NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

ANVIK CORPORATION,
Plaintiff-Appellant,

v.

NIKON PRECISION, INC., NIKON RESEARCH CORPORATION OF AMERICA, NIKON CORPORATION, AND HANNSTAR DISPLAY CORPORATION,
Defendants-Appellees,

AND

L.G. PHILIPS LCD CO., LTD. AND L.G. PHILIPS LCD AMERICA, INC.,
Defendants-Appellees,

AND

SAMSUNG ELECTRONICS AMERICA, INC. AND SAMSUNG ELECTRONICS CO., LTD.,
Defendants-Appellees,

AND

CHI MEI OPTOELECTRONICS, CHI MEI OPTOELECTRONICS USA, INC., AND INNOLUX DISPLAY CORP.,
Defendants-Appellees,

AND

AU OPTRONICS CORPORATION AND AU OPTRONICS CORPORATION AMERICA,
Defendants-Appellees,

AND

SHARP CORPORATION AND SHARP ELECTRONICS CORPORATION,
Defendants-Appellees,

AND

AFPD PTE LTD.,
Defendant-Appellee,

AND

IPS ALPHA TECHNOLOGY, LTD., PANASONIC CORPORATION OF NORTH AMERICA, PANASONIC CORPORATION, HITACHI, LTD., HITACHI DISPLAYS, LTD., HITACHI AMERICA, LTD., HITACHI ELECTRONIC DEVICES USA, INC., HITACHI CONSUMER ELECTRONICS CO., LTD., TOSHIBA CORPORATION, TOSHIBA AMERICA, INC., AND TOSHIBA AMERICA CONSUMER PRODUCTS, LLC,
Defendants-Appellees.

2012-1320, -1321, -1322, -1323, -1324, -1325, -1326, -1327, -1328, -1329

Appeals from the United States District Court for the Southern District of New York in Nos. 05-CV-7891, 07-CV-0816, 07-CV-0818, 07-CV-0821, 07-CV-0822, 07-CV-0825, 07-CV-0826, 07-CV-0827, 07-CV-0828, and 08-CV-4036, Judge Alvin K. Hellerstein.

Decided: March 22, 2013

DARYL JOSEFFER, King & Spalding, LLP, of Washington, DC, argued for plaintiff-appellant. On the brief were JOSHUA L. RASKIN, and JAI K. CHANDRASEKHAR, Bernstein Litowitz Berger & Grossmann, LLP, of New York, New York.

DONALD R. DUNNER, Finnegan, Henderson, Farabow, Garrett & Dunner, L.L.P., of Washington, DC, argued for all defendants-appellees. With him on the brief was ANDREW J. VANCE. Of counsel on the brief were JACK W. LONDEN, Morrison & Foerster, LLP, of Chiyoda-ku, Tokyo, Japan, DEANNE E. MAYNARD, of Washington, DC, and MATTHEW M. D'AMORE, of New York, New York, for defendants-appellees, Nikon Precision, Inc., et al.; GASPARE J. BONO, McKenna Long & Aldridge, L.L.P., of Washington, DC, for defendants-appellees, L.G. Philips LCD Co., Ltd., et al.; PETER J. WIED, VINCENT K. YIP, JAY CHIH-FAN CHIU and TERRENCE D. GARNETT, Goodwin Procter L.L.P., of Los Angeles, California, for defendants-appellees, AU Optronics Corporation, et al.; ARTHUR I. NEUSTADT, CARL E. SCHLIER and ALEXANDER E. GASSER, Oblon, Spivak, McClelland, Maier & Neustadt, L.L.P., of Alexandria, Virginia, for defendant–appellee, AFPD PTE, Ltd.; NEIL P. SIROTA, Baker Botts L.L.P., of New York, New York, and MICHAEL J. BARTA, of Washington, DC, for defendants-appellees, Samsung Electronics America, Inc., et al.; ROBERT W. ADAMS, GILL S. UPDEEP and GORDON

KLANCNIK, Nixon & Vanderhye, P.C., of Arlington, Virginia, for defendants-appellees, Sharp Corporation, et al.; ERIC J. LOBENFELD, IRA J. SCHAEFER and ARLENE L. CHOW, Hogan Lovells, US LLP, of New York, New York, for defendants–appellees, IPS Alpha Technology, Ltd., et al.; JOHN R. ALISON, LAURA P. MASUROVSKY, DENISE W. DEFRANCO and STEPHEN L. HENNESSY, Finnegan, Henderson, Farabow, Garrett & Dunner L.L.P., of Washington, DC, for defendant–appellee, Hannstar Display Corporation, and BRUCE D. DERENZI and SCOTT L. BITTMAN, Crowell & Moring, LLP, of New York, New York, for defendants–appellees, Chi Mei Optoelectronics, et al.

Before NEWMAN, BRYSON, and MOORE, *Circuit Judges.*

BRYSON, *Circuit Judge*.

The district court held the three asserted patents in this case invalid for failing to satisfy the "best mode" requirement found in 35 U.S.C. § 112. The America Invents Act, Pub. L. No. 112–29 (2011), eliminated failure to satisfy the best mode requirement as a ground for invalidating issued patents. However, the statutory amendment that removed best mode from the list of invalidating conditions for issued patents was not given retroactive effect for cases, such as this one, that were filed before the new statute was enacted. Accordingly, the district court properly considered whether the best mode requirement had been satisfied.

The question whether the best mode requirement has been satisfied is highly factual. In this case, after reviewing the deposition testimony of Dr. Kanti Jain, the named inventor of all three patents and the founder and president of Anvik Corporation, the district court was understandably concerned that Dr. Jain may have concealed certain aspects of the best mode for practicing the invention claimed in the patents. While Dr. Jain did his cause

no favors with his testimony, we are persuaded based on the record as a whole that there remain disputed issues of material fact bearing on the best mode question, and we therefore reverse the grant of summary judgment and remand the case for further proceedings.

I

Anvik brought suit against a number of manufacturers and sellers of electronic equipment, alleging that they had infringed the three patents in suit, U.S. Patents No. 4,924,257 ("the '257 patent"); 5,285,236 ("the '236 patent"); and 5,291,240 ("the '240 patent"). Anvik's theory was that the manufacturer and seller defendants had infringed by using scanners made by the Nikon defendants. The patents at issue in this case are directed to photolithography systems used to make electronic products such as liquid crystal display panels. The claimed systems selectively expose a substrate to electromagnetic radiation through a mask by the use of partially overlapping scans of the mask and substrate to ensure that the substrate is exposed uniformly and seamlessly.

All three of the patents in suit follow the same basic pattern: each claims a "scan and repeat" system for high-resolution, large-field lithography. In each patent, the asserted claims recite, as part of the claimed lithography system, an illumination subsystem satisfying certain requirements. The illumination subsystem set forth in asserted claim 17 of the '257 patent is representative. That portion of claim 17 recites: "an illumination subsystem having the desired characteristics of wavelength and intensity distribution, having an effective source plane in the shape of a polygon, and capable of uniformly illuminating a polygon-shaped region on the mask." The specification of the '257 patent, which is also representative, describes the illumination subsystem as consisting of an illumination source system, a relay lens, and a beam-steering mechanism. The illumination subsystem is

described as being "such that its effective emission plane . . . is in the shape of a regular hexagon." The illumination source system is not otherwise described, but is depicted in the patent figures as a box with a hexagonal-shaped emission plane at one end. '257 patent, col. 4, ll. 7–21.

In a separate patent application filed before the applications for the patents in suit, Dr. Jain described and claimed a particular illumination system. That application became U.S. Patent No. 5,059,013 ("the '013 patent"), which was issued to Dr. Jain on October 22, 1991, after the issuance of the '257 patent in 1990 but before either the application for, or issuance of, the '236 and '240 patents in 1994. The '013 patent claimed an illumination system producing a light beam that could be used in lithography systems such as those claimed in the '257, '236, and '240 patents. In its preferred embodiment, the illumination system of the '013 patent used a hexagonal "shaping aperture" and a hexagonal-shaped tunnel lined on the inside with mirrors, which the '013 patent referred to as a "hexagonal beam-shaper-uniformizer."

At the time, Dr. Jain recorded his ideas for improving lithography systems, along with illustrations and detailed descriptions, in his notebook. His drawing of the illumination system that formed the basis for the '013 patent was found in the same notebook as the drawings that formed the bases for the '257, '236, and '240 patents. Specifically, he drew a hexagonal light tunnel that appears virtually identical to the one that would be depicted in Figure 1b of the '013 patent. Dr. Jain's notebook refers to the hexagonal tunnel in the course of discussing of how to create a hexagonal-shaped light beam required for the scan and repeat method claimed in the patents in suit.

During pretrial discovery, the defendants sought to establish that Dr. Jain regarded the illumination system used in the '013 patent as the best mode for creating the

overlapping hexagonal light beams used in his scan and repeat method. They argued that the evidence showed he considered it his best mode and failed to disclose it in the '257, '236, and '240 patents, and that those patents were therefore invalid.

II

The district court granted summary judgment, holding all three patents invalid for failing to satisfy the best mode requirement. The court based its ruling mainly on Dr. Jain's deposition testimony, which the court interpreted as admitting that the illumination source recited in the '013 patent was "better than anything in the prior art and anything of which he was aware and which he could remember at the time."

The district court pointed to several of Dr. Jain's statements during his deposition to support its interpretation. Dr. Jain testified that when he filed the application for the '013 patent, he believed that the method it described "had advantages over prior art methods," and that it "had advantages over some other methods." While he stated that he did not regard the illumination system of the '013 patent as the best illumination source to use in connection with the asserted claims, he was unable to identify any particular alternatives that would serve that purpose better. Nonetheless, Dr. Jain testified that "there were many variations" among illumination methods that could provide uniform hexagonal illumination on the substrate and that the method of the '013 patent "certainly is not the only optimum method." He added, however, that he "[could] not recall what the other methods were."

When asked whether he had any other pending patent applications "that dealt with the uniformization of the light in an illumination system besides the application that led to the '013 patent," Dr. Jain replied, "I don't

recall, but I think what I described in the '013 patent, that configuration for an illumination system to produce uniform polygonal exposure, most likely was the best that I had thought of until then." However, when he was directly asked whether the preferred embodiment "of a lithography system practicing the methods of the '257 patent . . . used light provided by a hexagonal beam shaper and uniformizer tunnel to provide nominal hexagon shape and uniform light," Dr. Jain replied that was "not right." In addition, Dr. Jain later submitted a declaration explaining that the '013 patent represented only the best mode that he himself had invented, and that at the relevant time he was aware of other effective ways to practice his lithography system.

As further evidence that the illumination system of the '013 patent was Dr. Jain's best mode, the defendants showed that he attended a professional conference in March of 1991 to discuss his lithography system, and that during his presentation he did not disclose any details of the illumination source system described in his notebook. When asked at his deposition why he chose not discuss that aspect of his invention, Dr. Jain explained that he was "simply not ready, prepared[,] and willing to give details about the illumination part of the lithography system" while the '013 patent was still pending.

The district court acknowledged that the defendants had not obtained a direct admission from Dr. Jain that he had concealed what he knew to be the best mode for practicing the asserted claims. Nonetheless, referring to the portion of Dr. Jain's testimony in which he denied that he regarded the illumination source of the '013 patent as the best mode for practicing the invention, the court stated that "[i]t's hard for me to accept that there is any credibility whatever to [that] portion" of his testimony. The court concluded:

> But he refuses to answer what may be other optimum methods, so that suggests to me that when he says that this is better than other methods and he can't name another method that's equal or better than the '013 method, then he's saying the '013 method is the best. He knows that.

Based on that evidence, the court granted the defendants' motion for summary judgment of invalidity and dismissed the complaint. The court explained that it regarded Dr. Jain's testimony as amounting to an admission that although the '013 patent was not mentioned in the '257 patent, the method described in the '013 patent "was better than anything in the prior art and anything of which he was aware and which he could remember at the time." The court relied heavily on the fact that Dr. Jain could not identify anything in the prior art that could create a better illumination source than the system described in the '013 patent. As for the post-deposition declaration in which Dr. Jain sought to explain some of the answers he gave during his deposition, the court characterized that declaration as "a gloss of what he may have wanted to mean or may have tried to mean or how he wanted to argue." The statements in that declaration, the court concluded, were "beside the point, and they don't contribute anything at all."

III

Whether the best mode requirement has been satisfied is a question of fact. *Bayer AG v. Schein Pharms., Inc.*, 301 F.3d 1306, 1312 (Fed. Cir. 2002). In order to determine whether there has been a violation of the best mode requirement, two factual questions must be answered. The first is whether, at the time of filing the patent application, the inventor had a best mode of practicing the claimed invention—a subjective question. The second is whether, assuming the inventor had a preference for one mode over all others, the inventor objectively

concealed his preferred mode from the public. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1360 (Fed. Cir. 2011).

Patents are presumed valid, and the opposing party must prove invalidity by clear and convincing evidence. *See High Concrete Structures, Inc. v. New Enter. Stone & Lime Co., Inc.*, 377 F.3d 1379, 1382 (Fed. Cir. 2004). On summary judgment in this case, the issue before the district court was whether a reasonable finder of fact could reach no conclusion other than that Dr. Jain considered his patented illumination source system to be the best mode for practicing the inventions and concealed it. *Id.*

The defendants' documentary evidence is susceptible to reasonable inferences in Anvik's favor. For instance, Dr. Jain may have drawn the illumination source system in his notebook to provide an example of an illumination source that could be used in his lithography system without meaning to suggest that the depicted example was the best illumination design for that purpose. Nor does the existence of the '013 patent prove that Dr. Jain had a best mode. Rather, it suggests only that its claimed illumination system had advantages over the prior art in some contexts, not necessarily that it, or the hexagonal light tunnel component, was the best illumination source system to use in practicing the scan and repeat system claimed in the patents in suit.

Ultimately, the district court's ruling turned on Dr. Jain's credibility. The court was troubled by aspects of Dr. Jain's testimony, and in particular what the court referred to as his "fencing" with counsel at various points in response to questions. The court therefore found Dr. Jain to lack credibility, and it based its summary judgment ruling in large measure on that finding. That was error. While it is possible that a witness's credibility could be so undermined in the course of a deposition that

a court could conclude that no reasonable finder of fact could believe him, the task of evaluating a witness's credibility is normally for the fact-finder, not for a court on summary judgment, and this case is not so extreme as to fall outside that general rule. *See Wanlass v. Fedders Corp.*, 145 F.3d 1461, 1463 (Fed. Cir. 1998).

As the district court acknowledged, counsel for the defendants did not obtain a direct admission from Dr. Jain, either that he knew of a best mode for practicing the asserted claims or that he concealed it. What counsel elicited from Dr. Jain was a repeated denial on his part that the illumination system of the '013 patent was the best mode for practicing the "illumination source" limitation of the asserted claims, accompanied by an inability on Dr. Jain's part to identify any other particular mode that would have been as good or better. From that testimony, the district court concluded that Dr. Jain was not being truthful and that in fact he both had a best mode for the illumination source and concealed it.

The district court focused on the following aspects of Dr. Jain's deposition testimony: (1) his admission that the illumination system disclosed in the '013 patent, which he depicted in his notebook, was one method for producing a uniform source of light in a polygonal shape; (2) his admission that the notebook also depicted his lithography system claimed in the patents in suit and that it related the hexagonal light tunnel component in the illumination system of the '013 patent to that depiction; (3) his admission that when he filed the '013 patent he believed it had advantages over some prior art methods; and (4) his statement, when asked if he had in mind any method superior to the hexagonal beam shaper and uniformizer tunnel for providing uniform light to the mask, that he did not recall, but that he "certainly may have had, because this method of providing uniform hexagonal illumination on the substrate certainly is not the only optimum method. And I was quite aware of that." Notably,

throughout his deposition Dr. Jain contended that the illumination system of the '013 patent was only one of many possible options and that he never considered that system to be part of the preferred embodiment of the patents in suit.

From that evidence, the district court concluded that Dr. Jain had effectively admitted that he "knew of something that subjectively was the best," yet he "did not declare it; he did not disclose it." The court interpreted Dr. Jain's statements to establish only that "there was [a] logical possibility" that a better mode could have existed, but that Dr. Jain did not have one in mind when he invented his lithography system. Based on that finding, the court ruled that "there is no issue of fact, that Dr. Jain was clear in his admission . . . and he therefore failed to satisfy what is clearly set out in section 112."

In reaching its conclusion, the district court drew unfavorable inferences from Dr. Jain's testimony and disregarded two pieces of evidence that bear on the propriety of the grant of summary judgment. The court in effect concluded that even though Dr. Jain professed to have known of other methods for providing a source of uniform hexagonal illumination, his inability to identify any such methods showed conclusively that he was unaware of any that were as good as the one disclosed in the '013 patent. But that discounts the interpretation of Dr. Jain's testimony offered by Anvik—that, as he testified, he knew of other suitable methods for producing a uniformly illuminated hexagonal field but at the time of his deposition could not recall the details of any of those other methods. A finder of fact might reject that interpretation of Dr. Jain's testimony by finding his explanation to lack credibility. On the other hand, the fact-finder might find his explanation plausible in light of the passage of nearly 20 years from the time of the '257 application to the time of the deposition, particularly considering the high burden of proof requiring the defendants to produce clear and

convincing evidence of facts invalidating the asserted claims.

In his declaration submitted following his deposition, Dr. Jain sought to clarify his responses to some of the questions asked at his deposition relating to the best mode issue. He explained that he did not regard the hexagonal light tunnel described in the '013 patent as either a new invention or the best method of providing illumination for the invention of the '257 patent. Instead, the light tunnel was inventive only in combination with the light beam source system of the '013 patent, consisting of both a laser and a lamp. He added that he had not said, and did not believe, that the illumination system including the hexagonal mask and tunnel was the preferred method for providing illumination in the practice of the '257 patent; it was, he said, "one system of many known to me at the time that were capable of illuminating a uniform region on a mask." He stated that while the illumination system of the '013 patent "had advantages over some prior-art systems," he did not consider it to be "the best or only means of providing a source of illumination for practicing the microlithography method that became the '257 patent." He further explained that when he said in his testimony that the method of the '013 patent was "the best I had thought of until then," he meant that he "personally had not invented a better way to produce uniform illumination."

It is true, as the defendants point out, that a declaration that seeks to withdraw admissions made in a witness's deposition is not entitled to weight. Second Circuit law applies because this is a procedural issue that is not unique to patent law. *See Micro Chem., Inc. v. Lextron, Inc.*, 317 F.3d 1387, 1390–91 (Fed. Cir. 2003). The Second Circuit has held that a party "may not, in order to defeat a summary judgment motion, create a material issue of fact by submitting an affidavit disputing his own prior sworn testimony." *Trans-Orient Marine Corp. v. Star*

Trading & Marine, Inc., 925 F.2d 566, 572 (2d Cir. 1991). On the other hand, the Second Circuit has made clear that this principle does not apply "if the deposition and the later sworn statement are not actually contradictory." *Palazzo ex rel. Delmage v. Corio*, 232 F.3d 38, 43 (2d Cir. 2000).

In this case, Dr. Jain's post-deposition declaration sought to explain and expand upon Dr. Jain's deposition testimony. It did not clearly contradict that previous testimony and therefore should have been considered by the court in assessing the defendants' summary judgment motion.

A second piece of evidence that was before the court in the summary judgment proceedings was an expert declaration from Dr. Bruce W. Smith, who stated that "beam-shaper-uniformizers such as the one that constitutes part of the '013 patent were well known in the prior art at the time of filing of the '013 and '257 patent applications." The '257 patent's method, he stated, can be practiced using many types of illumination systems other than the single, specific type of illumination system described in the '013 patent, and those other types of illumination systems were well known at the time of filing of the '257 patent. Dr. Smith described the prior art beam-shaper-uniformizers in some detail. He added that the same analysis applies to the illumination source systems disclosed in the '236 and '240 patents.

The district court should also have considered Dr. Smith's expert declaration in connection with the summary judgment motion. The fact that better alternatives for practicing the invention may be found in the prior art cannot establish that an inventor lacked a subjective best mode. *See Bayer*, 301 F.3d at 1314. However, Dr. Smith's declaration at a minimum served to support Dr. Jain's assertion that other, equally effective illumination sources were quite well known and therefore that he would have

had no reason to focus on a best mode of practicing the illumination source limitations of the '257 patent. Both parties agree that Dr. Jain is more than qualified to be considered a person of ordinary skill in the art. Thus, accepting all reasonable inferences in Anvik's favor, a finder of fact could conclude that Dr. Jain testified truthfully when he claimed that, at the time of the invention, he was aware of other, equally useful modes of practicing his invention, even though he was unable to recall them during his deposition.

Dr. Jain's reluctance to discuss the '013 patent at the March 1991 conference also does not conclusively show that he regarded it as the best mode. The focus of Dr. Jain's conference presentation was on his lithography method, not the illumination source, and his reluctance to discuss his illumination system, on which he had a patent application pending, does not necessarily mean that he considered it the best illumination option for his lithography system. In fact, he testified that one reason he did not discuss his own idea for an illumination source system at the 1991 conference was that "several other types of beam uniformization or illumination systems were possible."

There does remain a conspicuous gap in Dr. Jain's testimony. Both at his deposition and in his declaration, he failed to identify any illumination source he deemed suitable for use in practicing the asserted claims, other than the one described in the '013 patent. That omission may ultimately lead a finder of fact to conclude that Dr. Jain did, in fact, conceal what he believed to be the best mode of practicing the invention. At this juncture, however, that omission is not sufficient, in light of the other evidence of record, to persuade us that a finder of fact would be required to find clear and convincing evidence that Dr. Jain believed the illumination system of the '013 patent was the best mode for practicing the inventions of the asserted claims, and that he concealed that best mode

from the public. Because a judicial determination of this factual dispute before trial is premature, we reverse the grant of summary judgment and remand this case to the district court for further proceedings.

REVERSED and REMANDED