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Paper 11
Entered: June 12, 2020

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNITED LABORATORIES INTERNATIONAL, LLC,
Petitioner,

v.

REFINED TECHNOLOGIES, INC.,
Patent Owner.

IPR2019-01544
Patent 9,017,488 B2

Before JO-ANNE M. KOKOSKI, JON B. TORNQUIST, and ELIZABETH M. ROESEL, *Administrative Patent Judges*.

ROESEL, *Administrative Patent Judge*.

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

I. INTRODUCTION

United Laboratories International, LLC ("Petitioner") timely filed a request for rehearing (Paper 10, "Request" or "Req. Reh'g") of our decision denying institution of *inter partes* review (Paper 9, "Decision" or "Dec.") of claims 1–20 (the "challenged claims") of U.S. Patent No. 9,017,488 B2 (Ex. 1001, "the '488 Patent"). The Request seeks rehearing of our determination that the Petition (Paper 2, "Pet.") fails to establish a reasonable likelihood that Petitioner would prevail on its contentions that claims 1–6 and 9–13 are unpatentable as obvious in view of Foutsitzis[1] and Allen[2] and that claims 7, 8, and 14–20 are unpatentable as obvious in view of Foutsitzis, Allen, and Jansen.[3] For the reasons given below, we deny the Request.

II. LEGAL STANDARDS

"The burden of showing a decision should be modified lies with the party challenging the decision," and the challenging party "must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed" in a paper of record. 37 C.F.R. § 42.71(d) (2019). Because Petitioner seeks rehearing of our Decision denying the Petition, it must show an abuse of discretion. *See* 37 C.F.R. § 42.71(c) ("When rehearing a decision on petition, a panel will review the decision for an abuse of discretion."). An abuse of discretion occurs when a "decision was based on an erroneous conclusion of law or clearly erroneous factual findings, or . . . a clear error of

[1] Ex. 1003 (Foutsitzis et al., US 5,035,792, issued July 30, 1991).

[2] Ex. 1004 (Allen, US 4,008,764, issued Feb. 22, 1977).

[3] Ex. 1005 (Jansen et al., US 6,936,112 B2, issued Aug. 30, 2005).

judgment." *PPG Indus., Inc. v. Celanese Polymer Specialties Co.*, 840 F.2d 1565, 1567 (Fed. Cir. 1988).

III. ANALYSIS

A. Whether Allen is Analogous Art

A reference may be used in an obviousness determination "only when analogous to the claimed invention." *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). A reference is analogous prior art (1) if it is from the same field of endeavor regardless of the problem addressed, or (2) if it is not within the field of the inventor's endeavor, it is reasonably pertinent to the particular problem with which the inventor is involved. *Id.* Petitioner argues that we erred in applying both prongs of the *Bigio* test. Req. Reh'g 1–7.

As to the first prong of the *Bigio* test, Petitioner argues that we misapprehended the applicable law and made incorrect factual findings when determining that Petitioner failed to establish that Allen is in the same field of endeavor as the '488 Patent. Req. Reh'g 2–5 (citing *Airbus S.A.S. v. Firepass Corp.*, 941 F.3d 1374, 1379 (Fed. Cir. 2019)); Dec. 12–13.

Petitioner directs us to the legal standards provided in *Airbus*, including the requirement to "consider each reference's disclosure in view of the reality of the circumstances, and weigh those circumstances from the vantage point of the common sense likely to be exerted by one of ordinary skill in the art in assessing the scope of the endeavor." Req. Reh'g 2 (quoting *Airbus*, 941 F.3d at 1380; internal quotes omitted). Petitioner does not, however, direct us to where in the Petition or the Wilhite Declaration (Ex. 1002) Petitioner submitted evidence under this standard, or applied this standard, to argue that Allen is within the same field of endeavor as the '488 Patent.

The Petition simply argued:

> The field relevant to the invention of the '488 patent is "stripping (or removing) hydrocarbons from porous media using a vapor flow comprised of volatized solvent(s) and/or carrier gas."

Pet. 15 (quoting Ex. 1002 ¶ 22).

> [Allen] is directed to a method of recovering viscous petroleum using a carrier gas vaporized solvent flooding method. . . . Because Allen is directed to the removal of hydrocarbons from porous media in the form of petroleum-containing formations using a vapor flow comprised of carrier gas and vaporized solvent, this reference relates to the field of patentee's endeavor and logically would have commended itself to an inventor's attention in considering the problems elucidated in the '488 patent.

Pet. 20 (citing Ex. 1002 ¶ 39; Ex. 1004 at 1:9–14).

The arguments in the Petition are fully addressed by the Decision, which rejected Petitioner's characterizations of Allen and the '488 Patent. Dec. 6–7, 11–13. The Request does not challenge our finding that "Allen discloses a method for recovering viscous petroleum from subterranean formations such as tar sand deposits by injecting into the formation a gaseous mixture of a carrier gas and a solvent." *Id.* at 9 (citing Ex. 1004, code (57), 1:9–12).

The Request argues that we overlooked Petitioner's evidence when finding that the relevant field for the '488 Patent is "the operation and maintenance of chemical plants and refineries." Req. Reh'g 2–3; Dec. 6 (quoting Ex. 1001, 1:8–9). Petitioner directs us to paragraph 22 of Dr. Wilhite's testimony and the abstract, title, and independent claim 1 of the '488 Patent. Req. Reh'g 2–3. We did not overlook this evidence. Dr. Wilhite's testimony is quoted in the Decision. Dec. 6 (quoting Ex. 1002 ¶ 22). The abstract, title, and preamble of claim 1 are accurately reflected in

our finding that "[t]he '488 Patent discloses a process for cleaning the internal surfaces of catalytic reactors, media-packed vessels, and other processing equipment by removing hydrocarbon contaminants and noxious gases from such surfaces." *Id.* at 3 (citing Ex. 1001, codes (54), (57), 1:9–13; 3:25–26, 7:2–9, Fig. 1).

Petitioner shows no abuse of discretion in our finding that "Petitioner fails to establish that techniques useful for recovering petroleum from an underground formation would have been relevant to a method of removing contaminants from chemical processing equipment." Dec. 13. Nor does Petitioner show an abuse of discretion in our finding that "Petitioner . . . does not show sufficiently that a POSA [person of ordinary skill in the art] would have consulted Allen when investigating methods for cleaning the internal surfaces of chemically contaminated reactors, absorbent chambers, compressors, pipes, connectors, and other equipment." *Id.*

Petitioner does not explain, either in the Petition or in the Request, why Allen would be considered within the scope of endeavor of the '488 Patent, when viewed from "the reality of the circumstances" and "the vantage point of the common sense likely to be exerted by one of ordinary skill in the art." *Airbus*, 941 F.3d at 1380. Accordingly, we find no abuse of discretion in our finding that "Petitioner does not present a persuasive argument for why a POSA would have considered a method for recovering petroleum from subterranean formations when looking for ways to improve a method for removing contaminants from hydrocarbon processing equipment." Dec. 12.

As to the second prong of the *Bigio* test, Petitioner argues that we overlooked or misapprehended Petitioner's arguments and evidence

regarding Allen as reasonably pertinent prior art. Req. Reh'g 5–7. We disagree.

The Petition states:

> [Allen] is directed to a method of recovering viscous petroleum using a carrier gas vaporized solvent flooding method. . . . Because Allen is directed to the removal of hydrocarbons from porous media in the form of petroleum-containing formations using a vapor flow comprised of carrier gas and vaporized solvent, this reference relates to the field of patentee's endeavor and logically would have commended itself to an inventor's attention in considering the problems elucidated in the '488 patent.

Pet. 20 (citing Ex. 1002 ¶ 39; Ex. 1004 at 1:9–14). In a footnote, the Petition asserts: "Even assuming for argument's sake that Allen is not within the same field of endeavor as the '488 patent, Allen is at least reasonably pertinent to the problem addressed in the '488 patent." *Id.* at 20 n.3 (citing Ex. 1002, 26 (¶ 39) n.6).

The arguments in the Petition are fully addressed by the Decision, which finds that Petitioner's argument under *Bigio* prong two and the corresponding declaration testimony are "merely conclusory and unsupported by factual evidence." Dec. 13. The Request shows no abuse of discretion in that finding. Petitioner directs us to Dr. Wilhite's testimony concerning Patent Owner's disclosure of references during prosecution. Req. Reh'g 5–6 (citing Ex. 1002 ¶¶ 22, 50). The Decision addresses that testimony as follows:

> Dr. Wilhite additionally provides a list of references that Patent Owner disclosed to the USPTO during prosecution (Ex. 1002 ¶ 50), but does not explain how this list supports his opinions regarding Foutsitzis and Allen, and Petitioner does not specifically rely upon nor explain Dr. Wilhite's testimony. To the extent Dr. Wilhite relies on Patent Owner's disclosure of the

> listed references as an admission that they are material to patentability, such reliance is prohibited under the rules. *Compare id.* ¶¶ 22, 50, *with* 37 C.F.R. § 1.97 ("The filing of an information disclosure statement shall not be construed to be an admission that the information cited in the statement is, or is considered to be, material to patentability. . . .").

Dec. 17. Petitioner identifies no factual or legal error in the above determination. In the Request, Petitioner argues:

> [T]he nine downhole references disclosed by Patent Owner during prosecution and identified by Dr. Wilhite should have been considered by the Board. These downhole references must have been at least reasonably pertinent to the problem addressed in the '488 patent to be disclosed, and they should be considered in determining whether Allen is reasonably pertinent.

Req. Reh'g 7.

Petitioner's argument does not persuade us to grant rehearing. As stated in the Decision, the argument is contrary to the rule that an applicant's disclosure of references in an information disclosure statement is not an admission that the references are material to patentability. Dec. 17 (quoting 37 C.F.R. § 1.97). Moreover, the "nine downhole references" (Req. Reh'g 7) were not mentioned or discussed in the Petition. Dr. Wilhite identified the general subject matter of the references and provided a list of the patent numbers, inventor(s), titles, and excerpts from the abstracts. Ex. 1002 ¶¶ 22, 50. But Dr. Wilhite did not rely upon the nine downhole references as support for his opinion that Allen is "at least reasonably pertinent to the problem addressed in the '488 patent" (*id.* ¶ 39 n.6), and he provided no explanation or analysis of how they support his opinion. Although Petitioner argues that the Board was required to consider the "nine

downhole references" under the legal standards of *Airbus* and *Randall*[4] (Req. Reh'g 6–7), the rules do not require us to consider evidence that is not cited or explained in the Petition. *See* 37 C.F.R. § 42.22(a)(2) (a petition must include "a detailed explanation of the significance of the evidence").

For all of the foregoing reasons, we are not persuaded to grant rehearing based on Petitioner's argument that Allen is analogous prior art to the '488 Patent.

B. Motivation to Combine Foutsitzis and Allen

A claim is unpatentable under 35 U.S.C. § 103 if "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The obviousness inquiry typically requires an analysis of "whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue." *Id.* at 418 (citing *In re Kahn,* 441 F.3d 977, 988 (Fed. Cir. 2016) (requiring "articulated reasoning with some rational underpinning to support the legal conclusion of obviousness")). Petitioner does not satisfy its burden of proving obviousness by employing "mere conclusory statements," but "must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness." *In re Magnum Oil Tools Int'l, Ltd.,* 829 F.3d 1364, 1380 (Fed. Cir. 2016).

Petitioner argues the Board abused its discretion with its holdings that Petitioner failed to provide a persuasive reason why a POSA would have

[4] *Randall Manufacturing v. Rea*, 733 F.3d 1355 (Fed. Cir. 2013).

modified Foutsitzis by vaporizing the solvent before delivery as disclosed in Allen (Req. Reh'g 8; Dec. 14) and that Petitioner did not explain sufficiently why a POSA would have modified Foutsitzis by using the carrier gases disclosed in Allen (Req. Reh'g 11; Dec. 15–16). According to Petitioner, the Board overlooked the evidence and arguments submitted by Petitioner. Req. Reh'g 8–13.

Petitioner's arguments do not persuade us to grant rehearing. Petitioner does not show that we overlooked or misapprehended any argument or evidence sufficient to show a persuasive reason why a POSA would have modified Foutsitzis's contaminant removal method by delivering the solvent as a vapor and by using selected ones of the carrier gases disclosed by Allen. Merely pointing out the differences between the two references (or the absence of differences) is not enough to show a reason to modify one reference's method in view of the teachings of another reference. *Metalcraft of Mayville, Inc. v. Toro Co.*, 848 F. 3d 1358, 1367 (Fed. Cir. 2017) (To show obviousness, "[o]ne needs to provide an explanation or reasoning for concluding that one of skill in the art would have combined these particular references to produce the claimed invention.").

Petitioner attempts to bolster its case with arguments that were not presented in the Petition. For example, Petitioner argues that Dr. Wilhite's testimony about the nine downhole references "shows that the emphasis on downhole use in Allen is not a significant difference from the process equipment context in Foutsitzis." Req. Reh'g 9–10. Petitioner asserts that the Board overlooked Allen's discussion of improving contact as one of the benefits of vaporizing the solvent before delivery (*id.* at 10 n.4 (citing Ex. 1004, 4:39–46)), but does not identify where in the Petition this

disclosure in Allen was cited or discussed. Petitioner asserts that it relied on Foutsitzis, instead of Allen, for the disclosure of carrier gases in claim element 1.3 (*id.* at 11), but the cited portion of the Petition addresses claim element 1.1, not claim element 1.3. Pet. 22–23. We could not have misapprehended or overlooked arguments or evidence that were not presented in the Petition.

Petitioner argues that, under *KSR*, "there was no reason to require an exhaustive analysis" of the efficacy of Petitioner's proposed combination or how it would work. Req. Reh'g 12 (citing *KSR*, 550 U.S. at 417). Petitioner's argument is based on an incorrect legal standard. While an obviousness analysis does not need to be "exhaustive," it must include "some articulated reasoning with some rational underpinning for combining [prior art] elements in the manner claimed" and not merely a hindsight reconstruction of the claimed invention. *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)); *TriVascular, Inc. v. Samuels*, 488 F.3d 1056, 1066 (Fed. Cir. 2016) ("Although the *KSR* test is flexible, the Board 'must still be careful not to allow hindsight reconstruction of references . . . without any explanation as to *how* or *why* the references would be combined to produce the claimed invention,'" quoting *Kinetic Concepts, Inc. v. Smith & Nephew, Inc.*, 688 F.3d 1342, 1368 (Fed. Cir. 2012)).

C. Motivation to Combine Foutsitzis, Allen, and Jansen

The Decision provides additional reasons for the determination that Petitioner's second ground does not meet the threshold for institution of *inter partes* review. Dec. 18–19. As stated in the Decision, the Petition does not explain why a POSA would have used Foutsitzis's process, as

modified with Allen's carrier gas, to remove Jansen's contaminants and does not demonstrate that a POSA would have had a reasonable expectation of success in doing so. *Id*.

In the Request, Petitioner argues that "the Board's finding that the contaminants in Foutsitzis and Jansen differ was an abuse of discretion" because both references discuss the removal of hydrogen sulfide. Req. Reh'g 14 (citing Pet. 45–48; Ex. 1003, 4:5–13, 5:50–54; Ex. 1010, 46). In addition, Petitioner argues that that we overlooked Dr. Wilhite's testimony that all three references—Foutsitzis, Allen, and Jansen—were directed to the removal of substances using a vaporized hydrocarbon solvent and a carrier gas. *Id.* at 13–15.

Petitioner's arguments do not persuade us to grant rehearing. The Request relies on new arguments and evidence not presented in the Petition. For example, the Petition did not rely on Foutsitzis's teaching regarding the removal of hydrogen sulfide. *Compare* Req. Reh'g 14 (citing Ex. 1003, 4:5–13, 5:50–54), *with* Pet. 38–41 (arguing obviousness of claims 7 and 8 without mentioning or citing these teachings of Foutsitzis). Nor did the Petition rely on the Examiner's findings regarding the inherent disclosure of Foutsitzis. *Compare* Req. Reh'g 14 (citing Ex. 1010, 46), *with* Pet. 38–41 (arguing obviousness of claims 7 and 8 without mentioning the prosecution history). We could not have misapprehended or overlooked these arguments or evidence because they were not presented in the Petition.

Moreover, Petitioner does not explain how the prior art disclosures regarding the removal of hydrogen sulfide suggest the subject matter of claims 7 and 8, both of which require removal of an ***organic*** contaminant. Ex. 1001, 9:47 ("removing said contaminant out of said system"); *id.* at 10:3–4 ("wherein said organic contaminant comprises . . ."). Merely

pointing out similarities among Foutsitzis, Allen, and Jansen is not enough to show a reason a POSITA would have used a method disclosed in one reference, as modified by the disclosure of another reference, to remove contaminants discussed in a third reference. Nor is pointing out similarities among the references sufficient to show a reasonable expectation of success in achieving the claimed subject matter. *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016) (To prevail, a patent challenger must show "a motivation to combine accompanied by a reasonable expectation of achieving what is claimed in the patent-at-issue.").

IV. CONCLUSION

After considering Petitioner's arguments for rehearing, we determine that Petitioner has not carried its burden of showing that we misapprehended or overlooked any matter or that the Decision denying institution of *inter partes* review was an abuse of discretion.

V. ORDER

Accordingly, it is:

ORDERED that Petitioner's request for rehearing is *denied*.

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