

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BASF CORPORATION,
Petitioner,

v.

INGEVITY SOUTH CAROLINA, LLC,
Patent Owner.

Case IPR2019-00202
Patent RE38,844 E

Before DONNA M. PRAISS, CHRISTOPHER L. CRUMBLEY, and
JON B. TORNQUIST, *Administrative Patent Judges*.

CRUMBLEY, *Administrative Patent Judge*.

DECISION

Denying Petitioner's Request for Rehearing of Institution Decision
37 C.F.R. § 42.71(d)

I. INTRODUCTION

Petitioner BASF Corporation filed a Request for Rehearing (Paper 11, “Req. Reh’g”) of our May 13, 2019 Decision Denying Institution of *Inter Partes* Review (Paper 10, “Dec.”). In its Petition, BASF challenged claims 1–8, 11, 12, 14–16, 18–21, 24, 25, 27–29, 31–33, 36, 37, 39–41, 43–45, 48, 49, and 51–53 of U.S. Patent No. RE38,844 E (Ex. 1001, “the ’844 patent”) on three grounds of unpatentability alleging obviousness over combinations of prior art including the Park¹ reference. Paper 2 (“Pet.”). Our Decision reviewed BASF’s contentions regarding the references, found that BASF had presented insufficient evidence that the combinations of prior art would necessarily result in a method or system that met all limitations of the challenged claims, and as a result determined that BASF had not established a reasonable likelihood that at least 1 challenged claim was unpatentable. Dec. 16–22.

Because institution of an *inter partes* review trial is discretionary, when rehearing a decision on a petition to institute trial the Board “will review the decision for an abuse of discretion.” 37 C.F.R. § 42.71(c). “An abuse of discretion occurs where the decision is based on an erroneous interpretation of the law, on factual findings that are not supported by substantial evidence, or represents an unreasonable judgment in weighing relevant factors.” *Lacaverav. Dudas*, 441 F.3d 1380, 1383 (Fed. Cir. 2006) (quoting *Star Fruits S.N.C. v. United States*, 393 F.3d 1277, 1281 (Fed. Cir. 2005)). The party requesting rehearing has the burden of showing the decision should be modified, and “[t]he request must specifically identify all

¹ U.S. Patent No. 5,914,294 to Park et al., issued June 22, 1999 (Ex. 1010).

matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed in a motion, an opposition, or a reply.” 37 C.F.R. § 42.71(d).

II. DISCUSSION

Each challenged claim of the '844 patent requires the presence of a “subsequent adsorbent volume having an incremental adsorption capacity of less than 35 g n-butane/L between vapor concentrations of 5 vol % and 50 vol % n-butane.” Ex. 1001, 10:36–14:64. In its Petition, BASF argued that, if a person of ordinary skill in the art were to create a system by combining the filter of Park with the systems described in the various primary references, the resulting system would have a subsequent adsorbent volume that inherently meets this incremental adsorption capacity (IAC) limitation. *See, e.g.*, Pet. 22–26 (Meiller/Park combination). The details of BASF’s arguments for unpatentability were summarized in our Decision; here, we focus on three primary factual contentions that are central to the Request for Rehearing.

First, BASF argued that, when deciding which filter to use in the subsequent adsorbent volume, the skilled artisan would have selected Park’s Formulation D because of its high axial crushing strength, which Park reports is desirable in automotive air intake applications. *Id.* at 33. Second, BASF contended that the resulting subsequent adsorbent volume would be a honeycomb carbon having the 73.8% voidages disclosed in Park as “desirabl[e].” *Id.* at 36. Finally, according to BASF, a filter formed from Park’s Formulation D, and having 73.8% voidages, “would have an IAC of less than 35 g/L even if it was created exclusively with the activated carbon of the highest possible IAC known at the time of the '844 patent.” Ex. 1003

¶ 111. As we stated in the Decision, this reference to “the activated carbon of the highest possible IAC known at the time of the ’844 patent” is a reference to BAX 1500 carbon, the highest-IAC carbon disclosed in the ’844 patent.

In our Decision, we reviewed BASF’s arguments and submitted evidence, and concluded that the record lacked sufficient support for these three links in BASF’s logical chain. First, we found that BASF had not provided evidence “why a person of skill in the art would have been led by Park’s strength requirement for an air intake system to select Formulation D” for the evaporative emissions systems that are the focus of the ’844 patent. Dec. 17–18. Second, we found no reason to conclude that, even if a person of ordinary skill in the art would have selected Park’s Formulation D to use in an evaporative emissions system, the resulting honeycomb would have the 73.8% voidages that Park considers desirable. *Id.* at 18–19. Finally, we found unsupported Mr. Lyons’ testimony that BAX 1500 carbon was the highest-capacity carbon known in the art at the time of the invention. *Id.* at 19–20. Each of these independent findings was sufficient to lead us to conclude that BASF had not shown that a system resulting from the use of Park’s honeycomb filter in an evaporative emissions system would necessarily have an IAC below 35 g/L, as required by the claims. *Id.* at 20–21. As such, we found that BASF had not established a reasonable likelihood that any claim of the ’844 patent was unpatentable.

BASF challenges each of these three findings in its Request for Rehearing, arguing that they were an abuse of discretion because each was “based on matters that the Board misapprehended, overlooked, or on

erroneous factual findings not supported by substantial evidence.” Req. Reh’g 1. We take each in turn below.

Regarding the question of whether a person of ordinary skill in the art would have selected Park’s Formulation D when creating a filter for use as a subsequent adsorption volume, BASF contends that we misapprehended its evidence supporting such a selection. *Id.* at 9–12. BASF notes its argument was that a person of ordinary skill in the art would have selected Formulation D “because it is the **only formulation** that meets Park’s explicit requirements for the air intake application: a carbon content of 25–35% by weight and an axial crushing strength from 1200–1600 psi.” *Id.* at 10 (citing Pet. 33–34). But BASF’s argument misses the point of our conclusion in the Decision, which was that the record contained no evidence that the requirements of an *air intake application*, as discussed by Park, were the same as the requirements of the *evaporative emissions application* that is the focus of the ’844 patent and the primary prior art references in each combination. In other words, while a person of ordinary skill in the art might have been led to Formulation D if trying to create a filter for an air intake system, the record contains no persuasive evidence that the same is true of the artisan creating an evaporative emissions system. Indeed, as we noted in the Decision, the only evidence on this point is to the contrary, and comes from Ingevity’s expert witness Dr. Ritter. As we noted, “Dr. Ritter testifies that evaporative emission systems and air intake systems are designed for use with different vapor concentrations and, more importantly, different flow rates.” Dec. 17 (citing Ex. 2001 ¶¶ 43–44).

According to BASF, our reliance in the Decision on Dr. Ritter’s testimony was in error, because when deciding whether to institute an *inter*

partes review trial we are required to view disputed issues of material fact in the light most favorable to the Petitioner. Req. Reh’g 12 (citing 37 C.F.R. § 42.108(c)). But this Rule only applies to *disputed* issues of material fact, and does not simply require us to accept every bare assertion made in a Petition. Here, BASF identifies no evidence it presented that would put into dispute Dr. Ritter’s testimony about the different requirements for air intake systems and evaporative emissions systems. BASF only cites to a statement in its Petition that Park’s disclosure of removing volatile organic compounds from air intake systems “is similar to . . . adsorbing fuel vapors from **bleed emissions** during a ‘diurnal cycle’ **where the engine is turned off.**” *Id.* at 11 (citing Pet. 29).² Attorney argument presented in a petition, however, is no substitute for evidence. While not cited in the Request for Rehearing, the closest Mr. Lyons comes to testifying on this point is his statement that Park’s air intake system “is an application similar to Meiller’s and Abe’s honeycombs, which adsorbs fuel vapors leaking from a conventional canister due to bleed emissions given the high concentration gradient that would exist between liquid fuel in the engine intake system and the ambient air outside the intake system.” Ex. 1003 ¶ 77. Mr. Lyons did not specify what relevance this similarity has to the requirements for air intake or

² BASF’s Request also cites to the testimony of Dr. Ritter on this issue. Req. Reh’g 11 (citing Ex. 2001 ¶ 44). As Dr. Ritter’s testimony was presented subsequent to BASF’s Petition, BASF could not have relied on this evidence or presented argument based on it. The Board cannot have overlooked or misapprehended an argument that was not made. Nevertheless, we have reviewed Dr. Ritter’s testimony, which pertains to the differences in vapor flow rates encountered by air intake filters and fuel vapor canisters, and determine that it supports the existence of differences between the two, as opposed to similarities as BASF contends.

evaporative emissions systems, and cannot suffice to put into dispute Dr. Ritter's testimony or support the conclusion that a person of ordinary skill in the art would necessarily have selected, from among the various formulations of Park, only the formulations specified for use in air intake systems. We are not convinced that we overlooked or misapprehended any argument by BASF, or abused our discretion in not instituting trial on this basis.

As stated above, each of the three issues BASF disputes in its Request was sufficient to support our determination of no reasonable likelihood in our Decision. As such, our conclusion on BASF's first point is reason to deny the entirety of its Request for Rehearing. Nevertheless, we also briefly address the other two points raised in the Request.

With regard to the 73.8% voidages desired in the honeycomb of Park, we concluded in our Decision that even if a person of skill in the art utilized Park's Formulation D, there was insufficient evidence given to support that this degree of voidages was achievable with that formulation. Dec. 18–19. We stated that Park “does not give us any reason to conclude that voidages percentage is a property of the honeycomb that may be tuned to whatever value is desired.” *Id.* In its Request for Rehearing, BASF contends that we “overlooked BASF's substantial evidence that the percentage of voids in a honeycomb is adjustable and thus tunable simply by varying the physical structure of the honeycomb cells produced by the extrusion process.” Req. Reh'g 2 (citing Pet. 37). BASF cites Dr. Ritter's testimony that the voidage percentage can be “fixed,” which will then affect the values that other properties such as cell density and cell wall thickness can take. *Id.* at 4 (citing Ex. 2001 ¶ 30). BASF concludes that the parties agree that voidage

percentage can thus be “fixed” by adjusting the values of these other properties. *Id.*

Again, BASF’s argument slightly misses the point of our discussion in the Decision. Our conclusion was not that voidage percentage is not a tunable property of a filter, but rather that there was insufficient evidence that a filter could be created from Park’s Formulation D that has 73.8% voidages, while still retaining the fundamental properties that allegedly would lead a person of ordinary skill in the art to select Formulation D in the first place. In other words, as BASF recognizes, voidage percentage is “tunable” only by adjusting other properties of the honeycomb such as cell density or cell wall thickness. *Id.* at 4. We find insufficient support in the record to conclude that adjusting the cell density or wall thickness in such a manner is compatible with maintaining the axial crushing strength or carbon content specified for Formulation D. And it is these properties that BASF cites as the basis for selecting Formulation D from among the many exemplary formulations provided in Park. *See* Pet. 33 (person of ordinary skill in the art “would have been motivated to use Park to create a honeycomb monolith for Meiller’s scrubber using a mixture containing 25–35% carbon content by weight and having an axial crushing strength of 1200–1600 psi.”).

Finally, BASF argues that our Decision overlooked its “primary inherency argument,” which is a comparison between the filter described in the ’844 patent and the one that would result from using Park’s disclosures. *Req. Reh’g* 13. BASF observes that Park uses conventional carbons, and particularly discloses using publicly available carbon from Westvaco Corporation. *Id.* BASF contends that we overlooked its argument that using

either BAX 1100 or BAX 1500—two high-capacity carbons disclosed in the '844 patent and available from Westvaco Corporation—would result in an inherent IAC under 35 g/L when used in Park's Formulation D with voidages of 73.8%. *Id.*

We did not overlook this argument; we concluded that it is insufficient to support a reasonable likelihood of inherency on this record. To justify a conclusion of inherency in an obviousness inquiry, “the limitation at issue necessarily must be present, or the natural result of the combination of elements explicitly disclosed by the prior art.” *Par Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1196 (Fed. Cir. 2014). In other words, even were we to accept BASF's contentions that a person of ordinary skill would have formed a filter using Park's Formulation D and having 73.8% voidages, we would also have to conclude that the artisan would have had reason to select a carbon that *necessarily* would result in an IAC below 35 g/L. And, as we stated in our Decision, the reason for selecting a particular carbon cannot be based on the very IAC property that is allegedly inherent. Dec. 14 (“properties that are inherent—and, therefore, possibly unknown—cannot be used as the basis for this motivation unless they were expected.”) (citing *Honeywell Int'l v. Mexichem Amanco Holding*, 865 F.3d 1348 (Fed. Cir. 2017)). BASF's Petition discussed two available carbons, BAX 1100 and BAX 1500, because they were referenced in the specification of the '844 patent. Pet. 23. But there is insufficient evidence in the record why these were the two carbons that a person of ordinary skill in the art would have found it obvious to select from among the carbons that were available at the time of the invention, and the record is silent as to whether other carbons, if selected, would have necessarily resulted in the same IAC

or lower. As we observed in our Decision, all that BASF presented on this point was the unsupported testimony of its expert that BAX 1500 had “*the highest possible IAC known at the time of the ’844 patent.*” Dec. 19–20 (citing Ex. 1003 ¶ 111).

Again, BASF cites our rules, contending that we erred by not viewing a disputed issue of material fact in the light most favorable to it. Req. Reh’g 14. In particular, BASF notes our statement in the Decision acknowledging that “BAX 1500 certainly has the highest IAC of any carbon disclosed in the ’844 patent,” and argues that this alone is “**evidence in the record** that BAX-1500 was the highest-capacity carbon available at the time.” *Id.* (citing Dec. 20). But the disclosure of two particular carbons in the record says nothing about the existence—or lack thereof—of other carbons. In other words, as we stated in the Decision, “on this record we cannot extrapolate beyond [the] disclosure to all activated carbons known at the time of the invention.” Dec. 20. The issue is not one of viewing a disputed issue of fact in the light most favorable in BASF; rather, it is an issue of BASF asking us to conclude from the disclosure of two carbons in the ’844 patent that these are the carbons that a person of ordinary skill in the art, upon reading Park, would have selected. The record is insufficient to reach such a conclusion, and we did not err in deciding so.

IV. CONCLUSION

We have considered the three issues raised in BASF’s Request for Rehearing, and have not concluded that we abused our discretion in deciding not to institute an *inter partes* review trial based on BASF’s Petition and supporting evidence. Contrary to BASF’s contentions, we did not misapprehend or overlook any argument or evidence presented in the

Petition, nor have we erred in the application of any law or rule. For these reasons, we *deny* rehearing of the Decision Denying Institution.

V. ORDER

Accordingly, it is ORDERED that BASF's Request for Rehearing is *denied*.

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