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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BRIAN T. HAZEL, JESSICA L. SERRA, XUAN LIU

Appeal 2018-008580¹
Application 14/993,582
Technology Center 1700

Before KAREN M. HASTINGS, CHRISTOPHER C. KENNEDY, and
DEBRA L. DENNETT, *Administrative Patent Judges*.

DENNETT, *Administrative Patent Judge*.

DECISION ON REQUEST FOR REHEARING

This is in response to a Request for Rehearing (“Req. Reh’g”), dated January 27, 2020, of our Decision, mailed November 26, 2019 (“Decision”), wherein we affirmed the Examiner’s § 103(a) rejection of claims 1, 2, 4–6, 9, 12–14, and 16–23.

¹ We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as United Technologies Corporation. Appeal Br. 1.

We have reconsidered our Decision, in light of Appellant’s comments in the Request for Rehearing, and we find no error in the disposition of the disputed § 103(a) rejection.

In a request for rehearing, an appellant is charged with stating the points believed to have been misapprehended or overlooked by the Board. 37 C.F.R. § 41.52. We review the points of the Decision contested by Appellant and determine whether we, in fact, made an error in fact finding or applying the law, and further determine whether any error changes the outcome of the Decision when viewing all the evidence and arguments anew in light of the preponderance of the evidence standard. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992) (“patentability is determined on the totality of the record, by a preponderance of evidence with due consideration to persuasiveness of argument”); *Gardner v. TEC Sys., Inc.*, 725 F.2d 1338, 1344 (Fed. Cir. 1984) (any error concerning nonessential facts is harmless and not a basis for reversal).

We have reviewed the arguments set forth by Appellant in the Request for Rehearing. We address the arguments in the order made by Appellant.

Ground 1: Rejection of claims 1, 2, 4, 17, and 20 as obvious over Kassner

Appellant contends that the Board erred in failing to consider the art as a whole, as well as Kassner as a whole, in affirming the rejection of claims 1, 2, 4, 17, and 20 over Kassner. Req. Reh’g 3. Appellant contends that the existence of two-outlet and three-outlet guns mean “there is no reason to look to the modification Kassner made and then try to partially modify it toward Appellant’s configuration.” *Id.* at 4. Appellant argues that

Kassner used an experimental set-up, modifying a three-outlet gun to use only two-outlets.

Considering the art as a whole is not merely a balancing act, where a more frequent disclosure of device A requires completely ignoring disclosure of prior art device B. Were such the case, any rejection could be readily overcome by identifying a bulk of references that disclose a device that differs from a claimed invention.

In fact, here we considered the art as a whole (including Zimmerman and Nylen), the entirety of Kassner, and Kassner's disclosure of using two outlets of a suspension plasma spray gun, the outlets being spaced 120° apart. Appellant asserts that Kassner only used the three-outlet gun because a two-outlet gun was not available. *See, e.g.*, Req. Reh'g 5, 6. However, nothing in Kassner or elsewhere in the record supports Appellant's supposition. In the instant case, Kassner discloses using two outlets, spaced 120° apart, in a suspension plasma spray gun. Thus, Kassner's disclosure reads on Appellant's claims. That Appellant can marshal other art that discloses using three outlets does not diminish what Kassner teaches. Contrary to Appellant's position, we need not seek out a reason to modify the gun that Kassner used, because Kassner teaches such modification directly, i.e., Kassner modified a three-outlet gun so that only two outlets were used, and it worked for its purpose.

Appellant's insistence that Kassner's use was experimental does not remove Kassner's disclosure from the prior art. Whether such use was experimental and necessitated by the lack of access to a two-outlet gun—and Appellant provides no evidence that it was—is irrelevant to what the reference discloses to one of ordinary skill in the art. For instance, we do

not ignore experimental results in a patent application merely because they differ from the known and conventional. Appellant provides no support for the position that experimental use is to be ignored, and we find none in the case law. In addition, Appellant seeks to limit Kassner's disclosure of using two outlets non-uniformly distributed about an axis to those in which the specific suspensions discussed by Kassner are used. *See* Req. Reh'g 5. However, "[o]ne of ordinary skill in the art need not see the identical problem addressed in a prior art reference to be motivated to apply its teachings." *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1323 (Fed. Cir. 2005).

Appellant contends that "[g]etting rid of the function of the third outlet would entail making the two remaining outlets diametrically opposite." Req. Reh'g 5. It does not, as review of Kassner demonstrates. Kassner did not (apparently) remove the third outlet, but one of ordinary skill in the art could easily have done so, motivated at least by the fact that Kassner successfully used only two of the three outlets. "Express suggestion to substitute one equivalent for another need not be present to render such substitution obvious." *In re Fout*, 675 F.2d 297, 301 (CCPA 1982).

According to Appellant, Kassner had no motivation to maintain 120° spacing between two outlets and contains no teaching of the benefits of such spacing. *See* Req. Reh'g 5–7. Given that Kassner unambiguously teaches spacing of 120° between two outlets, and using only two outlets, the necessity for Kassner to provide motivation for doing so is not apparent. Whether a two outlet gun with diametrically opposite outlets was commercially available does not alter Kassner's disclosure. The Supreme Court explains

In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective reach of the claim. If the claim extends to what is obvious, it is invalid under § 103 The first error of the Court of Appeals in this case was . . . holding that courts and patent examiners should look only to the problem the patentee was trying to solve.

KSR Int’l Co. Ltd. v. Teleflex, Inc. 550 U.S. 398, 419–420 (2007). Appellant identifies nothing that we misapprehended or overlooked in our Decision in relation to Ground 1.

Ground 2: Rejection of claims 5, 6, 9, and 12–14 as obvious over Kassner in view of Stöver, as evidenced by Correll

Appellant contends that we erred legally and factually in applying the dry particulate of Stöver to the liquid suspensions of Kassner. Req. Reh’g 9. Appellant argues that “[t]he mere presence of particles does not establish analogy between the liquid suspensions of Kassner [] and the dry particles of Stöver. *Id.* at 10.

Stöver teaches that the homogeneity of two different materials applied by plasma spraying improved where two injectors spraying different materials were separated by 10° in comparison to being opposite each other. Stöver 81. Kassner discloses suspension plasma spraying of two different suspensions of sub-micrometer particles as feedstock. Kassner Abstract, 3.2.1. Even though not spraying suspensions, Stöver supports Kassner’s teaching that two different suspensions may be applied by injectors at an angle other than 180° to each other. Stöver thus provides further evidence that that prior art is not limited two outlets in plasma spraying being diametrically opposed.

Therefore, Appellant identifies nothing that we misapprehended or overlooked in relation to Ground 2 in our Decision.

In the Request for Rehearing, Appellant makes no arguments directed to Grounds 3 through 5.

Ground 6: Rejection of claims 18–20 as obvious over Kassner in view of Hazel and VanEvery

Claims 18–20 are drawn to methods for using a plasma spray gun to apply a coating to a part comprising a nickel-based superalloy substrate (claim 18), a gas turbine engine component (claim 19), or wherein the coating is a stabilized zirconia (claim 20). Appeal Br. 23–24 (Claims App.).

In the Request for Rehearing, Appellant argues that our Decision “defeat[s] the entire purpose of Kassner [] and the examiner’s modification in switching over to the single material of Hazel to deposit a different material for a different end use.” Req. Reh’g 10. Again arguing that we ignore the art as a whole, Appellant contends that there is no reason to depart from the two-outlet prior art if only one material is applied. *Id.*

As discussed in relation to Ground 1, the art as a whole was considered. The “entire purpose of Kassner,” which is application of suspension plasma spraying, is not frustrated by application of a single material instead of two different materials via two outlets. We disagree that Kassner’s purpose is merely “reusing an existing three-outlet gun for the experimental purpose.” *See* Appeal Br. 9.

Appellant disagrees with the Decision, but fails to indicate anything that was misapprehended or overlooked.

Grounds 7 and 8: Rejection of claims 21–23 over Kassner in view of Hazel, VanEvery, and Coffee

Claims 21–23 are drawn to methods of using a plasma spray gun. Appeal Br. 24 (Claims App.). Claims 21 and 22 require a single liquid feedstock and a pair of liquid feedstock outlets. *Id.* Claim 23 requires a suspension or solution supply line branching out from the supply to a plurality of liquid feedstock outlets. *Id.*

The Examiner cites Hazel for teaching application of stabilized zirconia coatings by suspension plasma spraying, including onto gas turbine engine components and nickel base superalloys. Final Act. 12. The Examiner cites VanEvery for teaching increased coating output of suspensions by use of multiple feedstock injectors. *Id.* at 12–13.

In the Request for Rehearing, Appellant again contends that modification of Kassner to use a single source frustrates the purpose of the reference, and again argues that the art as a whole has been ignored. Req. Reh’g 11. We, again, disagree, for reasons discussed *supra*.

We characterized Coffee as reasonably pertinent to the problem of feeding one material source to multiple outlets. Dec. 21. Appellant disagrees, and would limit analogous art to “improved coating via a mechanism using outlet uneven distribution.” Req. Reh’g 12. However, the scope of analogous art is to be construed broadly. *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010) (“The Supreme Court’s decision in *KSR* [] directs us to construe the scope of analogous art broadly, stating that ‘*familiar items may have obvious uses beyond their primary purposes*, and a person of ordinary skill often will be able to fit the teachings of

multiple patents together like pieces of a puzzle.’ (emphasis added)”). Thus, Appellant fails to show any misapprehension or overlooking in the rejection.

Hazel 132 Declaration

Appellant argues that we mischaracterized the Declaration under 37 C.F.R. § 1.132 of Brian Hazel (“Hazel Declaration” or “Decl.”) in our Decision. Req. Reh’g 12–21. In essence, Appellant contends that we rely on Kassner as disclosing use of two outlets of plasma spray gun, but should, instead, ignore the reference because other art teaches diametrically opposed two outlet guns. *See id.*

The Hazel Declaration is based on the same argument of Appellant that we discuss and disagree with above, i.e., that Kassner does not teach use of two outlets in a plasma spray gun. *See generally* Decl. The Hazel Declaration focuses on Kassner using “a three-outlet gun for experimental purposes.” *Id.* at 3. According to the Hazel Declaration, “if one were designing a gun for the injection of YSZ and LSM described by Kassner [], one would not provide the two outlets at the 120° and remove the third [outlet] but rather would use a conventional diametrically opposed two-outlet configuration.” *Id.* Hazel further declares “If one is designing a gun from scratch, that design would reflect the general understanding in the art, and, therefore, likely lead to the diametric opposite injection previously discussed.” *Id.* at 4.

These opinions stand in stark contrast to the fact that Kassner used two outlets spaced at 120° in a plasma spray gun. In evaluating the totality of the record before us, the Hazel Declaration does not trump all other evidence.

Alleged new ground of rejection

Appellant contends that we made an undesignated new ground of rejection under § 102 by adopting an interpretation of Kassner that was expressly disavowed by the Examiner. Req. Reh’g 22 (citing Adv. Act. 3 and hearing transcript, 7:9–9:12). The cited portion of the hearing transcript indicates that a § 102 rejection was made and withdrawn, but Appellant indicates that the Examiner confirmed in the January 5, 2018 Advisory Action that no § 102 rejection was made. Req. Reh’g 22.

Appellant identifies the finding that “the claim encompasses the prior art” and the following paragraph in the Decision as the undesignated § 102 rejection:

Claim 1 contains the open transitional term “comprising,” which permits elements in addition to those specified to be included in the composition of the claim. . . . Claim 1 requires “a plurality” of liquid feedstock outlets to have a non-uniform distribution about the axis of the plasma outlet. . . . In light of the “comprising” language, the claim does not require *all* feedstock outlets have a non-uniform distribution to each other, merely that a plurality of feedstock outlets do.

Dec. 8–9.

We do not agree that the cited language qualifies as an undesignated new ground of rejection under 35 U.S.C. § 102 over Kassner.

No persuasive merit is present in Appellant’s arguments made in the Request for Rehearing. Thus, we decline to modify our decision to affirm the Examiner’s § 103(a) rejections of the appealed claims.

This Decision on the Request for Rehearing incorporates our Decision and is final for the purposes of judicial review. *See* 37 C.F.R. § 41.52(a)(1).

CONCLUSION

In conclusion, based on the foregoing, this Request for Rehearing is denied with respect to making changes to the final disposition of the rejections therein.

Outcome of Decision on Rehearing:

Claims	35 U.S.C §	Reference(s)/Basis	Denied	Granted
1, 2, 4, 17, 20	103(a)	Kassner	1, 2, 4, 17, 20	
5, 6, 9, 12–14	103(a)	Kassner, Stöver, Correll	5, 6, 9, 12–14	
16	103(a)	Kassner, Cotler, Vogts	16	
18, 19	103(a)	Kassner, Stöver, Correll, Mack, Gupta	18, 19	
16	103(a)	Kassner, Hazel	16	
18–20	103(a)	Kassner, Hazel, VanEvery	18–20	
21, 22	103(a)	Kassner, Hazel, VanEvery, Coffee	21, 22	
23	103(a)	Kassner, Hazel, VanEvery, Coffee	23	
Overall Outcome			1, 2, 4–6, 9, 12–14, 16–23	

Final Outcome of Appeal after Rehearing:

Claims	35 U.S.C §	Reference(s)/Basis	Affirmed	Reversed
1, 2, 4, 17, 20	103(a)	Kassner	1, 2, 4, 17, 20	
5, 6, 9, 12–14	103(a)	Kassner, Stöver, Correll	5, 6, 9, 12–14	
16	103(a)	Kassner, Cotler, Vogts	16	
18, 19	103(a)	Kassner, Stöver, Correll, Mack, Gupta	18, 19	
16	103(a)	Kassner, Hazel	16	
18–20	103(a)	Kassner, Hazel, VanEvery	18–20	
21, 22	103(a)	Kassner, Hazel, VanEvery, Coffee	21, 22	
23	103(a)	Kassner, Hazel, VanEvery, Coffee	23	
Overall Outcome			1, 2, 4–6, 9, 12–14, 16–23	

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)(v)(2010).

DENIED