United States Court of Appeals for the Federal Circuit

MEDTRONIC, INC., MEDTRONIC VASCULAR, INC.,
Appellants

v.

TELEFLEX INNOVATIONS S.À.R.L.,
Appellee

2021-2356, 2021-2358, 2021-2361, 2021-2363, 21-2365

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2020-00126, IPR2020-00128, IPR2020-00132, IPR2020-00135, IPR2020-00137.

Decided: May 24, 2023

TASHA JOY BAHAL, Wilmer Cutler Pickering Hale and Dorr LLP, Boston, MA, argued for appellants. Also represented by MARK CHRISTOPHER FLEMING, HANNAH ELISE GELBORT, MADELEINE C. LAUPHEIMER; BRITTANY BLUEITT AMADI, JENNIFER L. GRABER, Washington, DC.

J. DEREK VANDENBURGH, Carlson, Caspers, Vandenburgh & Lindquist PA, Minneapolis, MN, argued for appellee. Also represented by PETER M. KOHLHEPP, TARA CATHERINE NORGARD, JOSEPH W. WINKELS.

Before MOORE, *Chief Judge*, LOURIE and DYK, *Circuit Judges*.

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

Dissenting opinion filed by *Circuit Judge* DYK.

LOURIE, *Circuit Judge*.

Medtronic, Inc. and Medtronic Vascular, Inc. (collectively, "Medtronic") appeal from five final written decisions of the United States Patent and Trademark Office Patent Trial and Appeal Board ("the Board") finding that Itou[1] does not qualify as prior art to related U.S. Patents 8,048,032, RE45,380, RE45,776, RE45,760, and RE47,379 (collectively, "the challenged patents") under pre-AIA first-to-invent provisions, and Medtronic had therefore not shown the challenged claims to be unpatentable. *Medtronic, Inc. v. Teleflex Innovations S.À.R.L.*, IPR2020-00126 (P.T.A.B. Jun. 7, 2021) ("*Decision*"), J.A. 1–75; *Medtronic, Inc. v. Teleflex Innovations S.À.R.L.*, IPR2020-00128 (P.T.A.B. Jun. 7, 2021), J.A. 76–150; *Medtronic, Inc. v. Teleflex Innovations S.ÀR.L.*, IPR2020-00132 (P.T.A.B. Jun. 7, 2021), J.A. 151–222; *Medtronic, Inc. v. Teleflex Innovations S.À.R.L.*, IPR2020-00135 (P.T.A.B. Jun. 7, 2021), J.A. 223–98; *Medtronic, Inc. v. Teleflex Innovations S.À.R.L.*, IPR2020-00137 (P.T.A.B. Jun. 7, 2021), J.A. 299–373.[2] For the reasons provided below, we affirm.

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[1] U.S. Patent 7,736,355 to Itou et al. ("Itou").

[2] The five final written decisions in the IPRs consolidated on appeal share similar sections on conception and reduction to practice. The decision in *Medtronic, Inc. v. Teleflex Innovations S.À.R.L.*, IPR2020-00126 (P.T.A.B. Jun. 7, 2021), J.A. 1–75, is representative and cited throughout as such.

BACKGROUND

The challenged patents, developed by Vascular Solutions Inc. ("VSI") but now owned by appellee Teleflex Innovations S.À.R.L. ("Teleflex"), all descend from a common application filed on May 3, 2006 and share a common specification. The challenged patents are directed to guide extension catheters that use a tapered inner catheter that runs over a standard coronary guidewire to reduce the likelihood that a guide catheter will dislodge from the coronary artery's opening (*i.e.*, ostium). *See, e.g.*, '032 patent, col. 1 ll. 32–36, col. 2 ll. 53–59.

According to Teleflex, VSI conceived the claimed invention in early 2005 and then worked to develop it under the "GuideLiner" name. Teleflex asserts that what was known as the "rapid exchange" or "RX" version of the GuideLiner practices the challenged patents. *Decision*, J.A. 17. However, in the same time period, VSI also worked on developing an "over-the-wire" or "OTW" version of the GuideLiner, which was more akin to the prior art guide extension catheters and does not practice the challenged patents. *Id.* at J.A. 19. Because the over-the-wire GuideLiner was more similar to devices already in existence, it had fewer challenges to overcome and work on it progressed more rapidly than for the rapid exchange device. *Id.* at J.A. 36. The rapid exchange GuideLiner eventually entered the market in 2009. *Id.* at J.A. 61.

Medtronic filed thirteen petitions for *inter partes* review ("IPR") of the challenged patents, eleven of which were instituted and five of which are consolidated in this appeal. These five IPR petitions asserted Itou as the primary prior art reference under pre-AIA 35 U.S.C. § 102(e) (2012). Following institution, Teleflex filed a consolidated response addressing conception and reduction to practice, asserting that Itou did not qualify as prior art because the claimed inventions were (1) conceived prior to Itou's filing date of September 23, 2005 (*i.e.*, the critical date), and (2)

were (a) actually reduced to practice before the critical date or (b) diligently pursued until their constructive reduction to practice through their effective filing in May 2006. In support of its contentions, Teleflex submitted numerous declarations, including from inventors and noninventors, as well as nearly 75 documentary exhibits including inventor lab notebooks, internal company memoranda and presentations, invoices and sales orders, photographs, engineering drawings, and documents from outside patent counsel. *Decision*, J.A. 13.

The Board found that the evidence demonstrated that the claimed inventions were (1) conceived no later than August 2005, *i.e.*, before the critical date, and (2) either (a) actually reduced to practice for their intended purpose in April and July 2005, prior to the critical date, or (b) diligently worked on toward constructive reduction to practice on May 3, 2006, the challenged patents' effective filing date. *Id.* at J.A. 34, 61–62, 71. In so doing, the Board found that the intended purpose of the claimed inventions was providing improved backup support for the guide catheter, rejecting Medtronic's suggestion that the intended purpose, or additional intended purpose, was providing backup support necessary for accessing and crossing tough or chronic occlusions. *Id.* at J.A. 53. The Board therefore determined that Itou did not qualify as prior art to the challenged patents under pre-AIA 35 U.S.C. § 102(e), thereby eliminating the challenges presented in the five IPRs relevant to this appeal. The Board thus concluded that Medtronic had failed to demonstrate that the challenged claims were unpatentable.

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

DISCUSSION

In considering whether or not a reference qualifies as prior art under pre-AIA 35 U.S.C. § 102(e), we must consider whether or not "the invention was described in . . . a

patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent." A patent owner may antedate an asserted prior art patent by showing conception of the claimed invention prior to the critical date and either actual reduction to practice prior to the critical date or "reasonably continuous diligence" in reducing the invention to practice until its effective filing date. *See ATI Techs. v. Iancu*, 920 F.3d 1362, 1369 (Fed. Cir. 2019); *Tyco Healthcare Grp. v. Ethicon Endo-Surgery, Inc.*, 774 F.3d 968, 975 (Fed. Cir. 2014). Inventor declarations submitted to antedate a reference must be corroborated, and corroboration is governed by a "rule of reason" standard. *Perfect Surgical Techs., Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1007–09 (Fed. Cir. 2016).

In an IPR, the petitioner bears the ultimate burden of persuasion on invalidity, which never shifts to the patent owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). However, when a patent owner attempts to antedate an asserted prior art reference, the patent owner takes on a temporary burden of production. *Id.* at 1378–79. Once that burden is met, the burden shifts back to the petitioner. *Id.* at 1379.

We review the Board's factual findings on reduction to practice and diligence for substantial evidence, and its legal conclusion of priority *de novo*. *E.I. du Pont de Nemours & Co. v. Unifrax I LLC*, 921 F.3d 1060, 1075 (Fed. Cir. 2019). Medtronic does not challenge the Board's findings of conception prior to the critical date on appeal, but challenges both the Board's findings on actual reduction to practice and reasonable diligence toward constructive reduction to practice. We address each argument in turn.

I

To establish actual reduction to practice before the critical date, it must have been shown that "(1) [the inventors] constructed an embodiment or performed a process that

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