

IPR2024-00887
U.S. Patent No. 11,050,097

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

URT UMWELT UND RECYCLINGTECHNIK GMBH
Petitioner,

v.

DUESENFELD GMBH
Patent Owner.

Case No. IPR2024-00887
U.S. Patent 11,050,097

PATENT OWNER PRELIMINARY SUR-REPLY

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I. URT HAS NOT SATISFIED THE “GOOD CAUSE” STANDARD OF 37 C.F.R. 42.108(C)

Petitioner has not satisfied the “good cause” requirement to justify its further briefing. Petitioner filed its requested briefing pursuant to 37 C.F.R. 42.108(c), and that provision states that “[a]ny such request must make a showing of good cause.” 37 C.F.R. 42.108(c). Petitioner did not establish good cause in its September 4, 2024 email to the Board; nor does it address the good cause requirement in the papers it has filed. The Board only ruled that Petitioner is “authorized to file a Preliminary Reply.” *See* Sept. 5, 2024 Email from Board to Kauffman. Overlooking the “Preliminary” aspect of the Board-authorized filing, Petitioner has proceeded to file its “Reply,” still without acknowledging or satisfying the good cause requirement.

There is not good cause to accept Petitioner’s briefing. For the reasons set forth below, Petitioner has failed to justify that there was anything in the POPR that would warrant this supplemental briefing. The fact that Patent Owner highlighted Petitioner’s lack of enablement evidence is not good cause. The fact that Patent Owner stands behind the plain and ordinary meaning of the claims is not good cause. Petitioner’s “Reply” should be disregarded.

II. ENABLEMENT: PETITIONER LACKS GOOD CAUSE, MISSTATES THE LAW, AND CANNOT MEET ITS BURDEN

A. Patent Owner correctly stated the legal standard for enablement

In its POPR, Patent Owner properly set forth the legal standard governing enablement in IPRs. Paper No. 7 (“POPR”) at 22-24. The burden to prove invalidity rests on Petitioner. 35 U.S.C. § 316(e). To invalidate patent claims based on the prior art, the prior art must be enabling. *Raytheon Techs. Corp. v. General Elec. Co.*, 993 F.3d 1374, 1380 (Fed. Cir. 2021). There are limited situations where prior art is presumed to be enabling. *See, e.g., Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 457 F.3d 1293, 1307 (Fed. Cir. 2006) (prior art patents presumed enabled); *In re Antor Media Corp.*, 689 F.3d 1282, 1288 (Fed. Cir. 2012) (holding in the context of *ex parte* proceedings that prior art considered by the examiner is enabled, because it would be “overly cumbersome, perhaps even impossible, to impose on the PTO the burden of showing that a cited piece of prior art is enabling”).

No precedential authority has relieved a challenger in *inter partes* proceedings of the burden to prove that prior art is enabling in instances where the prior art does not enjoy a presumption of enablement. In *Apple, Inc. v. Corephotonics, Ltd.*, 861 Fed. Appx. 443 (Fed. Cir. 2021), the Federal Circuit noted that the prior art Konno printed patent publication is “presumed enabling,” and thus found no burden on the IPR petitioner to prove enablement. *Samsung*

Elecs. Co., Ltd. v. Arbor Glob. Strategies, LLC, No. IPR2020-01021, Paper 30, p. 40 (PTAB Nov. 24, 2021) is a non-precedential opinion, and itself acknowledges that *Corephotonics* did not resolve the question of burden shifting on prior art challenges at the PTAB. *See id.* at 40-41 n.17.

All the cases that Petitioner now cites were cited by Patent Owner in its POPR. Petitioner's Reply thus adds no new authority, and therefore lacks good cause. Moreover, Petitioner is wrong to excuse itself of the burden to prove enablement. Unlike PTO examiners, who lack the facilities to test enablement, Petitioner submitted a lengthy declaration by a person of skill in the art who now claims the capacity to opine on exactly this issue. *Compare* Exh. 1003 (Spies Declaration, omitting discussion of enablement) *with* Exh. 1022 (Spies Declaration, opining on enablement). Petitioner cannot put itself in the same position as a PTO examiner who cannot test enablement. *See Antor*, 689 F.3d at 1288. Rather, as an adversarial litigant supported by an expert witness, there is no justification, either in the caselaw or as a matter of policy, to relieve this burden from Petitioner.

B. Petitioner's belated enablement argument fails

Petitioner's belated attempt to show that the LithoRec publication is enabling fails.

First, Petitioner offers no evidence that vibratory fluidized bed dryers could operate at pressures below 300 hPa. Petitioner’s brief present zero evidence on this critical point. Even if the Board were to ignore precedent and attempt to wade through Mr. Spies’ declaration, no such evidence would be found. *DeSilva v. DiLeonardi*, 181 F.3d 865, 867 (Fed. Cir. 1999). The most that Mr. Spies says is that it “is possible for a vibratory fluidized bed dryer to operate under vacuum conditions.” Ex. 1022 at ¶10; *see also id.* at ¶ 15 (“vibratory fluidizing bed dryers can operate under negative pressure”). Mr. Spies does not say that vibratory fluidized bed dryer could operate at a pressure below 300 hPa, as specified by Claim 1. More fundamentally, Mr. Spies does not offer any evidence in support of his *ipse dixit* assertion. No manuals, no papers, no patents accompany his declaration. This unsupported statement should be disregarded. 37 C.F.R. § 42.65(a); *C.R. Bard, Inc. v. Medline Indus., Inc.*, IPR2015-00511, Paper 9 at 15 (PTAB July 15, 2015).

Second, LithoRec discloses the existence of a “blower” in the drying device. Ex. 1016 at 235. Blowers create positive pressure. Ex. 2010 at ¶¶ 71-72, 74 & 98. The most that Mr. Spies asserts is that “LithoRec does not disclose that the blower produces a positive pressure in the dryer.” Ex. 1022 at ¶12. However, a person of skill would know that blowers create positive pressure, Ex. 2010 at ¶¶ 71-72, 74 & 98, and Mr. Spies offers no rebuttal to this point. Of course, it is Petitioner’s

burden to show that the LithoRec system operates under vacuum, so Petitioner's absence of evidence is fatal.

Third, Petitioner offers no rebuttal to the evidence presented by Patent Owner that the cross-flow hogger taught in LithoRec establishes conclusively that the LithoRec system is not run at vacuum. In its POPR, Patent Owner included the operating manual for the particular device that LithoRec recommended for shredding batteries, *i.e.*, the QZ 1200 depressurized cross-flow hogger from MEWA. Ex. 1016 at 236; Ex. 2014. This manual confirms that the cross-flow hogger does not operate under vacuum. *See* POPR at 29-31; *see also* Ex. 2010 at ¶¶ 105-107. The cross-flow hogger feeds directly into the drying device, and these two devices share the same nitrogen line. Ex. 1016 at 227 & 230. Thus, the drying device cannot be under vacuum. Ex. 2010 at ¶¶ 100, 107 & 143. This conclusive evidence stands unrebutted.

Fourth, Mr. Spies' opinions regarding oxygen leaks are conclusory and inconsequential. While Mr. Spies states (without support) that the goals of preventing oxygen leaks suggest the desirability of keeping the system "at a negative pressure," *see* Exh. 1022 at ¶ 14, Patent Owner presented evidence that running a system at a negative pressure of less than 1 hPa is sufficient to prevent leakage out of a closed system. POPR at 31-32; Exh. 2010 at ¶ 113; Ex. 2017.

This negative pressure, just below atmospheric pressure, is far from the 300 hPa limitation of claim 1 of the '097 patent. POPR at 31-32.

Fifth, Mr. Spies wrongly states that LithoRec teaches using batch drying. Ex. 1022 at 6 (“[T]he LithoRec reference provides the options of using batch drying or continuous drying.”). LithoRec does not say that. To the contrary, LithoRec explicitly states not to use batch drying. Ex. 1016 at 226 (“For this reason, batch drying is not used.”). In its POPR, Patent Owner explained that the continuous processing described by LithoRec would not necessarily result in inactivating the shredded material. POPR at 48-50; Ex. 2010 at ¶¶ 118-123. Neither Petitioner nor Mr. Spies rebuts any of this evidence.

Sixth, Mr. Spies hypothesizes that, even if LithoRec did not disclose a vacuum drying system, a person of ordinary skill would simply adapt other known systems. Exh. 1022 at ¶17 (“Even if one of ordinary skill encountered difficulties doing so, one of ordinary skill in the art would have sought out one of the many, many other types of known dryers to operate at a vacuum for the precise reasons set forth in LithoRec itself.”). This allusion to the “many, many other types of known dryer to operate at a vacuum” is bereft of evidence. This is Petitioner’s burden, and it was Petitioner’s burden in its initial Petition, not in this belated Preliminary Reply. Even now, the evidence is non-existent.

Rather, the record is overwhelming that the statements in LithoRec work at cross-purposes to one another. Petitioner refers to LithoRec as an “instruction manual.” Paper No. 8 (“Preliminary Reply”) at 4. Far from it, at best LithoRec is a research proposal. *See* Ex. 2010 at ¶ 168. The instructions that LithoRec does provide is to use a vibratory fluidized bed dryer with a “blower” (*i.e.*, not a vacuum) and to couple that to a cross-flow hogger which likewise does not operate under vacuum. Ex. 1016 at 226-227, 230 & 235. LithoRec also says to run the system in a “continuous process.” *Id.* at 226. Petitioner’s argument on enablement is essentially that a person of skill should just disregard the use of a blower, disregard the use of a cross-flow hogger, disregard the use of a continuous process, and somehow cobble together other un-specified components to practice Duesenfeld’s claimed invention, all the while turning a blind eye to the toxic and explosive and costly nature of the problem (Ex. 1016 at 226), supposedly with confidence in their chances of success. This is not evidence of enablement.

III. PETITIONER FAILS TO MANUFACTURE A CLAIM CONSTRUCTION DISPUTE

Petitioner’s belated attempt to raise a construction dispute is baseless. The ’097 patent uses two different claim terms to mean two different things, which Petitioner now seeks to collapse into one. The patent claims and the patent specification distinguish between “drying” and “inactivating.” Drying refers to the

removal of solvent from the shredded battery material. *See* Ex. 1001 at 2:23-27 (“Within the scope of the present invention, the term drying should be understood particularly to mean the *removal of at least one solvent* in the conducting salt.”) (emphasis added). By contrast, the term “inactivating” refers to the result of the drying process, which is reached once enough solvent has been removed. *See id.* at 8:54-55 (“The drying of the comminuted material results in inactivated comminuted material.”); *see also id.* at Abstract (“The inactivation is performed by drying the comminuted material, and the comminuted material is dried until an electrolyte content is so low that an electrochemical reaction is not possible.”).

The patent lists several benchmarks for determining if the drying process is sufficiently complete that the shredded battery material is rendered inactivated. For example: (1) reducing the formation of explosive gases above the comminuted material [3:49-55]; (2) drying for so long that a thermal runaway reaction is no longer possible [4:19-27]; drying until the electrolyte content of volatile solvents has dropped to certain thresholds [4:28-32]; and (4) drying for so long that the accumulated content of solvents in the atmosphere above the comminuted material drops to a certain threshold [4:33-40]. Throughout, drying is described as a process, with the end result being the inactivation of the comminuted material.

Despite this clarity, Petitioner seeks to collapse the meaning of drying and inactivating. According to Petitioner, the comminuted material becomes

inactivated when “at least one solvent” is removed. *See* Preliminary Reply at 9 (“it is clear that the comminuted material is considered to be inactivated when at least one solvent in the conducting salt is removed (*i.e.*, the comminuted material is considered dried).”).

Petitioner’s proposed construction makes no sense. What does it even mean that comminuted material becomes inactivated when “at least one solvent is removed”? Does this mean that as soon as one molecule of solvent evaporates from the comminuted material, suddenly the comminuted material is inactivated? This would be non-sensical, as the comminuted material would remain wet, and susceptible to combustion. Or does Petitioner mean that after every molecule of a solvent (*e.g.*, dimethyl carbonate and/or ethyl methyl carbonate) is removed, then finally the comminuted material would be rendered inactivated? This interpretation would exclude the preferred embodiments cited above, which do not require exhaustive removal of every molecule of solvent.

The language from the specification (*i.e.*, “the removal at least one solvent”) reflects the ordinary meaning of drying. As each molecule of solvent evaporates from the comminuted material, the material becomes progressively drier and drier. And this is exactly how the specification explains the concept of drying. Ex. 1001 at 2:23-27. However, this metric makes no sense in terms of inactivation. Rather, the specification is explicit that inactivation is the result of drying. *Id.* at Abstract

& 8:54-55. This clarity avoids any need for a claim construction dispute, as the plain meaning of drying and inactivation is evident from the specification.

Petitioner's efforts to belatedly manufacture a claim construction dispute are unsupportable; if there were a genuine dispute about claim construction, Petitioner could have raised this in its Petition. There is not good cause for attempting to interject this dispute through supplemental briefing.

IV. CONCLUSION

For the foregoing reasons, Petitioner's further briefing should be disregarded, and the Board should decline to institute the IPR.

Date: October 3, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on October 3, 2024 a copy of Patent Owner's Preliminary Sur-Reply has been served in their entirety by electronic mail to Petitioners:

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