

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

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**JACOB KRIPPELZ, SR.,**  
*Plaintiff-Appellee,*

v.

**FORD MOTOR COMPANY,**  
*Defendant-Appellant.*

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2011-1103

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Appeal from the United States District Court for the Northern District of Illinois in case no. 98-CV-2361, Judge James B. Zagel.

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Decided: January 27, 2012

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MARK E. FERGUSON, Bartlit Beck Herman Palenchar & Scott, LLP, of Chicago, Illinois, argued for plaintiff-appellee. With him on the brief were ADAM K. MORTARA, HAMILTON H. HILL and MARTHA M. PACOLD. Of counsel on the brief were JAMES D. RYNDAK, MARK K. SURI and ERIC H. WEIMERS, Ryndak & Suri, LLP, of Chicago, Illinois.

CONSTANTINE L. TRELA, JR., Sidley Austin, LLP, of Chicago, Illinois, argued for defendant-appellant. With him on the brief was LINDA R. FRIEDLIEB. Of counsel on

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Before NEWMAN, PROST, and O'MALLEY, *Circuit Judges*.  
PROST, *Circuit Judge*.

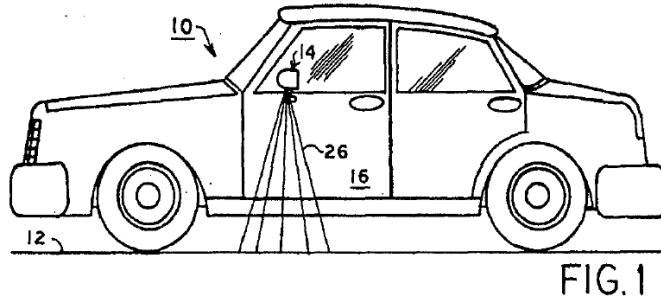
This is a patent infringement case. Defendant Ford Motor Company (“Ford”) appeals a \$56 million judgment against it. Ford argues that the district court made a series of errors in both its infringement and validity analyses, as well as in its award of enhanced damages for willful infringement. Because the district court erred in holding that the patent-in-suit could be found novel over the prior art, we reverse as to validity, vacate the other rulings, and remand for entry of judgment of non-liability.

## I

This case’s lengthy history began in February 1989, when Jacob Krippelz, Sr., now deceased, filed for a patent on a vehicle-mounted lamp.<sup>1</sup> Mr. Krippelz titled the resulting patent “Emergency Light.” U.S. Patent No. 5,017,903 (“903 patent”) at [54]. It described a lamp attached to the side view mirror of an automobile and shining downward:

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<sup>1</sup> Mr. Krippelz died shortly before the district court’s final judgment in this case. His cause is prosecuted by Jacob Krippelz, Jr. and Joseph Krippelz, his executors and co-trustees of the Jacob Krippelz, Sr. Revocable Trust.



*Id.* fig.1. As described by Mr. Krippelz, the lamp was for use in inclement weather like rain or fog. Its light would reflect off water, dust, or other airborne particles so as to be visible to other drivers, but not interfere with either their vision or that of the person driving the car. See generally *id.* col.1.

Mr. Krippelz's patent issued in 1991. He says he sent a copy of it to Ford shortly thereafter, but that Ford was not interested in taking a license. For a period of years, nothing happened.

Then, in 1997, Ford began offering a new option on its Explorer and other model automobiles, which we will refer to as a "puddle light." The puddle light was a lamp, attached to the vehicle's side view mirror, that shone light generally downward. Ford's puddle light was equipped with a lens that diffused the light in such a way as to illuminate the vehicle's side.

Mr. Krippelz viewed the puddle light as infringing, and in 1998 he sued. Complaint, *Krippelz v. Ford Motor Co.*, No. 98-CV-2361 [hereinafter *Krippelz*] (N.D. Ill. Apr. 16, 1998), ECF No. 1. The case revolved around claim 2 of the '903 patent, which reads:

2. An emergency warning light for an automotive vehicle having a window on one side thereof, comprising in combination

a housing mounted in a fixed, substantially unadjustable position on said vehicle adjacent to said window,

said housing having an opening in the bottom thereof,

a source of light mounted within said housing for directing a conical beam of light downwardly through said opening along said side of said vehicle below said window so as to be visible from in front of and behind said vehicle, and

said opening and said source of light being positioned to prevent said beam of light from directly impinging on said side of said vehicle.

'903 patent col.3 l.19–col.4 l.3.

About a year after filing the complaint, Mr. Krippelz asked the Patent and Trademark Office (“PTO”) to reexamine the '903 patent. An Information Disclosure Statement accompanying the request acknowledged the ongoing litigation, noted that Ford had raised invalidity as a defense, and attached “all the references Ford has identified to the Requestor during the litigation.” *See* Info. Disclosure Stmt. (Aug. 30, 1999), at 2, '903 Reexam. File Hist., J.A. 12516, 12517. The PTO instituted reexamination proceedings and subsequently confirmed the validity of all the '903 patent's claims over the submitted prior art. *See generally* Reexam. Certificate, U.S. Patent No. 5,017,903 C1 (issued Aug. 13, 2002). As

part of the reexamination process, new claims were also added to the '903 patent, which Mr. Krippelz states were subsequently asserted against Ford in separate litigation. Those claims are not part of this appeal.

Over the next several years, the district court handled a number of summary judgment and claim construction issues which we will not recount except to state that there was much dispute about the appropriate manner in which to analyze Ford's puddle lights for infringement. For our purposes, we note that in 2008 Mr. Krippelz moved for summary judgment of infringement, which the court granted from the bench.<sup>2</sup> Tr. of Nov. 21, 2008 Proceedings, at 12:11–17, J.A. 114, 125.

Infringement having been summarily addressed, the case proceeded to trial on validity and damages. Ford

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<sup>2</sup> The parties' briefing and oral argument focused on the district court's approach to interpreting the claim and analyzing infringement. The district court adjudged Ford's puddle lights infringing even though they have a plastic lens on their outside through which light shines onto the car. The court treated the lens as an "additional element" not to be considered in the infringement analysis. Ford contended that this was improper, as it led to the surprising result that the Ford lamps—which undisputedly illuminated the side of the car—were held to practice the claim's requirement of "prevent[ing] [the] beam of light from directly impinging on said side of said vehicle." Because of our conclusion that claim 2 of the '903 patent is invalid irrespective of how this issue might be resolved, we decline to take up the district court's order that the Ford lamps be analyzed for infringement without regard to their attached plastic lenses, or to those lenses' effect on whether the beam of light did or did not "directly imping[e]" on the vehicle side.

argued that claim 2 was anticipated, or at least rendered obvious, by French Patent No. 1,031,294 (trans.) (published June 22, 1953), J.A. 13430, to DuBois [hereinafter DuBois]. DuBois, which did not appear in the '903 patent prosecution history, taught a “system of lamps and optical devices” for illuminating the pavement next to a vehicle. The idea was to give other drivers a clear view of the vehicle’s side and the adjacent area so that they could know if there was enough room to pass. DuBois, J.A. 13431. Ford argued that DuBois taught all the limitations of claim 2. Mr. Krippelz presented opinion testimony from an expert that DuBois failed to teach two limitations, namely a “conical beam of light” and a lamp located “adjacent” to the vehicle window.

The jury returned its verdict for Mr. Krippelz. It found the '903 patent valid over DuBois, and awarded \$23 million in damages for Ford’s infringement. Jury Verdict, *Krippelz* (N.D. Ill. Dec. 12, 2008), ECF No. 429. Following a bench trial on willfulness, the court found Ford’s infringement willful and awarded Mr. Krippelz a further \$11.7 million in prejudgment interest and another \$21 million in enhanced damages. *See Krippelz*, 670 F. Supp. 2d 806 (N.D. Ill. Nov. 18, 2009) (concerning willfulness); *Krippelz*, 670 F. Supp. 2d 815 (N.D. Ill. Nov. 18, 2009) (concerning damages); *Krippelz*, 675 F. Supp. 2d 881 (N.D. Ill. Nov. 18, 2009) (making fact findings and conclusions of law).

Ford moved for judgment of invalidity as a matter of law; its motion was denied. *Krippelz*, 750 F. Supp. 2d 938 (N.D. Ill. Oct. 28, 2010) [hereinafter *JMOL Op.*]. Ford timely appealed. This court has jurisdiction under 28 U.S.C. § 1295(a)(1).

## II

We hold that the district court committed reversible error in denying JMOL of invalidity by anticipation over DuBois, and so reverse. This court reviews denial of a motion for JMOL under the law of the pertinent regional circuit, here the Seventh. *Seachange Int'l, Inc. v. C-COR Inc.*, 413 F.3d 1361, 1367–68 (Fed. Cir. 2005). In that circuit, an appellate court’s inquiry into the denial of a JMOL motion is “limited to the question whether the evidence presented, combined with all reasonable inferences permissibly drawn therefrom, is sufficient to support the verdict when viewed in the light most favorable to the party against whom the motion is directed.” *Campbell v. Miller*, 499 F.3d 711, 716 (7th Cir. 2007) (internal quotation marks omitted). Such review is de novo. *Waters v. City of Chicago*, 580 F.3d 575, 580 (7th Cir. 2009). Reversal is warranted only if no reasonable juror could have found for the nonmoving party. *Id.* To show that a patent claim is invalid as anticipated, the accused infringer must show by clear and convincing evidence that a single prior art reference discloses each and every element of a claimed invention. *Silicon Graphics, Inc. v. ATI Techs., Inc.*, 607 F.3d 784, 796 (Fed. Cir. 2010).

In this case, the district court supported its denial of JMOL with two potential grounds on which a jury could find for Mr. Krippelz. First, the court held that a reasonable jury could find that DuBois failed to teach the required “conical beam of light.” Second, the court held that a reasonable jury could find that DuBois lacked the required lamp “adjacent to the window.” *See JMOL Op.*, 750 F. Supp. 2d at 943–46. We reject both grounds as unsupported by the evidence.

## A

We turn first to the “conical beam of light.” The trial court construed this term to mean “a beam of light that diverges,” and it construed “beam of light” to mean “light that both is directed and has a defined sweep range.” *Id.* at 944. We see no error in these constructions, and the parties do not contest them per se. However, the district court made further statements concerning the interpretation of these terms that require a detailed look at the ’903 patent’s intrinsic evidence. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc).

When instructing the jury, the district court stated that proving the presence of “directed” light—which was a prerequisite to showing a “conical beam of light”—required proof that “the filament of the light bulb is at or near the focal point of an optical reflector.” Trial Tr. 961:16–18, J.A. 9597. It further told the jury that “parabolic and elliptical reflectors are types of optical reflectors.” *Id.* at 961:18–19, J.A. 9597. These statements correctly interpreted claim 2’s requirements.<sup>3</sup>

The ’903 specification is a single page in length. Its most substantive discussion concerning the “conical beam of light” comes in its disclosure of a preferred embodiment:

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<sup>3</sup> As discussed *supra* note 2, we decline to take up and express no opinion on the district court’s claim constructions affecting its infringement analysis. Those constructions do not affect either the district court’s judgment as to validity, or our analysis herein.



As best shown in Fig. 4, a source of light in the form of a light bulb 20 is mounted in the rearview mirror assembly 14 directly behind a mirror 22 which faces towards the rear of the vehicle. A circular opening 24 is provided in the bottom of the housing 25, and the light source 20, which is suitably mounted in the housing 25 for access through the opening 24, *directs a conical beam of light onto the pavement 12 immediately adjacent to the vehicle.* A light source identical to the source 20 is similarly mounted in the rearview mirror assembly 18 on the passenger side of the vehicle, and it also directs a conical beam of light 28 onto the pavement 12 adjacent to the passenger side of the vehicle. The beams 26 and 28 have an included angle of approximately thirty degrees, and consequently, *they do not shine into the car 10 nor do they radiate any light which shines directly toward any approaching vehicles.*

'903 patent col.2 ll.19–37 (emphases added). The '903 patent description thus includes no reference to the focal points of a reflector, or to the reflector's shape as elliptical or parabolic. Similarly, the prosecution history of the '903 patent on initial examination is bereft of such discussion. Were we to consider the '903 patent's specification and initial prosecution history alone, then, we would find it difficult to affirm the district court's holding that the term "beam of light" incorporates requirements concerning the shape and focal point of the reflector.

But references to such requirements emerged while the '903 patent was under reexamination at the PTO. A patentee's statements during reexamination can be considered during claim construction, in keeping with the doctrine of prosecution disclaimer. *Am. Piledriving*

*Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1336 (Fed. Cir. 2011).

During reexamination, the Examiner rejected claim 2 as obvious over two references, “Kim” and “Matsuda.”<sup>4</sup> Mr. Krippelz appealed to the Board of Patent Appeals and Interferences. Endeavoring to traverse the rejection, Mr. Krippelz attacked Kim: “The device of Kim does not produce a beam of light. Rather, the light produced by the Kim device is very *diffuse and not collimated and consequently not a beam of light.*” Krippelz Reexam. Appeal Br., *supra* note 4, at 7 (emphasis added). Mr. Krippelz also directed the Board’s attention to a prior art statement that “In a bulb and reflector system, a *filament of the bulb is placed at or near a focal point of a reflector.* The light emitted by the bulb filament is *collected by the reflector and reflected outward to form a light beam.*” *Id.* (quoting U.S. Patent No. 5,365,412 (filed Jan. 7, 1993) (issued Nov. 15, 1994) col.1 ll.13–17) (emphases added).

Mr. Krippelz submitted a declaration from Dr. Richard Hansler—the same expert who Mr. Krippelz would subsequently call to testify at trial in this case and whose expert opinions Mr. Krippelz offered to the district court on summary judgment. Mr. Krippelz’s appeal brief quoted Dr. Hansler’s declaration: “[T]he reflecting surface of Kim lacks sufficient symmetry to produce a beam of light, which typically has the *light bulb at or near the*

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<sup>4</sup> “Matsuda” is Japanese Patent No. 62-102739 to Matsuda. “Kim” is abandoned Korea Model Utility Patent Application No. 4543/84 to Kim. See Kim (trans.), *included in* Krippelz Appeal Br. (Oct. 30, 2000), Ex. E, ’903 Reexam. File Hist. [hereinafter Krippelz Reexam. Appeal Br.].

*focal point of a reflector.*” Krippelz Reexam. Appeal Br. at 8 (emphasis added).

In response, the Examiner maintained his position that the claim was obvious. Mr. Krippelz’s reply repeated his belief that the combination failed to teach the required “beam of light,” and continued to focus on Kim. He submitted further quotations from Dr. Hansler’s declaration:

[T]he device disclosed in Kim does not appear to be a parabolic reflector or other optical reflective surface. It appears rather that the shape of the reflector of Kim, assuming that the internal surfaces are reflective, corresponds to the shape of the shroud or cover, the interior surface of which does not appear to be an optical surface that could be used to create a beam of light.

Krippelz Appeal Reply Br. (Apr. 2, 2001), at 8, ’903 Reexam. File Hist.

As mentioned above, the Board subsequently reversed the Examiner and confirmed the patentability of claim 2. *Ex parte Krippelz*, No. 2001-1441, slip op., J.A. 13073 (B.P.A.I. Feb. 25, 2002).

Mr. Krippelz’s statements are of course now part of the intrinsic record. Taking them into account, we agree with the district court that the term “conical beam of light,” as used in the ’903 patent and in light of Mr. Krippelz’s arguments during reexamination, incorporates limitations as to the shape of the reflector and the positioning of the light source relative to it. As a result of these statements, As a result of these statements, Mr. Krippelz disclaimed lamps lacking these limitations, and

the limitations therefore became part of the properly-construed claims. As the district court properly concluded, Mr. Krippelz's claimed invention thus requires (1) a reflector having a focal point, such as a parabolic or elliptical reflector, and (2) positioning of the light source at or near the reflector's focal point. We therefore affirm the district court's construction of "conical beam of light."

Having determined that the district court properly construed the claim, we nevertheless find reversible error in its holding that a reasonable jury could find that DuBois lacked the required disclosure. DuBois expressly teaches that, with respect to the Figure 17 diagram, its lamp could "include *a bulb 27 at the focus of a reflector 28[,] the shell of which includes a prolongation 29 forming a screen to prevent the light rays from directly striking the eyes of a driver or pedestrian positioned in front of or behind the vehicle.*" DuBois (trans.) at 2, J.A. 13432 (emphasis added). This language expressly satisfies the requirement of a light beam that is both directed and that is generated by a bulb-reflector combination in which the bulb is located at the focal point of the reflector. DuBois further teaches that its light could be a "headlight," which dovetails neatly with Mr. Krippelz's express acknowledgement that, in the bulb-reflector combination producing the required light beam, "The reflector element can be part of the light bulb, as in a spot light type of lamp bulb." See Krippelz Reexam. Appeal Br. at 3.

In denying JMOL, the district court cited several varieties of evidence to overcome these disclosures in DuBois. But that evidence, whether viewed separately or collectively, was legally insufficient to support a judgment for Krippelz.

First, the district court cited the testimony of Dr. Hansler, the expert called by Mr. Krippelz, concerning “ray traces” he had performed on a lamp diagram in DuBois. *See* DuBois fig.17, J.A. 12489; *see also* Trial Tr. 510:17–511:13, J.A. 9012–13. Dr. Hansler testified that he had measured the diagram and, from those measurements, extrapolated the angles of incidence and reflection that would result if a lamp were built to those measurements. Dr. Hansler opined that the light from such a lamp would scatter, and so not produce the required “conical beam of light.” Trial Tr. 511:12–13, J.A. 9013. The district court cited this testimony as support for the jury’s verdict. *JMOL Op.*, 750 F. Supp. 2d at 944.

This court has repeatedly cautioned against overreliance on drawings that are neither expressly to scale nor linked to quantitative values in the specification. *See Nystrom v. TREX Co.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005); *Hockerson-Halberstadt, Inc. v. Avia Grp. Int’l, Inc.*, 222 F.3d 951, 956 (Fed. Cir. 2000); *In re Wright*, 569 F.2d 1124, 1127 (CCPA 1977). However, Ford does not appeal, and so we do not take up, the trial court’s denial of Ford’s motion to exclude Dr. Hansler’s ray trace diagrams. *See* Tr. of Dec. 8, 2008 Proceedings, at 39:19–22, J.A. 8349, 8387. In light of Ford’s decision to not appeal the admission of this evidence, it was properly before the jury. On the basis of Dr. Hansler’s testimony, we cannot say that no reasonable jury could have concluded that Figure 17’s disclosure was not anticipating.

Nevertheless, it was reversible error for the district court to hold the jury’s verdict sustainable on this testimony because Figure 17 depicts just one embodiment of the DuBois invention. DuBois expressly states that other embodiments could use lamps in addition to the one disclosed in its figures, including “a headlight, parking

light, or other body light.” DuBois at 2, J.A. 13432. The evidence at trial—including testimony from Dr. Hansler himself—was that a headlight (as that word was used in DuBois) creates a “beam of light.” Trial Tr. 531:25–532:2, J.A. 9033–34. Dr. Hansler’s “ray trace” diagrams of figure 17 notwithstanding, there is no question that DuBois’s disclosure of a “headlight” teaches the required “beam of light.”

Dr. Hansler also opined to the jury that any beam in DuBois, even if it was a beam, did not anticipate because it was not necessarily “conical.” He pointed to DuBois’s discussion of “lighting the pavement obliquely on the surface of a rectangle” adjacent to the vehicle. *JMOL Op.*, 750 F. Supp. 2d at 945; *see also* DuBois (trans.) at 2, J.A. 13432. Dr. Hansler testified that it is “not possible” for a conical beam of light to illuminate a rectangle. Trial Tr. 555:14–19, J.A. 9957. While expressing some skepticism about this reasoning, the district court nevertheless held that a jury could reasonably agree with it.

We disagree as a matter of law. While DuBois discusses illuminating the area within a rectangle on the pavement next to the car, nowhere does it require that such illumination be only with non-conical light beams. Indeed, many figures in DuBois depict triangles of light extending from various lamps to the surface of the ground. There is no language in DuBois disavowing the most natural interpretation of those triangles, i.e., as two-dimensional depictions of light cones. Further, there are numerous disclosures in DuBois of using multiple lamps to illuminate the target area. This undermines Dr. Hansler’s testimony that “[a] conical beam of light such as one gets from a flashlight would not be capable of illuminating a large area.” Trial Tr. 512:20–24, J.A. 9014. Taken as a whole, Dr. Hansler’s testimony that the

“conical” limitation was unsatisfied failed to take into account the entire DuBois disclosure. His generic statements that the “conical” limitation was unmet were therefore too conclusory to sustain the jury’s verdict.<sup>5</sup> See *Sitrick v. Dreamworks, LLC*, 516 F.3d 993, 1001 (Fed. Cir. 2008) (holding, on summary judgment, that such conclusory testimony could not create a triable issue of fact).

Finally, the court cited testimony from Mr. Krippelz’s expert that a conical beam of light “probably wouldn’t be a very effective way to accomplish the purpose of DuBois,” and from that reasoned that the jury could reasonably have held that DuBois “actually teaches away from using a beam.” *JMOL Op.*, 750 F. Supp. 2d at 945–46. First and foremost, teaching away is not relevant to an anticipation analysis; it is only a component of an obviousness analysis. *Celeritas Techs., Ltd. v. Rockwell Int’l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998). Secondly, the opinions of Dr. Hansler are not a substitute for the actual DuBois disclosure. When all elements of the device are shown in a single prior art reference, as here, the question of “teaching away” does not arise.

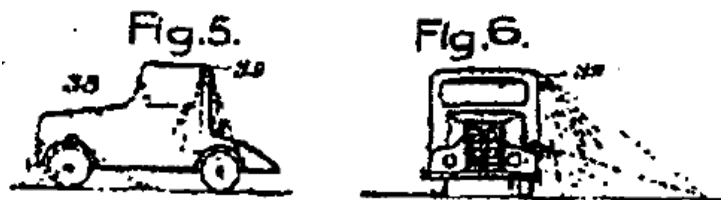
We thus conclude that the district court committed clear error in denying JMOL on the basis of DuBois’s putative failure to disclose the required “conical beam of light.”

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<sup>5</sup> Though it is unnecessary to reach the issue here, we further believe that the requirement of a light beam that is “conical” (ignoring, for the moment, the reasons just discussed why DuBois satisfies that limitation) would almost certainly be an obvious modification to DuBois precluding patentability under 35 U.S.C. § 103.

## B

The court's holding that the jury could have reasonably found DuBois to lack a lamp "adjacent to the window" was also reversible error. Figures 5 and 6 of DuBois plainly show such a lamp:



DuBois (trans.) figs. 5, 6, J.A. 13435. The district court again quoted Dr. Hansler, who "testified that while in one illustrated position the device 'might be' adjacent, 'it certainly is not *clearly* adjacent to a side window.'" *JMOL Op.*, 750 F. Supp. 2d at 944 (emphasis added). As already mentioned, the conclusory testimony of an expert witness, however, cannot create an issue of fact if none otherwise exists. *Sitrick*, 516 F.3d at 1001. There is no question that a person of ordinary skill, reviewing these figures, would understand them to show mounting the lamp adjacent to the side window.

We therefore conclude that the district court erred in denying Ford's motion for JMOL of invalidity.<sup>6</sup> That

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<sup>6</sup> Over the course of the trial, the district court barred Ford from presenting to the jury arguments for possible invalidity over a separate reference, referred to in the briefing as "Miazzo." Because we conclude that claim 2 is invalid over DuBois, the question of whether the district court was or was not entitled to remove Miazzo from the case is moot, and we decline to address it.



decision is therefore reversed. Claim 2 is invalid for anticipation by DuBois.

### III

Because claim 2 of the '903 patent is invalid, we need not reach the other issues put forward by the parties, i.e., the district court's summary judgment of infringement and its willfulness analysis. Those decisions are now moot and as such are vacated.

We therefore reverse the district court's denial of JMOL of invalidity, vacate its summary judgment of infringement and its willfulness analysis, and remand for entry of judgment of non-liability for Ford.

**REVERSED-IN-PART, VACATED-IN-PART, AND  
REMANDED**