NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

HAAG-STREIT AG,
Appellant

v.

EIDOLON OPTICAL, LLC,
Appellee

2020-1485

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2018-01311.

Decided: January 19, 2021

RICHARD ERIC GAUM, Taft, Stettinius & Hollister, LLP, Cleveland, OH, for appellant. Also represented by RYAN O. WHITE, Indianapolis, IN.

JODI-ANN MCLANE, McInnes & McLane, LLP, Providence, RI, for appellee. Also represented by ALISSA DIGMAN; JOHN T. MCINNES, Worcester, MA.

Before LOURIE, O'MALLEY, and REYNA, *Circuit Judges*.

O'MALLEY, *Circuit Judge*.

Appellant Haag-Streit AG ("Haag-Streit") filed a petition to institute an inter partes review ("IPR") of certain claims of U.S. Patent No. 6,547,394 B2 ("the '394 patent"). The Patent Trial and Appeal Board ("Board") instituted review and ultimately issued a final written decision finding that Haag-Streit failed to prove that the challenged claims were unpatentable under 35 U.S.C. § 103(a). *Haag-Streit AG v. Eidolon Optical, LLC*, No. IPR2018-01311, 2019 Pat. App. LEXIS 13545 (P.T.A.B. Dec. 19, 2019) ("*Board Decision*"). Haag-Streit appeals the Board's final written decision, challenging the Board's assessment of the evidence. For the reasons explained below, we *affirm*.

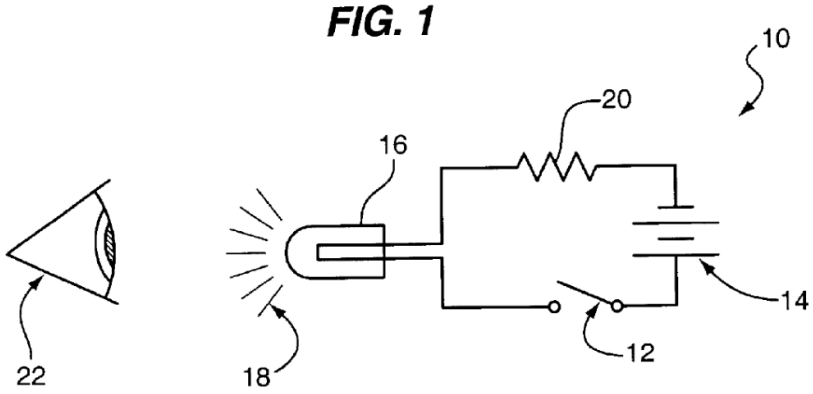
BACKGROUND

Eidolon Optical, LLC ("Eidolon") owns, by assignment, the '394 patent, which relates to "a device which is used to illuminate a patient's eye that has been administered with a fluorescent dye for the purpose of examining the eye for epithelial defects." '394 patent, col. 1, ll. 48–51. The patent explains that "current technology utilizes a battery operated hand-held penlight illuminator in conjunction with a solution of Sodium Fluorescein." *Id.* at col. 1, ll. 14–16. The existing prior art device "typically uses conventional batteries as a power source and an incandescent or halogen light bulb . . . [with a] cobalt blue filter attached over the lamp [that] filters the white light emitted by the bulb to produce a blue beam." *Id.* at col. 1, ll. 19–22. "This blue beam is used to illuminate the patient's eye after application of the Sodium Fluorescein dye." *Id.* at col. 1, ll. 22–24.

According to '394 patent, "[t]he invention in its simplest form utilizes four components: a battery, an electrical resistor, an electrical switch and a blue light emitting diode ['LED']." *Id.* at col. 1, ll. 51–53. Figure 1, below, depicts "an electrical schematic of an ophthalmic illuminator

utilizing a blue LED source, according to the invention." *Id.* at col. 1, ll. 56–58.

FIG. 1



Describing Figure 1, the '394 patent discloses that, "when the switch 12 is closed[,] electrical energy from the battery 14 flows through the circuit 10 and causes the blue LED 16 to produce blue light 18." *Id.* at col. 2, ll. 7–10. The patent also discloses that "resistor 20 is used to limit the current that is applied to the LED 16 as per the manufacturer specification[,] which is typically 20 to 30 milliamps." *Id.* at col. 2, ll. 10–12.

According to the '394 patent, the device depicted in Figure 1 is "superior to the current incandescent technology" because: (1) "the blue LED 16 emits more illumination in the desired blue spectrum (425 to 475 NM) than the filtered incandescent lamp which results in more fluorescence of the fluorescein dyed eye 22 and thus has better sensitivity;" (2) "the blue LED 18 uses less power than a blue optically filtered incandescent or halogen bulb so that the battery power source 14 should last significantly longer;" and (3) "the invention is simpler to the prior art technology in that there is no need for a blue bandpass optical filter." *Id.* at col. 2, ll. 25–35.

Of the challenged claims, claims 1 and 15 are independent. Claims 5, 6, 8–10, and 14 depend from claim 1, and claims 16 and 19 depend from claim 15. Claim 1 recites:

> 1. An ophthalmic illuminator, comprising:
>
> a battery;
>
> an electrical resistor in circuit with the battery;
>
> an electrical switch in circuit with the resistor;
>
> at least one light emitting diode, in circuit with the switch, for generating blue light energy in response to activation of the switch; and
>
> a fluorescein dye administered to a patient's eye, the dye being responsive to the energy to fluoresce.

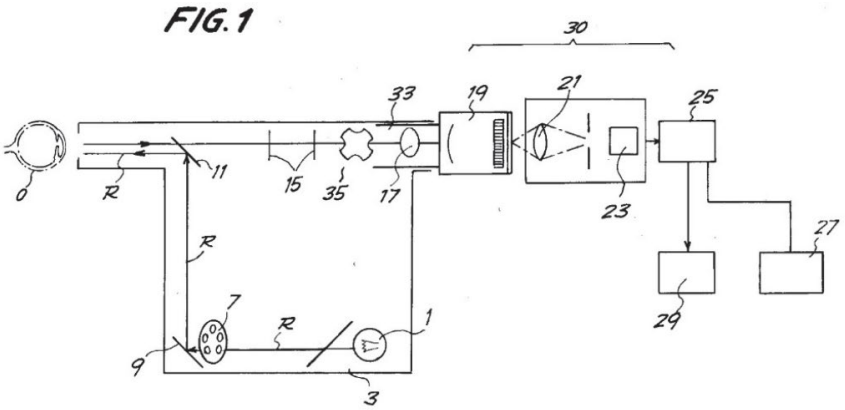
'394 patent, col. 4, ll. 10–21. Claim 15 recites:

> A method for illuminating a patient's eye for ophthalmic examination, comprising the steps of: administering a fluorescein dye to the patient's eye, illuminating the eye with blue light energy generated from one or more light emitting diodes, the dye being responsive to the blue light energy to fluoresce, and viewing the patient's eye, and viewing the eye while the dye fluoresces.

Id. at col. 5, ll. 1–7.

Haag-Streit petitioned for IPR of claims 1, 5, 6, 8–10, 14–16, and 19 of the '394 patent. In relevant part, Haag-Streit challenged claims 1, 5, 6, 8–10, 14, and 19 as obvious in light of European Patent Application 0 554 643 A1 ("Longobardi"), which was filed on February 5, 1992. J.A. 64–76. Longobardi discloses "an apparatus for visualizing an object and/or recording images of said object under low lighting conditions." Longobardi, col. 1, ll. 3–5. One disclosed application for the apparatus is for retinal or choroidal angiography. *Id.* at Abstract. Figure 1 of

Longobardi, reproduced below, depicts "a diagram of a possible embodiment of the device for retinal angiography[:]"



Id. at col. 8, ll. 4–5. Figure 1 shows a device for retinal angiography having "a continuous light source 1 of low power, for example 20 W electric," a "filter support ring 7," which "may be fitted with various interference filters to be used for various types of observation," and an "image intensifier 19," which "amplifies the image." *Id.* at col. 8, ll. 15–50. Figure 1 shows filter support ring 7 as including five filters (shown as circles). Longobardi explains that the filters are used with various tracers, such as fluorescein and indocyanine green, to observe "the various layers of the fundus of the eye." *Id.* at col. 8, ll. 23–27. Longobardi further explains that, "[f]or retinal fluoroscopic angiography, two filters are normally used: one transmits blue light between 465 and 490 nm, representing the absorption peak of the excitation of fluorescein; the other transmits between 525 and 530 nm, where the emission peak of fluorescein is located." *Id.* at col. 4, ll. 7–15.

Figure 1A of Longobardi, reproduced below, depicts "a diagram of a modified embodiment[:]"

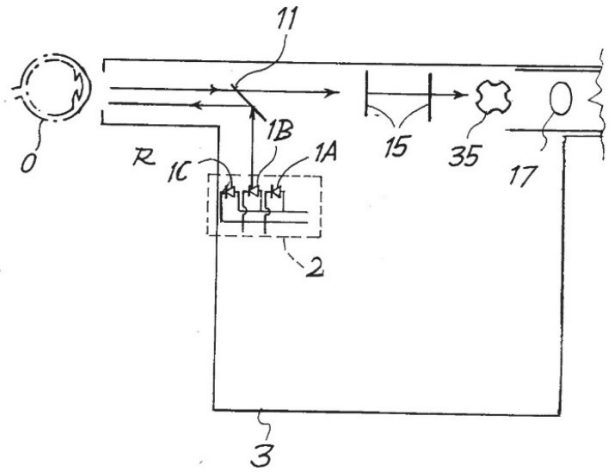


FIG. 1A

Id. at col. 8, l. 6. In the Figure 1A embodiment, "a light source consisting of 'a set of three [LEDs] 1A, 1B, 1C' replaces continuous light source 1, filter support ring 7, and mirror 9 from the Figure 1 embodiment." *Board Decision*, 2019 Pat. App. LEXIS 13545, at *17 (quoting Longobardi, col. 9, ll. 39–43)).

The Board instituted review. After briefing and oral argument, the Board issued its final written decision finding that Haag-Streit failed to show that the asserted claims are unpatentable. In doing so, the Board explained that claim 1 requires "at least one light emitting diode . . . for generating blue light energy" (the "'blue light energy' limitation"), and construed that limitation to require that the "light emitting diode" or LED "*itself* generates 'blue light energy.'" *Id.* at *19–20 (quoting '394 patent, col. 4, ll. 17–19). While both parties agreed that Longobardi does not *expressly* disclose the "blue light energy" limitation, Haag-Streit argued that Longobardi "*implicitly* discloses a blue LED." *Id.* at *20–21. In particular, Haag-Streit argued that "Longobardi teaches making the same invention of

Fig. 1 using LEDs, as shown in Fig. 1A, which expressly includes fluorescence wavelengths for sodium fluorescein, i.e., blue light." *Id.* at *29.

The Board rejected Haag-Streit's argument "that one of ordinary skill in the art would have understood Longobardi as implicitly disclosing the presence of a blue LED with sufficient power output to cause sodium fluorescein to fluoresce." *Id.* Specifically, the Board found that: (1) "[t]he invention taught in Fig. 1A is more limited than the invention taught in Fig. 1[,]" such that the two embodiments do not depict "identical embodiments of the same invention with different light sources;" (2) "*none* of the declaration testimony of [Haag-Streit's expert] Dr. Jiao supports [the] position" that Longobardi "implicitly disclos[es] the presence of a blue LED;" and (3) Haag-Streit "has not adequately demonstrated that a blue LED with sufficient power output to cause sodium fluorescein to fluoresce *existed* as of February 5, 1992"—which the parties agreed "is the relevant point in time to assess the alleged implicit disclosures in Longobardi." *Id.* at *30–34.

Given these findings, the Board concluded that Haag-Streit failed to establish the existence, as of February 5, 1992, "of a blue LED having sufficient power output to cause sodium fluorescein to fluoresce," and further failed to show "that Longobardi would have been understood by one of ordinary skill in the art as implicitly disclosing the 'blue light energy' limitation." *Id.* at *41. As such, the Board found that Haag-Streit "has not demonstrated by a preponderance of the evidence that claim 1 would have been obvious based on Longobardi and Devonshire." *Id.*[1]

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[1] Before the Board, Haag-Streit asserted that claims 1, 5, 6, 8–10, 14, and 19 were obvious in light of Longobardi and GB 2 077 946 A ("Devonshire"), published December 23, 1981. *Board Decision*, 2019 Pat. App. LEXIS

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

DISCUSSION

Obviousness is a question of law based on underlying findings of fact, including the scope and content of the prior art, differences between the prior art and the claimed invention, the level of ordinary skill in the art, and any objective evidence of nonobviousness. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). Although the Board's ultimate conclusion that the claims are not obvious is a legal determination subject to de novo review, we review the Board's subsidiary factual findings for substantial evidence. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1366 (Fed. Cir. 2016).

Under 35 U.S.C. § 103, a prior art reference "must be considered not only for what it expressly teaches, but also for what it fairly suggests." *In re Burckel*, 592 F.2d 1175, 1179 (C.C.P.A. 1979); *see also In re Lamberti*, 545 F.2d 747, 750 (C.C.P.A. 1976) ("[T]he question under 35 U.S.C. § 103 is not merely what the references expressly teach, but what they would have suggested to one of ordinary skill in the art at the time the invention was made."). Whether a person of ordinary skill in the art would view a prior art reference as containing an implicit disclosure is a question of fact, which we review for substantial evidence. *See IXI IP, LLC v. Samsung Elecs. Co.*, 903 F.3d 1257, 1262–65 (Fed. Cir. 2018) ("We conclude that substantial evidence supports the Board's finding" of implicit disclosure in a prior art reference).

On appeal, Haag-Streit argues that the Board erred in finding that Longobardi does not implicitly disclose a blue

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13545, at *6, n.5. On appeal, Haag-Streit does not challenge any of the Board's findings with respect to Devonshire.

LED having sufficient power to cause sodium fluorescein to fluoresce. According to Haag-Streit, the Board: (1) misinterpreted Longobardi in holding that the invention shown in Figure 1A is more limited than the invention shown in Figure 1; (2) erred in finding that *none* of Dr. Jiao's testimony supported the position that one of ordinary skill would have understood Longobardi as implicitly disclosing a blue LED; and (3) erred in finding that Haag-Streit failed to establish that, as of February 5, 1992, blue LEDs had sufficient output power to cause sodium fluorescein to fluoresce. As explained below, we conclude that substantial evidence supports the Board's findings.

First, as noted, the Board disagreed with Haag-Streit's argument that Figure 1 and Figure 1A of Longobardi depict "'identical embodiments of the same invention with different light sources'—i.e., a continuous light source and filter providing blue light in the context of the Figure 1 embodiment and an LED generating blue light in the Figure 1A embodiment." *Board Decision*, 2019 Pat. App. LEXIS 13545, at *29–30. Instead, the Board was persuaded that "[t]he invention taught in Fig. 1A is more limited than the invention taught in Fig. 1." *Id.* In reaching this conclusion, the Board explained that Figure 1 of Longobardi is "directed to a non-LED light source and does not teach that there is any limitation to the number of filters that can be employed," whereas "Longobardi expressly teaches that Fig. 1A is limited to only three LEDs." *Id.* And, although it recognized that Longobardi does "state that the Figure 1A embodiment includes several structures identical to those in Figure 1," the Board found that Haag-Streit "has not persuasively shown that one of ordinary skill in the art would have understood this to also indicate that these embodiments share all the same *functionality*, including, for example, the presence of blue light to cause sodium fluorescein to fluoresce." *Id.* at *30–31.

Substantial evidence supports the Board's factual finding that one of ordinary skill in the art would not

understand the functionality of Figure 1 and Figure 1A of Longobardi to be the same. Haag-Streit argued that Longobardi teaches making the same invention of Figure 1 using LEDs shown in Figure 1A, and that this substitution would "include[] a blue light LED to cause the most common tracer substance, sodium fluorescein, to fluoresce." Appellant's Br. 32. But the Board agreed with Eidolon that Figure 1 of Longobardi is directed to a non-LED light source, and discloses "the use of tracers *other than* sodium fluorescein (e.g., indocyanine green) for use with the Figure 1 embodiment," whereas Figure 1A is limited to three LEDs. *Board Decision*, 2019 Pat. App. LEXIS 13545, at *30–31.

The Board carefully considered Longobardi as a whole, as well as the competing expert testimony, and concluded that one of ordinary skill in the art would not have understood the embodiments shown in Figure 1 and Figure 1A to be identical embodiments of the same invention with a different light source and the same functionality. *Id.* at *28–31. We decline to reweigh that evidence on appeal. *In re NTP, Inc.*, 654 F.3d 1279, 1292 (Fed. Cir. 2011) ("This court does not reweigh evidence on appeal, but rather determines whether substantial evidence supports the Board's fact findings."). Instead, we conclude that, on this record, the Board's determination that the invention taught in Figure 1A is more limited than the invention taught in Figure 1, is supported by substantial evidence.

Second, the Board found that Dr. Jiao's testimony did not support the position that one of ordinary skill in the art would have understood Longobardi to implicitly disclose the presence of a blue LED. In particular, the Board found that none of Dr. Jiao's testimony "actually addresses the state of the art of blue LEDs *in 1992*, which, as acknowledged by [Haag-Streit], is the relevant point in time to assess the alleged implicit disclosures in Longobardi." *Board Decision*, 2019 Pat. App. LEXIS 13545, at *33. The Board explained that, although Dr. Jiao's original declaration

filed with the IPR petition stated that "one of ordinary skill in the art 'would understand Longobardi's teaching of using fluorescein for imaging purposes [to] necessarily mean[] that *the instrument emits blue light*'" he failed to "adequately support the view that one of ordinary skill in the art would have understood Longobardi to implicitly disclose the presence of *a blue LED*." *Id.* at *33. Indeed, the Board noted that Dr. Jiao's testimony on this issue "makes no reference to a blue LED." *Id.*

On appeal, Haag-Streit argues that the Board's finding that "*none* of Dr. Jiao's testimony supports the contention that Longobardi implicitly discloses a blue LED" is inconsistent with findings the Board made in its Institution Decision. Appellant's Br. 34. But it is well established that "the Board is not bound by any findings made in its Institution Decision." *TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (explaining that, at the institution phase, "the Board is considering the matter preliminarily without the benefit of a full record"). In any event, we disagree with Haag-Streit's assertion that the Board's findings in the Institution Decision are inconsistent with those in its final written decision.

In the Institution Decision, the Board never said that Dr. Jiao's testimony supports the position that one of ordinary skill in the art would have understood Longobardi to implicitly disclose the presence of a blue LED. Instead, the Board acknowledged that "Petitioner (via Dr. Jiao) [took] the position that one of ordinary skill in the art would view Longobardi as at least implicitly teaching or suggesting the use of a blue LED to generate blue light energy," while "Patent Owner (via Dr. Lebby) [took] the position that blue LEDs did not exist at the time for medical use and that one of ordinary skill in the art would not have used a blue LED for medical use." *Haag-Streit AG v. Eidolon Optical, LLC*, No. IPR2018-01311, 2019 WL 171684, at *10 (P.T.A.B. Jan. 11, 2019). The Board found that this conflicting testimony created a genuine issue of material fact which, at that stage

in the proceedings, had to be viewed in the light most favorable to Haag-Streit. *Id.*

In its final written decision, the Board carefully considered Dr. Jiao's declarations, but agreed with Eidolon's evidence and argument in finding that his testimony failed to demonstrate that one of ordinary skill in the art would have understood Longobardi to implicitly disclose the presence of a blue LED. *Board Decision*, 2019 Pat. App. LEXIS 13545, at *31–33. "[I]t is not for us to second-guess the Board's assessment of the evidence." *Velander v. Garner*, 348 F.3d 1359, 1378–79 (Fed. Cir. 2003) ("Our task is to determine whether substantial evidence supports the conclusion chosen by the Board.").

Finally, the Board found that Haag-Streit did not carry its burden to establish that "a blue LED with sufficient power output to cause sodium fluorescein to fluoresce *existed as* of February 5, 1992." *Board Decision*, 2019 Pat. App. LEXIS 13545, at *34. On this point, Eidolon presented expert testimony that, "[a]t the time of Longobardi, 1992, an LED capable of generating blue light energy suitable for diagnostic medical applications such as retinal angiography simply did not exist." *Id.* at *34–35. The Board found that this evidence shifted the burden of production to Haag-Streit to establish that blue LEDs sufficient to excite sodium fluorescein existed as of February 5, 1992. *Id.* at *35–36. Haag-Streit's expert, Dr. Jiao, admitted that he did not know the specific amount of power output needed for an LED to cause sodium fluorescein to fluoresce. *Id.* at *38–39. "Without knowing the amount of power necessary to cause sodium fluorescein to fluoresce," the Board found that Haag-Streit could not carry its burden on this issue. *Id.* at *39. Given the evidence, the Board found that Haag-Streit did not meet its burden to establish that, as of February 5, 1992, blue LEDs with sufficient power existed. *Id.* at *41.

On appeal, Haag-Streit points to three different references to argue that blue LEDs existed as of 1992. Appellant's Br. 12–15. As noted, however, the relevant inquiry before the Board was whether blue LED *with sufficient power output* to cause sodium fluorescein to fluoresce existed as of February 5, 1992. *Board Decision*, 2019 Pat. App. LEXIS 13545, at *27. The Board carefully considered the parties' competing evidence and testimony in finding that Haag-Streit failed to meet its burden on this issue. In doing so, the Board refused to consider an exhibit Haag-Streit sought to rely upon for the first time during oral argument. *Id.* at *36–37. That evidentiary determination was within the Board's discretion, and we decline to disturb it on appeal. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1078 (Fed. Cir. 2015) ("We review the Board's evidentiary ruling for abuse of discretion, which may be found if the Board violated governing law."); *see Dell Inc. v. Acceleron, LLC*, 884 F.3d 1364, 1369 (Fed. Cir. 2018) (noting that, absent exercise of its waiver authority, "the Board was obligated to dismiss [the petitioner's] untimely argument . . . raised for the first time during oral argument").

Haag-Streit also argues that the Board erred in "disregarding the Hartnett reference from 1994." Appellant's Br. 21. Review of the Board's decision reveals that it did, in fact, consider that reference, but found that it: (1) did not reflect the state of the art as of 1992; and (2) disclosed "the use of a *laser*, not a blue *LED*." *Board Decision*, 2019 Pat. App. LEXIS 13545, at *41. We decline to reweigh that evidence on appeal.

On this record, substantial evidence supports the Board's factual finding that Haag-Streit did not prove by a preponderance of the evidence that Longobardi implicitly discloses the "blue light energy" limitation of claims 1 and 15 of the '394 patent.

CONCLUSION

We have considered Haag-Streit's remaining arguments, but find them unpersuasive. For the foregoing reasons, we *affirm* the Board's final written decision.

AFFIRMED