

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioner,

v.

CYWEE GROUP LTD,
Patent Owner.

Case IPR2018-01258
Patent 8,441,438 B2

Before PATRICK M. BOUCHER, KAMRAN JIVANI, and
CHRISTOPHER L. OGDEN, *Administrative Patent Judges*.

OGDEN, *Administrative Patent Judge*.

DECISION

Denying Patent Owner's Request for Rehearing
37 C.F.R. § 42.71(c)–(d)

I. INTRODUCTION

Cywee Group Ltd. (“Patent Owner”) submits a request for rehearing (“Rehearing Request” or “Reh’g Req.,” Paper 9), of our decision dated December 11, 2018 (“Decision,” Paper 7), instituting *inter partes* review of claims 1 and 3–5 of U.S. Patent No. 8,441,438 B2 (“the ’438 patent,” Ex. 1001). Previously, we denied Petitioner’s request to file an opposition to the Rehearing Request. Paper 10.

When a party requests rehearing on a decision instituting *inter partes* review, we “review the decision for an abuse of discretion.” 37 C.F.R. § 42.71(c). There is an abuse of discretion if we have made “a clear error of judgment in weighing relevant factors or in basing [our] decision on an error of law or on clearly erroneous factual findings.” *Bayer CropScience AG v. Dow AgroSciences LLC*, 851 F.3d 1302, 1306 (Fed. Cir. 2017) (quoting *Mentor Graphics Corp. v. Quickturn Design Sys., Inc.*, 150 F.3d 1374, 1377 (Fed. Cir. 1998)). In a request for rehearing, “[t]he burden of showing a decision should be modified lies with the party challenging the decision,” and “[t]he request must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed” in the record. 37 C.F.R. § 42.71(d).

Patent Owner argues (1) that Bachmann cannot be considered analogous art in view of our construction of the term *3D pointing device*, Reh’g Req. 4–11; (2) that we erred in our construction of the term *comparison*, *id.* at 11–13; and (3) that we misapprehended the level of ordinary skill in the art, *id.* at 13–15. For the following reasons, Patent Owner’s arguments do not persuade us of any abuse of discretion in our Decision, and we therefore deny the Rehearing Request.

II. DISCUSSION

A. WHETHER WE CLEARLY ERRED IN OUR PRELIMINARY FINDING THAT BACHMANN IS ANALOGOUS ART IN VIEW OF OUR CONSTRUCTION OF *3D POINTING DEVICE*

The claims at issue are directed to a “3D pointing device.” *See* Ex. 1001, 18:54, 58, 65, 19:1–2, 17, 33, 34, 42. In our Decision, we adopted Patent Owner’s proposed construction of the term *3D pointing device*: “a device capable of sensing movement and orientation in three dimensions to point out or control actions on a display.”¹ Decision 16. We also found that the preliminary record supported Petitioner’s contention that Bachmann is an analogous reference. We based our preliminary finding on alternative bases: (1) Bachmann is within the field of the inventor’s endeavor, and (2) Bachmann is “reasonably pertinent to the particular problem with which the inventor is involved.” Decision 26–28. Noting that our construction of *3D pointing device* references a capability “to control actions on a display,” Patent Owner argues that we erred in concluding Bachmann is within the same field of endeavor, because the reference “in no way addresses the problem of translating its detected motions to control a display.” Reh’g Req. 5 (citing Ex. 2001 ¶ 71).

Our preliminary determination that Bachmann is analogous art is a factual issue, which we do not disturb on rehearing unless it was clearly erroneous. *See In re Paulsen*, 30 F.3d 1475, 1481 (Fed. Cir. 1994). Based on

¹ According to Patent Owner, after it filed its Preliminary Response, *3D pointing device* was construed in several related proceedings. Reh’g Req. 11. Patent Owner urges us to adopt the construction in *Cywee Group Ltd. v. Motorola Mobility LLC*, No. 17-780-RGA, Doc. 55 at 7 (D. Del. Dec. 21, 2018), which clarifies that it is a “handheld” device.

the preliminary record, we found that the field of the claimed invention is broader than “3D pointing devices,” and that it is at least part of, and consistent with, the field of endeavor described by Bachmann: “methods and apparatus for tracking the orientation . . . of an object.” *Id.* at 27 (omission in original) (citing Ex. 1004, 1:18–20). While Patent Owner substantially reiterates its arguments from the Preliminary Response, *see* Reh’g Req. 5–7, Patent Owner does not point to any specific evidence in the preliminary record that we have misapprehended or overlooked, which would indicate our interpretation of the relevant field of endeavor is clearly erroneous.

Patent Owner also disputes that Bachmann logically would have commended itself to the inventor’s attention in considering the problem addressed by the ’448 patent. Reh’g Req. 7. We found that the preliminary record shows Bachmann is reasonably pertinent to the problem—addressed by claims 1 and 3–5 of the ’438 patent—of tracking the orientation of a hand-held device. Decision 27–28. Without disputing this, Patent Owner argues that we have misidentified the *particular* problem addressed in the ’438 patent. Reh’g Req. 7. According to Patent Owner, this problem is “mapping the movement and rotation of a 3D pointing device to more precisely control a display.” *Id.*

Patent Owner does not point to any specific evidence, previously presented to us, showing that we clearly erred by not adopting Patent Owner’s interpretation of the problem addressed by the ’438 patent.² While

² Patent Owner also argues that neither we nor Petitioner has presented substantial evidence that Bachmann is reasonably pertinent to the problem of more precisely controlling or pointing at a display. Reh’g Req. 8–10 (attaching Appendix A as supporting evidence). Because we disagree that we have clearly misidentified the particular problem addressed by claims 1 and

the 3D pointing device recited in claims 1 and 3–5 would be *capable* of being used for pointing out or controlling actions on a display, the challenged claims themselves do not appear to recite a display, or any hardware directed specifically to controlling a display. Moreover, the bulk of the '438 patent disclosure is concerned with determining the changes in the orientation of the 3D pointing device, rather than with the geometrical task of mapping those determined angles onto a two-dimensional display. *Compare, e.g.*, Ex. 1001, 10:42–15:26 (five columns of description for determining yaw, pitch, and roll angles of a 3D pointing device, with reference to Figure 7), *with* 16:17–17:40 (two columns describing the geometry of mapping to a display, with reference to Figure 9).

For the above reasons, Patent Owner does not persuade us that our preliminary determination that Bachmann is analogous art is clearly erroneous.

B. WHETHER WE ERRED IN CONSTRUING *COMPARISON*.

Claim 1 recites “utilizing a *comparison* to compare the first signal set with the second signal set whereby said resultant angles . . . are obtained under said dynamic environments.” Ex. 1001, 19:12–17 (emphasis added). We construed the term *comparison* as the '438 patent explicitly defines it: “the calculating and obtaining of the actual deviation angles of the 3D pointing device . . . with respect to the first reference frame or spatial

3–5 of the '438 patent, we need not address whether or not Bachmann is pertinent to the *different* problem that Patent Owner defines. Further, we do not consider the evidence in Appendix A, because Patent Owner does not point to any place where this evidence was addressed in the preliminary record. *See* 37 C.F.R. 42.71(d).

pointing frame X_P Y_P Z_P utilizing signals generated by motion sensors while reducing or eliminating noises associated with said motion sensors.”

Decision 14 (quoting *id.* at 2:28–32). We also determined that the ’438 patent uses the term consistently with that broad definition—for example, to describe a program or model for updating a state based on a previous state and a measured state. *Id.* at 13–14.

Claim construction is a legal question that may be based on underlying questions of fact. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837 (2015). Patent Owner alleges that we erred in construing *comparison* because our construction “improperly reads on limitations from the specification.” Reh’g Req. 12. Patent Owner does not dispute that the ’438 patent explicitly defines *comparison* generally, but argues that this definition “does not state or imply that an actual comparison does not occur.” *Id.* Because the ’438 patent “does not provide the whole story,” Patent Owner argues that a person of ordinary skill in the art would have interpreted the term to mean “a specific calculation that performs an actual comparison, such as considering two or more signals (or values based on those signals) to assess the difference between the values and implement the device.” *Id.* at 12–13 (citing Ex. 2001 ¶ 59); *see also* Paper 6, 16 (Patent Owner’s similar formulation in its Preliminary Response).

We agree that the explicit definition of *comparison* in the ’438 patent is in general terms that do not preclude a comparison in the narrower sense that Patent Owner advocates. However, the generality of the patent’s explicit definition is consistent with it being the broadest reasonable interpretation. Patent Owner does not point to any specific evidence, that we have

misapprehended or overlooked, that would have led us to conclude otherwise.

C. WHETHER WE CLEARLY ERRED BY MISAPPREHENDING THE
LEVEL OF ORDINARY SKILL IN THE ART

Determining the level of ordinary skill in the art is one of the factual inquiries underpinning the legal conclusion of obviousness. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1354 (Fed. Cir. 2001) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966)). On the preliminary record, we determined that a person of ordinary skill in the art would have had, among other things, “knowledge of . . . quaternion mechanics.” Decision 19.

Patent Owner argues that we misapprehended the level of ordinary skill in the art “by conflating that ‘quaternion mathematics was well known in the relevant time frame’ with the issue of whether the *application* of quaternion mathematics was well known in the art of 3D pointing devices.” Reh’g Req. 13. Based on the evidence in the preliminary record, we disagree. Even if, prior to reading Bachmann, a person of ordinary skill in the art lacked specific knowledge of the *application* of quaternions, Bachmann shows how to apply quaternions to a tracking problem analogous to that addressed by claims 1 and 3–5 of the ’438 patent. *See, e.g.*, Ex. 1004, 7:24–13:32. Thus, we considered not only the isolated question of whether a person of ordinary skill would have known quaternion mathematics, but also whether, in view of Bachmann, such a hypothetical person would have been able to use quaternions for tracking the orientation of objects.³

³ We disagree with Patent Owner’s argument that intrinsic evidence associated with the ’438 patent contradicts our articulation of the level of ordinary skill in the art. Reh’g Req. 14. Patent Owner refers to the

We conclude that we did not misapprehend or overlook Patent Owner's argument that the level of skill in the art would have excluded knowledge of quaternion mathematics.

III. ORDER

In consideration of the foregoing, it is hereby
ORDERED that Patent Owner's Rehearing Request is *denied*.

examiner's consideration of Liberty (US 7,158,118 B2, Ex. 1006) during prosecution, and asserts that "*Liberty* was directed to a five-axis pointing device, and improved on and issued over *Zhang* (Ex. 1005), a four-axis pointing device." *Id.* Recognizing that Liberty uses quaternion mathematics, Patent Owner asserts that a person of skill in the art "reading these references would have understood adding a sensor to *Zhang*'s four-axis device using quaternion mathematics did not equal *Liberty*'s five-axis device." *Id.* If anything, Patent Owner's recognition that Liberty uses quaternion mathematics weakens its argument, because the '438 patent discusses Liberty extensively as relevant background for the invention. *See* Ex. 1001, 2:38–4:2.

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