

**United States Court of Appeals
for the Federal Circuit**

FANDUEL, INC.,
Appellant

v.

INTERACTIVE GAMES LLC,
Appellee

2019-1393

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-01491.

Decided: July 29, 2020

ERIC ALLAN BURESH, Erise IP, P.A., Overland Park, KS, argued for appellant. Also represented by MEGAN JOANNA REDMOND.

JAMES R. BARNEY, Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, Washington, DC, argued for appellee. Also represented by SCOTT A. ALLEN, JOSHUA GOLDBERG, ROBERT SHAFFER.

Before DYK, MOORE, and HUGHES, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* HUGHES.

Opinion concurring in part and dissenting in part filed by
Circuit Judge DYK.

HUGHES, *Circuit Judge*.

This is a patent case involving a system for remote gambling. FanDuel, Inc., appeals the final written decision of the Patent Trial and Appeal Board in an inter partes review of claims 1, 6–9, and 19 of U.S. Patent No. 8,771,058, which found unpatentable all challenged claims except claim 6. *FanDuel, Inc. v. Interactive Games LLC*, No. IPR2017-01491, 2018 WL 6112966 (P.T.A.B. Nov. 20, 2018) (*Board Decision*). The Board found that FanDuel, as petitioner, had failed to prove that claim 6 was obvious in view of the asserted prior art. On appeal, FanDuel argues that the Board violated the Administrative Procedure Act by basing this finding on obviousness issues that the patent owner did not raise in its responses. FanDuel also challenges the Board’s factual findings regarding claim 6. Because the Board complied with the APA and its obviousness findings are supported by substantial evidence, we affirm.

I

A

Appellee Interactive Games LLC owns the ’058 patent, which describes a gaming system wherein a gaming service provider—such as a casino—wirelessly communicates with users’ mobile devices, allowing them to gamble remotely. The gaming system stores rules to determine the “game configuration” based on the location of a user’s “mobile gaming device.” ’058 patent col. 6 ll. 16–19, col. 12 ll. 15–17. The specification explains that the gaming system associates different gaming configurations with different locations by using a “lookup table” that

may include an ordered list of locations. For example, locations may be listed from East to West, in

alphabetical order, or in any other fashion. Associated with each location may be one or more game configurations. The [casino's gaming system] may receive an indication from a mobile gaming device that the mobile gaming device has moved to a new location. . . . [and, after] look[ing] up the new location in its lookup table[,] . . . may determine an associated game configuration. . . . [that is then transmitted] to the mobile gaming device.

'058 patent col. 12 ll. 18–28. Independent claim 1, which is not at issue in this appeal, generally describes altering a user's "game outcome" based on the gaming configuration associated with the location of the user's mobile gaming device. *Id.* col. 60 ll. 1–28.

Claim 6, which depends from claim 1, describes the gaming system's use of the look-up table when associating game configurations with locations:

6. The method of [claim] 1, in which determining the first game configuration includes:

accessing a lookup table which contains an ordered list of locations and associated game configurations;

finding within the lookup table the first location;
and

determining that the first game configuration is associated with the first location.

Id. col. 60 ll. 45–51 (emphasis added).

B

FanDuel petitioned for inter partes review (IPR) of the '058 patent on several grounds of obviousness. As relevant to this appeal, FanDuel challenged claim 6's validity based on the combination of three references: U.S. Patent App. Pub. 2002/0147049 (Carter); U.S. Patent App.

Pub. 2004/0005919 (Walker); and an archived copy of a webpage (the Slot Payouts Webpage).

Carter describes a “location[-]based mobile wagering system” “capable of determining a gambler[']s location and, thereby restrict[ing] access to the gaming controller based on the gambling laws where the gambler is located.” Carter, title, ¶ 0010. To perform this function, Carter’s system uses a “database” that may “contain distinct location information correlative to the physical location of [a] gaming unit and the gaming opportunities permitted in the jurisdiction in which the unit is located.” *Id.* ¶ 0031 (numerical identifiers omitted). The database is maintained on a server and contains “jurisdictional profile[s] (e.g., jurisdictionally permitted gaming opportunities).” *Id.* ¶¶ 0012, 0037. Carter states that this system “may employ various integrated circuit (IC) components,” such as “memory elements, processing elements, logic elements, **look-up tables**, and the like, which may carry out a variety of functions.” *Id.* ¶ 0020 (emphasis added).

Walker describes a “method and apparatus for enabling a player to select features on a gaming device,” where enabled features are stored in a “database.” Walker, title, ¶ 0116. Walker describes various “predetermined conditions” that can be required for enabling certain features. *Id.* ¶¶ 0107, 0124–0125, 0269–0289. One example Walker gives of a predetermined condition is the “location or jurisdiction of a casino (e.g., a feature may be disabled within a first geographic region, such as the state of Nevada, but enabled within a second geographic region, such as an American Indian reservation in the state of Arizona).” *Id.* ¶ 0284; *see also id.* ¶ 0264 (adjusting features based on a player’s location within a casino).

Finally, the Slot Payouts Webpage is an archived copy of a webpage titled “Slot Payouts by Casino / City / State.” J.A. 3623. The webpage displays a chart of slot payout percentages for casinos and cities around the United States.

The chart is organized alphabetically by state, with the various cities, regions, and casinos appearing in alphabetical order beneath each state.

C

The dispute here centers on whether the combination of these three references renders obvious claim 6's limitation of determining the "game configuration" by "accessing *a lookup table* which contains an *ordered list* of locations and associated game configurations." '058 patent col. 60 ll. 45–48 (emphasis added).

In its IPR petition, FanDuel challenged claim 6 as obvious over Carter, Walker, and the Slot Payouts Webpage. Specifically, FanDuel argued that (1) Carter, either alone or in combination with Walker, teaches a look-up table of locations and associated game configurations, and (2) it would have been obvious to "store Carter's jurisdictional profiles in a look-up table including an ordered list of locations and associated jurisdictional information." J.A. 2050–51. Relying on the opinion of its expert, Mr. Kitchen, FanDuel asserted that it would have been "an obvious design choice" to store Carter's jurisdictional profiles in alphabetical order—as taught in the chart on the Slot Payouts Webpage—noting that "ordered lists were extremely well-known as a way to organize information for many years prior to the '058 patent." J.A. 2050–51 (quoting Ex. 1011 ¶¶ 117–18 (Declaration of Mr. Garry Kitchen)).

In its preliminary patent owner response, Interactive Games argued against instituting as to claim 6 for the same reasons that it argued against instituting as to its parent claim 1. J.A. 2133. But the only argument Interactive Games put forth defending the validity of claim 6's unique "lookup table" and "ordered list" limitations was that the Slot Payouts Webpage did not qualify as prior art to the '058 patent. J.A. 2133–42.

The Board instituted IPR for all the challenged claims on some of the asserted grounds. *FanDuel, Inc. v. Interactive Games LLC*, No. IPR2017-01491, 2017 WL 6206134, at *1 (P.T.A.B. Nov. 22, 2017) (*Institution Decision*). The Board found enough evidence to institute as to claim 6, rejecting—for purposes of its institution decision only—Interactive Games’s evidentiary arguments against accepting the Slot Payouts Webpage as prior art. *Institution Decision* at *9–11 (finding that FanDuel demonstrated “a reasonable likelihood of prevailing” on its challenge that claim 6 was obvious over Carter, Walker, and the Slot Payouts Webpage).

Following institution, Interactive Games submitted a patent owner response. As in its preliminary response, Interactive Games’s only argument specific to claim 6 was that claim 6 could not be obvious over any combination including the Slot Payouts Webpage, because it was not prior art. Interactive Games also submitted an expert declaration, but it did not rely on that declaration to rebut FanDuel’s arguments and evidence specific to claim 6. FanDuel then filed a reply. As to the obviousness of claim 6, FanDuel’s reply argued exclusively that the Board should maintain its institution decision view that the Slot Payouts Webpage is prior art.¹

¹ After FanDuel filed its reply, the Board modified its institution decision to comply with *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018). The parties filed supplemental papers on the initially non-instituted grounds, one of which challenged claim 6 as obvious over the Slot Payouts Webpage in combination with two different references. In its final written decision, the Board concluded that FanDuel did not establish the unpatentability of claim 6 on this additional ground, *Board Decision* at *20, and FanDuel has not appealed that determination.

The Board issued a final written decision finding claims 1, 7–9, and 19 unpatentable but upholding the patentability of claim 6. *Board Decision* at *1. The Board found that FanDuel failed to prove claim 6 obvious in view of Carter, Walker, and the Slot Payouts Webpage. *Board Decision* at *18.

In rejecting FanDuel’s obviousness challenge to claim 6, the Board first disagreed with FanDuel’s contention that Carter discloses “jurisdictional profiles being stored in a database employing look-up tables.” *Id.* at *17. In the Board’s view, Carter only generally references look-up tables as one of many components that might carry out a variety of functions and does not disclose specifically using a look-up table to correlate location information with jurisdictionally permitted gaming opportunities, as recited in claim 6. *Id.* (citing Carter ¶¶ 0020, 0031). And FanDuel had not explained why it would have been obvious to use a look-up table for this specific function. *Id.*

As to motivation to combine, the Board rejected as conclusory FanDuel’s sole explanation that it would be an “obvious design choice” to apply the alphabetically “ordered list” of the Slot Payouts Webpage to organize Carter’s jurisdictional profiles. *Id.* The Board concluded that FanDuel, again, did not offer “any reason(s) why it would have been beneficial to organize Carter’s database of jurisdictional profiles in alphabetical order,” given that “the Slot Payouts Webpage is meant for human reading and understanding, not for use by a machine such as Carter’s gaming system.” *Id.* at *18. The final written decision did not discuss the earlier debated question of whether the Slot Payouts Webpage qualified as prior art.

FanDuel appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A) and 35 U.S.C. § 141(c).

II

We begin with FanDuel’s procedural challenge that the Board violated the Administrative Procedure Act (APA). We then address the challenge to the Board’s factual findings.

A

“As formal administrative adjudications, IPRs are subject to the APA.” *Hamilton Beach Brands, Inc. v. Freal Foods, LLC*, 908 F.3d 1328, 1338 (Fed. Cir. 2018) (citing *Dell Inc. v. Accelaron, LLC*, 818 F.3d 1293, 1298, 1301 (Fed. Cir. 2016)). The APA requires that we, as the reviewing court, “hold unlawful and set aside agency action . . . not in accordance with law [or] . . . without observance of procedure required by law.” 5 U.S.C. § 706(2). We review de novo whether the Board’s procedures satisfy the APA. *Sirona Dental Sys. GmbH v. Institut Straumann AG*, 892 F.3d 1349, 1352 (Fed. Cir. 2018).

To comply with the APA in an IPR proceeding, the Board must “timely inform[]” the parties of “the matters of fact and law asserted,” 5 U.S.C. § 554(b)(3); it must give the parties an opportunity to submit facts and arguments for consideration, *id.* § 554(c); and it must permit each party to present oral and documentary evidence in support of its case or defense, as well as rebuttal evidence, *id.* § 556(d). See *Hamilton Beach Brands*, 908 F.3d at 1338; *Rovalma, S.A. v. Bohler-Edelstahl GmbH & Co. KG*, 856 F.3d 1019, 1029 (Fed. Cir. 2017); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1080 (Fed. Cir. 2015). “Pursuant to these provisions, the Board may not change theories midstream without giving the parties reasonable notice of its change.” *Hamilton Beach Brands*, 908 F.3d at 1338 (citing *Belden*, 805 F.3d at 1080 (interpreting § 554(b)(3) in the context of IPR proceedings)).

FanDuel argues that the Board violated this maxim by adopting in its final written decision a “new theory”—that

the combination of Walker, Carter, and the Slot Payouts Webpage failed to disclose jurisdictional profiles stored in a database employing look-up tables including an ordered list—which the patent owner never raised during the proceeding, having only contested the prior art status of the Slot Payouts Webpage. Appellant’s Br. 4. Because the Board found sufficient evidence to institute, and there was no further record development on the claim 6 limitations the Board addressed in its final written decision—with the parties exclusively focusing on whether the Slot Payouts Webpage qualified as prior art—FanDuel asserts that it was entitled to notice and an opportunity to respond before the Board rejected its obviousness challenge based on insufficient disclosure in the asserted references.

“The critical question for compliance with the APA and due process is whether [the appellant] received ‘adequate notice of the issues that would be considered, and ultimately resolved, at that hearing.’” *Genzyme Therapeutic Prods. Ltd. P’ship v. Biomarin Pharm. Inc.*, 825 F.3d 1360, 1367 (Fed. Cir. 2016) (quoting *Pub. Serv. Comm’n of Ky. v. FERC*, 397 F.3d 1004, 1012 (D.C. Cir. 2005) (Roberts, J.)). See also *Nike, Inc. v. Adidas AG*, 955 F.3d 45, 54 (Fed. Cir. 2020). FanDuel’s argument that it lacked notice that the Board might address and reject the obviousness arguments made in FanDuel’s own petition strains credulity.

Initially, we fail to see how the Board “change[d] theories” at all in this case. By finding at institution that FanDuel had a reasonable likelihood of succeeding in its obviousness challenge to claim 6, despite one reference’s contested prior art status, the Board was not adopting a position on the ultimate import of the three references. The Board said nothing in its institution decision endorsing FanDuel’s arguments that Carter and Walker combined to teach a look-up table, or that it would have been obvious to organize that look-up table as an ordered list such that later rejecting these arguments would have been a change in theory. We therefore see little benefit in

comparing this case to those in which the Board at institution expressly adopted one claim construction and then adopted a materially different claim construction in its final written decision without giving the parties notice and an opportunity to respond. *See, e.g., SAS Inst., Inc. v. ComplementSoft, LLC*, 825 F.3d 1341, 1346, 1351 (Fed. Cir. 2016) (identifying an APA violation where parties did not dispute the claim construction the Board adopted at institution but the Board adopted a significantly different claim construction in its final written decision without any further discussion or briefing), *rev'd on other grounds, SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348 (2018).

At institution, the Board focused its decision on the prior art status issue and—without discussion—found the three references asserted against claim 6 sufficient to institute. In its final written decision, the Board substantively analyzed the three asserted references and found them insufficient to render claim 6 obvious, without addressing whether the Slot Payouts Webpage was prior art.

To the extent the Board changed theories by doing so, the Board was not required to first notify the parties in this case for two somewhat overlapping reasons. First, the different standards of proof required to institute versus to invalidate permit the Board to adopt different views of the sufficiency of a petitioner's asserted obviousness arguments in its initial versus final decisions without first alerting the parties to that possibility. At institution, the Board need only find a reasonable likelihood that a petitioner will succeed; whereas, the petitioner must ultimately prove invalidity by a preponderance of the evidence. *Compare* 35 U.S.C. § 314(a) (IPR may not be instituted unless “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition”), *with id.* § 316(e) (“In an [IPR] . . . , the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.”); *see In re Magnum Oil Tools Int'l, Ltd.*, 829 F.3d

1364, 1376 (Fed. Cir. 2016) (“[T]he decision to institute and the final written decision are ‘two very different analyses,’ and each applies a ‘qualitatively different standard.’” (quoting *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016))).

There is nothing inherently inconsistent about the Board instituting IPR on obviousness grounds and then ultimately finding that the petitioner did not provide preponderant evidence that the challenged claim was obvious. This happens with some frequency. Indeed, we have encouraged the Board to “change its view of the merits after further development of the record, . . . if convinced its initial inclinations were wrong.” *TriVascular*, 812 F.3d at 1068; see *Magnum Oil*, 829 F.3d at 1377 (“[T]he Board has an obligation to assess the question anew after trial based on the totality of the record.”). FanDuel does not argue that the Board is bound by its institution decision findings, but it contends, based on this statement from *Trivascular*, that some further record development on a given issue must occur post-institution in order for the Board to change its view.

TriVascular cannot be read so narrowly. For one thing, the court in *TriVascular* was not reviewing an IPR proceeding that lacked record development. After institution in that case, both parties submitted expert reports regarding the petitioner’s obviousness challenge. *TriVascular*, 812 F.3d at 1060. Our statements regarding the added benefits the Board might gain from a fully developed record post-institution simply reflected the circumstances of that case. See *id.* at 1068 (explaining that at institution the Board is considering matters “preliminarily without the benefit of a full record” and remains “free to change its view of the merits after further development of the record”). We did not thereby announce a condition precedent that the Board can *only* change its view of the record when additional argument or evidence relevant to that change is added after institution.

But the main reason to reject FanDuel’s interpretation of *TriVascular* dovetails with our second overall reason for rejecting FanDuel’s APA challenge: that the burden of proving invalidity in an IPR remains on the petitioner throughout the proceeding. 35 U.S.C. § 316(e) (stating that “the petitioner shall have the burden of proving a proposition of unpatentability”); see *Magnum Oil*, 829 F.3d at 1375 (stating that the petitioner bears the burden to prove unpatentable the challenged claims); see also *Worlds Inc. v. Bungie, Inc.*, 903 F.3d 1237, 1242 (Fed. Cir. 2018) (“[B]ecause the IPR petitioner is the party seeking an order from the Board, § 556(d) [of the APA] requires the petitioner to bear the burden of persuasion.”).

Here, FanDuel specifically asserted in its petition that, as to claim 6, it would have been obvious to “include Walker’s location-specific features in Carter’s jurisdictional profiles,” and to “store Carter’s jurisdictional profiles in a look-up table including an ordered list of locations and associated jurisdictional information.” J.A. 2049–51. FanDuel supported these assertions with citations to Dr. Kitchen’s expert opinion to the same effect and cited various disclosures within the references. Requiring further post-institution record development on whether these references indeed rendered claim 6 obvious in order for the Board to reach that question in its final decision would effectively and impermissibly shift the burden to the patent owner to defend its claim’s patentability. See *Magnum Oil*, 829 F.3d at 1376 (“[I]t is inappropriate to shift the burden to the patentee after institution to prove that the patent is patentable.”); *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (“In an inter partes review, the burden of persuasion is on the petitioner to prove ‘unpatentability by a preponderance of the evidence,’ 35 U.S.C. § 316(e), and that burden never shifts to the patentee.”).

In *Magnum Oil*, we soundly rejected the idea of shifting even the burden of *production* from the petitioner to the

patent owner once the Board institutes an IPR where “the patentee’s position is that the patent challenger failed to meet *its* burden of proving obviousness.” 829 F.3d at 1375–76. “Where, as here, the only question presented is whether due consideration of the four *Graham* [obviousness] factors renders a claim or claims obvious, no burden shifts from the patent challenger to the patentee” upon institution. *Id.* at 1376. We therefore reject FanDuel’s suggestion that the patent owner’s failure to put forth rebuttal evidence regarding the substance of the references’ disclosures in any way limited the Board’s ability to decide for itself what the references would teach or suggest to a person of skill in the art. *See Rovalma*, 856 F.3d at 1027 (noting that the Board is not “preclude[d] . . . from relying on arguments made by a party and doing its job, as adjudicator, of drawing its own inferences and conclusions from those arguments”).

Further confirming that the burden cannot shift to the patentee post institution, the IPR regulations do not require a patent owner to submit *any* response to the petition, either before or after institution. 37 C.F.R. §§ 42.107(a) (pre-institution, “[t]he patent owner *may* file a preliminary response to the petition” (emphasis added)), 42.120(a) (post-institution, “[a] patent owner *may* file a response to the petition” (emphasis added)); *Magnum Oil*, 829 F.3d at 1376 n.1 (“[T]he patent owner is not required to use its opportunity under the regulations to file a patent owner response”); *see also E.I. DuPont de Nemours & Co. v. Synvina C.V.*, 904 F.3d 996, 1008 (Fed. Cir. 2018) (“[A] patentee technically has no ‘burden’ to do anything to defend the validity of its patent other than hold the patent challenger to its own burden of persuasion”).

FanDuel ignores these fundamental principles when it argues that the Board erred by deciding obviousness issues not “raised” at any time by the patent owner, Interactive Games. Appellant’s Br. 5. As we have just discussed, a patent owner carries no obligation to raise any objection to

the petitioner's challenges at all. *E.I. DuPont*, 904 F.3d at 1008; *Magnum Oil*, 829 F.3d at 1376 n.1. Thus, a patent owner's response, alone, does not define the universe of issues the Board may address in its final written decision. Rather, in an IPR, "the *petitioner's* contentions . . . define the scope of the litigation all the way from institution through to conclusion." *SAS Inst.*, 138 S. Ct. at 1357 (emphasis added). And a patent owner response ordinarily does not narrow the range of issues previously made available to the Board in the petition. *But see, e.g., SAS Inst.*, 825 F.3d at 1351 (where the patent owner response did not contest the Board's institution decision claim construction, the Board violated the APA by adopting in its final written decision a materially different claim construction without giving the parties an opportunity to present arguments based on that claim construction).

FanDuel argues that because the patent owner's response regarding the patentability of claim 6 only argued that the Slot Payouts Webpage was not prior art, and because that was the only issue specific to claim 6 that the Board addressed in its institution decision, the prior art status of claim 6 "was the sole issue . . . throughout the IPR proceeding and trial." Appellant's Br. 4. That is not so. In fact, the "sole issue" throughout the Board proceedings was whether FanDuel proved its theory as to how Carter, Walker, and the Slot Payouts Webpage combined to make claim 6 obvious. This central question remained, regardless what aspects of that issue the patent owner and the Board chose to address in their respective response and initial decision. From the moment FanDuel filed its petition, it was on notice that the Board would decide whether those references taught what FanDuel claimed they taught. That is exactly what the Board ultimately did. No APA violation results from such a course.

The Board's actions in this case do not raise the types of concerns that have led us to identify APA violations in previous cases. For instance, the Board here did not come

up with its own novel theory of (non)obviousness. *Cf. Sirona*, 892 F.3d at 1356 (holding that it would be improper “for the Board to deviate from the grounds in the petition and raise its own obviousness theory”). Rather, in accordance with the APA, it assessed the sufficiency of the very obviousness theory FanDuel asserted in its petition. *See Magnum Oil*, 829 F.3d at 1381 (“[T]he Board must base its decision on arguments that were advanced by a party, and to which the opposing party was given a chance to respond.”). Nor did the Board resort to cherry-picking from unaddressed portions of the record to reject FanDuel’s patentability challenge to claim 6. *Cf. Rovalma*, 856 F.3d at 1029 (“The Board’s procedural obligations are not satisfied merely because a particular fact might be found somewhere amidst the evidence submitted by the parties, without attention being called to it so as to provide adequate notice and an adequate opportunity to be heard.” (citing *In re NuVasive, Inc.*, 841 F.3d 966, 971 (Fed. Cir. 2016))). It relied on precisely those portions of the three asserted references on which FanDuel’s petition relied.

The Board’s purported new theory in this case was merely an assessment of the arguments and evidence FanDuel put forth in its petition. The APA does not require the Board to alert a petitioner that it may find the asserted theory of obviousness lacking in evidence before it actually does so in a final written decision. Nor is a petitioner entitled to a pre-decision opportunity to disagree with the Board’s assessment of its arguments. The time to disagree with that assessment comes *after* the final decision has issued, in a request for Board rehearing or an appeal to this court.

B

We turn now to FanDuel’s challenge to the substance of the Board’s final written decision. “Whether a claimed invention would have been obvious is a question of law, based on factual determinations regarding the scope and

content of the prior art, differences between the prior art and claims at issue, the level of ordinary skill in the pertinent art, [and] the motivations to modify or combine prior art . . .” *Belden*, 805 F.3d at 1073. We review the Board’s legal decisions de novo and its factual determinations for substantial evidence. *Id.* Substantial evidence “means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Consol. Edison Co. v. N.L.R.B.*, 305 U.S. 197, 217 (1938).

FanDuel argues that substantial evidence does not support the decision to sustain the patentability of claim 6. Particularly, FanDuel contends that Carter explicitly teaches the general use of look-up tables and that, as explained by Mr. Kitchen, a person of ordinary skill in the art at the time of the invention would have understood that this use of look-up tables would apply to Carter’s gaming configurations. FanDuel argues that in reaching the contrary conclusion, the Board did not give appropriate deference to Mr. Kitchen’s un rebutted opinion and impermissibly ignored his explanation that ordered lists were extremely well-known methods of organization long before the ’058 patent.

We are not persuaded. The Board properly considered the record in its entirety, including Mr. Kitchen’s declaration, before finding that FanDuel had not met its burden. *Board Decision* at *16–18. As FanDuel acknowledges, Carter only teaches the general use of look-up tables. The Board’s final written decision repeatedly cites the paragraph containing Mr. Kitchen’s opinion that look-up tables were very well-known, but it reasonably found that FanDuel had not provided sufficient evidence for why a person of skill would be motivated to add a look-up table (such as the chart included on the Slot Payouts Webpage) to correlate location information with game configurations. The Board reasonably identified a gap between the concept of a look-up table being well-known and the beneficial application of that concept to Carter’s gaming system. It

substantiated that evidentiary gap by noting that it was unclear how a machine-based, automated gaming system like Carter's would benefit from an alphabetized look-up table like the Slot Payouts Webpage chart designed to allow a human reader to locate information of interest. *See Board Decision* at *18. And it reasonably found that simply calling the addition of a look-up table “an obvious design choice” did not fill that gap. Thus, substantial evidence supports the Board's rejection of FanDuel's obviousness challenge to claim 6 of the '058 patent.

Finally, there is no merit to FanDuel's suggestion that the Board was somehow obligated to defer to Mr. Kitchen's expert opinion of claim 6's unpatentability just because the patent owner in this case did not supply opposing expert guidance. As mentioned in discussing the APA challenge, it is the Board's duty to independently assess the strength of a petitioner's argument and evidence. *Rovalma*, 856 F.3d at 1027. While the Board may appreciate receiving expert opinion from both sides to help it do so, no expert submissions are required. *See Belden*, 805 F.3d at 1079 (Fed. Cir. 2015) (“No rule requires . . . an expert guiding the Board as to how it should read prior art.”); *VirnetX Inc. v. Apple Inc.*, 665 F. App'x 880, 884–85, 889 (Fed. Cir. 2016) (interpreting *Belden* as holding that the “PTAB may make factual findings absent expert testimony”). Indeed, “Board members, because of expertise, may more often find it easier to understand and soundly explain the teachings and suggestions of prior art without expert assistance.” *Belden*, 805 F.3d at 1079.

Certainly, the Board cannot “simply reach conclusions based on its own understanding or experience—or on its assessment of what would be basic knowledge or common sense.” *In re Zurko*, 258 F.3d 1379, 1386 (Fed. Cir. 2001) (reversing the Board's affirmance of an examiner's obviousness rejection where the Board failed to identify “concrete evidence in the record” supporting its findings). And what the Board can find without an expert depends on the prior

art involved in the case. *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309, 1320 (Fed. Cir. 2016). But in every case, it remains the Board's essential function to make factual findings based on its view of the record. Here, the Board found as a factual matter that, even with Mr. Kitchen's explanation that ordered lists were well-known, there was insufficient evidence that a person of skill would include such lists in Carter's jurisdictional profiles. The Board explained its reasons for disagreeing with Mr. Kitchen's opinion, pointing to specific passages in Carter that detracted from his position. There was no need for the Board to rely on an expert to corroborate its reading of the asserted disclosures.

III

We have considered FanDuel's remaining arguments and find them unpersuasive. For the foregoing reasons, we affirm the Board's final written decision.

AFFIRMED

United States Court of Appeals for the Federal Circuit

FANDUEL, INC.,
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Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2017-01491.

DYK, *Circuit Judge*, concurring in part and dissenting in part.

I join Part II-A of the majority opinion rejecting FanDuel's procedural challenge, but I respectfully dissent from the majority's affirmance of the Board's obviousness determination. I would hold that the Board erred when it determined that FanDuel failed to show that claim 6 of the '058 patent would have been obvious because the Board used an incorrect standard for obviousness.

I

The '058 patent is directed to systems and methods for remote gambling wherein the "game configuration," i.e., game rules, is based on the location of the user's "mobile

gaming device.” ’058 patent col. 6 ll. 16–19, col. 12 ll.15–17. Claim 1 recites that the remote gambling system “determin[es] a first location of a mobile gaming device[and] determin[es] a first game configuration associated with the first location.” *Id.* col. 60 ll. 3–5. This claim has been held unpatentable. The only claim at issue is claim 6, which depends on claim 1, and adds the following limitation: “determining the first game configuration includes: accessing a lookup table which contains an ordered list of locations and associated game configurations; finding within the lookup table the first location; and determining that the first game configuration is associated with the first location.” *Id.* col. 60 ll. 45–51. The question before the Board was whether this limitation distinguished claim 6 from claim 1 for purposes of obviousness.

II

Before the Board, there appears to have been no dispute that both the look-up table and ordered list recited in claim 6 were well-known in the art. FanDuel’s expert testified, without contradiction, that “[a] person having ordinary skill in the art would have understood that ordered lists were extremely well-known as a way to organize information for many years prior to the ’058 Patent,” as were look-up tables, which were in use as early as 1979. J.A. 3807 & n.3. The prior art patent (Carter) relied on by the Board to hold unpatentable claim 1 specifically mentioned the use of look-up tables as a well-known and generic element. Carter at ¶ 20 (“[T]he present invention may employ . . . look-up tables[] . . . which may carry out a variety of functions . . .”). The patentee did not dispute that look-up tables and ordered lists were well-known.¹

¹ See *Maj. Op.* at 5 (noting that “the only argument Interactive Games put forth [before the Board] defending the validity of claim 6’s unique ‘lookup table’ and ‘ordered

That look-up tables and ordered lists were well-known also appears not to be disputed by the Board or the majority. *See Maj. Op.* at 16. Furthermore, FanDuel's expert testified without contradiction that a person of ordinary skill in the art would have recognized that Carter's jurisdictional profiles would be implemented using a look-up table, and that an ordered list was an "obvious design choice" for storing the jurisdictional profiles.² J.A. 3807–09. That testimony was consistent with the specification of the '058 patent, which attributed no novelty at all to the use of either a look-up table or an ordered list. *See* '058 patent col. 51 ll. 63–67; *id.* at col. 12 ll. 18–20.

III

Despite this evidence, the Board found that claim 6 was not shown to be obvious under an impermissibly rigid view of the prior art requiring a specific motivation to combine look-up tables and ordered lists to implement Carter's jurisdictional profiles. First, the Board found that Carter did not "disclose that a look-up table, specifically, provides the correlation between the location information and the jurisdictionally permitted gaming opportunities," and that FanDuel had not provided an express motivation to "use a look-up table as the specific method for correlating location information with jurisdictionally permitted gaming opportunities, based on Carter's disclosure or otherwise." *Board Decision* at 41. Second, the Board found that the Slot Payouts Webpage did not specifically disclose the use of an ordered list of locations for "use by a machine such as Carter's

list' limitations was that the Slot Payouts Webpage did not qualify as prior art to the '058 patent" (emphasis added)).

² *See Imperium IP Holdings (Cayman), Ltd. v. Samsung Elecs. Co.*, 757 F. App'x 974, 979–80 (Fed. Cir. 2019) (noting that, while a factfinder has "wide leeway to assess evidence and credibility," it must "have some reasonable basis" for rejecting uncontroverted expert testimony).

gaming system,” and that FanDuel had not provided an express motivation for “why it would have been beneficial to organize Carter’s database of jurisdictional profiles in alphabetical order.” *Id.* at 42.

The majority appears to agree with the Board that showing that look-up tables and ordered lists were well-known design choices was not sufficient to show a motivation to combine. It concludes that the Board “reasonably identified a gap between the concept of a look-up table being well-known and the beneficial application of that concept to Carter’s gaming system,” and “reasonably found that simply calling the addition of a look-up table ‘an obvious design choice’ did not fill that gap.” *Maj. Op.* at 16–17. Similarly, the majority holds that the Board reasonably found that, “even with Mr. Kitchen’s explanation that ordered lists were well-known, there was insufficient evidence that a person of skill would include such lists in Carter’s jurisdictional profiles.” *Id.* at 18.

The Board’s view of what was required is simply wrong. *KSR* requires an “expansive and flexible approach.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415 (2007). “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *Id.* at 416. We have repeatedly acknowledged this aspect of *KSR*. See *Uber Techs., Inc. v. X One, Inc.*, 957 F.3d 1334, 1338 (Fed. Cir. 2020); *CRFD Rsch., Inc. v. Matal*, 876 F.3d 1330, 1347 (Fed. Cir. 2017); *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010). In *Uber*, we explained that, when the record shows “‘a finite number of identified, predictable solutions’ to a design need that existed at the relevant time, which a person of ordinary skill in the art ‘ha[d] a good reason to pursue,’” “common sense” can supply a motivation to combine. *Uber*, 957 F.3d at 1339–40 (alteration in original) (quoting *KSR*, 550 U.S. at 421). In *CRFD*, we explained that “a person of ordinary skill [provided] with a simple design choice” to address a problem is presumed to “‘ha[ve] a good reason

to pursue the known options within his or her technical grasp.” *CRFD*, 876 F.3d at 1347 (quoting *KSR*, 550 U.S. at 421).

Obviousness is particularly apparent where “the alleged novelty of the . . . patent is not related to the differences between” “a finite number of identified, predictable solutions,” identified in the prior art. *Uber*, 957 F.3d at 1339 (quoting *KSR*, 550 U.S. at 421). Because the use of a look-up table and an ordered list was only one of a number of finite, “predictable solutions,” it would have been obvious to “us[e] a technique that was known to one of ordinary skill in the art.” *Id.* at 1340. The Board erred by requiring FanDuel to supply a specific motivation to use a look-up table and ordered list in this particular context when that choice would have been a simple alternative design choice to a skilled artisan.

Because, as a matter of law, the Board incorrectly concluded that FanDuel failed to show that claim 6 of the ’058 patent would have been obvious, I would reverse the Board’s obviousness determination.