

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

NFC TECHNOLOGY, LLC,
Appellant

v.

**JOSEPH MATAL, PERFORMING THE FUNCTIONS
AND DUTIES OF THE UNDER SECRETARY OF
COMMERCE FOR INTELLECTUAL PROPERTY
AND DIRECTOR, U.S. PATENT AND TRADEMARK
OFFICE,**
Intervenor

2016-1808

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. IPR2014-01198.

Decided: September 20, 2017

ROBERT AUCHTER, McKool Smith, P.C., Washington, DC, argued for appellant. Also represented by JON WRIGHT, ADAM LAROCK, Sterne Kessler Goldstein & Fox, PLLC, Washington, DC.

ROBERT J. MCMANUS, Office of the Solicitor, United States Patent and Trademark Office, Alexandria, VA, argued for intervenor Joseph Matal. Also represented by

NATHAN K. KELLEY, MONICA BARNES LATEEF, JOSEPH GERARD PICCOLO, SCOTT WEIDENFELLER.

Before NEWMAN, LOURIE, and HUGHES, *Circuit Judges*.

LOURIE, *Circuit Judge*.

NFC Technology, LLC (“NFC”) appeals from the final written decision of the U.S. Patent and Trademark Office Patent Trial and Appeal Board (“the Board”) in an *inter partes* review (“IPR”) proceeding concluding that claims 1–3 and 5 of U.S. Patent 6,700,551 (“the ’551 patent”) are unpatentable as obvious. *See HTC Corp. v. NFC Tech., LLC*, IPR 2014-01198, 2016 WL 497524, at *1 (P.T.A.B. Feb. 3, 2016) (“*Final Decision*”). Specifically, the Board rejected NFC’s argument that it had created a prototype embodying the claimed invention before the priority date of a cited reference, on the basis that NFC had not adequately proven that certain third-party activity inured to NFC’s benefit. *Id.* at *5–15. For the reasons that follow, we reverse the Board’s determination as to inurement, and remand for the Board to determine whether NFC presented sufficient evidence that the prototype embodied the claimed invention.

BACKGROUND

NFC owns the ’551 patent, which generally relates to a near-field communication device. *See* ’551 patent col. 1 ll. 9–12. Such devices use electromagnetic induction to communicate information over very short distances. *See id.* col. 1 ll. 14–18.

When the application that became the ’551 patent was filed, two near-field communications standards existed: ISO/A and ISO/B. *Id.* col. 1 ll. 19–26. According to the ’551 patent, relatively simple circuits could be used to cause a device to communicate using a single standard; for the device to be capable of communication using both

standards, however, it required a circuit that was more complicated and consequently more expensive to manufacture. *Id.* col. 1 ll. 44–60.

A primary goal of the invention described and claimed in the '551 patent is to allow for communication using both standards in a circuit that is “simple in structure and inexpensive to produce.” *Id.* col. 1 ll. 61–65. The claims reflect this functionality. *See id.* col. 7 l. 16–col. 8 l. 32. The '551 patent claims a priority date of March 25, 1999, the date of the filing of a French patent application. *Final Decision*, 2016 WL 497524, at *5.

HTC Corp. (“HTC”) petitioned for IPR of the '551 patent, alleging that claims 1–3 and 5 were unpatentable as obvious over, *inter alia*, U.S. Patent 6,122,492 (“Sears”). *See* Joint Appendix (“J.A.”) 65. Sears bears a filing date of February 8, 1999. *Final Decision*, 2016 WL 497524, at *5. The Board instituted review. J.A. 208.

NFC responded that Bruno Charrat (“Charrat”), the inventor of the '551 patent, had reduced the invention to practice before Sears’s priority date. *See* J.A. 257. Specifically, NFC argued that Charrat and his team at INSIDE Technologies (“INSIDE”) had reduced the invention to practice “on or before November 1998.” J.A. 257. NFC’s general theory of the case was that Charrat had conceived the invention by June 1998, and then worked with a team at INSIDE to design a device embodying the invention (“the M210H device”). By September 1998, NFC claimed, Charrat and his team had sufficiently developed the device that they commissioned Concept Electronique (“CE”), a chip fabrication company, to generate printed circuit board (“PCB”) layouts for the M210H device. NFC alleged that once Charrat and his team ordered this prototype they wrote software for it, and, once they received the prototype, tested it to ensure that it worked for its intended purpose and verified that the prototype conformed to their design.

NFC presented evidence to support its contention that Charrat's invention was reduced to practice before Sears's priority date. The evidence included: (1) an initial data sheet that purportedly described the M210H device at a high level, dated June 26, 1998, *see* J.A. 2335–60; (2) undated, unwitnessed excerpts from lab notebooks purportedly authored by Charrat, *see* J.A. 2369–441; (3) PCB diagrams for the prototype generated by CE, dated September 1998, *see* J.A. 2442–53; (4) a return of a facsimile cover sheet from CE dated September 10, 1998, with Charrat's signature under handwritten "OK FAB," although missing the four pages attached to the cover sheet, *see* J.A. 2790; (5) a document entitled "Test of Various Transmitters," detailing tests of the "M210H-2" antenna, authored by a Mr. de Moncuit and allegedly detailing the results of tests of the prototype, *see* J.A. 2819–53¹; and (6) a highlighted wiring diagram purportedly used to verify that the prototype accurately reflected the INSIDE design, dated February 5, 1999, and indicating that it reflected revision 3, *see* J.A. 2854–58. Charrat also provided testimony relating to his research and testing during the relevant period. *See generally* J.A. 2957–76.

HTC presented two main arguments in reply. HTC first argued that the documentation was only corroborated by Charrat's own testimony, and was therefore insuffi-

¹ Although the English translation provided in the appendix actually states that an "M2100-2" antenna was tested, NFC's counsel indicated at oral argument before the Board that "[i]f one looks at the original French language document, you'll see that it is a 210H-2 system" and that the difference is due to "an error in the translation." *See* J.A. 608. The original French-language document in the appendix confirms the translation error. *See* J.A. 2839.

cient. J.A. 451–54. HTC next argued that even if the evidence was sufficiently corroborated, the M210H prototype did not work for its intended purpose or embody all of the claim limitations. J.A. 455–66. For example, HTC argued that Charrat had not developed the software necessary for the prototype to function, that the tests were not for a single device because each standard required a different configuration, and that, in any event, the tested hardware did not work. *Id.*

As NFC bore the burden of proof on antedating Sears, it asked for and was granted permission to file a surreply. J.A. 514–20. The surreply only addressed the arguments presented by HTC. *See id.*

In its final written decision, the Board determined that NFC had not adequately demonstrated that Charrat had reduced the invention to practice before Sears’s priority date. *See Final Decision*, 2016 WL 497524, at *11. The Board did not decide whether INSIDE’s prototype embodied the claimed invention; instead, it concluded that, even assuming that the prototype embodied the invention, NFC had not adequately established that CE’s fabrication of the prototype inured to Charrat’s benefit. *Id.*

The Board reasoned that CE had reduced the invention to practice because it, not Charrat, had physically created the prototype. *Id.* For Charrat to receive the benefit of that reduction to practice, the Board read our precedents as requiring that Charrat conceived the claimed invention and communicated the underlying subject matter to CE. *Id.* at *12 (citing *Cooper v. Goldfarb*, 240 F.3d 1378, 1383 (Fed. Cir. 2001) (“*Cooper II*”); *Genentech, Inc. v. Chiron Corp.*, 220 F.3d 1345, 1354 (Fed. Cir. 2000); *Cooper v. Goldfarb*, 154 F.3d 1321, 1322 (Fed. Cir. 1998) (“*Cooper I*”). Thus, the Board turned to whether NFC had produced sufficient evidence to estab-

lish that Charrat had conceived the claimed invention before ordering the prototype from CE. *Id.*

The Board determined that NFC had introduced insufficient evidence that Charrat had conceived the subject matter of the claims. *Id.* at *13. The Board determined that although Charrat testified that he had designed the M210H device, the other evidence did not corroborate his testimony. *Id.* Specifically, the Board concluded that none of the provided documents established “directly who conceived of the subject matter of the challenged claims and when that person or persons did so.” *Id.*

In reaching that conclusion, the Board stepped through each piece of evidence that NFC had presented. The Board determined that (1) there was no author listed on the initial data sheet, and only Charrat’s testimony provided evidence that he was the author; (2) Charrat’s purported lab notebooks were not signed or witnessed; (3) the PCB layout was generated by CE, not Charrat or INSIDE; (4) there was no evidence relating to the communications that resulted in the facsimile cover sheet on which Charrat wrote “OK FAB”; and (5) the prototype testing document identified the device tested as “M210H-2” and the wiring diagram indicated that it is “Revision: 3,” and so it was unclear what exactly was tested. *Id.* at *13–14.

Aside from conception, the Board also determined that NFC had not provided sufficient evidence that CE fabricated a prototype according to a design provided by Charrat at his direction because NFC had not provided any evidence establishing what was communicated to CE. *Id.* at *15. Thus, the Board found that Charrat’s testimony relating to conception was not sufficiently corroborated, and that therefore NFC had not antedated Sears. *Id.* Accordingly, the Board turned to the merits of HTC’s obviousness argument, and concluded that each chal-

lenged claim was unpatentable as obvious. *See id.* at *16–24.

NFC timely appealed, and the Director of the U.S. Patent and Trademark Office (“the Director”) intervened pursuant to 35 U.S.C. § 143. After the Director intervened but before filing its own brief, HTC settled its dispute with NFC. As part of the settlement agreement, HTC agreed not to participate in the instant appeal; accordingly, HTC moved for, and was granted, permission to withdraw as a party. The Director then filed a principal brief and participated in oral argument. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

NFC does not challenge the merits of the Board’s obviousness determination, and instead focuses on the inurement analysis. Specifically, it argues that (1) the Board should not have addressed the inurement issue at all because it was not raised by the parties; (2) the Board erred by evaluating the evidence using interference standards for determining priority of invention, rather than the 37 C.F.R. § 1.131 standard for antedating a reference; and (3) NFC provided sufficient evidence corroborating Charrat’s conception to establish inurement. Even assuming that the Board did not err in addressing the inurement issue or applying interference law, we determine that the Board’s conclusions and findings relating to Charrat’s conception are not supported; accordingly, we limit our analysis to that issue.

Inurement is a question of law that we review *de novo*. *Cooper II*, 240 F.3d at 1383. Conception is a question of law based on subsidiary factual findings. *Singh v. Brake*, 317 F.3d 1334, 1340 (Fed. Cir. 2003). “We have treated the sufficiency of corroboration as a question of fact.” *Fleming v. Escort Inc.*, 774 F.3d 1371, 1377 (Fed. Cir. 2014). We review the Board’s legal conclusions *de novo*, and its factual findings for substantial evidence.

Singh, 317 F.3d at 1340. A finding is supported by substantial evidence if a reasonable mind might accept the evidence as sufficient to support the finding. *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

“[A]n inventor’s testimony, standing alone, is insufficient to prove conception—some form of corroboration must be shown.” *Price v. Symsek*, 988 F.2d 1187, 1194 (Fed. Cir. 1993). “There is no particular formula that an inventor must follow in providing corroboration of his testimony of conception.” *Singh*, 317 F.3d at 1341. Instead, corroboration “is determined by a ‘rule of reason’ analysis, in which ‘an evaluation of all pertinent evidence must be made so that a sound determination of the credibility of the inventor’s story may be reached.’” *Id.* (quoting *Price*, 988 F.2d at 1195). Under the rule of reason, the evidence “must be considered as a whole, not individually.” *Price*, 988 F.2d at 1196; *see also Perfect Surgical Techniques, Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1007–08 (Fed. Cir. 2016); *Brown v. Barbacid*, 436 F.3d 1376, 1380 (Fed. Cir. 2006). Thus, an inventor’s conception can be corroborated even though “no one piece of evidence in and of itself” establishes that fact, *Price*, 988 F.2d at 1196, and even through circumstantial evidence, *Lacotte v. Thomas*, 758 F.2d 611, 613 (Fed. Cir. 1985). At bottom, the goal of the analysis is to determine “whether the inventor’s story is credible.” *Fleming*, 774 F.3d at 1377.

NFC argues that the Board erred in concluding that it did not prove conception and that its finding relating to corroboration was not supported by substantial evidence. Specifically, NFC contends that the documentary evidence that it introduced established Charrat’s conception, and that the Board overly focused on perceived inconsistencies in the facsimile cover sheet, test document, and highlighted wiring diagram. Under the rule of reason, NFC argues, the independent documentary evidence adequately corroborates conception.

The Director responds that the Board correctly considered NFC's evidence and arguments, and reasonably found that Charrat's conception was not corroborated. In particular, the Director contends that NFC did not overcome the Board's finding that there was insufficient evidence that Charrat communicated the claimed invention to CE for fabrication.

We agree with NFC that Charrat's testimony relating to conception was adequately corroborated by NFC's documentary evidence, and that NFC established conception. We determine that the Board's findings as to the contents of the documents are either inconsistent with the documents themselves or do not adequately consider the portions of the documents that support corroboration, and are therefore not supported by substantial evidence.

Two of the Board's findings relating to content of the data sheet are inconsistent with the contents of the data sheet. The Board found that "there is no author named on the initial project data sheet . . . , and only Mr. Charrat's own testimony asserts that he is the author of the data sheet." *Final Decision*, 2016 WL 497524, at *13. In the "Document Evolution" section of the data sheet, however, the document is listed as "[b]y" "BC." J.A. 2336. Thus, contrary to the Board's finding, the data sheet does name an author. In addition, as Charrat's full name is "Bruno Charrat," this is also strong evidence corroborating Charrat's testimony that he created the data sheet. *See* J.A. 2965–66. Accordingly, substantial evidence does not support the Board's finding that there is no author named on the data sheet, or the finding that only Charrat's testimony supports that he is the author.

Aspects of the other documents also corroborate Charrat's account. The Board noted that the PCB layout "was generated by [CE], not by Mr. Charrat or the INSIDE team." *Final Decision*, 2016 WL 497524, at *13. While true, the layout also repeatedly lists "Inside Tech." in the

field next to “concept,” J.A. 2443–44, 2447, and that the “client” is “Inside Technologies,” J.A. 2449–53. These inclusions support Charrat’s testimony that the prototype was fabricated at his instruction while at INSIDE. *See* J.A. 2969. The layout is also dated “09-98,” J.A. 2442, or “09/98,” J.A. 2443–44, 2447. These dates support Charrat’s testimony that he sent a design to CE for fabrication in September 1998. *See* J.A. 2969.

The Board’s discounting of the facsimile cover sheet similarly did not adequately consider its corroborative effect. *See Final Decision*, 2016 WL 497524, at *14. Although the Board gave the sheet little weight due to the lack of detail relating to what Charrat directed CE to fabricate, the cover sheet still corroborates Charrat’s account in significant respects. For example, the cover sheet was sent to “B. CHARRAT” at “Inside” on September 10, 1998, with “M210H” in the subject line. J.A. 2790. The date corroborates Charrat’s testimony that he sent the prototype to fabrication in early September 1998. *See* J.A. 2969–71. In response to the cover sheet, Charrat wrote “OK FAB” and signed his last name underneath it. J.A. 2790. Charrat’s approval was also dated September 10, 1998—that is, the same day that CE sent the cover sheet to him. *See id.* That the cover sheet was sent to and approved only by Charrat also corroborates that it was he who directed the project and communicated the design for fabrication to CE. J.A. 2969–71.

When taken “as a whole,” *Price*, 988 F.2d at 1196, the documents corroborate Charrat’s account of conception. The data sheet was created by “BC,” with no other author listed. J.A. 2336. Although CE generated the PCB layout, that same document refers to INSIDE as its “client” and as providing the “concept.” J.A. 2449–53. When it came time to approve fabrication of the prototype, CE communicated only with Charrat, and he alone gave final approval for fabrication to begin. *See* J.A. 2790. The initial data sheet, PCB layout, and cover sheet—

which were all prepared before the creation of the prototype that the Board assumed embodied the claimed invention—all refer to the “M210H” device. J.A. 2335, 2340–45, 2356, 2358, 2360, 2442–44, 2447, 2449–53, 2790. Taken together, this independent documentary evidence corroborates Charrat’s account of product development and later fabrication of the prototype.

The Board also noted that it was unpersuaded that NFC had provided sufficient evidence to demonstrate that CE produced the prototype according to Charrat’s design and at his direction. *Final Decision*, 2016 WL 497524, at *15. In particular, the Board appeared to find significant the lack of emails or other communications from INSIDE or Charrat communicating the subject matter of the claims to CE. *Id.* The Board found this lack of documentation counseled towards a conclusion that Charrat’s activities were not corroborated, considering that we have, in the past, “found significant ‘the absence of any physical record to support the oral evidence,’ despite ‘the ubiquitous paper trail of virtually all commercial activity’ that normally exists ‘in modern times.’” *Id.* (quoting *Woodland Trust v. Flowertree Nursery, Inc.*, 148 F.3d 1368, 1373 (Fed. Cir. 1998)).

On these facts, the Board’s reliance on *Woodland Trust* was misplaced. *Woodland Trust* involved an asserted public use that continued for about a decade, but was unsupported by any documentary evidence. 148 F.3d at 1373. In the face of approximately ten years of alleged “commercial and public use, . . . the absence of any physical record to support the oral evidence,” *id.*, was certainly noteworthy. Here, however, Charrat’s account of a period of a few months, nearly twenty years ago, is nonetheless supported by documentary evidence. The relevant period and presence of documentary evidence places this case closer to *Loral Fairchild Corp. v. Matsushita Electric*, where we determined that the inventor’s account was adequately corroborated by testimony of a coworker, a

proposal to the Air Force, and the delivery date of “masks necessary to practice the invention.” 266 F.3d 1358, 1365 (Fed. Cir. 2001). We forgave the inventor’s inability “to submit documents showing production test results, considering that the events at issue occurred almost 30 years ago.” *Id.* Indeed, we characterized the inventor’s inability to submit those documents as “not surprising” given the amount of time that had passed. *Id.* Here, similarly, Charrat’s account is corroborated by the initial data sheet that began the project, communications with CE, and documents generated after Charrat and INSIDE received the prototype and began to test it. “[C]orroboration of every factual issue contested by the parties is not a requirement of the law.” *In re Jolley*, 308 F.3d 1317, 1328 (Fed. Cir. 2002). On these facts, and particularly considering the amount of time that has passed, we determine that Charrat’s account was adequately corroborated.

Moreover, although the Board appeared to be troubled by the “M210H-2” label in the testing document and “Revision: 3” in the wiring diagram, Charrat’s reduction to practice would antedate Sears’s priority date even if it did not occur until the date of testing or that the wiring diagram was produced. *See* J.A. 2822 (testing document dated November 1998); J.A. 2854 (wiring diagram dated Feb. 5, 1999); J.A. 911 (Sears priority date Feb. 8, 1999).

Indeed, the Board’s analysis raises the question of who, if not Charrat, designed the prototype. HTC did not allege that CE or another INSIDE employee made any inventive contribution to the design of the prototype. Yet the documentation establishes that a prototype was fabricated and later tested by INSIDE staff, and Charrat is the only source identified by the evidence for the design of the prototype. Indeed, there is no record evidence of any other INSIDE employee communicating with CE. Under the rule of reason, the totality of the evidence establishes the credibility of Charrat’s account. *See Fleming*, 774 F.3d at 1377.

Thus, the Board erred in concluding that NFC had submitted inadequate evidence of conception, and its finding that Charrat's account was not adequately corroborated was not supported by substantial evidence. Accordingly, we reverse the Board's determination relating to Charrat's conception, and determine that CE's fabrication of the prototype inured to Charrat's benefit.

We note that the foregoing analysis assumes that conception is relevant under the present circumstances. Our cases that the Board read as establishing that proof of conception is relevant to inurement involved third-party recognition during testing that the invention would work for its intended purpose. *See Cooper II*, 240 F.3d at 1380–86; *Genentech*, 220 F.3d 1352–54; *Cooper I*, 154 F.3d at 1331–33. Here, there is no evidence that CE did anything other than fabricate the prototype. Although NFC appears to recognize this distinction, *see NFC Br.* 40–42, NFC only uses it to argue that interference law should not be applied to this case. As NFC has not challenged whether and to what extent conception must be shown to establish inurement under interference law in the present circumstances, we leave that question for another day.

The determination that fabrication of the prototype inures to Charrat's benefit does not resolve this case. As explained previously, the Board assumed, but did not decide, that the prototype embodied the claimed invention. That issue must be decided in order to determine whether Sears can be antedated. Thus, we remand the case for that determination in the first instance. Fortunately, whether the prototype embodied the claimed invention was a disputed issue between HTC and NFC during the initial IPR. *See J.A.* 455–66. Accordingly, the Board may decide the case on the briefing previously submitted.

CONCLUSION

We have considered the remaining arguments, but find them unpersuasive. For the foregoing reasons, the decision of the Board is reversed, and we remand for action consistent with this opinion.

REVERSED AND REMANDED