for optimizing a coating on a substrate having a surface, comprising the steps of:
 - polishing the surface of said substrate to reduce nucleation sites;
 - depositing a primary metallic component and a secondary reactive component on said substrate through a physical vapor deposition process such that deposited atoms of said secondary reactive component react with atoms of said primary metallic component prior to solidifying;
 - wherein the reaction of said primary metallic component and said secondary reactive component results in a surface having pyramidal or tetragonal crystal structures defined thereon, each of said crystal structures having a base, an apex and an amplitude measured from said base to said apex; and
 - controlling at least one deposition parameter while depositing said coating such that said crystal structures have an approximate average amplitude of between 250 and 400 nanometers.***

Br. 9 (Claims Appendix) (key disputed claim language italicized and bolded).

REFERENCES

The Examiner relies on the following prior art references as evidence in rejecting the claims on appeal:

Name	Reference	Date
Sproul et al. (“Sproul”)	US 4,428,811	Jan. 31, 1984
Suire et al. (“Suire”)	US 4,790,851	Dec. 13, 1988

REJECTIONS

On appeal, the Examiner maintains the following rejections:

1. Claims 1–4, 6–9, and 11–14 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 (“Rejection 1”).

Ans. 2–3.

2. Claims 1–4, 6–9, and 11–14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sproul in view of Suire (“Rejection 2”). *Id.* at 3–6.

OPINION

Rejection 1

The Examiner rejects claims 1–4, 6–9, and 11–14 under 35 U.S.C. § 112 for lack of written description, which we refer to as Rejection 1. In particular, the Examiner contends

[t]here is no support in the Specification for ‘controlling’ at least one deposition parameter, since ‘controlling’ also means ‘maintaining’ or ‘having constant[,]’ whereas original claim 2 and para 0051 of the published Specification (US 2012/0094024) support that power and/or pressure are varied or changed.

Ans. 3.

A specification complies with the 35 U.S.C. § 112, first paragraph written description requirement if it “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) (citation omitted).

Appellant argues the Examiner’s rejection should be reversed because the recitation “controlling at least one deposition parameter” is fully supported by the Specification. Br. 3–4 (citing Spec. ¶¶ 39, 44, 50, 51). Appellant contends that when the claim term is read in conjunction with the Specification, “controlling” is not limited to “maintaining” or “having constant,” and one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention, including controlling at least one deposition parameter. *Id.* at 3–4.

We agree with Appellant’s argument. On the record before us, we find that the “controlling at least one deposition parameter” recitation of claim 1 is adequately supported by the Specification. *See* Spec. ¶¶ 39, 44, 50, 51.

For example, the Specification describes an embodiment whereby “the substrate temperature is held between approximately 20% and 40% of the melting point of the metallic coating species.” Spec. ¶ 39. The Specification also discloses that “the power may also be varied . . . which affects the rate of deposition” and “[c]hanging the power will [a]ffect the rate of deposition.” *Id.* at ¶ 51. The Specification further discloses that:

In a physical vapor deposition process, the width of the columns can be varied by modifying the parameters under which the coating is deposited. The dominant factor is the

pressure under which the deposition takes place. In general, the higher the pressure the narrower the column and the lower the pressure the wider the column. It is therefore necessary to choose a pressure, which may vary dependent upon the apparatus used to do the physical vapor deposition, which results in the column width which produces pyramids at the tops of the columns having average amplitudes in the desired range.

Id. at ¶ 50.

Thus, based on the above disclosures, we are persuaded that the Specification, as filed, provides sufficient written descriptive support for claim 1, such that the skilled artisan would have understood the inventor had possession of and actually invented the claimed method, including the step of controlling at least one deposition parameter. *Ariad*, 598 F.3d at 1351.

Accordingly, we reverse the Examiner's rejection of claims 1–4, 6–9, and 11–14 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.

Rejection 2

Having considered the respective positions advanced by the Examiner and Appellant in light of this appeal record, we affirm the Examiner's rejection of claims 1–4, 6–9, and 11–14 under 35 U.S.C. § 103 as obvious over the combination of Sproul and Suire, which we refer to as Rejection 2, based on the fact-finding and reasoning set forth in the Answer and Final Office Action, which we adopt as our own. Ans. 3–6. We add the following primarily for emphasis.

In response to the Examiner's rejection, Appellant presents argument for the patentability of claim 1 but does not present separate argument for the patentability of any of the other remaining claims subject to the

Examiner's rejection. Appeal Br. 4–8. We select claim 1 as representative and remaining claims 2–4, 6–9, and 11–14 stand or fall with claim 1. *See* 37 C.F.R. § 41.37(c)(1)(iv).

The Examiner determines that the combination of Sproul and Suire suggests a physical vapor deposition method satisfying all of the limitations of claim 1 and concludes the combination would have rendered the claim obvious. Ans. 3–5. On the record before us, we find a preponderance of the evidence and sound technical reasoning support the Examiner's findings and determination that the combination of Sproul and Suire suggests a method satisfying all of the limitations of claim 1 and conclusion that the combination would have rendered the claim obvious. Sproul, Abstract, 3:40–43, 3:48–62, 4:35–41; Suire, Abstract, 3:4–19, 6:45–7:20, 8:10–14, 8:19–22.

Appellant argues that the Examiner's rejection should be reversed because the cited references are not analogous art. Br. 6. In particular, Appellant contends that neither Sproul nor Suire is from the same field of endeavor as the present invention because neither of the references is from the field of implantable medical electrodes. *Id.* at 6–7. Appellant further contends Sproul and Suire are not reasonably pertinent to the problem faced by the inventor because neither reference is “concerned with optimizing electrical characteristics of an electrode.” *Id.* at 7. Appellant also contends “the references are not properly combinable” and “there is no reasonable basis to combine the cited prior art references other than improper hindsight.” *Id.* at 6.

We do not find Appellant's arguments persuasive of reversible error in the Examiner's rejection. Two separate tests define the scope of

analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011) (citing *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004)). "A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

Contrary to what Appellant argues, based on the fact-finding and reasoning provided by the Examiner at pages 3–5 and 8–9 of the Answer, we determine that both Sproul and Suire are analogous art to the claimed invention. As the Examiner finds (Ans. 8–9), like the claimed invention, which recites a method of optimizing a coating on a substrate having a surface and the coating comprising titanium nitride deposited by physical vapor deposition (*see* claims 1, 4, 13, 14), Sproul and Suire are both directed to optimizing a titanium nitride coating on a substrate by depositing via physical vapor deposition from titanium targets with nitrogen (Sproul 3:48–62; Suire 5:16–26, 8:10–14), which is reasonably pertinent to a problem in which the inventor is involved. *Bigio*, 381 F.3d at 1325 (explaining that a reference may qualify as analogous art even "if the reference is not within the field of the inventor's endeavor").

As the Examiner further finds (Ans. 4), Suire teaches a method for manufacturing surgical implants coated on the surface with a layer of metal compound for permanent implantation in the human body (Suire, Abstract,

1:1–15), which relates closely to the claimed invention (*see* Spec. ¶ 2 (disclosing the claimed invention relates to medical “devices intended to be permanently implanted into the human body”)) and is, likewise, reasonably pertinent to a problem in which the inventor is involved.

Thus, on the record before us, we are persuaded that each of the cited references logically would have commended itself to the inventor’s attention in considering the problem addressed by the claimed invention. *Clay*, 966 F.2d at 659.

The Examiner also provides a reasonable basis, which is supported by a preponderance of the evidence in the record, to evince why one of ordinary skill would have combined the teachings of the cited art to arrive at the claimed invention. Ans. 4–5 (explaining that one of ordinary skill in the art would have had reason to incorporate Suire’s step of polishing prior to deposition of titanium nitride into Sproul’s method of depositing titanium nitride for the advantages of reducing the index of roughness and removing surface pollution from the substrate) (citing *Suire* 3:4–19); *see also KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 420 (2007) (explaining that any need or problem known in the art can provide a reason for combining the elements in the manner claimed).

Appellant’s disagreement as to the Examiner’s factual findings and reasoning for combining the references, without more, is insufficient to establish reversible error. *Cf. SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1320 (Fed. Cir. 2006) (“[M]ere statements of disagreement . . . as to the existence of factual disputes do not amount to a developed argument.”).

Appellant's contentions that "the references are not properly combinable" and "there is no reasonable basis to combine the cited prior art references other than improper hindsight" (Br. 6) are not persuasive because they are conclusory and unsupported by persuasive evidence in the record. Attorney argument is not evidence. *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); *see also In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) (explaining that mere lawyer's arguments or conclusory statements, which are unsupported by concrete factual evidence, are entitled to little probative value).

Appellant argues the Examiner's rejection should be reversed because the rejection does not indicate that "Sproul et al. teaches crystal structures having the recited structural characteristics." Br. 7.

We do not find this argument persuasive of reversible error in the Examiner's rejection because it is conclusory and Appellant does not adequately explain it. *De Blauwe*, 736 F.2d at 705; *see also In re Lovin*, 652 F.3d 1349, 1356–57 (Fed. Cir. 2011) (holding that a "naked assertion" that the references fail to teach a claim limitation is not an argument in support of separate patentability).

Moreover, based on the fact-finding and reasoning provided by the Examiner at pages 3–6 and 9–10 of the Answer, we find a preponderance of the evidence supports the Examiner's determination that the combination of Sproul and Suire suggests all of the limitations of the claimed method and the resultant crystal structures formed by the method. Sproul, Abstract, 3:40–43, 3:48–62, 4:35–41, 4:35–55, Table 1; Suire, Abstract, 3:4–19, 6:45–7:20, 8:10–14, 8:19–22.

In particular, as the Examiner finds and explains (Ans. 5, 9–10), because Suire teaches polishing the surface of the substrate prior to depositing the primary and secondary components in the same manner claimed (Suire, Abstract, 3:4–19) and Sproul, likewise, teaches that the deposition parameters of target power and pressure for depositing the titanium nitride are controlled in the same manner claimed (Sproul, Abstract, 3:48–62, 4:35–55, Table 1), it follows that the resulting titanium nitride on the substrate would have the property of a surface having pyramidal or tetragonal crystal structures having a base, an apex, and an amplitude measured from the base to the apex with an average amplitude between 250 and 400 nm, as claimed. *See In re Best*, 562 F.2d 1252, 1255 (CCPA 1977) (“Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product.”).

Appellant’s assertions at pages 7–8 of the Appeal Brief are conclusory and, without more, insufficient to rebut or otherwise establish reversible error in the Examiner’s factual findings and analysis in this regard.

Accordingly, we affirm the Examiner’s rejection of claims 1–4, 6–9, and 11–14 under 35 U.S.C. § 103 as obvious over the combination of Sproul and Suire.

CONCLUSION

In summary:

Claim(s) Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-4, 6-9, 11-14	112	Written Description		1-4, 6-9, 11-14
1-4, 6-9, 11-14	103	Sproul, Suire	1-4, 6-9, 11-14	
Overall Outcome			1-4, 6-9, 11-14	

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