United States Court of Appeals for the Federal Circuit

ADVANCED FIBER TECHNOLOGIES (AFT) TRUST,
Plaintiff-Appellant,

v.

J&L FIBER SERVICES, INC.,
Defendant-Appellee.

2011-1243

Appeal from the United States District Court for the Northern District of New York in Case No. 07-CV-1191, Senior Judge Lawrence E. Kahn.

Decided: April 3, 2012

NICHOLAS MESITI, Heslin, Rothenberg, Farley & Mesiti, P.C., of Albany, New York, argued for plaintiff-appellant. With him on the brief was BRETT HUTTON.

DAVID R. CROSS, Quarles & Brady LLP, of Milwaukee, Wisconsin, argued for defendant-appellee. With him on the brief was JOHANNA M. WILBERT.

Before LOURIE, DYK, and PROST, *Circuit Judges*.

Opinion for the court filed by *Circuit Judge* LOURIE.
Opinion dissenting in part filed by *Circuit Judge* DYK.

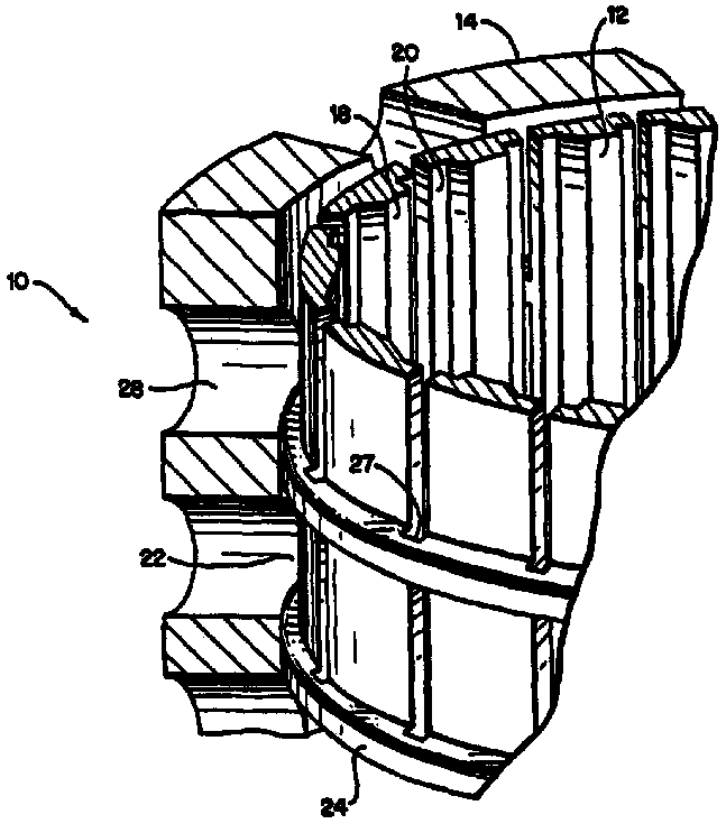
LOURIE, *Circuit Judge*.

Advanced Fiber Technologies (AFT) Trust ("AFT") appeals from the district court's construction of certain claim terms and its grant of summary judgment of noninfringement and lack of willfulness in favor of J&L Fiber Services, Inc. ("J&L"). We affirm the grant of summary judgment on willfulness. Because the district court erred in its interpretation of a term in its claim construction, however, we reverse the grant of summary judgment of noninfringement and remand. We do not address AFT's arguments concerning the district court's denial of summary judgment with respect to invalidity, which is not properly before us.

BACKGROUND

The patented technology in this appeal involves screening devices used in the pulp and paper industry. To make paper, one must screen "stock," a mixture of paper pulp and water, to remove unwanted components such as sticks and other oversized contaminants. The screening may be accomplished using a flat or cylindrical screen containing openings. According to the specification of asserted U.S. Patent RE39,940 (the "'940 patent"), a persistent problem in the screening process is clogging of the openings in the screen resulting in reduced screening efficiency. The '940 patent purports to address this problem with specially designed screening devices that offer substantially increased efficiency and flow capacity, among other beneficial characteristics.

Figure 2 of the '940 patent illustrates one embodiment of the claimed invention:



'940 patent fig. 2. The figure depicts a cross-sectional view of a screen cylinder *10* comprising a screening medium *12* and a structural backing plate *14*.[1] Stock is introduced into the interior of the cylinder and is screened as it flows through the screening medium and backing plate to the outside of the cylinder. The screening medium contains openings through which pulp fibers can pass, and the backing plate structurally supports the

[1] As the district court concluded and the parties do not dispute, the '940 patent uses the terms "screening medium" and "screening plate" synonymously. *Advanced Fiber Techs. Trust v. J&L Fiber Servs., Inc.*, 751 F. Supp. 2d 348, 360 (N.D.N.Y. 2010).

screening medium. As the patent explains, the disclosed device "is an optimal structure with regard to both open area and strength." *Id.* col.9 ll.42–43.

At issue on appeal are independent claims 1, 10, and 18, as well as asserted dependent claims that the parties do not argue separately. Claim 1 claims a screen cylinder comprising a screening medium and a structural backing plate, both of which contain openings.[2] Claim 10 claims a

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[2] Claim 1, representative of the asserted apparatus claims, reads as follows, with text added during reissue underlined, text deleted during reissue bracketed, and italics added for emphasis:

> 1. A screen cylinder comprising:
>
> a generally cylindrical *screening medium* having a plurality of *openings* therethrough;
>
> a generally cylindrical structural backing plate for structurally supporting said screening medium and having a plurality of openings therethrough; [and]
>
> said screening medium and said structural backing plate lying concentrically one within the other and having respective opposed surfaces in engagement with one another at an interface therebetween whereby said backing plate structurally supports said screening medium;
>
> one of said screening medium and said backing plate having a plurality of circumferentially extending recesses formed in its opposing surface and opening at the opposing surface of the other of said screening medium and said backing plate at the interface thereof establishing communication between the respective openings of said screening medium and said backing plate; and
>
> a plurality of axially spaced projections spaced one from the other in the axial direction defining said recesses and projecting radially from one of

screen plate for screening pulp comprising a screening medium containing slots and a structural backing plate containing openings. Claim 18 claims a method of manufacturing a screen for use in screening pulp.[3]

AFT's '940 patent is a reissue of its earlier U.S. Patent 5,200,072 (the "'072 patent"). In September 2003,

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said screening medium and said backing plate at said interface;

the openings in said screening medium being elongated and extending in a generally axial direction substantially normal to the circumferential extent of said recesses.

[3] Claim 18, the text of which was not altered during reissue, reads as follows, with emphasis added:

18. A method of manufacturing a screen for use in screening for pulp, said screen being formed of a *screening plate* and a backing plate, said screening plate having first and second opposite faces, comprising the steps of:

(a) forming elongated, substantially parallel, grooves in said first face, each groove having a side face and a bottom;

(b) forming openings through the bottom of the grooves in said first face and into the screening plate to terminate within the screening plate short of said second face thereof;

(c) forming elongated grooves in the second face of said screening plate inclined relative to the longitudinal extent of the grooves formed in step (a) and to a depth to expose the openings formed in step (b) so that the openings extend entirely through said screening plate, and leave a plurality of ridges in the second face spaced one from the other there-along and extending in a direction inclined relative to the longitudinal extent of said grooves.

AFT submitted the '072 patent to the U.S. Patent and Trademark Office ("PTO") for reissue. In January 2006, the PTO rejected the pending claims as anticipated under 35 U.S.C. § 102(b) by a prior art patent issued to Gillespie, U.S. Patent 4,276,265 ("Gillespie"). Gillespie discloses "screens for use in process flow stream applications," such as a "radial flow catalytic reactor." J.A. 1060. The examiner stated that "[a]lthough Gillespie is not directed to a pulp fiber sorting application, . . . [s]tructurally, applicant's claimed screen device is indistinguishable from Gillespie's screen." J.A. 349.

AFT responded to the rejection in May 2006, arguing that, whereas "the Gillespie device is neither intended to be used or appropriate for use for the pulp treatment art," the pending claims require "a screen cylinder used in the treatment of pulp." J.A. 322–23. AFT quoted portions of the '072 patent's written description discussing the use of its invention for pulp screening and also noted that certain claim terms "are terms of the pulp treatment art." J.A. 322. To prove the latter point, AFT provided the following definitions from the *Handbook of Pulp and Paper Technology* (the "*Handbook*")[4] as evidence that "these terms have specific meaning in the art of the present invention and would be understood by those of skill in the art to have such meanings as presented in the specification." J.A. 323.

> SCREEN: Separation device utilizing some type of *perforated* barrier for removing unwanted material from a stock stream.
>
> SCREENING: Process step involving passage of stock through some form of perforated barrier to re-

[4] AFT also referred to this book during prosecution as the *Handbook of Pulp & Paper Terminology, A Guide to Industrial and Technological Usage*. J.A. 328.

> move oversize, troublesome and unwanted particles from good fiber.
>
> SCREEN PLATE: Perforated metal plate utilized on many designs of pulp screening equipment that impedes pulp flow and is instrumental in causing a separation between suspended particles on the basis of their size, shape, and/or flexibility.

J.A. 322–23 (emphases added).

As additional evidence that Gillespie would not work for screening pulp fiber, AFT contrasted Gillespie's slot width with that of the claimed invention, arguing that "the slot sizing of the Gillespie screen further underscores how inappropriate the Gillespie device is for screening pulp fibers." J.A. 324. Specifically, AFT stated that Gillespie's slots of 0.762 mm are "over three times the size" of the slots of the claimed invention:

> [P]ulp fibers have diameter less than 50 microns (0.050 mm) and typically slot widths of 0.2 mm would be used for aspects of the invention. In contrast, the Gillespie screen slots are 0.030 inches, that is, 0.762 mm. *The slots of Gillespie are over three times the size of the slot width of the present invention.*

Id. (emphasis added). In response to AFT's arguments, the examiner withdrew the rejection over Gillespie.

On November 9, 2007, after receiving a notice of allowance in its ongoing reissue prosecution, AFT sued J&L for patent infringement under the original patent and its reissue. In December 2007, the patent reissued as the '940 patent. AFT's infringement allegations centered on screening devices made and sold by J&L under the brand name "V-Max" for use in the pulp and paper industry. AFT also alleged willful infringement.

J&L denied infringement. Based on a number of prior art references, J&L also asserted invalidity as an affirmative defense and counterclaimed for a declaratory judgment of invalidity. On September 13, 2010, the district court issued its Memorandum-Decision and Order construing the disputed claim terms and addressing the parties' cross-motions for summary judgment on invalidity and infringement. *Advanced Fiber Techs. Trust v. J&L Fiber Servs., Inc.*, 751 F. Supp. 2d 348 (N.D.N.Y. 2010).

The district court construed the claim term "screening medium" in claims 1 and 10 and its synonym "screening plate" in claim 18. The court concluded that AFT, in distinguishing Gillespie during reissue prosecution, unambiguously limited the scope of its claims to the paper and pulp industry. Accordingly, the court relied on the definition of "screening" from the *Handbook* to construe "screening medium" as "a perforated barrier through which stock is passed to remove oversized, troublesome, and unwanted particles from good fiber." *Id.* at 361.

At AFT's request, the court also construed the term "perforated," which is not a claim term but appears in the court's construction of "screening medium." The court cited general and technical dictionary definitions of "perforate" and "perforation" in construing "perforated" as "pierced or punctured with holes." *Id.* at 363. The court observed that this construction conformed to the patent's written description with the exception of "a one-sentence mention that 'a wedgewire screening plate may be used.'" *Id.* (quoting '940 patent col.11 ll.64–65). Despite this discrepancy, the court adhered to its construction, reasoning that none of the claims explicitly recites a wedgewire screen—that is, a screen made by assembling closely spaced parallel wires, not by piercing or puncturing.

The district court also construed the claim terms "openings" and "slots" in claims 1 and 10 and their asserted dependent claims. As the court acknowledged, the '940 patent describes these terms broadly, stating that "'openings . . . is intended to encompass apertures of all shapes and sizes, including holes, slots, orifices and passageways.'" *Id.* at 364 (quoting '940 patent col.5 ll.37–40). The patent also describes a preferred embodiment having a relatively large slot width of 0.5 mm. In statements made by AFT during reissue prosecution, however, the court perceived an unmistakable disavowal of the full scope of these terms. Because AFT distinguished Gillespie on the basis that its 0.762 mm slots are "over three times the size of the slot width of the present invention," the court reasoned that the claims must be limited to slots or openings having widths less than one-third of 0.762 mm. Accordingly, the court construed "openings" and "slots" as "openings or slots with widths less than 0.254 mm." *Id.* at 365.

Having construed these disputed terms, the court turned to the issue of infringement. The court found that J&L's accused V-Max screen, which is made of wedgewire, does not literally infringe claims 1, 10, 18, and the asserted dependent claims under the court's constructions of "screening medium" and "perforated." The court nonetheless declined to grant J&L's motion for summary judgment of noninfringement because, even though the V-Max does not literally infringe, J&L appeared to acknowledge that its accused device might infringe under the doctrine of equivalents. On subsequent reconsideration, however, the court found that, because the '940 patent disclosed but did not claim wedgewire, the disclosure-dedication rule foreclosed infringement under the doctrine of equivalents. *Id.* at 387. The court thus granted summary judgment of noninfringement in favor of J&L on all asserted claims.

The court also addressed the parties' validity motions. Although the district court made several rulings with respect to references alleged to anticipate or render obvious the asserted claims, only one is disputed by the parties on appeal. That ruling relates to the "PIMA" reference, a trade industry magazine article disclosing screen plates used for papermaking. J.A. 1371–74; Edward H. Hall, *Conically Drilled Plates Produce More Effective Screening Area*, PIMA Magazine, Mar. 1979, at 30. AFT moved for "summary judgment of validity," arguing that PIMA cannot render obvious the asserted claims. The court disagreed and denied summary judgment on the issue of invalidity over PIMA. *Advanced Fiber*, 751 F. Supp. 2d at 379.

Finally, the court considered J&L's motion for summary judgment dismissing AFT's claim of willful infringement. The court found that J&L's "credible" and "compelling" arguments regarding noninfringement and invalidity, in addition to the PTO's rejections during reissue prosecution, demonstrated the reasonableness of J&L's allegedly infringing actions. *Id.* at 380–81. The court also noted that the meaning of certain claim terms changed significantly upon AFT's arguments during reissue prosecution, and that these claims were not reissued until after AFT filed its complaint for patent infringement. For those reasons, the court granted J&L's motion for summary judgment on the issue of willful infringement.

On January 21, 2011, the district court dismissed J&L's counterclaims without prejudice and entered final judgment in favor of J&L. Judgment in a Civil Case, *Advanced Fiber Techs. Trust v. J&L Fiber Servs., Inc.*, No. 1:07-CV-1191 (N.D.N.Y. Jan. 21, 2011), ECF No. 130; *see also* Clarifying Judgment, *Advanced Fiber Techs. (AFT)*

Trust v. J&L Fiber Servs., Inc., No. 1:07-CV-1191 (N.D.N.Y. Jan. 6, 2012), ECF No. 146.

AFT timely appealed. We have jurisdiction over final decisions pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

AFT contends that the district court erroneously granted summary judgment of noninfringement based on incorrect constructions of the terms "screening medium" and "perforated." AFT also argues that the court incorrectly construed the terms "slots" and "holes." AFT alleges further error in the court's denial of summary judgment regarding invalidity over the PIMA article. Finally, AFT asserts that the district court erroneously granted summary judgment dismissing AFT's claim of willful infringement. We review each assertion in turn.

Summary judgment is appropriate when there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a). Summary judgment may therefore be granted when no reasonable jury could return a verdict for the nonmoving party. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986). "We review a district court's decision on summary judgment *de novo*, reapplying the same standard applied by the district court." *Hologic, Inc. v. SenoRx, Inc.*, 639 F.3d 1329, 1334 (Fed. Cir. 2011).

I

Claim construction is a legal question that we review on appeal without formal deference to the district court, although we give careful consideration to that court's decision. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc). A patent is a fully integrated written instrument; the claims must be read in view of the specification, of which they are a part. *Mark-*

man v. Westview Instruments, Inc., 52 F.3d 967, 978–79 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). A court should also consult the patent's prosecution history, which, like the specification, provides evidence of how the PTO and the inventor understood the claimed invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (en banc). In reviewing these sources, if the specification or prosecution history defines a claim term, that definition shall apply even if it differs from the term's ordinary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366–67 (Fed. Cir. 2002). Moreover, if a patentee makes a clear and unambiguous disavowal of claim scope during prosecution, that disclaimer informs the claim construction analysis by "narrow[ing] the ordinary meaning of the claim congruent with the scope of the surrender." *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003). Finally, courts may rely on dictionary definitions when construing claim terms, "so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents." *Phillips*, 415 F.3d at 1322–23 (internal quotation marks omitted).

A. Construction of "Screening Medium" and "Perforated"

We first consider the construction of the claim term "screening medium" and the related term "perforated." AFT and J&L both agree that the court properly construed "screening medium" as a "perforated barrier through which stock is passed to remove oversized, troublesome, and unwanted particles from good fiber." They disagree, however, on the meaning of the term "perforated" in that construction.

AFT contends that the court erred by defining "perforated" as "pierced or punctured with holes." According to

AFT, the intrinsic evidence does not support the court's construction because the '940 patent nowhere states that the screening medium must be made by puncturing or piercing. AFT points out that the specification expressly describes the screening medium as including "wedgewire," which, as the parties agree, is made by assembling wires, not by puncturing or piercing. AFT also argues that the court erroneously relied on extrinsic evidence, including dictionary definitions, that contradict the intrinsic evidence.

J&L argues in response that AFT defined "screening medium" during prosecution to include "perforated." J&L further contends that the court's construction of "perforated" conforms with the specification, which discloses a "backing plate" that comprises a "perforated plate having a plurality of relatively large openings," '940 patent col.2 l.66 – col.3 l.1, which "may be punched or drilled through the material," *id.* col.8 l.52. J&L also asserts that the district court's interpretation of "perforated" is consistent with extrinsic evidence relied on by the district court, including dictionary definitions of "perforation" and "perforate" as well as prior art references indicating that one of ordinary skill would understand "perforated" to mean "punctured or pierced."

The disputed term at issue, "perforated," appears not in the claims but rather in the district court's construction of a disputed claim term. We note, as an initial matter, that "we do not ordinarily construe words that are not in claims." *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1334 (Fed. Cir. 2009); *see also Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 339 (1961) ("[T]he claims made in the patent are the sole measure of the grant."). However, in those cases in which the correct construction of a claim term necessitates a derivative construction of a non-claim term, a court may perform the

derivative construction in order to elucidate the claim's meaning.

Our opinion in *Edwards* is illustrative. 582 F.3d 1322. In that case, we reviewed a district court's claim construction in patents relating to intraluminal grafts. In accordance with the teachings of the specification, the district court construed particular claim terms to require a graft that includes at least one "malleable wire." *Id.* at 1326. On account of the parties' disagreement over the meaning of "malleable"—not itself a claim term—the district court construed this term according to a statement in the specification indicating that "malleable" means that the wires "do not expand[] by virtue of their own resilience." *Id.* at 1327 (internal quotation marks omitted). We disagreed with the appellant that the court erred by rejecting the plain meaning of "malleable." Instead, we affirmed the district court's treatment of the non-claim term "malleable," holding that the court correctly "look[ed] to the specification to clarify its initial construction." *Id.* at 1334.

As our holding in *Edwards* demonstrates, the claim construction analysis must follow the guiding principles set forth in *Phillips*. *See Phillips*, 415 F.3d at 1316 ("[T]he specification necessarily informs the proper construction of the claims."). After all, whether we are construing a claim term or a disputed term within a claim construction, our ultimate goal is "determining the meaning and scope of the patent claims asserted to be infringed." *Markman*, 52 F.3d at 976. Accordingly, in reviewing the district court's construction of the non-claim term "perforated," we apply our established claim construction principles, summarized above.

After doing so, we conclude that the district court erroneously construed "perforated" using extrinsic evidence

that contradicts the intrinsic evidence of record. As an initial matter, we note that the court correctly relied on definitions provided by AFT during prosecution of the '940 patent to limit "screening medium" to a barrier that is "perforated." The court observed that, during prosecution, AFT expressly defined "screening" as a "process step" involving the passage of stock through a "perforated barrier." *Advanced Fiber*, 751 F. Supp. 2d at 361. In concluding that the claimed "screening medium" must therefore be "the medium employed in this 'process step,' which is identified in the definition as a 'perforated barrier,'" the court correctly relied on a clear definition of a claim term set forth by AFT in the prosecution history. *See CCS Fitness*, 288 F.3d at 1366 ("[I]f the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history," then that definition governs.); *see also Phillips*, 415 F.3d at 1317 ("[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution.").

The court's analysis went awry, however, in its interpretation of the term "perforated." In construing "perforated," the court relied solely on dictionary definitions of "perforate" and "perforation." *Advanced Fiber*, 751 F. Supp. 2d at 363; J.A. 2378, 2380. The parties' disagreement on appeal centers on the district court's choice of definitions: J&L asserts that the court correctly relied on the definitions of "perforate" and "perforation" to derive the requirement of being "pierced or punctured with holes," whereas AFT contends that the court ignored the definition of "perforated" itself—"having a hole or series of holes," J.A. 2380—and thus improperly limited the meaning of this term. While we agree with AFT that the

meaning of "perforated" may be better understood in the abstract by examining the definition of the adjective itself, rather than the verb "perforate" or the noun "perforation," the court's fundamental error was not referencing the wrong part of speech.

Rather, the district court's error lies in its reliance on extrinsic evidence that contradicted the patent's specification, including the claims and written description. *See Phillips*, 415 F.3d at 1319 ("[E]xtrinsic evidence may be useful to the court, but it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence."); *see also OSRAM GmbH v. Int'l Trade Comm'n*, 505 F.3d 1351, 1356 (Fed. Cir. 2007) ("The patent specification is the primary resource for determining how an invention would be understood by persons experienced in the field." (citing *Phillips*, 415 F.3d at 1312–13)). The claims themselves do not require the screening medium to be made by puncturing or piercing, they simply limit the screening medium to "having a plurality of openings therethrough," '940 patent claim 1, or "having a plurality of slots therethrough," *id.* claim 10. Likewise, the written description provides no basis for the court's "pierced or punctured" limitation. As noted above, the court began its analysis by construing "screening medium" (and its synonym, "screening plate") as a "perforated barrier." The court correctly recognized that the specification, in a "one-sentence mention," disclosed one such perforated barrier that was made by assembling wires, not by puncturing or piercing. *Advanced Fiber*, 751 F. Supp. 2d at 363. The court erred, however, by disregarding that embodiment.

The district court did not perceive, nor does J&L allege on appeal, any fault in the '940 patent's wedgewire disclosure aside from its brevity. The fact that an embodiment is disclosed in a single sentence is not a license

to ignore that disclosure. Indeed, as a general matter, brevity in a patent disclosure should be applauded, not impugned. *In re Gay*, 309 F.2d 769, 733 (CCPA 1962) ("[S]pecifications have often been criticized as too cluttered with details to give an easy understanding of what the invention really is."). A disclosed embodiment is a disclosed embodiment, no matter the volume of ink required to adequately describe it. *See Falkner v. Inglis*, 448 F.3d 1357, 1366–67 (Fed. Cir. 2006) ("No length requirement exists for a disclosure to adequately describe an invention.").

Accordingly, we reject the district court's construction of "perforated" in view of intrinsic evidence providing for a screening medium formed by means other than piercing or puncturing. We are not persuaded by J&L's arguments to the contrary. While it is true, as we explained above, that during prosecution AFT defined "screening" using the term "perforated," nowhere did AFT define "perforated" or discuss piercing or puncturing. Moreover, although J&L is correct in noting that the specification discloses a "backing plate" that comprises a "perforated plate," '940 patent col.2 ll.66–67, that disclosure does not pertain to the claimed "screening medium." Even if it did, the specification states only that the openings in the backing plate "*may* be punched or drilled," *id.* col.8 l.52 (emphasis added), a far cry from strictly limiting the invention to devices formed solely by piercing or puncturing.

We therefore disagree with the district court's interpretation of "perforated" in its construction of the claim term "screening medium." We hold that "perforated" in this context simply means having holes or openings. Construed in this manner, "perforated" is fully consistent with the language of claim 1, "a screening medium having a plurality of openings therethrough," and claim 10, "a

screening medium having a plurality of slots therethrough." This construction is also consistent with the specification's explicit disclosure of wedgewire as one type of screening medium. As "perforated" was not defined during prosecution, this construction is also consistent with the file history of the '940 patent. Finally, we note this interpretation also accords with the ordinary definition of "perforated" as illustrated by extrinsic evidence of record—"having a hole or series of holes." J.A. 2380.

Because the district court granted summary judgment of noninfringement based on an incorrect construction of the asserted claims, we reverse that judgment.

B. Construction of "Slots" and "Openings"

AFT also disputes the district court's construction of the terms "slots" and "openings" as being limited to "openings or slots with widths less than 0.254 mm." *Advanced Fiber*, 751 F. Supp. 2d at 364. The parties agree that, should we vacate the judgment of noninfringement, the construction of these terms is relevant on remand to the extent of J&L's potential infringement and thus the amount of potential damages owed by J&L. The parties also agree with the district court that these two terms should be construed together.

AFT asserts that the court's construction is wrong because the claims themselves do not contain any size limitation. AFT points out that the specification encompasses apertures of all shapes and sizes and expressly discloses a screening medium with a slot size of 0.5 mm. Finally, AFT contends that the prosecution history does not contradict the claims or specification.

J&L asserts that the district court correctly limited these claim terms on account of AFT's prosecution history disclaimer. According to J&L, AFT structurally differen-

tiated its claims from Gillespie on the basis of slot size. In the face of such disclaimer, J&L argues, the district court was correct to construe these terms more narrowly than the specification would otherwise suggest.

We agree with J&L. As the district court correctly concluded, AFT distinguished Gillespie from the pending claims based on slot size: "the Gillespie screen slots are 0.030 inches, that is, 0.762 mm. The slots of Gillespie are over three times the size of the slot width of the present invention." J.A. 324. This statement, urged in support of patentability, is "so clear as to show reasonable clarity and deliberateness" and "so unmistakable as to be unambiguous evidence of disclaimer." *Omega*, 334 F.3d at 1325. The district court properly took AFT at its word and construed the claimed slots and openings as having widths less than one-third of 0.762 mm, that is, "less than 0.254 mm." Accordingly, we perceive no error in the district court's construction of "slots" and "openings."

II

We turn next to AFT's assertion that the district court erred by denying summary judgment that certain claims of the '940 patent are not invalid for obviousness over the PIMA reference. A district court's denial of summary judgment is ordinarily not appealable. *M. Eagles Tool Warehouse, Inc. v. Fisher Tooling Co.*, 439 F.3d 1335, 1344 (Fed. Cir. 2006). Although it may be proper under the doctrine of pendent appellate jurisdiction for us to review rulings that are not themselves independently appealable in conjunction with a ruling over which we do have jurisdiction, we need not do so here. *See Swint v. Chambers Cnty. Comm'n*, 514 U.S. 35, 50–51 (1995); *Entegris, Inc. v. Pall Corp.*, 490 F.3d 1340, 1348 (Fed. Cir. 2007). AFT has not asserted that the district court's denial of summary judgment that certain claims are not

invalid is "inextricably intertwined" with the court's grant of summary judgment of noninfringement, or that review of the former decision is "necessary to ensure meaningful review" of the latter. *Swint*, 514 U.S. at 51. Nor has AFT challenged the denial of summary judgment as an alternative basis for affirmance. Given that we reverse the district court's claim construction of one term and remand the case for further proceedings on infringement, validity may be dealt with on remand to that court as well. Accordingly, we do not address AFT's assertions regarding the court's denial of summary judgment with respect to invalidity.

III

Lastly, we consider AFT's assertion that the court erred by granting summary judgment dismissing AFT's claim for willful infringement. Proof of willful infringement requires at least a showing of objective recklessness. To establish willful infringement, "a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent." *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007) (en banc). This objective prong "tends not to be met where an accused infringer relies on a reasonable defense to a charge of infringement." *Spine Solutions, Inc. v. Medtronic Samofor Danek USA, Inc.*, 620 F.3d 1305, 1319 (Fed. Cir. 2010). If the evidence satisfies the objective standard, "the patentee must also demonstrate that this objectively-defined risk . . . was either known or so obvious that it should have been known to the accused infringer." *Seagate*, 497 F.3d at 1371.

AFT asserts that the district court improperly granted summary judgment by relying on incorrect legal standards relating to infringement and claim construction in

finding that J&L's actions were objectively reasonable. We disagree with AFT and hold that the district court correctly granted summary judgment on the issue of willful infringement.

The court's decision rested on numerous factors indicating that J&L's acts were not objectively reckless. Those factors included: (1) the language of the '072 patent, which "leaves significant doubt as to the patent's validity"; (2) J&L's "compelling non-infringement and invalidity arguments"; (3) the PTO's "rejection of the reissue application based on it being 'structurally indistinguishable' from the Gillespie [prior art patent]"; and (4) the fact that the meaning of certain key claim terms in the '072 patent only became clear through AFT's arguments during reissue prosecution.[5] *Advanced Fiber*, 751 F. Supp. 2d at 380–81. Taken together, these facts show that J&L's assertions of invalidity and noninfringement were, at minimum, objectively reasonable defenses to AFT's charge of infringement. The fact that we have on appeal altered one of the district court's claim constructions and consequently vacated summary judgment of noninfringement does not compel a different outcome. *See Spine Solutions*, 620 F.3d at 1319 (upholding the jury's verdict of nonobviousness, while finding that the accused infringer raised a "substantial question" of obviousness sufficient to defeat the charge of willfulness). Accordingly, we affirm the court's grant of summary judgment

[5] The parties do not dispute that the district court correctly focused on the reasonableness of J&L's acts vis-à-vis the '072 patent—the patent at issue when AFT filed its complaint for infringement. *See Seagate*, 497 F.3d at 1374 ("[A] willfulness claim asserted in the original complaint must necessarily be grounded exclusively in the accused infringer's pre-filing conduct").

that AFT failed to raise a genuine factual issue that any infringement by J&L was willful.

CONCLUSION

For the foregoing reasons, we reverse the district court's grant of summary judgment of noninfringement based on an incorrect claim construction, and we affirm the court's grant of summary judgment on willfulness. We remand for further proceedings consistent with this opinion.

AFFIRMED-IN-PART, REVERSED-IN-PART, AND REMANDED

COSTS

No costs.

United States Court of Appeals for the Federal Circuit

ADVANCED FIBER TECHNOLOGIES (AFT) TRUST,
Plaintiff-Appellant,

v.

J&L FIBER SERVICES, INC.,
Defendant-Appellee.

2011-1243

Appeal from the United States District Court for the Northern District of New York in Case No. 07-CV-1191, Senior Judge Lawrence E. Kahn.

Before LOURIE, DYK, and PROST, *Circuit Judges*.

DYK, *Circuit Judge*, dissenting in part.

Although I agree with the majority on the issue of willfulness, I disagree as to its construction of "screening medium" and "screening plate" in claims 1, 10, and 18 of U.S. Patent No. RE39,940 ("the '940 patent")[1] and with its decision to set aside the judgment of non-infringement.

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[1] Claim 1, representative of the asserted apparatus claims, recites:

> A screen cylinder comprising:
> a generally cylindrical *screening medium* having a plurality of openings therethrough;

a generally cylindrical structural backing plate for structurally supporting said screening medium and having a plurality of openings therethrough;

said screening medium and said structural backing plate lying concentrically one within the other and having respective opposed surfaces in engagement with one another at an interface therebetween whereby said backing plate structurally supports said screening medium;

one of said screening medium and said backing plate having a plurality of circumferentially extending recesses formed in its opposing surface and opening at the opposing surface of the other of said screening medium and said backing plate at the interface thereof establishing communication between the respective openings of said screening medium and said backing plate; and

a plurality of axially spaced projections spaced one from the other in the axial direction defining said recesses and projecting radially from one of said screening medium and said backing plate at said interface;

the openings in said screening medium being elongated and extending in a generally axial direction substantially normal to the circumferential extent of said recesses.

'940 Patent col.13 ll.24-52 (emphasis added).

Claim 18, the only independent method claim asserted by AFT, recites:

A method of manufacturing a screen for use in screening for pulp, said screen being formed of a screening plate and a backing plate, said screening plate having first and second opposite faces, comprising the steps of:

(a) forming elongated, substantially parallel, grooves in said first face, each groove having a side face and a bottom;

(b) forming openings through the bottom of the grooves in said first face and into the screen-

The district court found, and the majority does not dispute, that the terms "screening medium" and "screening plate" are synonymous, and that the "screening medium" or "screening plate" must be "perforated." In my view, the intrinsic record demonstrates that "perforated" in this context requires that holes or openings be made through an otherwise solid object, such as a plate. Because the accused product's wedgewire construction does not meet this limitation, I think the district court's grant of summary judgment of noninfringement should be affirmed.

During prosecution, the examiner rejected AFT's claims as anticipated by U.S. Patent No. 4,276,265 to Gillespie ("Gillespie" or "the '265 patent"), which is directed to a screening device. The examiner found that Gillespie, which disclosed a wedgewire construction comprised of generally parallel "spaced apart profiled wire members," '265 Patent col.3 l.64, was "[s]tructurally . . . indistinguishable" from AFT's claimed screen device. J.A. 349-50. Although AFT did not explicitly disclaim coverage of wedgewire devices in seeking to overcome the rejection, AFT excluded wedgewire screens from the scope of the claims by overcoming the rejection based on the

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> ing plate to terminate within the screening plate short of said second face thereof;
>
> (c) forming elongated grooves in the second face of said screening plate inclined relative to the longitudinal extent of the grooves formed in step (a) and to a depth to expose the openings formed in step (b) so that the openings extend entirely through said screening plate, and leave a plurality of ridges in the second face spaced one from the other there-along and extending in a direction inclined relative to the longitudinal extent of said grooves.

'940 Patent col.15 ll.13-32 (emphasis added).

argument that the screen of the reference "is clearly not disclosed as a screen plate as used in the treatment of pulp" and was not "intended to be used for or appropriate for use for the pulp treatment art." J.A. 323-24. AFT argued that "the terms 'screen,' 'screening,' and 'screen plate' are terms of the pulp treatment art, having specific meanings to those of ordinary skill in the pulp treatment art."[2] J.A. 322. AFT emphasized to the examiner that the "meaning of the term 'screen plate' in claim 1 is consistent with this meaning in the art."'[3] J.A. 323.

To demonstrate the meaning of the relevant claim term to those of ordinary skill in the art, AFT provided specific definitions from a "well-recognized reference on pulp and paper technology," the Handbook of Pulp & Paper Terminology. J.A. 322-23. AFT defined "screen plate" as a "*[p]erforated metal plate* utilized on many designs of pulp screening equipment that impedes pulp flow and is instrumental in causing a separation between suspended particles on the basis of their size, shape, and/or flexibility." J.A. 323 (emphasis added). Significantly too the Handbook defined a "perforated plate" as a "[s]creen plate with straight-through holes, usually made by a punch." G.A. Smook, Handbook of Pulp & Paper Terminology 151 (1990). Thus, the definition of perforated plate required that holes be made by punching, drilling, or some other similar method of creating a hole through an otherwise solid object. This would exclude

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[2] The majority emphasizes the distinction made by AFT based on the size of the slot in the Gillespie screen, but that was only one distinction offered to demonstrate that Gillespie would not be appropriate in the art of pulp treatment.

[3] Claim 1 does not actually use the term "screen plate." However, this reference to "'screen plate' in claim 1," J.A. 323, in the prosecution history is best understood as a reference to the term "screening medium" in claim 1.

wedgewire construction. By explicitly adopting a definition of the term "screening medium" or "screening plate," AFT excluded wedgewire construction from the scope of the claims. *See Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) (holding that a patentee can limit the meaning of a claim term "by clearly characterizing the invention in a way to try to overcome rejections based on prior art"); *MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1330 (Fed. Cir. 2007) ("Prosecution arguments like this one which draw distinctions between the patented invention and the prior art are useful for determining whether the patentee intended to surrender territory, since they indicate in the inventor's own words what the invention is not.").[4]

In addition to the prosecution history, the claims themselves confirm that "perforated" requires that holes or openings be made *through* a solid object, and does not encompass wedgewire screens. Claim 18 claims a method of manufacturing a "screening plate" (a term agreed to be synonymous with "screening medium") which requires "forming openings [that] . . . extend entirely *through* said

[4] Quite apart from AFT's reliance on particular definitions during prosecution, it is appropriate to look at industry standards and definitions to interpret disputed claim terms. *See Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1378-79 (Fed. Cir. 2005) (using an industry standard to interpret claim term); *see also LG Elecs., Inc. v. Bizcom Elecs., Inc.*, 453 F.3d 1364, 1375 (Fed. Cir. 2006) ("Although we have concluded that the patentee did not expressly adopt the definition of 'requesting agent' in the incorporated industry standard, that standard remains relevant in determining the meaning of the claim term to one of ordinary skill in the art at the time the patent application was filed, and it is treated as intrinsic evidence for claim construction purposes." (citing *V-Formation, Inc. v. Benetton Group SpA*, 401 F.3d 1307, 1311 (Fed. Cir. 2005))).

screening plate." '940 Patent col.15 ll.20-28 (emphasis added); *see also id.* col.6 ll.15-21. The claims and specification make clear that the disclosed method also requires a "screening plate" with two faces and the ability to "form[] elongated . . . grooves" in the screening plate. *Id.* col.15 ll.17; *see also id.* col.6 ll.17-18. The majority's construction of "screening medium" as encompassing wedgewire screens does not comport with this claimed method of manufacture. Moreover, in a different context, the specification refers to a "perforated" backing plate, '940 Patent col.2 ll.66-67, whose holes are "punched or drilled," *id.* col.8 l.51, which is again inconsistent with "perforated" encompassing wedgewire construction. *See also id.* col.11 ll.17-19 ("[T]he openings may be cylindrical or other shapes, as desired, and may be punched or drilled through the material.").

As the majority points out, the specification briefly mentions wedgewire as an embodiment of the invention.[5] Not every embodiment disclosed in the specification necessarily falls within the scope of the claims. *AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1248 (Fed. Cir. 2007) ("[E]very claim need not contain every feature taught in the specification."); *Nazomi Commc'ns, Inc. v. ARM Holdings, PLC*, 403 F.3d 1364, 1369 (Fed. Cir. 2005) (holding that a claim may "embrac[e] different subject matter than is illustrated in the specific embodiments in the specification"); *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1331 (Fed. Cir. 2004) ("[P]atentees [are] not required to include within each of their claims all of [the] advantages or features described as significant or important in the written description."). As discussed above, to the extent this em-

[5] The specification contains this single sentence in reference to wedgewire: "Also, a wedgewire screening plate may be used." *Id.* col.11 ll.64-65.

bodiment was within the claims, AFT specifically defined the term "screening medium" during prosecution to exclude this embodiment.

Other prior art references also make the same distinction between perforated screens and wedgewire screens. *See, e.g.*, J.A. 935 (differentiating a vee-wire (or wedgewire) screen from a perforated plate); J.A. 1373-74 (describing various methods of manufacturing a "screen plate," each of which begins with a solid plate); J.A. 1390-92 (describing "screen plates" as being punched, drilled, or slotted by milling). These references can help to demonstrate how a disputed term was used by those of skill in the art at the time of the invention. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996).

Even the definitions of "perforated" offered by AFT support the conclusion that the claims require a solid plate with holes through the face. AFT argued that "perforated" means "having holes or perforations." Appellant's Br. 20. AFT further argued that "hole" was defined in the same dictionary as "an opening *through* something." *Id.* (emphasis added). AFT failed to note in its brief, however, that the entire definition of "hole" reads "an opening through something : *perforation*." J.A. 2381 (emphasis added). That very dictionary defines "perforation" as "a hole or pattern *made by or as if by piercing or boring*." J.A. 2380 (emphasis added). Thus, although a hole need not be made by piercing or puncturing, it must be of the type made by piercing or boring—that is, it must be through an object. This definition, in the dictionary offered by AFT, would naturally exclude wedgewire construction because the openings in the wedgewire are merely gaps between individual wires, not perforations.

It is not disputed that the allegedly infringing products use wedgewire construction. Because an interpreta-

tion of "perforated" that excluded wedgewire devices was adopted during prosecution and before the district court, the district court's final judgment of noninfringement should be affirmed. I respectfully dissent.