United States Court of Appeals
for the Federal Circuit

PERSONAL WEB TECHNOLOGIES, LLC,
Appellant

v.

APPLE, INC.,
Appellee

2016-1174

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2013-00596.

Decided: February 14, 2017

LAWRENCE MILTON HADLEY, McKool Smith Hennigan, PC, Los Angeles, CA, argued for appellant. Also represented by PHILLIP LEE; JOEL LANCE THOLLANDER, Austin, TX.

MICHAEL JAY, Boies, Schiller & Flexner LLP, Santa Monica, CA, argued for appellee. Also represented by DONALD WILLIAM WARD, JOSEPH E. LASHER; WILLIAM A. ISAACSON, Washington, DC.

JOSEPH MATAL, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, argued for

intervenor Michelle K. Lee. Also represented by THOMAS W. KRAUSE, SCOTT WEIDENFELLER, KAKOLI CAPRIHAN.

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Before TARANTO, CHEN, and STOLL, *Circuit Judges.*

TARANTO, *Circuit Judge.*

Apple Inc. petitioned for *inter partes* review of various claims of PersonalWeb Technologies, LLC's U.S. Patent No. 7,802,310, asserting unpatentability for obviousness based on two prior-art references. After instituting review, the Patent Trial and Appeal Board reviewed the claims and agreed with Apple. PersonalWeb appeals the Board's construction of certain claim terms and the ultimate obviousness determination. We affirm the Board's claim construction. We vacate the Board's obviousness determination as to the appealed claims, because the Board did not adequately support its findings that the prior art disclosed all elements of the challenged claims and that a relevant skilled artisan would have had a motivation to combine the prior-art references to produce the claimed '310 inventions with a reasonable expectation of success. We remand for further proceedings.

I

The '310 patent describes and claims methods (or devices for carrying out methods) of locating data and controlling access to data by giving a data file a substantially unique name that depends on the file's content—a so-called "True Name." '310 patent, col. 3, lines 50–62; *id.*, col. 6, lines 20–23; *id.*, col. 37, lines 44–64. The patent describes generating a True Name using mathematical algorithms (called "hash functions" in the abstract and some claims) that use contents of the file to generate a comparatively small-size identifier for the file. *Id.*, col. 12, line 21, through col. 13, line 9. As relevant here, the patent calls for comparing that name with a plurality of

values in a network, determining whether a user is authorized to access the data, and providing or denying access to the data based on that determination. *See*, *e.g.*, *id.*, col. 3, line 50, through col. 4, line 52; *id.*, col. 37, lines 44–62.

Apple petitioned for *inter partes* review (IPR) of claims 24, 32, 70, 81, 82, and 86, arguing unpatentability, under 35 U.S.C. § 103, for obviousness based on a combination of the Woodhill reference (U.S. Patent No. 5,649,196) and the Stefik reference (U.S. Patent No. 7,359,881). Woodhill focuses on a system for backing up or restoring data. Stefik focuses on a system for managing rights to access data.

More specifically, Woodhill discloses a system for using content-based identifiers in performing file-management functions, such as backing up files. It includes a distributed storage system that identifies data items (called "binary objects") using content-based identifiers (called "binary object identifiers"). '196 patent, col. 1, line 66, through col. 2, line 11. A binary object identifier is calculated using the contents of a data item. *Id.*, col 8, lines 38–42. Each binary object identifier is stored (with certain other information) in a binary object identification record. *Id.*, col. 7, line 60–64. Woodhill uses its content-based binary object identifiers for file-management purposes, including in a backup/restore system, which checks to see if binary objects have changed since the system's most recent backup. *Id.*, col. 2, lines 11–46.

Stefik discloses an authentication system designed to control access to digital works stored in a repository. Each digital work is assigned a "unique identifier." '881 patent, col. 9, lines 47–50, 56–59. Each digital work also has associated usage rights that control access to the work. *Id.*, col. 9, lines 52–53; *id.*, col. 3, lines 58–65. A user demonstrates authorization to access a digital work through a "digital ticket," which identifies the ticket

holder as having access to the digital file because the holder has paid for access or is otherwise entitled to access. *Id.*, col. 3, lines 58–65.

The Board instituted review on March 26, 2014. *Apple Inc. v. PersonalWeb Technologies, LLC*, IPR2013-00596, 2014 WL 1477691 (PTAB Mar. 26, 2014). On March 25, 2015, after conducting the review, the Board issued its Final Written Decision, holding claims 24, 32, 70, 81, 82, and 86 unpatentable as obvious based on a combination of the Woodhill and Stefik references. *Apple Inc. v. PersonalWeb Technologies, LLC*, IPR2013-00596, 2015 WL 1777147 (PTAB Mar. 25, 2015), at *7–13 (hereafter "*Apple v. PersonalWeb*"). In doing so, the Board applied the broadest-reasonable-interpretation standard in construing several phrases referring to content-based identifiers. *Id.* at *4. On April 24, 2015, thirteen days after the '310 patent expired, PersonalWeb sought rehearing, but the Board denied the motion on August 3, 2015.

PersonalWeb appeals the Final Written Decision, under 35 U.S.C. §§ 141(c), 319, except as to claim 70. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

II

A

PersonalWeb challenges the Board's construction of the claim terms "content-dependent name," "content-based identifier," and "digital identifier." We use the term "content-based identifier" to refer to all of those terms, since no issue here turns on any differences among them. Citing the broadest-reasonable-interpretation standard, the Board construed the terms to mean "an identifier for a data item being based, at least in part, on a given function of at least some of the bits in the particular sequence of bits of the particular data item." *Apple v. PersonalWeb*, 2015 WL 1777147, at *4, *5. PersonalWeb argues that the terms require the identifier to rely on "'all of the data

in the data item.'" Appellant's Opening Br. at 51 (quoting district court construction in separate litigation).

Based on the fact that the '310 patent expired after the Final Written Decision was issued but while the rehearing request was pending before the Board, PersonalWeb argues that the Board should not have relied on the broadest-reasonable-interpretation standard in construing the terms at issue or, in any event, that we should not do so now. Apple disagrees, and so does the Director of the Patent and Trademark Office, who intervened in this appeal.[1] We need not and do not resolve that dispute. PersonalWeb urges us to apply the principles governing identification of the best construction of the claim terms, s*ee Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed.

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[1] We recently held the broadest-reasonable-interpretation standard inapplicable, outside the IPR setting, where the patent at issue had expired in a reexamination *before* the Board reviewed the examiner's decision. *In re CSB–Sys. Int'l, Inc.*, 832 F.3d 1335, 1340–41 (Fed. Cir. 2016). In the IPR setting, the PTO regulations applicable to the present case stated simply that the broadest-reasonable-interpretation standard applied to "[a] claim in an unexpired patent." 37 C.F.R. § 42.100(b) (2015). A recent revision, not applicable to the present case, now states that the broadest-reasonable-interpretation standard applies to "[a] claim in an unexpired patent that will not expire before a final written decision is issued," but allows an IPR party to "request a district court-type claim construction approach to be applied" if the patent will expire within 18 months of the IPR petition's filing (as further specified in the rule). 37 C.F.R. § 42.100(b) (2016). The 18-month rule, had it been in effect, would not have applied here: the time from the relevant filing date (September 27, 2013) to expiration (April 11, 2015) was just over 18 months.

Cir. 2005), but even under those principles, the Board's construction is clearly correct on the point at issue.

Claim construction is a legal issue reviewed de novo, based on underlying factual findings that are reviewed for substantial evidence. *Perfect Surgical Techniques, Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1012 (Fed. Cir. 2016). Here, the meaning of the language is plain from the face of the claims. The content-based identifier need not be generated from "all" of the information in a data item.

In claim 24, for example, the content-dependent name is "based, at least in part, on at least a function of the data in the particular data item" and "the data used by the function to determine the content-dependent name comprises at least some of the contents of the particular data item." '310 patent, col. 40, lines 7–12. The "at least some" language is mirrored in the other independent claims containing the claim terms at issue. *Id.*, col. 45, lines 40–43 (claim 81); *id.*, col. 46, lines 27–30 (claim 86). The "at least some" language makes it impossible to interpret the terms at issue to require use of "all" of the data. And the absence of the argued "all" requirement in the terms at issue is further confirmed by the patent's addition of such a requirement, through additional language, in dependent claim 32. *Id.*, col. 40, lines 54–57 ("the data used by the function to determine the content-dependent name of the particular data item comprises of all of the contents of the particular data item").

We therefore affirm the Board's claim construction. PersonalWeb does not deny that Woodhill discloses the required content-based identifier under the Board's construction.

B

PersonalWeb stands on firmer ground in challenging the adequacy of the Board's findings and explanations in concluding that the claims of the '310 patent here at issue

would have been obvious to a relevant skilled artisan over a combination of Woodhill and Stefik. We agree with that challenge, concluding that the Board has not done enough to support its conclusion.

<div align="center">1</div>

The Board concluded that the claimed inventions at issue would have been obvious based on a combination of Woodhill and Stefik. We review the Board's ultimate determination of obviousness de novo and its underlying factual determinations for substantial evidence. *In re Gartside*, 203 F.3d 1305, 1312 (Fed. Cir. 2000). On the factual components of the inquiry, we "ask[] 'whether a reasonable fact finder could have arrived at the agency's decision,'" which "requires examination of the 'record as a whole, taking into account evidence that both justifies and detracts from an agency's decision.'" *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1366 (Fed. Cir. 2016) (quoting *Gartside*, 203 F.3d at 1312).

Under the obviousness theory presented by Apple and adopted by the Board, the Board had to make findings, supported by evidence and explanation, on two points. First, the Board had to find in Woodhill and Stefik all of the elements of the '310 patent claims at issue. But that would not be enough. *See In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) (explaining that a finding of obviousness "cannot be predicated on the mere identification in [the prior art] of individual components of claimed limitations"). Second, the Board had to find that a person of ordinary skill in the art would have been motivated to combine the prior art in the way claimed by the '310 patent claims at issue and had a reasonable expectation of success in doing so. *See In re NuVasive, Inc.*, 842 F.3d 1376, 1381–82 (Fed. Cir. 2016); *In re Warsaw Orthopedic, Inc.*, 832 F.3d 1327, 1333–34 (Fed. Cir. 2016); *Ariosa*

Diagnostics v. Verinata Health, Inc., 805 F.3d 1359, 1364–67 (Fed. Cir. 2015).

The Supreme Court in *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), explained that, "because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known," "it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *Id.* at 418–19. The required "expansive and flexible approach," *id.* at 415, may look at a variety of facts, including prior-art teachings and marketplace demands and artisans' background knowledge, "in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue," *id.* at 418; *see also id.* at 420–421. The Supreme Court added: "To facilitate review, this analysis should be made explicit." *Id.* at 418. We have repeatedly applied those requirements in reviewing the adequacy of the Board's obviousness analysis, noting that the amount of explanation needed will vary from case to case, depending on the complexity of the matter and the issues raised in the record. *See NuVasive*, 842 F.3d at 1381–82; *Ariosa*, 805 F.3d at 1364–66; *In re Lee*, 277 F.3d 1338, 1343 (Fed. Cir. 2002).

Our review of the Board is rooted not just in the law of obviousness but in basic principles of administrative law. We review the Board's IPR decisions to ensure that they are not "arbitrary, capricious, an abuse of discretion, . . . otherwise not in accordance with law . . . [or] unsupported by substantial evidence." 5 U.S.C. § 706(2)(A), (E); *see Pride Mobility Prods. Corp. v. Permobil, Inc.*, 818 F.3d 1307, 1313 (Fed. Cir. 2016). Critically, in order to "allow effective judicial review, . . . the agency is obligated to 'provide an administrative record showing

the evidence on which the findings are based, accompanied by the agency's reasoning in reaching its conclusions.'" *Synopsys, Inc. v. Mentor Graphics Corp.*, 814 F.3d 1309, 1322 (Fed. Cir. 2016) (quoting *Lee*, 277 F.3d at 1342); *see Lee*, 277 F.3d at 1342 ("For judicial review to be meaningfully achieved within these strictures, the agency tribunal must present a full and reasoned explanation of its decision. The agency tribunal must set forth its findings and the grounds thereof, as supported by the agency record, and explain its application of the law to the found facts."). The Board, as an administrative agency, "must articulate 'logical and rational' reasons for [its] decision[]." *Synopsys*, 814 F.3d at 1322; *see Power Integrations, Inc. v. Lee*, 797 F.3d 1318, 1326 (Fed. Cir. 2015).

The Supreme Court set forth two rationales for this approach in its pre-Administrative Procedure Act decision in *SEC v. Chenery Corp.*, 318 U.S. 80 (1943). Remanding to the Securities and Exchange Commission for further consideration, the Court explained: "[C]ourts cannot exercise their duty of review unless they are advised of the considerations underlying the [agency] action under review. . . . [T]he orderly functioning of the process of review requires that the grounds upon which the administrative agency acted be clearly disclosed and adequately sustained." *Id.* at 94. In addition to enabling needed judicial review of agency action, the Court also explained that the clear-explanation requirement prevents judicial intrusion on agency authority to make factual, policy, and discretionary determinations committed to the agency. *Id.* at 88. We have applied those principles repeatedly, in various settings. *See, e.g.*, *CS Wind Vietnam Co., Ltd. v. United States*, 832 F.3d 1367, 1380–81 (Fed. Cir. 2016); *Timken U.S. Corp. v. United States*, 421 F.3d 1350, 1355 (Fed. Cir. 2005) ("[A]n agency must explain its action with sufficient clarity to permit 'effective judicial review.'"); *Mullins v. U.S. Dep't of Energy*, 50 F.3d 990, 992 (Fed.

Cir. 1995) ("[A]gencies have a duty to provide reviewing courts with a sufficient explanation for their decisions so that those decisions may be judged against the relevant statutory standards.").

2

The Board's decision here is inadequate. The Board did not sufficiently explain and support the conclusions that (1) Woodhill and Stefik disclose all of the elements recited in the challenged claims of the '310 patent and (2) a relevant skilled artisan would have been motivated to combine Woodhill and Stefik in the way the '310 patent claims and reasonably expected success.

For example, claim 24 requires "causing the content-dependent name of the particular data item to be compared to a plurality of values." '310 patent, col. 40, lines 16–17; *see also id.*, col. 46, lines 3–4 (claim 81); *id.*, col. 46, lines 35–37 (claim 86). The Board found this element satisfied. *Apple v. PersonalWeb*, 2015 WL 1777147, at *8 ("As discussed by Apple, the process of matching the identifier for the work would involve comparing it with a plurality of values, and providing for selective access. Pet. 42."). That discussion, however, mentions only Stefik, not Woodhill, and yet Apple has made clear that it relies solely on Woodhill as disclosing this claim element. Appellee's Br. at 25–29. The Board-cited page of Apple's petition does not explain Woodhill's disclosure of this element. J.A. 1045 (Pet. 42). The Board's discussion does not cite, let alone explain or analyze or adopt, an earlier portion of Apple's petition that refers to part of column 17 of Woodhill. J.A. 1036–37 (Pet. 33–34).

A later portion of the Board opinion, in responding to an argument by PersonalWeb that Woodhill does not use its binary object identifiers "to access, search for, or address binary objects," *Apple v. PersonalWeb*, 2015 WL 1777147, at *11, refers to a part of column 17 of Woodhill, *id.* But the Board's discussion does not address, or at

least does not clearly address, the "plurality of values" comparison element. *Id.* When referring to a determination "as to whether the content-based identifier for the particular data item corresponds to an entry in a database," *id.*, the Board's opinion does not explicitly say, let alone explain, how Woodhill shows that determination to involve a comparison between the content-based identifier and a plurality of values. We might attempt on our own to parse Woodhill, and column 17 specifically, to find such a comparison, but this is not an issue on which we could confidently rely on our independent reading, without more help than we have received from the Board. Neither column 17 of Woodhill nor any other portion identified for us is self-explanatory on this point.

The Board's reasoning is also deficient in its finding that a relevant skilled artisan would have had a motivation to combine Woodhill and Stefik in the way claimed in the '310 patent claims at issue and would have had a reasonable expectation of success in doing so. The Board's most substantial discussion of this issue merely agrees with Apple's contention that "a person of ordinary skill in the art reading Woodhill and Stefik would have understood that the combination of Woodhill and Stefik *would have allowed for* the selective access features of Stefik to be used with Woodhill's content-dependent identifiers feature." *Id.* at *8 (emphasis added). But that reasoning seems to say no more than that a skilled artisan, once presented with the two references, would have understood that they *could be* combined. And that is not enough: it does not imply a motivation to pick out those two references and combine them to arrive at the claimed invention. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) ("[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention."); *InTouch*

Techs., Inc. v. VGO Communications, Inc., 751 F.3d 1327, 1352 (Fed. Cir. 2014).

If the Board's statement were read more broadly, it would not be adequately explained and grounded in evidence. Indeed, the Board nowhere clearly explained, or cited evidence showing, *how* the combination of the two references was supposed to work. At least in this case, such a clear, evidence-supported account of the contemplated workings of the combination is a prerequisite to adequately explaining and supporting a conclusion that a relevant skilled artisan would have been motivated to make the combination and reasonably expect success in doing so.

The amount of explanation needed to meet the governing legal standards—to enable judicial review and to avoid judicial displacement of agency authority— necessarily depends on context. A brief explanation may do all that is needed if, for example, the technology is simple and familiar and the prior art is clear in its language and easily understood. *See Ariosa*, 805 F.3d at 1365–66. On the other hand, complexity or obscurity of the technology or prior-art descriptions may well make more detailed explanations necessary. Here, the Board's explanation is wanting. Apple's attempts in this court to explicate both the Board's explanation and the underlying evidence do not persuade us otherwise.

We conclude that the Board's reasoning does not meet the requirements for a sustainable obviousness determination in this case. We do not address whether the Board's ultimate obviousness determination would be permissible, or should be made, on this record. We leave such issues for the Board to consider on remand. The remand is not for explanation or clarification of what the Board meant in the decision we have under review now, or what it considered in reaching that decision. The remand is for the Board to reconsider the merits of the

obviousness challenge, within proper procedural constraints. *See id.* at 1366–67.

III

For the foregoing reasons, while we affirm the Board's claim construction, we vacate the Board's Final Written Decision regarding obviousness of the appealed claims and remand for further proceedings.

No costs.

AFFIRMED IN PART, VACATED AND REMANDED IN PART