

NOTE: This disposition is nonprecedential.

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

**SUPREMA, INC.,
MENTALIX INCORPORATED,**
Appellants

v.

INTERNATIONAL TRADE COMMISSION,
Appellee

CROSS MATCH TECHNOLOGIES, INC.,
Intervenor

2012-1170

Appeal from the United States International Trade
Commission in Investigation No. 337-TA-720.

Decided: September 14, 2015

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

O'MALLEY, *Circuit Judge*.

This appeal, which arises from rulings of the International Trade Commission (“the Commission”), returns to this panel after en banc consideration. We reinstate in its entirety the panel’s rulings, dated December 13, 2013, as to U.S. Patent Nos. 7,277,562 (“the ’562 patent”) and 5,900,993 (“the ’993 patent”). *See Suprema, Inc. v. ITC*, 742 F.3d 1350, 1363-71 (Fed. Cir. 2013) (“*Suprema I*”) (Parts III.A, III.B, and V). The en banc Court neither considered nor questioned either the conclusions the panel reached as to those patents, nor the rationale for those conclusions. As to U.S. Patent No. 7,203,344 (“the ’344 patent”), we affirm the Commission’s finding of a

violation of 19 U.S.C. § 1337 (“section 337”) and the exclusion order predicated thereon.

BACKGROUND

This Court previously set forth at length the factual background of the present controversy. *See generally Suprema I*, 742 F.3d at 1352-56; *Suprema, Inc. v. ITC*, 2015 U.S. App. LEXIS 13929, *4-13 (Fed. Cir. Aug. 10, 2015) (en banc) (“*Suprema II*”). Briefly, Appellee Cross Match Technologies, Inc. (“Cross Match”) asserted that Appellants Suprema, Inc. and Mentalix, Inc. violated section 337 by infringing the ’344 patent, the ’562 patent, and the ’993 patent. The Commission found claim 19 of the ’344 patent infringed by the combination of certain of Suprema’s scanners (RealScan-10, RealScan-D, RealScan-10F, and RealScan-DF (collectively, the “accused products”)) and Software Development Kit (“SDK”) with the “segmentation” feature of Mentalix Inc.’s FedSubmit software. The Commission concluded that Mentalix directly infringed claim 19 of the ’344 patent and that Suprema had induced that infringement. The Commission determined that the asserted claims of the ’562 patent were not infringed, however. The Commission further found that Suprema’s RealScan-10 and RealScan-10F scanners directly infringe claims 10, 12, and 15 of the ’993 patent, and that Appellants failed to prove the asserted claims of the ’993 patent invalid as obvious. *Suprema I*, 742 F.3d at 1353. Based on these findings, on October 24, 2011, the Commission issued a limited exclusion order directed to certain scanning devices imported “by or on behalf of Suprema or Mentalix” and issued a cease and desist order directed to Mentalix only.¹ *See Certain Biometric Scanning Devices, Components Thereof, Associated Software, and Products Containing Same*,

¹ The cease and desist order is not at issue on appeal; we address only the propriety of the exclusion order.

USITC Inv. No. 337-TA-720, Pub. No. 4366, Limited Exclusion Order ¶ 1 (Feb. 2013).

On appeal, a panel of this Court affirmed the Commission's non-infringement ruling regarding the '562 patent. *Suprema I*, 742 F.3d at 1353. The panel also affirmed the Commission's finding of infringement with regard to the '993 patent, and affirmed the Commission's conclusion that Appellants failed to prove the asserted '993 patent claims were invalid as obvious. *Id.* The panel vacated the Commission's infringement finding on the '344 patent, however, holding that "an exclusion order based on a violation of § 1337(a)(1)(B)(i) may not be predicated on a theory of induced infringement where no direct infringement occurs until post-importation." *Id.* Accordingly, the original panel did not reach the merits of the Commission's willful blindness or direct infringement findings on the '344 patent. *Id.*

After reaching these conclusions, this Court granted en banc rehearing and vacated the panel decision. *Suprema, Inc. v. ITC*, 2014 U.S. App. LEXIS 10124, at *1-2. The en banc Court reversed the panel's holding as it relates to the '344 patent, and upheld the Commission's interpretation that 19 U.S.C. § 1337 covers "importation of goods that, after importation, are used by the importer to directly infringe at the inducement of the goods' seller." *Suprema II*, at *3-4 (Fed. Cir. Aug. 10, 2015). The en banc Court then remanded "for further proceedings consistent with this opinion." *Id.* at *34-35.

The en banc Court's holding did not relate to the panel's judgments with respect to the '562 and '993 patents. Because all aspects of the panel opinion were vacated when en banc review was granted, however, having now received the appeal on remand, we must address the Commission's findings with respect to all three patents at issue. For the reasons explained in the original panel opinion, we reinstate the original panel's holdings with

respect to the '562 and '993 patents. To be clear, we affirm the Commission's finding of no infringement of the '562 patent. *See Suprema I*, 742 F.3d at 1368-71 (Part V of the panel opinion). We further affirm the Commission's conclusions that Suprema infringes the '993 patent, and that Appellants failed to prove invalidity of the '993 patent. *Id.* at 1363-68 (Parts III.A and III.B of the panel opinion).

DISCUSSION

We now reach the merits of the Commission's direct infringement and willful blindness findings on the '344 patent. As noted, the Commission found that Mentalix directly infringes claim 19 of the '344 patent, and that Suprema was liable for induced infringement of that claim due to Suprema's willful blindness toward Mentalix's infringement. The Commission found that Suprema performed market research on its competitors' patents and products, then actively encouraged Mentalix's activities while willfully blinding itself to the infringing nature of those activities. Suprema argues that the Commission erred in two ways. First, Suprema argued that Mentalix does not directly infringe the '344 patent. Second, Suprema argues that the Commission's findings regarding willful blindness were erroneous. As set forth below, because there is substantial evidence in the record to support the Commission's findings on both points, we affirm the Commission's conclusions.

A. Standard of Review

"[T]he ultimate issue of the proper construction of a claim should be treated as a question of law." *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 838 (U.S. 2015). We review any factual determinations made in support of a claim construction with deference. *Id.* at 838-39.

Patent infringement, whether direct or indirect, is a question of fact. *i4i Ltd. P'ship v. Microsoft Corp.*, 598 F.3d 831, 850 (Fed. Cir. 2010); *Schindler Elevator Corp. v. Otis Elevator Co.*, 593 F.3d 1275, 1281 (Fed. Cir. 2010). On appeal, we review the Commission's factual findings for substantial evidence, and the Commission's legal determinations *de novo*. 19 U.S.C. § 1337(c); 5 U.S.C. § 706(2)(E); *Intel Corp. v. U.S. Int'l Trade Comm'n*, 946 F.2d 821,832 (Fed. Cir. 1991).

B. Background on Claim 19 of the '344 Patent

The '344 patent contains claims drawn to methods used by an optical scanning system to detect fingerprint images based on shape and area, and to determine fingerprint quality based on the detected shape and area. '344 patent col. 19 ll. 24-38. Claim 19 (the only claim of the '344 patent found infringed) recites such a process:

A method for capturing and processing a fingerprint image, the method comprising:

- (a) scanning one or more fingers;
- (b) capturing data representing a corresponding fingerprint area;
- (c) filtering the fingerprint image;
- (d) binarizing the filtered fingerprint image;
- (e) detecting a fingerprint area based on a concentration of black pixels in the binarized fingerprint image;
- (f) detecting a fingerprint shape based on an arrangement of the concentrated black pixels in an oval-like shape in the binarized fingerprint image; and
- (g) determining whether the detected fingerprint area and shape are of acceptable quality.

Id. col. 19 ll. 24-37.

The operation of the accused products is undisputed. The accused products allow for scanning of a fingerprint. Then, the accused products perform a pixel-level analysis to determine height and width of a fingerprint to draw a bounding box. Suprema's expert admitted that the bounding box determines how fat, thin or short the fingerprint is.

The parties also do not dispute that Mentalix provided training and demonstrations to the U.S. Census Bureau regarding how to use the accused products.

C. Whether Mentalix Directly Infringes Claim 19 of the '344 Patent

Appellants contend that the Commission's findings regarding direct infringement of steps (e) and (f) of claim 19 of the '344 patent were erroneous. For the reasons below, we agree with the Commission's claim construction with respect to claim 19. We further find that the Commission's rulings as to direct and induced infringement are supported by substantial evidence.

The Commission found step (e) infringed because the accused products detect a fingerprint area by identifying the fingerprint image in a bounding box. The Commission further found step (f) infringed because the accused products identify the height and width of the finger print, which constitutes detection of characteristics of fingerprint shape.

Notably, neither Appellant asked that the Commission construe steps (e) and (f). Despite their failure to request claim construction, Appellants argue that the Commission's non-infringement finding effectively construed the claims in a way that ignores any distinction between steps (e) and (f) of claim 19 of the '344 patent. With respect to step (e), Appellants argue that the Commission's claim construction required no actual detection

of “a fingerprint area.” Appellants argue that drawing a box around the fingerprint does not detect its area, and that therefore the Commission’s interpretation reads out “finger print area” from the claim.

Regarding step (f), Appellants argue that the Commission conflated it with step (e) and thus required no detection of “a fingerprint shape” under step (f). Appellants argue that the Commission’s interpretation fails to give effect to all the terms in the claim. Drawing a box around the fingerprint area does not detect the fingerprint’s shape, Suprema argues, since any shape can be contained inside the rectangular bounding box. Suprema argues that, to practice step (f), the contours of the image must be identified to be an “oval-like shape,” according to the claim’s terms. The shape of the pixel arrangement, Appellants argue, must play a role in detecting the shape, since step (f) specifies that the oval-like shape exists while step (e) does not.

Step (e) requires “detecting a fingerprint area based on a concentration of black pixels in the binarized fingerprint image.” The Commission found that this limitation was practiced based on the accused products’ source code, and based on expert testimony regarding the accused products. The evidence demonstrates that the functions find concentrations of black pixels in a fingerprint image, and then put a ‘bounding box’ around it. By drawing a box around the fingerprints, the Commission concluded that the accused functions detect a fingerprint area. The Commission’s conclusions were consistent with the teachings of the ’344 patent, which instruct that a common method of detecting fingerprint area is by drawing a bounding box around the fingerprints. *See* ’344 patent col.15 ll.43-46 (“In step 708, a fingerprint area is detected. Usually, the black areas of the image are concentrated around the fingerprints. Thus, the detection step detects the areas concentrated by black pixels.”). We thus con-

clude that the Commission's findings with respect to step (e) are supported by substantial evidence.

We also agree with the Commission's finding that Mentalix directly infringes step (f) of claim 19. Step (f) requires "detecting a fingerprint shape based on an arrangement of the concentrated black pixels in an oval-like shape in the binarized fingerprint image." The Commission construed step (f) to mean "identifying concentrations of black pixels, which have oval-like shapes, to determine individual fingerprint areas and shapes." The Commission found that claim 19 covers products that detect fingerprint shape through detecting concentrations of black pixels within the identified bounded area. We find that substantial evidence supports the Commission's finding that step (f) is infringed by the accused products' detection of concentrations of black pixels, whether or not the system defines the outlines of an oval. This reading finds support in the patent specification, which states that "[i]n step 710, fingerprint shapes are detected. The fingerprint shapes *can be* oval-like shapes. The fingerprint shape detection step *detects the areas concentrated by black pixels* that are comprised of oval-like shapes." '344 patent col.15 ll.46-49 (emphases added). Thus, by drawing a box around a fingerprint and detecting concentrations of black pixels, the accused products detect the fingerprint's shape. The shape of the bounding box is dictated by the shape of the fingerprint; i.e., it corresponds to the height and width of the fingerprint. The teachings of the patent do not require a calculation or determination of whether anything is oval-like. Given inherent limitations in the process of fingerprint capture, fingerprints are rarely in the form of a perfect oval. While the fingerprint shapes can be "oval-like," the patent specification notes that they need not be oval-shaped. '344 patent col.15 ll.46-49. The Commission thus had sufficient support for its conclusion that step (f) can be

satisfied by detecting the concentrations of black pixels using a box bounding the black pixels.

Appellants' argument that Cross Match limited the scope of step (f) during prosecution to specifically require detection of "oval-like shapes," is also without merit. "A disclaimer must be 'clear and unmistakable,' and unclear prosecution history cannot be used to limit claims." *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009) (citation omitted). Here, nothing in the prosecution history limits the claimed invention to detection of only fingerprints that are of oval-like shape or mandates calculation of an oval. The patentee never mentioned "oval-like shape" in its remarks to the examiner. The additional calculation and precision that Appellants advocate is simply not required by the patent. The specification places no limits on steps (e) or (f) beyond the bounding box used in the accused products. And the specification indicates that the concentration of black pixels can be used to determine both characteristics of fingerprint area and fingerprint shape. Therefore, we reject Appellants' argument regarding prosecution disclaimer.

In sum, we hold that the Commissioner's findings that the accused products directly infringe claim 19 are supported by substantial evidence.

D. Whether Suprema was Willfully Blind to Mentalix's Infringement

Appellants next dispute the Commission's finding that Suprema is liable for induced infringement because Suprema was willfully blind to the fact that Mentalix would infringe of claim 19 of the '344 patent when it received and employed Suprema's scanners.

A party who "actively induces infringement of a patent" under 35 U.S.C. § 271(b) is liable for patent infringement if the party knows that the induced acts

constitute patent infringement. *Global-Tech Appliances, Inc. v. SEB S.A.*, 131 S. Ct. 2060, 2063 (2011). A defendant can be found liable for induced infringement if it has actual knowledge of the infringement, or if it is willfully blind to the infringement. *Id.* The doctrine of willful blindness requires that “(1) the defendant must subjectively believe that there is a high probability that a fact exists and (2) the defendant must take deliberate actions to avoid learning of that fact.” *Id.* at 2070.

“The requisite intent to induce infringement may be inferred from all of the circumstances,” and may be established through circumstantial evidence.” *Broadcom Corp. v. Qualcomm, Inc.*, 543 F.3d 683, 699 (Fed. Cir. 2008). The question of whether Suprema was willfully blind to Mentalix’s infringement is a question of fact. *National Presto Indus. v. West Bend Co.*, 76 F.3d 1185, 1192 (Fed. Cir. 1996). The Commission’s findings of fact should be set aside only if they are not supported by substantial evidence. *Intel Corp.*, 946 F.2d at 832.

The Commission found Suprema liable for induced infringement based on the totality of the facts the Commission believed evidenced Suprema’s willful blindness. *See* Joint Appendix (“J.A.”) A221-25. From the entirety of the record before us, we hold that the Commission’s conclusion regarding induced infringement is supported by substantial evidence.

The Commission observed that, when Suprema developed the accused products, it admitted to engaging in extensive market research on its competitors. Suprema also admitted to researching and identifying Cross Match’s patents, including the ’993 and ’562 patents. Suprema specifically studied the ’562 patent, which incorporates by reference in four portions of its specification the patent application (U.S. Patent Ser. No. 10/345,420) that led to the ’344 patent. ’562 patent col 1:11-14 (“The present application is related to . . . U.S.

patent application Ser. No. 10/345,366 . . . which [is] incorporated by reference in [its] entiret[y].”); *id.* col. 5:30-34, 39-42, 65-67. Following its extensive research, Suprema successfully developed its scanners into the auto-capture, image quality checking, and automatic segmentation processes that are covered by claim 19 of the '344 patent. The Commission noted that, because the '562 and '344 patents have overlapping inventors and share the same assignee, Cross Match, “a word search likely would have identified both patents.” J.A. A223.

The Commission also found that, in developing the accused products, Suprema was well-aware of competitor products, of Cross Match's prominence in the fingerprint scanner market, and of Cross Match's relevant '562 patent. The Commission found that Suprema's market analysis was similar in scope to that performed by the accused infringer in *Global-Tech*, who was found liable for induced infringement based on a theory of willful blindness. See *Global-Tech*, 131 S. Ct. at 2071-72 (noting that the accused infringer performed “market research” and “gather[ed] information as much as possible.”). Suprema asserts that during its extensive market research it failed to check to see if the related patent application referenced in the '562 patent proceeded to mature into an issued patent. The Commission discounted this testimony. The Commission found it notable that the '344 patent issued in April 2007, six months prior to the October 2007 issue date of the '562 patent. Thus, had Suprema checked for the issuance of the '344 patent at the time it was reviewing the '562 patent, Suprema would have undoubtedly discovered that the '344 patent had issued.

Suprema and amicus Google, Inc. (“Google”) argue that a requirement to seek out every reference referred to in a competitor's patent would place too high a burden on manufacturers to avoid a finding of willful blindness. We do not hold that such an exhaustive patent search is required in every instance. Nor do we find that the Com-

mission predicated its willful blindness finding only upon such an obligation. Rather, given the similarities in content, inventorship, and ownership between the '344 and '562 patents, and the facts that Suprema studied the '562 patent during its extensive market analysis, was aware of Cross Match's activities in the scanner field, and specifically targeted the market Cross Match serviced when developing its own products, we find, based on the totality of the circumstances, that the Commission had adequate evidence upon which to conclude that Suprema's actions constituted willful blindness.

Notably, the Commission found that "the record is replete" with evidence of Suprema's efforts in aiding and abetting Mentalix to adapt Mentalix's FedSubmit software to work with Suprema's imported scanners and SDK to practice claim 19 of the '344 patent. The Commission then concluded that the totality of Suprema's actions evidenced its subjective belief of the high probability that Cross Match's scanner technology was patented, and further evidenced its deliberate actions to avoid learning of that fact. The Commission also found that Suprema deliberately avoided learning of the fact that Suprema's own accused products would likely infringe Cross Match's patents. The Commission's findings are supported by substantial record evidence, and the Commission correctly concluded that those factual findings are sufficient to support a finding of willful blindness. *See Global-Tech*, 131 S. Ct. at 2070-71.

The Commission also found that Suprema's failure to obtain an opinion of counsel constituted an additional fact evidencing Suprema's willful blindness. The Commission noted that, had an opinion of counsel been sought, it would have "undoubtedly uncovered the '344 patent, the fact that both the '344 and '562 patents are assigned to Cross Match, and would have analyzed whether Suprema infringed any of the Cross Match patents." J.A. 224. Thus, the Commission found that Suprema was willfully

blind to the existence of the '344 patent and the nature of the infringing activities it actively encouraged Mentalix to perform. We do not find these findings to be without adequate support, as Suprema claims.

The failure to obtain counsel opinion goes to the “state of mind” inducement requirement, and “such evidence remains relevant to the . . . intent analysis” for inducement.² *Broadcom*, 543 F.3d at 699. Thus, it was not error for the Commission to consider Suprema’s failure to obtain an opinion of counsel as a factor in their analysis of inducement. We do not hold that an opinion of counsel is required to avoid a finding of induced infringement. The failure to obtain an opinion of counsel is merely one fact of many that may be considered in the assessment of willful blindness. *Broadcom*, 543 F.3d at 698-701. Like the Commission, we do not place dispositive weight on Suprema’s failure to obtain an opinion of counsel. While *Global-Tech* changed the standard of intent for establishing induced infringement, *Global-Tech* did not displace this Court’s holding in *Broadcom* that failure to obtain an opinion of counsel can be considered in determining whether the intent standard for induced infringement has been met. *See Global-Tech*, 131 S. Ct. at 2069-70. We thus reject Suprema’s argument that its failure to seek the opinion of counsel could not be considered as part of

² The America Invents Act (AIA) provides that “[t]he failure of an infringer to obtain the advice of counsel with respect to any allegedly infringed patent, or the failure of the infringer to present such advice to the court or jury, may not be used to prove that the accused infringer willfully infringed the patent or that the infringer intended to induce infringement of the patent.” 35 U.S.C. § 298. Because the AIA only applies to patents issued on or after September 16, 2012, and the '344 and '562 patents issued in 2007, this provision does not control here.

the totality of circumstances indicating its willful blindness to Mentalix's infringement.

In its amicus brief, Google argues that the Commission's willful blindness ruling imposes too onerous a duty on innovators to ensure that its customers will not potentially infringe a patent. Google asserts that the Commission's ruling upsets the balance struck in *Global-Tech*. It is nearly impossible, Google argues, for a technology company to identify "all patents that are potentially implicated" by customers' potential infringement of patents. While we are not unmindful of these concerns, we do not find them sufficiently implicated in this present controversy to warrant a different outcome. We note, moreover, our deferential standard of review, which requires us to defer to the Commission's factual findings if supported by substantial evidence. Our holding is limited to the facts in the case before us. None of the facts upon which the Commission relied, in isolation, would support a finding of willful blindness. Yet, while no single factor is dispositive here, we are satisfied that there is substantial evidence on this record to support the Commission's findings.

CONCLUSION

For the foregoing reasons, we affirm the Commission's findings with respect to the '344 patent. We further reinstate the original panel's opinion with respect to the '562 and '993 patents (Parts III.A, III.B, and V of the panel opinion). *See Suprema I*, 742 F.3d at 1363-71. Accordingly, we affirm.

AFFIRMED