United States Court of Appeals for the Federal Circuit

GOOGLE LLC,
Appellant

v.

VALTRUS INNOVATIONS LTD.,
Appellee

2024-1945

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2022-01545.

Decided: October 19, 2026

NATHAN R. SPEED, Wolf, Greenfield & Sacks, P.C., Boston, MA, argued for appellant. Also represented by JOHN W. CUSTER, RICHARD F. GIUNTA, ADAM R. WICHMAN.

PHILIP J. WARRICK, Irell & Manella LLP, Washington, DC, argued for appellee. Also represented by JONATHAN M. LINDSAY, Newport Beach, CA; JASON SHEASBY, HONG ANNITA ZHONG, Los Angeles, CA; AMY E. PROCTOR, Sullivan & Cromwell LLP, Los Angeles, CA.

Before HUGHES and CUNNINGHAM, *Circuit Judges*, and BURROUGHS, *District Judge*.[1]

CUNNINGHAM, *Circuit Judge*.

Google LLC ("Google") appeals a Final Written Decision of the Patent Trial and Appeal Board in IPR2022-01545 regarding U.S. Patent No. 6,728,704 ("the '704 patent"). J.A. 1–44 ("*Decision*"). The Board determined that Google did not demonstrate that any of claims 1–23 of the '704 patent are unpatentable. *Decision* at 41–42. For the reasons below, we affirm.

I. BACKGROUND

Valtrus Innovations Ltd. ("Valtrus") owns the '704 patent, which claims methods and computer-readable memory for merging or instructing a computer to merge search-result lists from multiple search engines. *See Decision* at 1, 3; '704 patent at col. 8 ll. 2–18, 43–67, col. 9 ll. 20–35, col. 10 ll. 6–25. Claim 1 of the '704 patent is illustrative and recites:

> 1. A method of merging result lists from multiple search engines, said method comprising:
>
> transmitting a query to a set of search engines;
>
> receiving in response to said query a result list from each search engine of said set of search engines, each result list including one or more entries;
>
> selecting a subset of entries from each result list to form a set of selected entries;

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[1] Honorable Allison D. Burroughs, District Judge, United States District Court for the District of Massachusetts, sitting by designation.

> assigning to each selected entry of said set of selected entries a scoring value according to a scoring function;
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> assigning to each subset a representative value according to the scoring values assigned to its entries; and
>
> producing a merged list of entries in a predetermined manner based on the representative value assigned to each result list,
>
> wherein the representative value varies in accordance with predetermined manner.

'704 patent at col. 8 ll. 2–18.

Google petitioned for *inter partes* review ("IPR") of claims 1–23 of the '704 patent. *Decision* at 2. Google asserted four distinct grounds that Bushee[2] in combination with one or more prior art references (Voorhees[3] alone and/or with either or both of Koppel[4] and/or Tso[5]) would have rendered the '704 patent claims obvious. *Decision* at 2, 8, 42. Bushee was filed on July 24, 2001, approximately five weeks before the application resulting in the '704 patent was filed on August 27, 2001. Bushee at [22]; '704 patent at [22]. Valtrus responded that the inventors conceived of the invention in the '704 patent at an earlier date[6] than the filing date of the Bushee reference, such

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[2] U.S. Patent No. 6,711,569 ("Bushee").

[3] U.S. Patent No. 5,864,846 ("Voorhees").

[4] U.S. Patent No. 7,257,766 ("Koppel").

[5] U.S. Patent No. 6,385,602 ("Tso").

[6] The parties have marked the alleged conception date for the claimed invention of the '704 patent as confidential. *See* Oral Arg. 01:08–35, https://www.cafc.uscourts.gov/oral-arguments/24-1945_03042026.mp3; *see also*

that Bushee is not prior art to the '704 patent under pre-AIA 35 U.S.C. § 102(e).[7] *Decision* at 11–14, 22.

The Board concluded that Bushee was not prior art to the '704 patent under 35 U.S.C. § 102(e). *Id.* at 22. To reach this conclusion, the Board found that a declaration by co-inventor Dr. Tsaparas (the "Tsaparas Declaration") supported an earlier conception date, along with files regarding the original invention disclosures (the "Disclosure Documents"), and the Disclosure Documents' original metadata (the "disclosure metadata"). *Decision* at 12–13, 17–20. The Board also found that the Disclosure Documents and the disclosure metadata corroborated Dr. Tsaparas's testimony for the alleged date of conception. *Id.* at 17–18. The Board then credited the analysis of Valtrus's expert, Dr. Cole, in support of the conception date. *Id.* at 18–20. The Board "determine[d] that [Valtrus] has established a date of invention of the challenged claims before Bushee's filing date, demonstrated diligence from just prior to Bushee's filing date until a constructive reduction to practice on August 27, 2001, and determine[d] that, on this record, Bushee is not prior art under 35 U.S.C. § 102(e)." *Id.* at 22. The Board ultimately concluded that Google had not demonstrated by a preponderance of the evidence that any of claims 1–23 of the '704 patent are unpatentable. *Id.* at 41–42.

Google timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

Decision at 13. In any case, we do not have to identify the exact alleged conception date to resolve the issues in this appeal.

[7] Because the application from which the '704 patent issued was filed before March 16, 2013, we apply the pre-AIA version of § 102. *Google LLC v. IPA Techs. Inc.*, 34 F.4th 1081, 1084 n.1 (Fed. Cir. 2022).

II. STANDARD OF REVIEW

"We review the Board's legal conclusions *de novo*, and its factual findings for substantial evidence. A finding is supported by substantial evidence if a reasonable mind might accept the evidence as sufficient to support the finding." *NFC Tech., LLC v. Matal*, 871 F.3d 1367, 1371 (Fed. Cir. 2017) (cleaned up). Under pre-AIA 35 U.S.C. § 102(e), "[a]n asserted prior art reference can be antedated based on a constructive reduction to practice by a showing of (1) conception prior to the filing date of the asserted reference and (2) reasonably continuous diligence from just before the date the asserted reference was filed until the date that the patent owner filed its priority application." *Medtronic, Inc., v. Teleflex Life Scis. Ltd.*, 86 F.4th 902, 906 (Fed. Cir. 2023). "Priority, conception, and reduction to practice are questions of law which are based on subsidiary factual findings." *E.I. du Pont de Nemours & Co. v. Unifrax I LLC*, 921 F.3d 1060, 1068 (Fed. Cir. 2019) (quoting *Cooper v. Goldfarb*, 154 F.3d 1321, 1327 (Fed. Cir. 1998)).

III. DISCUSSION

In this appeal, Google raises two challenges to the Board's determination that Bushee is not prior art. Google asserts that the Board relied on "legally insufficient" evidence to corroborate Dr. Tsaparas's inventor testimony of conception. Appellant's Br. 58. Google also argues that the Board did not have substantial evidence to support the Board's finding that the '704 patent's inventors exercised reasonably continuous diligence in reducing the invention to practice. Appellant's Br. 28. We address each argument in turn.

A.

Google argues the Board erred in its determination that the invention claimed in the '704 patent has an earlier conception date than the filing date of Bushee. *See* Appellant's Br. 42–58. Specifically, Google asserts that the

Board erroneously relied on the "metadata and Disclosure Documents" for independent corroboration of the Tsaparas Declaration "because they are both entirely under Dr. Tsaparas's control," and therefore the Board's factual findings regarding conception are not supported by substantial evidence. Appellant's Br. 50, 42. We disagree.

"[W]hen a party seeks to prove conception through an inventor's testimony the party must proffer evidence, in addition to the inventor's own statements and documents, corroborating the inventor's testimony." *Apator Miitors ApS v. Kamstrup A/S*, 887 F.3d 1293, 1295 (Fed. Cir. 2018) (cleaned up). "Such evidence is evaluated under 'the rule of reason,' whereby 'all pertinent evidence is examined in order to determine whether the inventor's story is credible.'" *Fleming v. Escort Inc.*, 774 F.3d 1371, 1377 (Fed. Cir. 2014) (quoting *Sandt Tech., Ltd. v. Resco Metal & Plastics Corp.*, 264 F.3d 1344, 1350 (Fed. Cir. 2001)). "We have treated the sufficiency of corroboration as a question of fact[.]" *Id.*

As we have explained, the corroboration requirement reflects "a concern that inventors testifying in patent infringement cases would be tempted to remember facts favorable to their case by the lure of protecting their patent or defeating another's patent." *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1577 (Fed. Cir. 1996). "The purpose of the rule requiring corroboration is to prevent fraud." *Hahn v. Wong*, 892 F.2d 1028, 1033 (Fed. Cir. 1989) (quotation marks omitted).

To find the inventors conceived of the invention claimed in the '704 patent before Bushee was filed, the Board primarily relied on three sets of documents: (1) the Tsaparas Declaration, (2) the Disclosure Documents, and (3) the disclosure metadata. *Decision* at 13, 15–17. The Board relied on the Tsaparas Declaration to show the inventors of the '704 patent conceived of the claimed invention before Bushee was filed and found the Disclosure

Documents and the disclosure metadata provided "separate corroboration" of Dr. Tsaparas's early conception testimony in the Tsaparas Declaration. *Decision* at 18; *id.* at 13, 15–17.

Google argues that the Tsaparas Declaration, Disclosure Documents, and the disclosure metadata are Dr. Tsaparas's "own statements and documents" and therefore are insufficiently independent from his testimony to satisfy the corroboration requirement. Appellant's Br. 45, 45–49. We disagree.

Valtrus's disclosure metadata associated with the Disclosure Documents corroborates the inventor testimony in the Tsaparas Declaration. The disclosure metadata is from Microsoft Word. J.A. 6554; J.A. 5681–82 (citing J.A. 6260–61 ¶¶ 4–5); *see also* Oral Arg. 19:50–20:30, https://www.cafc.uscourts.gov/oral-arguments/24-1945_03042026.mp3 (discussing content of the Word document associated with the disclosure metadata). Assuming without deciding the metadata's authenticity, the disclosure metadata generated by Microsoft Word was not authored by Dr. Tsaparas. *See Global Health Sols. LLC v. Selner,* 148 F.4th 1363, 1374 (Fed. Cir. 2025). Microsoft Word metadata can provide independent corroboration of inventor statements and documents contained in Word files because we have held that "metadata is independent of [an inventor's] own statements and documents." *Id.* The disclosure metadata independently corroborates Dr. Tsaparas's inventor testimony.

Contrary to Google's argument, Microsoft Word's automatic generation of author and other metadata information independently corroborates Dr. Tsaparas's testimony. The disclosure metadata is not like "unwitnessed laboratory notebooks" or "unwitnessed emails and drawings" that "alone, cannot corroborate [the] inventor's testimony of conception." *Apator*, 887 F.3d at 1297; *see also Stern v. Trs. of Columbia Univ.*, 434 F.3d 1375, 1378

(Fed. Cir. 2006) (explaining "unwitnessed laboratory notebooks on their own are insufficient to support [a] claim of co-inventorship"). The authorship and timestamp information provided in the disclosure metadata is consistent with the inventors' conception date that Dr. Tsaparas identified in his declaration. J.A. 6259–74; *see also* J.A. 2450 ¶ 41; J.A. 3249–50, at 52:23–53:12. Indeed, counsel for Google acknowledged that in a similar situation the requirement for independent corroboration would be satisfied and that a human is not a required element for corroboration. Oral Arg. 19:20–20:00, https://www.cafc.uscourts.gov/oral-arguments/24-1945_03042026.mp3.

Taking "all pertinent evidence" into consideration, *Fleming*, 774 F.3d at 1377, the Board's finding that the Disclosure Documents and the disclosure metadata provide "separate corroboration" for the statements in the Tsaparas Declaration is supported by substantial evidence, *Decision* at 18.

B.

Google argues the Board lacked substantial evidence to support its finding that the '704 patent's inventors exercised diligence in the "three-week gap between August 8, 2001 and August 27, 2001." Appellant's Br. 34; *see also id.* 28–42. We disagree.

In the pre-AIA first-to-invent system, a patent owner like Valtrus can swear behind, or "antedate," another patent asserted as a prior art reference, such as Bushee, under pre-AIA 35 U.S.C. § 102(e) by "showing conception of the claimed invention prior to the critical date *and either* actual reduction to practice prior to the reference's critical date *or* 'reasonably continuous diligence' in reducing the invention to practice until its effective filing date." *Medtronic*, 86 F.4th at 905–06 (citing *ATI Techs. ULC v. Iancu*, 920 F.3d 1362, 1369 (Fed. Cir. 2019)). "Reasonable diligence must be shown throughout the entire critical period, which begins just prior to the competing reference's

effective date," here, Bushee's July 24, 2001 filing date, "and ends on the date of the invention's reduction to practice," here, the filing date of the '704 patent, August 27, 2001. *Perfect Surgical Techs., Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1007 (Fed. Cir. 2016) (citing *Monsanto Co. v. Mycogen Plant Sci., Inc.*, 261 F.3d 1356, 1363 (Fed. Cir. 2001)). But "[a] patent owner need not prove the inventor *continuously* exercised reasonable diligence throughout the critical period; it must show there was *reasonably continuous* diligence." *Id.* at 1009. "[T]he point of the diligence analysis," ultimately, "is to assure that, in light of the evidence as a whole, 'the invention was not abandoned or unreasonably delayed.'" *Id.* (quoting *Brown v. Barbacid*, 436 F.3d 1376, 1379 (Fed. Cir. 2006)). "[T]here need not necessarily be evidence of activity on every single day if a satisfactory explanation is evidenced." *Monsanto*, 261 F.3d at 1369.

As explained above, Google only disputes the inventors' diligence from August 8, 2001 to August 27, 2001, when the law firm filed the application. Appellant's Br. 34 ("inventors were engaged in the signing process [for the patent application] between August 3, 2001 and August 8, 2001"); Appellant's Reply Br. 1; Oral Arg. 02:40–02:49, https://www.cafc.uscourts.gov/oral-arguments/24-1945_03042026.mp3. According to Google, the disputed period consists of only about "11 business days." Oral Arg. 03:50–03:55.

The Board's diligence findings are supported by substantial evidence. Dr. Tsaparas was based outside of the United States at the time (in Ontario, Canada), so his August 8, 2001 physical signature (the latest obtained of the four inventors' signatures) on the inventor declaration required some time to be returned by mail to the law firm's California offices. J.A. 398–401, 376–78; *Decision* at 21. Valtrus's expert, Dr. Cole, provided his opinion that "the applicant exercised diligence in preparing and filing the patent application issued as the '704 patent" because it

"take[s] law firms on the order of several weeks or more" to draft and then finalize a patent application for filing. J.A. 2494–95, ¶ 55; *Decision* at 21; *see also D'Amico v. Koike*, 347 F.2d 867, 871 (CCPA 1965) ("[I]n determination of diligence of attorneys and of their clerical and stenographic staffs," "the law cannot presume that such people can immediately begin and expeditiously perform their duties as soon as work appears on their desks."). These non-speculative facts amount to substantial evidence support of the Board's finding that "the invention was not abandoned or unreasonably delayed," *Decision* at 22 (quoting *Perfect Surgical*, 841 F.3d at 1009), during the approximately 11 business days at issue.

Google's reliance on *In re Mulder*, 716 F.2d 1542 (Fed. Cir. 1983), is misplaced. Appellant's Br. 38–39. Google argues that the two-day period with no diligent activity sufficient for the applicant to lose his conception date in *In re Mulder* is analogous to the circumstances in this case. *Id.* But in *In re Mulder*, we stated that "focus[]ing on the shortness of the gap [wa]s misleading." 716 F.2d at 1545. There, a draft U.S. patent application had been prepared for nearly three months and yet "the record show[ed] no activity of any kind in this country." *Id.* (cleaned up). Here, Valtrus accounted for the entire period during which diligence is required, including the disputed period, using timestamp evidence of the inventors and a law firm office collaborating in the United States to complete, execute, and file the application resulting in the '704 patent. *Cf. id.*; *see also Arctic Cat Inc. v. GEP Power Prods., Inc.*, 919 F.3d 1320, 1331 (Fed. Cir. 2019) ("[D]iligence need not be perfectly continuous—only *reasonably* continuous.").

In sum, the Board's determination that Valtrus "demonstrated diligence from just prior to Bushee's filing date until a constructive reduction to practice on August 27, 2001," *Decision* at 22, is supported by substantial evidence.

IV. CONCLUSION

We have considered Google's remaining arguments and find them unpersuasive. For the above reasons, we affirm the Board's decision.

AFFIRMED