United States Court of Appeals for the Federal Circuit

EPOS TECHNOLOGIES LTD.,

Plaintiff/Counterclaim Defendant-Appellee,

AND

DANE-ELEC S.A., DANE-ELEC MEMORY S.A., AND DANE-ELEC CORPORATION USA,

Counterclaim Defendants,

v.

PEGASUS TECHNOLOGIES LTD.,

Defendant/Counterclaimant-Appellant,

AND

LUIDIA, INC.,

Counterclaim ant-Appellant.

2013-1330

Appeal from the United States District Court for the District of Columbia in No. 07-CV-0416, Judge William M.

Nickerson.

Decided: September 5, 2014

DEANNE E. MAYNARD, Morrison & Foerster LLP, of Washington, DC, argued for plaintiff/counterclaim Defendant-appellee. With her on the brief were ANTHONY L. PRESS, HECTOR G. GALLEGOS, WENDY J. RAY, and CHRISTIAN G. ANDREU-VON EUW, of Los Angeles, California.

WILLIAM P. ATKINS, Pillsbury Winthrop Shaw Pittman LLP, of McLean, Virginia, argued for defendant/counterclaimant-appellant and counterclaimant-appellant. With him on the brief were Christopher K. Dorsey, and A. John Demarco, of Washington, DC.

HUGHES and BRYSON, Circuit Judges. *

HUGHES, Circuit Judge.

Appellants, Pegasus Technologies Ltd. and Luidia, Inc., own several patents relating to digital pens and receiver devices which, they allege, the Appellees have infringed. Following claim construction of certain terms in the patents, the district court granted summary judgment of noninfringement in favor of Appellees. Because we conclude that the district court erred in construing four claim terms and in granting summary judgment of noninfringement, we vacate-in-part, reverse-in-part, and remand for further proceedings consistent with this opinion.

T

Appellants allege infringement of six patents: U.S. Patent Nos. 6,266,051; 6,326,565; 6,392,330; 6,501,461; 6,724,371; and 6,841,742. The patents relate to pens that

^{*} Randall R. Rader, who retired from the position of Circuit Judge on June 30, 2014, did not participate in this decision.

digitize writing and devices for retrofitting writing surfaces so that writing can be digitally captured. See, e.g., '371 patent col. 1 ll. 6–9. The Appellees, EPOS Technologies Ltd., Dane-Elec S.A., Dane-Elec Memory S.A., and Dane-Elec Corp. USA (collectively, EPOS), manufacture and sell products used to digitize writing (EPOS Products). These products include a receiver unit with a spring-loaded, U-shaped clip-on bracket and a pen refill.

In 2007, EPOS Technologies Ltd. filed a complaint against Pegasus Technologies Ltd. seeking declaratory judgment of noninfringement of the '565, '330, '371, and '742 patents. Pegasus filed an answer and counterclaims, adding Luidia, Inc. as a counterclaim plaintiff (collectively, Pegasus). Pegasus also asserted infringement of two additional patents in its counterclaims, the '051 and '461 patents, resulting in a total of six asserted patents. After claim construction, EPOS moved for summary judgment of invalidity and noninfringement. The district court granted the motion and declined to address invalidity in light of its nonfringement rulings. Pegasus appeals the district court's construction of four claim terms and the district court's grant of summary judgment of noninfringement. We have jurisdiction under 28 U.S.C. § 1295(a)(1).

H

"Claim construction is a legal statement of the scope of the patent right" that we review de novo. Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp., 744 F.3d 1272, 1276–77, 1284 (Fed. Cir. 2014) (en banc); Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc). Claim terms are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art. Phillips v. AWH Corp., 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). The person of ordinary skill in the art is "deemed to read the claim term not only in the context of the particular claim

in which the disputed term appears, but in the context of the entire patent, including the specification." 1313. On the other hand, "it is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited." Liebel-Flarsheim v. Medrad, Inc., 358 F.3d 898, 913 (Fed. Cir. 2004). We recognize that "the distinction between . . . interpret[ing] the meaning of a claim and importing limitations . . . into the claim can be a difficult one to apply in practice." Phillips, 415 F.3d at 1323. Nevertheless, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." Id. at 1316 (citation omitted) (quotation omitted).

We review a grant of summary judgment under the law of the regional circuit, here the D.C. Circuit. *Charles Mach. Works, Inc. v. Vermeer Mfg. Co.*, 723 F.3d 1376, 1378 (Fed. Cir. 2013). The D.C. Circuit reviews a district court's grant of summary judgment de novo, *Coalition for Common Sense in Government Procurement v. United States*, 707 F.3d 311, 315 (D.C. Cir. 2013), drawing all reasonable inferences in favor of the nonmovant, *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). Summary judgment is appropriate when there is "no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a).

Infringement is a question of fact. Charles Machine, 723 F.3d at 1378. On appeal from a grant of summary judgment of noninfringement, "we must determine whether, after resolving reasonable factual inferences in favor of the patentee, the district court correctly concluded that no reasonable jury could find infringement." Id. (quoting Crown Packaging Tech., Inc. v. Rexam Beverage

Can Co., 559 F.3d 1308, 1312 (Fed. Cir. 2009)) (internal quotation marks omitted).

III

Pegasus appeals the district court's construction of "drawing implement" and "given time interval" in the '565 and '742 patents, "marking implement" in the '461 patent, and "temporary attachment" in the '051 patent. The district court erroneously construed these four terms. Because of the erroneous claim constructions, the district court erred by granting summary judgment of noninfringement of the '565, '742, '461, and '051 patents.

Α

The '565 and '742 patents relate to digitizing writing on presentation boards. The '742 patent discloses a transmitter device for use with conventional writing implements. '742 patent abstract, col. 2 ll. 29-41. The '565 patent addresses data loss caused by a data transmission delay after the end of each pen stroke or resynchronization delay. '565 patent col. 4 ll. 58-61. According to the '565 patent, this delay is particularly problematic for short strokes because it may cause some of the information conveyed by the stroke to not be recorded. '565 patent col. 4 ll. 54-57. The '565 patent addresses this problem by "maintaining synchronization between the transmitter device 40 and the receiver system for a given period of time after the end of each pen stroke." patent col. 4 ll. 58–61.

Claim 1 of the '565 patent and claim 2 of the '742 patent are representative. Claim 1 of the '565 patent recites:

A transmitter device for use with a system for digitizing operative strokes of a handheld *drawing implement*, the *drawing implement* having a body and an operative tip, the transmitter device comprising:

a housing;

a transmitter mounted relative to said housing;

a microswitch that is responsive to a force exerted on the operative tip of the *drawing implement* towards said housing;

electronic circuitry responsive to said microswitch to affect operation of said transmitter, wherein said electronic circuitry operates said transmitter for a given time interval after said microswitch ceases to indicate a force exerted on said housing towards the operative tip of the drawing implement.

'565 patent col. 6 ll. 34-49 (emphases added). Claim 2 of the '742 patent recites:

A system for digitizing operative strokes of a *drawing implement* comprising a body, a back end, and a front end opposite the back end comprising an operative tip, the system comprising:

at least one ultrasound receiver assembly;

a housing comprising a substantially cylindrical opening terminating at a first end, and an inner housing surface having a central bore, the housing receiving a portion of the *drawing implement*, the operative tip extending through the central bore;

a retainer attachable to a second end of the opening to retain the *drawing implement* within the housing, the retainer having a spring element for biasing the *drawing implement* towards the inner housing surface; and an ultrasound transmitter mounted relative to the housing proximal the central bore.

'742 patent col. 14 ll. 8–23 (emphases added).

1

The district court construed "drawing implement" as "a conventional writing utensil that can be used alone or together with the invention." EPOS Techs. Ltd. v. Pegasus Techs. Ltd., 802 F. Supp. 2d 39, 49 (D.D.C. 2011) (emphasis added). In doing so, the district court explained that the language of the claims is "exceedingly broad," but that the remainder of the patent is not "so broad as to contemplate using something like 'a piece of charcoal." Id. The district court stated that the construction should recognize that a drawing implement "is a stand-alone writing utensil, in the sense that it is a writing utensil that can be used as such." Id.

The correct construction of the term "drawing implement" should include "a writing utensil that can be used alone or together with the invention." But the correct construction also should exclude the word "conventional." The claims themselves only state that a drawing implement must have at least a "body" and an "operative tip." '565 patent col. 6 ll. 37; '742 patent col. 14 ll. 8–10. The claims do not state that the "drawing implement" must be "conventional" or exclude a piece of charcoal. Further, the specifications describe drawing implements of "a range of lengths and widths" and of "any size or shape." See, e.g., '565 patent col. 4 ll. 15–16, col. 4 ll. 21–22; '742 patent col. 8 ll. 13–14, col. 8 l. 19. Also, the specifications expressly disclose a variety of drawing implements such as "conventional writing implements," a "hand held drawing implement," a "dry erase marker," a "red or blue pen," and an "eraser." See, e.g., '565 patent col. 2 l. 37, col. 5 l. 56, col. 6 ll. 6–11; '742 patent col. 3 ll. 30–31.

The district court erred by importing the word "conventional" from preferred embodiments into its construction of the term. See Liebel-Flarsheim, 358 F.3d at 913. Although it is true that the specifications recite embodiments including "conventional" writing implements, there is no clear indication in the intrinsic record suggesting that the claims are limited to "conventional" drawing implements. Because the district court erred by including the word "conventional" in its construction of the term "drawing implement," we vacate its construction of the term.

The district court determined that because "no reasonable jury could find that pen refills used in the EPOS Products are 'drawing implement[s]' as that term has been construed, EPOS is entitled to summary judgment." *EPOS Techs. Ltd. v. Pegasus Techs. Ltd.*, 916 F. Supp. 2d 88, 93 (D.D.C. 2013). But because the "drawing implement" need not be "conventional," the district court erred by granting summary judgment of noninfringement.

In considering infringement, a reasonable jury might find that a pen refill meets the "drawing implement" limitation as properly construed. For example, a reasonable jury might find that a pen refill meets the "drawing implement" limitation because the specifications disclose that "[t]he invention . . . may be used with replaceable conventional pen *elements*." '742 patent col. 5 ll. 24–27 (emphasis added); *see also* '565 patent col. 3 ll. 17–20. Moreover, even if the pen refill does not literally satisfy the claim term, a jury might find infringement on the basis that a pen refill satisfies this claim limitation under the doctrine of equivalents. Accordingly, we reverse the grant of summary judgment of noninfringement.

2

The district court construed "given time interval" as "fixed at a few seconds or less." *EPOS*, 802 F. Supp. 2d at 48. The district court explained that, "while the words of

the claims do not limit the time interval, all evidence suggests there must be some upper-bound to the interval contemplated by the patentee." *Id.* According to the district court, an upper bound was required because the patents sought to solve the problem of quick pen strokes made in rapid succession. *Id.* The district court found no evidence that the problem the patents sought to solve extended to pen strokes made after longer periods of time. *Id.*

The patents do not require an upper bound of "a few seconds or less" on the "given time interval." Instead, the patents describe and claim embodiments with time intervals that can "preferably" or "typically" be used and with lower-bound time intervals. '742 patent col. 11 ll. 41–43; '565 patent col. 5 ll. 2–4, col. 6 ll. 50–51.

Although the word "given" may indicate that a time interval is fixed, specified, or predetermined by an operator or a programmer, the intrinsic evidence does not limit "given time interval" to "fixed at a few seconds or less." By limiting the term "given time interval" to "a few seconds or less," the district court erroneously imported a limitation from a preferred embodiment. See Liebel-Flarsheim, 358 F.3d at 913. Moreover, we have considered EPOS's arguments regarding its construction of this term, including the indefiniteness arguments, and find them unpersuasive. We thus vacate the district court's construction of "given time interval."

In light of its claim construction, and because neither party disputed that the EPOS Products operated for 25 seconds after ceasing to detect input, the district court determined that EPOS was entitled to summary judgment of noninfringement. *EPOS*, 916 F. Supp. 2d at 93–94. The district court's grant of the motion was in error because it was based on an improperly limited construction of "given time interval." Thus, we reverse the grant of summary judgment of noninfringement.

The '461 patent relates to digital pens that are portable and usable with any writing surface. '461 patent col. 3 ll. 20–44. It discloses an "improved fitting technique that allows rapid and efficient retrofit of a tracking assembly . . . that accurately tracks a writing implement . . . [and] captur[es] all marks placed on the marking surface." '461 patent col. 3 ll. 37–44. According to the patent, retrofitting is not trivial because of the "difficulty of attaining accurate tracking of a marking implement to capture position information that may be converted to a precision representation of text and drawings." '461 patent col. 5 ll. 18–23.

The patent explains that to improve accuracy, the marking implement may have a tapered sleeve that terminates with a switch to detect the movement of a pen tip when it is placed on the writing surface. '461 patent col. 7 ll. 31–38. The switch generates a signal that tracks the marking implement's position. '461 patent col. 7 ll. 39–49. The signal may also identify "a particular marking implement function or color, for example whether the marking implement is a red or blue pen, . . . a thin line or a thick line, or . . . an eraser." '461 patent col. 7 ll. 50–55.

At issue in this appeal is the term "marking implement." Claim 1 of the '461 patent includes the term:

A retrofittable apparatus for converting a substantially planar surface into a writing surface for an electronic data capture device, the apparatus comprising:

a unitary sensor array that securely and rigidly fixes a relation between a plurality of sensors and that provides a tracking function to determine the position of a *marking implement* on the writing surface; and

a means for affixing the unitary sensor array to the substantially planar surface.

'461 patent col. 9 ll. 41–50 (emphasis added). Dependent claim 12 recites a marking implement comprising "a sleeve that has an inner diameter that is adapted to receive and securely retain a standard marker; and a first switch that detects movement of a marker tip " '461 patent col. 10 ll. 27–35.

The district court construed "marking implement" as "an implement that has a marker tip (and not a pen tip)." *EPOS*, 802 F. Supp. 2d at 50. It determined that, "while the specifications occasionally reference a 'pen' and 'pen tip,' the totality of the specifications makes clear that the patentee was merely using those terms as synonyms for a dry-erase marker." *Id.* (citing '461 patent col. 7 ll. 31–37 ("The . . . sleeve . . . has an inner diameter that is adapted to receive . . . a standard dry-erase marker. Thus, the herein-disclosed marking implement uses a marker The sleeve is tapered to follow the tapered contour of the pen.")).

Nothing in the '461 patent limits a "marking implement" to an implement with "a marker tip (and not a pen tip)." As an initial matter, a pen or pencil—not just a "marker" or an implement with a "marker tip"—can mark surfaces. Moreover, the specification interchangeably refers to a "marking implement" as a "marker" and as a "pen." '461 patent col. 7 ll. 33–38; see also '461 patent col. 7 ll. 54–55. It also refers to the marking implement's tip as a "pen tip." *Id.* And it teaches that the marking implement can perform an "eraser function." '461 patent col. 10 ll. 46–49. Given these broad disclosures, the district court erroneously construed "marking implement" to require a "marker tip" and to exclude implements with a "pen tip." Accordingly, we vacate the district court's construction of "marking implement."

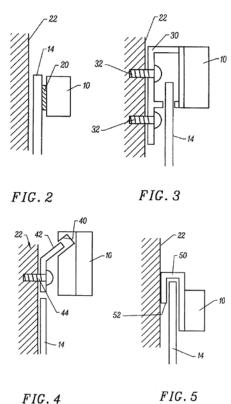
The district court granted summary judgment of non-infringement based on its erroneous construction of the term, finding that Pegasus "essentially seeks to extend the Patent to cover that which has been expressly excluded by the Court's construction—an implement that has a pen tip." *EPOS*, 916 F. Supp. 2d at 96–97. But because a "marking implement," as used in the '461 patent, neither is limited to a "marker" nor excludes a "pen tip," we reverse the district court's grant of summary judgment.

C

The '051 patent is directed to a "graphic data-acquisition system" with a "retrofittable apparatus for converting a substantially planar surface into an electronic data capture device." '051 patent col. 3 ll. 17–20. The patent discloses a "fitting technique that allows rapid and efficient retrofit of a tracking assembly" to a planar surface, such as a whiteboard. '051 patent col. 4 ll. 48–55. This fitting technique "may be any technique or device that affixes the sensor array to the writing surface." '051 patent col. 5 ll. 13–14. Indeed, the patent discloses "a variety of configurations" for attachment "by providing a variety of adapters and/or fasteners." '051 patent col. 6 ll. 43–50, figs. 2–7.

Figure 2 of the '051 patent shows "conventional methods" like "double stick mounting tape or a temporary fastener, such as Velcro." '051 patent col. 5 ll. 49–54. Figure 3 shows the sensor array mounted to a wall with a bracket, which also may be used to secure the writing surface. '051 patent col. 5 ll. 60–65. Figure 4 shows a bracket mounted to a wall, wherein the sensor array has a complementary channel that slides onto a portion of the wall-mounted bracket projecting from the wall. '051 patent col. 6 ll. 1–10. Figure 5 shows a sensor array affixed to the writing surface with a clip-on bracket "that includes a U-shaped portion . . . adapted to engage with

the upper edge of the writing surface." '051 patent col. 6 ll. 13-19.



The "temporary attachment" limitation in the '051 patent is at issue on appeal. Claim 1 is representative and recites this limitation:

A retrofittable apparatus adapted for converting a substantially planar surface into a writing surface for an electronic data capture device, comprising:

a sensor array . . . ; and

a *temporary attachment* for removably affixing said sensor array proximate to said substantially planar surface.

'051 patent col. 10 ll. 2-12 (emphasis added).

The district court construed "temporary attachment" as "an element that can be removed from the device's 'retrofittable apparatus." *EPOS*, 916 F. Supp. 2d at 98.

On its face, claim 1 requires that the "temporary attachment" is an element of the "retrofittable apparatus." So the "temporary attachment" is not something that can be removed from the retrofittable apparatus. Instead, the retrofittable apparatus has two components: a sensor array and a temporary attachment. The attachment is "temporary" not because the mechanism itself can be removed from the sensor array, but because it is "for removably affixing" the sensor array to the board. '051 patent col. 10 ll. 2–12.

The specification discloses that a key aspect of the invention is that the sensor array assembly "may be repeatedly removed and affixed to any substantially planar surface." '051 patent col. 5 ll. 30-38. Figure 4 teaches a complementary channel, and figure 5 teaches a clip-on bracket. '051 patent col. 6 ll. 6-7, 15-16. Both configurations provide easy and repeatable affixation and removal. The double-sided tape in figure 2 and the masking tape embodiments in the prosecution history enable the sensor array to be affixed to and then removed from the writing surface. '051 patent col. 5 ll. 49–54; J.A. 801–802. The complementary channel, clip-on bracket, and tape are "temporary attachments" because they provide a mechanism by which the sensor array can be affixed to and removed from the writing surface repeatedly without permanently affixing an object to the writing surface.

The district court's construction is incorrect because it reads out preferred embodiments. "[A] claim construction that excludes a preferred embodiment . . . is rarely, if ever correct and would require highly persuasive evidentiary support." See Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298, 1308 (Fed. Cir. 2003) (citations omitted). Here, the district court's construction

reads out preferred embodiments and it is not supported by "highly persuasive" evidence. For example, the sensor array in figure 5 "is *affixed to* a clip-on bracket." '051 patent col. 6 ll. 13–19 (emphasis added). As another example, the sensor array in figure 4 is "associated therewith" to a bracket having a complementary channel to the wall-mounted bracket. '051 patent col. 6 ll. 1–10. Thus, we vacate the district court's construction of "temporary attachment."

The district court granted summary judgment of non-infringement based on its incorrect construction of the term. *EPOS*, 916 F. Supp. 2d at 98. The district court determined that the EPOS Products could not meet the "temporary attachment" limitation because it was "undisputed that the EPOS Products use receiver units equipped with spring loaded clips . . . , and that those clips are permanently attached to the receiver units." *Id.* This determination was based on an erroneous construction. Accordingly, we reverse the district court's grant of summary judgment of noninfringement.

IV

Pegasus also appeals the district court's grant of summary judgment of noninfringement of the '371 patent under the doctrine of equivalents.

The '371 patent discloses a housing that surrounds a drawing implement with an ultrasonic device mounted "within the housing, remote from the drawing tip, yet in close proximity . . . [and] the device being for receiving or transmitting an intermittent ultrasound signal." '371 patent col. 2 ll. 47–64. The system may also include an ultrasonic device for transmitting several intermittent ultrasound signals, each with a different frequency, for indicating which of several implements is in use. '371 patent col. 4 ll. 1–10. Also "the intermittent ultrasound signals of the different frequency are transmitted by the transmitting device in a mode dependent manner, thereby

informing the processing system whether the operative tip is in contact with, or removed from, the board or screen." '371 patent col. 4 ll. 32–37. All of the claims at issue in the '371 patent claim a handheld device for use with a board comprising several components, including an ultrasonic receiver or transmitter device for receiving or transmitting an "intermittent" ultrasound signal. '371 patent cols. 22–26 (claims 1–3, 7, 10–12).

The district court essentially adopted Pegasus's proposed construction of "intermittent" as "something that occurs occasionally, in a non-continuous manner, in a random or unpredictable manner, or at selected times." EPOS, 916 F. Supp. 2d at 94–95. The district court stated that "intermittent" could "refer only to those times when the user is actively using the device." Id. Otherwise, according to the district court, any device using any form of ultrasound to transmit data would satisfy the limita-Id.Applying its construction, the district court determined that "it is clear that EPOS is entitled to summary judgment on Pegasus's claim of literal infringement because it is undisputed that the EPOS Products generate a continuous ultrasound signal." Id. at 95. Pegasus does not appeal these determinations.

The district court devoted only two sentences to its decision on infringement of the '371 patent under the doctrine of equivalents. It reasoned that allowing continuous ultrasound signals to be equivalents "would eliminate the intermittent limitation entirely," and that "the doctrine of equivalents cannot extend that far." *Id.* (citing *Planet Bingo, LLC v. GameTech Int'l, Inc., 472 F.3d 1338, 1344* (Fed. Cir. 2006) and *Warner–Jenkinson v. Hilton Davis Chem. Co., 520 U.S. 17, 29 (1997)).*

When addressing the doctrine of equivalents, a court must ask whether an asserted equivalent is an "insubstantial difference" from the claimed element, or whether it matches the "function, way, and result of the claimed element." Deere & Co. v. Bush Hog, LLC, 703 F.3d 1349, 1356 (Fed. Cir. 2012) (quoting Warner–Jenkinson, 520 U.S. at 40). "Courts should be cautious not to shortcut this inquiry by identifying a 'binary' choice in which an element is either present or 'not present." Id. at 1356; see also Brilliant Instruments, Inc. v. GuideTech, LLC, 707 F.3d 1342, 1347 (Fed. Cir. 2013).

Here, the district court "shortcut" the inquiry by identifying a binary choice (continuous or intermittent) that is not compelled by the '371 patent and the record evidence. The district court's decision does not consider the functioning of the EPOS Products as part of its determination on infringement by the doctrine of equivalents. Additionally, the decision does not consider Pegasus's expert declaration explaining why the EPOS Products' signals are equivalent to the claimed intermittent ultrasound The district court should have more thoroughly considered whether a reasonable jury could conclude that intermittent and continuous signals are equivalent, rather than just "shortcutting" its analysis. Accordingly, we vacate the district court's grant of summary judgment of noninfringement under the doctrine of equivalents so that the district court may reconsider this issue on remand.

V

We vacate the district court's constructions of "drawing implement," "given time interval," "marking implement," and "temporary attachment," and the district court's grant of summary judgment of noninfringement of the '371 patent under the doctrine of equivalents. We also reverse the district court's grant of summary judgment of noninfringement regarding the '051, '565, '461, and '742 patents and remand for proceedings consistent with this opinion.

$\begin{array}{c} \textbf{VACATED-IN-PART, REVERSED-IN-PART, AND} \\ \textbf{REMANDED} \end{array}$

No costs.