

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PUNGKUK EDM WIRE MANUFACTURING COMPANY,
Petitioner,

v.

SEONG, KI CHUL,
Patent Owner.

Case IPR2016-00762
Patent 6,482,535 B2

Before JO-ANNE M. KOKOSKI, KRISTINA M. KALAN, and
CHRISTOPHER M. KAISER, *Administrative Patent Judges*.

KAISER, *Administrative Patent Judge*.

DECISION
Denial of Request for Rehearing
37 C.F.R. § 42.71

INTRODUCTION

Pungkuk EDM Wire Manufacturing Company (“Petitioner”) filed a Corrected Petition (Paper 5, “Pet.”) requesting *inter partes* review of claims 1–5 of U.S. Patent No. 6,482,535 B2 (Ex. 1001, “the ’535 patent”). Seong, Ki Chul¹ (“Patent Owner”) filed a Corrected Preliminary Response (Paper 14, “Prelim. Resp.”). We instituted *inter partes* review on one ground, to determine whether claims 1–5 of the ’535 patent are anticipated by Mukherjee. Paper 15 (“Decision” or “Dec.”). We denied institution of review as to several other grounds after concluding that Petitioner failed to show a reasonable likelihood of prevailing as to those grounds. *Id.*

Petitioner filed a request for rehearing of our Decision, arguing that we erred by refusing to institute review to determine whether claims 1–5 are anticipated by Briffod and whether claims 1–5 are anticipated by Takano. Paper 18 (“Request”).

We will grant a request for rehearing of a petition decision if the requesting party demonstrates “an abuse of discretion” in the decision. 37 C.F.R. § 42.71(c). However, we will grant a request for rehearing only if it also “specifically identif[ies] . . . the place where each matter [that we misapprehended or overlooked] was previously addressed.” *Id.* § 42.71(d). After considering the Request for Rehearing, the Decision, and the evidence currently of record, we determine that Petitioner has not demonstrated an abuse of discretion. Accordingly, we deny the Request for Rehearing.

¹ Patent Owner also spells this name as “Sung, Ki Chul,” Prelim. Resp. 1, or “Ki Chul Song,” Paper 8, 3.

ANALYSIS

A. Asserted Abuse of Discretion with Respect to Briffod

Petitioner argues that we abused our discretion by failing to institute review with respect to the asserted anticipation of claims 1–5 by Briffod. Petitioner presents two arguments regarding this alleged abuse of discretion, both of which refer to Figure 1b of Briffod, reproduced below.

FIG. 1b

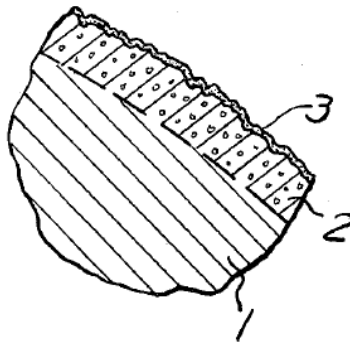


Figure 1b of Briffod depicts a portion of a cross-section through an electrode wire. Ex. 1003, 2:51–54. As noted in our Decision, this figure depicts three layers: core 1, which is made of copper; film 2, which is made of copper-zinc alloy; and thin film 3, which is made of zinc oxide. Dec. 14 (citing Ex. 1003, 2:54–57).

Petitioner first argues that we erred by confusing film 2 with thin film 3 in our findings about a crack structure on the surface of the alloy layer. Request 4–6. Second, Petitioner argues that we erred by failing to find that the Petition sufficiently established that Briffod discloses a crack structure on the surface of film 2. *Id.* at 6–9. We consider each of these arguments separately.

1. Alleged Confusion of Layers

Petitioner's first argument is that, because our Decision referred to "the surface of the zinc layer," we misapprehended the Petition as arguing that the crack structure recited in the challenged claims was disclosed by cracks on the surface of Briffod's thin film 3, when the Petition argued that the crack structure was disclosed by cracks on the surface of Briffod's film 2. *Id.* at 4–6. Specifically, Petitioner argues that, because we determined that Briffod does not state whether the voids it discloses "reach the surface of the zinc layer," and because film 2 is not made of zinc, we misapprehended the Petition's argument as referring to thin film 3. *Id.* at 5–6.

This argument neglects the fact that thin film 3 also is not made of zinc. As noted above and in our Decision, Briffod's thin film 3 is made of zinc oxide. Dec. 14; Ex. 1003, 2:54–57; *supra* at 3. Although neither film 2 nor thin film 3 is made of zinc, and although our reference to "the zinc layer" was therefore an error, we did not misunderstand Petitioner's argument. Evidence of our understanding of the "zinc layer" as Briffod's film 2 can be found in our references to "the surface of the oxide coating 3 lying over the zinc layer" and to "the surface of the zinc layer 2." Dec. 14. Thus, our determination that Petitioner failed to show sufficiently that Briffod disclosed its voids reaching "the surface of the zinc layer" was a determination that Petitioner failed to show sufficiently that Briffod disclosed its voids reaching the surface of film 2. This is precisely the argument that Petitioner now argues we misapprehended. Request 5–6. Accordingly, we did not misapprehend Petitioner's argument as referring to cracks on thin film 3 rather than on film 2 of Briffod.

2. *Alleged Sufficiency of Briffod's Disclosure of Crack Structure on the Surface of Film 2*

In our Decision, we determined that Petitioner had not shown sufficiently that Briffod discloses the “crack structure” of the recited claims on the surface of its film 2. Dec. 14–15. This was based on the failure of Petitioner and Briffod to explain whether the voids that Petitioner contends constitute cracks are present on “the surface” of the layer in question. *Id.* In its Request for Rehearing, Petitioner now argues that conclusion was an abuse of discretion. Request 6–9.

Petitioner argues that Briffod discloses voids contained within film 2 and that these voids “qualify as cracks.” *Id.* at 6. As stated in our Decision, we agree that Briffod discloses voids within film 2, and, for the purposes of deciding whether to institute *inter partes* review, we accepted Petitioner’s contention that the voids in question constitute “cracks.” Dec. 13–14. The challenged claims, however, require that the “alloy layer has a crack structure on its surface,” and the Petition failed to explain why the presence of cracks *within* a layer demonstrates the presence of cracks *on the surface* of that layer.

Petitioner next argues that, because Briffod discloses that film 2 forms by the transformation of a zinc layer into an alloy layer, and because void formation is a part of this process, the voids that are present must always be present on the surface of the layer that is formed. Request 8. Petitioner offers no explanation of where this argument was made previously, and, therefore, this argument does not satisfy the requirements of 37 C.F.R. § 42.71(d). Accordingly, we may not consider this argument for purposes of determining whether our Decision was an abuse of discretion.

Finally, Petitioner argues that the roughness of the surface of film 2 and the roughness of overlying thin film 3 demonstrate the presence of voids on the surface of film 2. Request 8–9. Once again, Petitioner fails to explain adequately where this argument was made previously. Petitioner intermittently points to portions of the Petition where it contends that this argument was made previously, but Petitioner also intersperses arguments that do not cite to the Petition. *Id.* (citing Pet. 13–14, 23). To the extent that the citations are missing, we cannot consider this argument. 37 C.F.R. § 42.71(d). Even if we could consider this argument, we would not be persuaded that it showed an abuse of discretion in our conclusion that Petitioner failed to show sufficiently that Briffod discloses the presence of a crack structure on the surface of thin film 2. Briffod shows voids within thin film 2, and Briffod shows that thin film 2 has a rough surface. Ex. 1003, Fig. 1b. Briffod also states that the voids caused by the Kirkendall effect “may be the reason for the observed porosity of [thin film 3].” *Id.* at 4:21–29. It is not clear that this establishes a causal relationship of any kind between the presence of voids and the rough surface, because it only posits a possible connection. Even if the voids do cause the surface to be rough, they could do so through several conceivable mechanisms, only one of which is the accumulation of voids at the surface. Petitioner did not explain in the Petition why we should assume any causal relationship, much less the single type of causal relationship that would satisfy the language of the challenged claims.

We are not persuaded by Petitioner’s arguments that we abused our discretion in determining that Petitioner had failed to show sufficiently that Briffod discloses the crack structure on the surface of an alloy layer that is

recited in the challenged claims. Accordingly, we deny the Request for Rehearing as to the refusal to institute *inter partes* review on the ground of anticipation by Briffod.

B. Asserted Abuse of Discretion with Respect to Takano

Petitioner argues that we abused our discretion by failing to institute review with respect to the asserted anticipation of claims 1–5 by Takano. In declining to institute on this ground, we concluded that Petitioner had not shown sufficiently that Takano anticipates claims 1–5, because Petitioner’s argument required combining disclosures from multiple embodiments disclosed in Takano. Dec. 18. Petitioner now presents three arguments that this determination was an abuse of discretion. Request 10–15.

1. Product-by-Process Limitation

Petitioner first argues that the limitation “wherein the alloy layer is formed by a diffusing reaction” in the challenged claims need not be shown in the prior art because it “is a product-by-process limitation that lends no patentable weight to the claim.” Request 10–11. Although Petitioner asserts that “[t]he Board has not disputed this assertion,” *id.* at 10, we concluded in our Decision that there was no evidence of record to support the conclusion that the limitation in question failed to impart structural or functional differences over similar products formed by different processes. Dec. 7. Accordingly, we concluded that we could not resolve the question of whether the limitation in question imparted patentable weight to the claim. *Id.* Petitioner repeats its assertion here but does not provide any argument or direct us to any record evidence that enables us to resolve the issue. Accordingly, we are unpersuaded that we should change the approach

articulated in our Decision vis-à-vis the disputed product-by-process limitation.

2. Sufficiency of Comparative Example 2

Petitioner next argues that a combination of Takano's Inventive Example 1 and Comparative Example 2 is not necessary, because Comparative Example 2 by itself anticipates the challenged claims. Request 11–13. This argument was not previously presented in the Petition, which argued instead that some limitations of the challenged claims were disclosed by Takano Inventive Example 1, and others were disclosed by Takano Comparative Example 2. Pet. 25–27. Accordingly, we decline to consider this argument on a Request for Rehearing.

3. Use of Takano Figures 1 and 2

Finally, Petitioner argues that the Petition should be understood as arguing that all limitations of the challenged claims are disclosed by Comparative Example 2 of Takano, because the Petition cites to Figures 1 and 2 of Takano, which “[t]he Board has not suggested . . . are inconsistent with Comparative Example 2.” Request 13–15. This argument ignores the statement in Takano that Figures 1 and 2 “are diagrams illustrating examples of . . . an electrode wire for wire discharge machining *according to the present invention.*” Ex. 1004, 8 (emphasis added). Comparative examples typically fall outside the scope of a claimed invention, and we have been directed to no evidence suggesting that Takano's Figures 1 and 2 represent Takano's comparative examples. Accordingly, we are not persuaded that we abused our discretion by failing to understand the Petition as arguing that Figures 1 and 2 of Takano depict Takano's Comparative Example 2.

We are not persuaded that we abused our discretion in determining that Petitioner's argument with respect to anticipation by Takano improperly combined disclosures from multiple embodiments in Takano. Accordingly, we deny the Request for Rehearing as to the refusal to institute *inter partes* review on the ground of anticipation by Takano.

CONCLUSION

Upon consideration of the Request for Rehearing, the Decision, and the evidence currently of record, we determine that Petitioner has not demonstrated an abuse of discretion in our Decision. Accordingly, we deny the Request for Rehearing.

ORDER

It is hereby

ORDERED that the Request for Rehearing is denied.

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