

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

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**HOLOGIC, INC.,**  
*Appellant*

v.

**SMITH & NEPHEW, INC., COVIDIEN LP,**  
*Appellees*

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2017-1389

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Appeal from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board in No. 95/002,058.

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Decided: March 14, 2018

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MATTHEW WOLF, Arnold & Porter Kaye Scholer LLP,  
Washington, DC, argued for appellant. Also represented  
by MARC A. COHN; JENNIFER SKLENAR, Los Angeles, CA.

MICHAEL A. ALBERT, Wolf Greenfield & Sacks, PC,  
Boston, MA, argued for appellees. Appellee Smith &  
Nephew, Inc. also represented by RICHARD GIUNTA.

NAVEEN MODI, Paul Hastings LLP, Washington, DC,  
for appellee Covidien LP.

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Before NEWMAN, WALLACH, and STOLL, *Circuit Judges*.

STOLL, *Circuit Judge*.

Appellant Hologic, Inc. initiated an inter partes reexamination of U.S. Patent No. 8,061,359, which is owned by Appellees Smith & Nephew, Inc. and Covidien LP (together, “S&N”). S&N’s ’359 patent claims priority to an earlier-filed PCT application by the same inventor with a nearly identical specification. The U.S. Patent and Trademark Office’s Patent Trial and Appeal Board found that S&N’s earlier-filed PCT application has sufficient written description to make it a priority document instead of an invalidating obviousness reference. *Hologic, Inc. v. Smith & Nephew, Inc.*, No. 2016-006894, 2016 WL 6216657 (P.T.A.B. Oct. 21, 2016) (“*Board Decision*”). Hologic appeals. We affirm.

#### BACKGROUND

The ’359 patent relates to an endoscope and method to remove uterine tissue. Claims 1–3 and 5–7 are at issue in this appeal, and independent claim 1 is representative. Claim 1, partially reproduced below, recites a method of using an endoscope, which includes a “permanently affixed” “light guide” in one of two channels:

1. A method for removal of tissue from a uterus, comprising:

inserting a distal region of an endoscope into said uterus, the endoscope including a valve and an elongated member defining discrete first and second channels extending from a proximal region of the elongated member to the distal region, the second channel having a proximal end in communication with the valve such that fluid from the valve is able to flow into and through the second channel to the uterus, and *the first channel having a light guide permanently affixed therein* and being

sealed from the second channel to prevent fluid from the valve from entering the uterus through the first channel . . . .

'359 patent, claim 1 (emphasis added).

The figures in the '359 patent are relevant to understanding the disputed claim term "light guide." Figure 2, reproduced below, shows the full device, including the two claimed channels 5 and 6, one of which must have a light guide permanently fixed inside. According to the specification, viewing channel 6 has a lens 13 and can be connected to a light source 8.

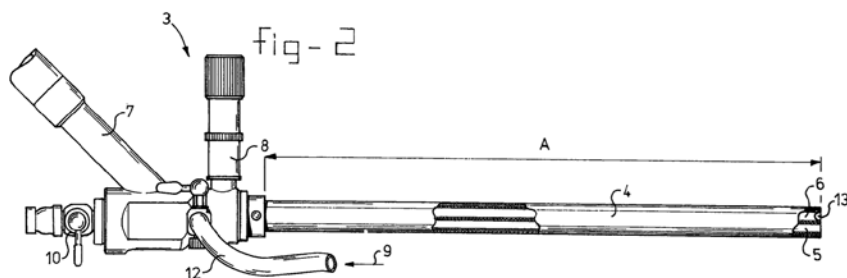
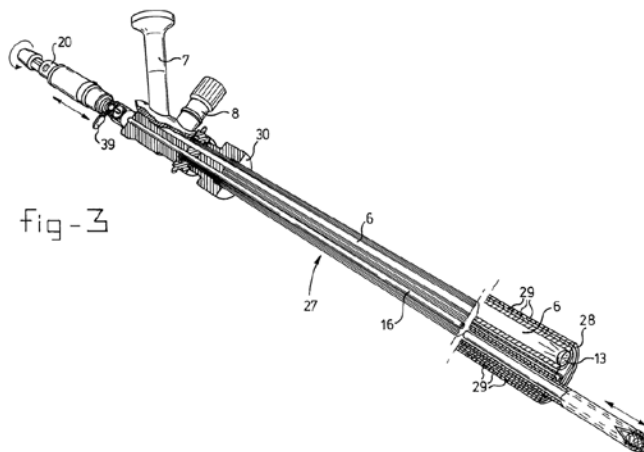
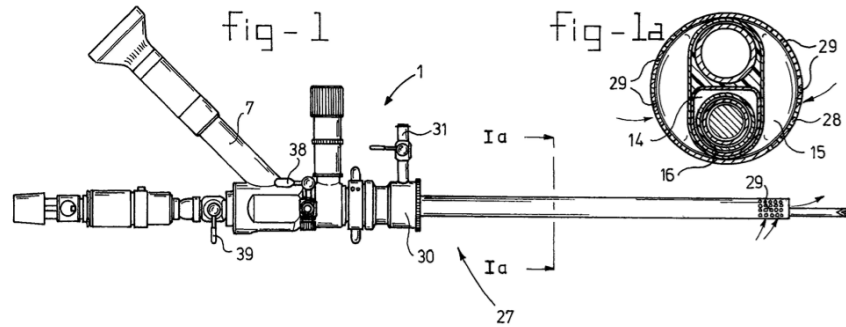


Figure 3, reproduced below, shows a cut-away of Figure 2, including viewing channel 6 and lens 13, and depicts light going from the lens into the viewing channel.



Finally, Figure 1a, reproduced below, illustrates a cross section of the endoscope shaft, including the two channels from Figure 2: viewing channel 6 and main channel 5.



The '359 patent specification text and figures are nearly identical to PCT International Publication No. WO 99/11184 ("Emanuel PCT"), to which the '359 patent claims priority.<sup>1</sup> After entering the national stage with the Emanuel PCT application in a parent application, S&N filed a divisional application that later issued as the '359 patent. An examiner objected to the application's drawings for not showing the "light guide" required by then-pending claim 1 (discussed above). After an interview with the examiner, S&N addressed the objection by amending the specification to state: "A connection 8 for a light source is also present, for connection to a light guide, such as a fibre optics bundle which provides for lighting at the end of lens 13." J.A. 486 (amendment underlined), J.A. 493 (Applicant's Remarks in Amendment). Compare '359 patent col. 3 ll. 56-58, with Emanuel PCT at 4:34-36.

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<sup>1</sup> The '359 patent claims priority to Emanuel PCT via U.S. Patent No. 7,249,602, which issued from the national stage application of Emanuel PCT. The disclosures of the '602 patent and Emanuel PCT are the same for our purposes, so we focus on Emanuel PCT and its role in the '359 patent's prosecution history.

With that amendment, the examiner issued the application as the '359 patent.

After the '359 patent issued, Hologic requested inter partes reexamination of the patent, which the PTO granted. During reexamination, the examiner found that the '359 patent could not claim priority to Emanuel PCT because Emanuel PCT did not provide adequate written description for the '359 patent's claims. Specifically, the examiner reasoned that the disclosure in Emanuel PCT of only a "fibre optics bundle" did not provide adequate written description for the broad genus of "light guides." Thus, the examiner determined that the effective priority date was no earlier than July 20, 2007, and Emanuel PCT, which was published on March 11, 1999, constituted prior art to the '359 patent's claims under pre-AIA § 102(b). Therefore, the examiner rejected claims 1–3 and 5–7 as obvious over Emanuel PCT in view of a secondary reference. S&N appealed to the Board.

The issue before the Board—and before us on appeal—is whether Emanuel PCT, which discloses a "connection to a fibre optics bundle which provides for lighting at the end of lens 13," provides sufficient written description to support the "light guide" "permanently affixed" in the "first channel" of the '359 patent's claims. *See* Emanuel PCT at 4:34–36. If it does, then the '359 patent properly claims priority based on Emanuel PCT. If it does not, then Emanuel PCT is prior art to the '359 patent and invalidates it as obvious. The Board, after briefing and review of expert testimony, found that the disclosure in Emanuel PCT provides sufficient written description support for the claimed "light guide," entitling the '359 patent to the priority date of Emanuel PCT. Accordingly, the Board reversed the examiner's rejections of the '359 patent's claims.

Hologic appeals the Board's decision. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

## DISCUSSION

On appeal, Hologic challenges the Board’s priority date determination and urges this court to reinstate the examiner’s obviousness determination. Obviousness under 35 U.S.C. § 103 is a mixed question of law and fact.<sup>2</sup> We review the Board’s ultimate obviousness determination de novo and underlying fact-findings for substantial evidence. *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016). Whether an earlier-filed application possesses sufficient written description to qualify it as a priority document or is instead invalidating prior art is a fact-finding we review for substantial evidence. See 35 U.S.C. §§ 112, 120; *Yeda Research & Dev. Co. v. Abbott GmbH & Co. KG*, 837 F.3d 1341, 1344–45 (Fed. Cir. 2016).

## I.

To be entitled to the priority date of the earlier-filed Emanuel PCT, S&N must show that Emanuel PCT discloses what the ’359 patent claims, according to the written description requirement of pre-AIA 35 U.S.C. § 112 ¶ 1.<sup>3</sup> See *In re Katz Interactive Call Processing Patent*

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<sup>2</sup> Congress amended § 103 when it enacted the Leahy-Smith America Invents Act (“AIA”). Pub. L. No. 112-29, § 3(c), 125 Stat. 284, 287 (2011). However, because the application that led to the ’359 patent has never contained (1) a claim having an effective filing date on or after March 16, 2013, or (2) a reference under 35 U.S.C. §§ 120, 121, or 365(c) to any patent or application that ever contained such a claim, the pre-AIA § 103 applies. See *id.* § 3(n)(1), 125 Stat. at 293.

<sup>3</sup> Congress also amended § 112 when it enacted the AIA. AIA § 4(c), 125 Stat. at 296–97. However, the amended version of § 112 applies only to patent applications “filed on or after” September 16, 2012. See AIA

*Litig.*, 639 F.3d 1303, 1322 (Fed. Cir. 2011). Specifically, based on “an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art . . . , the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). “In other words, the test for sufficiency is whether the disclosure of the [earlier] application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter” as of that earlier filing date. *Id.* As discussed further below, we find that this standard is satisfied here.

As a preliminary matter, the parties do not dispute the Board’s definition of a person of ordinary skill in the art as a “degreed engineer having at least 5 years of experience designing and developing devices used in minimally invasive surgery (endoscopes, resectoscopes, shavers, tissue removal devices, etc.)” *Board Decision*, 2016 WL 6216657, at \*8. We agree with the Board’s finding that the field of this invention is a predictable art, such that a lower level of detail is required to satisfy the written description requirement than for unpredictable arts. *See id.* at \*13; *Ariad*, 598 F.3d at 1351.

## II.

We affirm the Board’s reversal of the examiner’s rejection because we find substantial evidence supports the Board’s finding that the ’359 patent is entitled to claim priority to Emanuel PCT. Specifically, substantial evidence supports the Board’s finding that Emanuel PCT

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§ 4(e), 125 Stat. at 297. Because the application that led to the ’359 patent was filed before that date, pre-AIA § 112 applies here.

reasonably conveys to a person of ordinary skill that the inventor had possession of the “first channel having a light guide permanently affixed therein.” See ’359 patent, claim 1. We address the substantial evidence supporting each element.

First, Hologic argues that substantial evidence does not support the Board’s conclusion that the Emanuel PCT disclosure reasonably conveys to a person of ordinary skill that the inventor had possession of a “light guide.” While Emanuel PCT explicitly discloses a “fibre optics bundle,” it does not explicitly disclose a “light guide.” Emanuel PCT at 4:34–36. In finding that Emanuel PCT also discloses a “light guide,” however, the Board properly relied on the fact that the parties do not dispute that a “fibre optic bundle” is a type of light guide. *Board Decision*, 2016 WL 6216657, at \*13. Nor did the parties dispute that various types of light guides were well-known in the art. Indeed, the Board correctly found that the declarations of Hologic’s own experts did not dispute either point in discussing how one of ordinary skill would interpret Emanuel PCT. See *id.* (citing Dominicis Decl. ¶ 12 (J.A. 2290), Walbrink Decl. ¶¶ 10(c), 30 (J.A. 2648)). Accordingly, we conclude that substantial evidence supports the Board’s finding that Emanuel PCT reasonably conveys to a person of ordinary skill that the inventor had possession of a “light guide.”

Second, Hologic argues that substantial evidence does not support the Board’s conclusion that the Emanuel PCT disclosure reasonably conveys to a person of ordinary skill that the inventor had possession of a light guide permanently affixed in the “first channel.” Hologic’s argument rings hollow. The first channel is depicted in Figures 2 and 3 as element 6 and is described in Emanuel PCT as a “light channel” or “viewing channel.” See Emanuel PCT at 3:24–25, 4:30–36 (emphases added). Channel 6 is further described as terminating in lens 13 at one end and viewing tube 7, which is an eyepiece or camera connec-



tion, at the other end. Furthermore, the specification makes clear that the viewing channel is element 6 in Figure 2. Element 6 is next to connection 8 for the light source. Additionally, the specification explains that “[a] connection 8 for a light source is also present, for connection to a fibre optics bundle, which provides for lighting at the end of lens 13.” *Id.* at 4:34–36.

Taken together, these statements in the specification support the Board’s finding that Emanuel PCT contemplated a distinct channel for light or viewing, separate from cutting tools. Accordingly, we find that substantial evidence supports the Board’s conclusion that a person of ordinary skill, reviewing the Emanuel PCT figures and specification, would have understood that the inventor had possession of a light guide affixed in the “first channel.”

We must also address Hologic’s argument that Figure 1a, which it alleges does not show illumination components, evidences that the inventor was not in possession of a “first channel having a light guide permanently affixed therein” at the relevant time. We disagree with Hologic’s contention for at least two reasons. First, that the viewing channel does not depict a light guide or fibre optics is not dispositive. The written description does not require that every claimed element be illustrated in the figures, particularly in predictable arts and where the element not depicted is conventional and not “necessary for the understanding of the subject matter sought to be patented.” 35 U.S.C. § 113 (requiring only that the “applicant shall furnish a drawing where necessary for the understanding of the subject matter sought to be patented”); *see also* 37 C.F.R. § 1.81(a) (“The applicant for a patent is required to furnish a drawing of the invention where necessary for the understanding of the subject matter sought to be patented.”); *In re Hayes Microcomputer Prods., Inc. Patent Litig.*, 982 F.2d 1527, 1536 (Fed. Cir. 1992) (concluding substantial evidence supports the

finding that a “microprocessor” illustrated in a figure was sufficient written description support for claimed timing means and other claim elements not depicted in figures). Moreover, the lack of an illumination component in Figure 1a does not undermine the strong evidence noted above that supports the Board’s finding that Emanuel PCT discloses a light guide in channel 6.

Finally, Hologic argues that the Board’s finding that Emanuel PCT reasonably conveys to a person of ordinary skill that the inventor had possession of a “permanently affixed” light guide lacks the support of substantial evidence. We disagree. Figure 1 of Emanuel PCT illustrates a cutting device 1 that may be assembled from multiple parts. Emanuel PCT at 4:15–16 (“Fig. 1 shows the endoscopic cutting device according to the invention in the assembled state.”) Specifically, cutting device 1 is assembled from three primary parts: (a) viewing/receiving part 3 (illustrated in Figure 2), (b) cutting part 2 (illustrated in Figures 4 and 5), and (c) insertion mandrel 40 (illustrated in Figure 6). *Id.* at 4:17–29. Emanuel PCT explains that cutting part 2 is removable. *Id.* at 8:3–8 (“Surgical endoscopic cutting device (1) . . . provided with a receiving part (5) . . . for receiving cutting means (2) . . .”). Similarly, insertion mandrel 40 is removable. *Id.* at 5:38–6:1 (“Mandrel 42 is then removed. . .”). Nowhere, however, does Emanuel PCT suggest that the fibre optics bundle of viewing/receiving part 3 is removable. *See id.* at 4:26–36. Indeed the specification explains that viewing/receiving part 3 is composed of an outer tube 4 in which a main channel 5 and viewing channel 6 are defined. *Id.* at Fig. 2, 4:30–32. At no point does the specification describe the fibre optics bundle component of the viewing/receiving part 3 as removable. It is connection 8 that enables addition or removal of a light source in conjunction with the fibre optics bundle. *Id.* at 4:34–36. Further, viewing channel 6 ends at one side in a lens 13 and at the other side in a viewing tube 7, on which an

eyepiece or camera connection is placed. *Id.* at Fig. 2, 4:30–37. The fact that viewing channel 6 is bookended by lens 13 and viewing tube 7 is evidence that these components form a unitary part that is not removable. The specification also describes a connection 8 for a light source, for connection to a fibre optics bundle that provides for lighting at the end of the lens 13. *Id.* at Fig. 2, 4:30–37. Indeed, Figure 2 shows connection 8 is integral with the viewing/receiving part 3. *Id.* at Fig. 2. Taken together, these disclosures in Emanuel PCT support the Board’s finding that Emanuel PCT contemplated a “permanently affixed” light guide. Accordingly, we find that substantial evidence supports the Board’s conclusion that a person of ordinary skill, reviewing Emanuel PCT, would have understood that the inventor had possession of a “permanently affixed” light guide.

In addition to the intrinsic evidence discussed above, prior patents reflecting the state of the art at the time of the invention and expert testimony regarding that evidence further support the Board’s findings. The ’359 patent on its face lists several pieces of prior art, including U.S. Patent No. 4,606,330 (“Bonnet”) and U.S. Patent No. 4,706,656 (“Kuboto”). Bonnet and Kuboto both describe endoscopes with permanently affixed light guides. S&N’s experts, Dr. Keith B. Isaacson and Mr. Richard J. Apley, each testified that the figures in Emanuel PCT look more like the figures in Bonnet and Kuboto than figures in several prior art patents directed to removable light guides. Specifically, Dr. Isaacson testified that, as of at least September 1998, a person of ordinary skill in the art would have known that there were two types of endoscopic systems generally available for use in surgical procedures: a removable “telescope,” or a unitary integrated device—like Bonnet and Kuboto. Dr. Isaacson further testified that the two types of devices were readily distinguishable merely by looking at pictures of the devices. Continuing, Dr. Isaacson explained that,

in looking at the Emanuel PCT figures, a person of skill in the art would recognize that they have permanently affixed light guides and lenses, similar to those shown in Bonnet and Kuboto. Mr. Apley provided similar testimony.

Hologic argues that the Board improperly relied on prior art to supply missing claim elements. We do not agree. The Board simply considered what the specification reasonably conveys to the skilled artisan who has knowledge of the prior art. *See Ariad*, 598 F.3d at 1351. The Board did not err in this regard.

Hologic likewise argues that the Board did not properly limit its consideration to the four corners of Emanuel PCT because the endoscope in Emanuel PCT does not expressly or “*necessarily* include a light guide permanently affixed in a first channel.” Appellant Br. 38 (emphasis added). Hologic’s understanding of our written description law is incorrect. Rather, we agree with the Board that the proper test is the one we articulated in *Ariad*: “whether the disclosure of the application relied upon reasonably conveys to those skilled in the art that the inventor had possession of the claimed subject matter as of the filing date.” *Board Decision*, 2016 WL 6216657, at \*6 (citing *Ariad*, 598 F.3d at 1351).

For the above reasons, we are satisfied that the Board applied the correct law and that substantial evidence supports the Board’s finding that Emanuel PCT provides sufficient written description disclosure of the claimed “first channel having a light guide permanently affixed therein.”

#### CONCLUSION

We have reviewed Hologic’s remaining arguments and find them unpersuasive. For the reasons above, we affirm the Board’s finding that Emanuel PCT provides written description support for claims 1–3 and 5–7 of the

'359 patent and that the '359 patent is entitled to claim priority to Emanuel PCT. Accordingly, we affirm the Board's finding that Emanuel PCT is not prior art to the '359 patent under pre-AIA Section 102(b). We also affirm the Board's reversal of the examiner's corresponding obviousness rejection.

**AFFIRMED**

COSTS

Costs to Appellees.