

UNITED STATES DISTRICT COURT
DISTRICT OF MASSACHUSETTS

_____)
 ASM ASSEMBLY SYSTEMS)
 SWITZERLAND GMBH and ASM)
 VECTORGUARD LIMITED,)
)
 Plaintiffs,)
)
 v.)
)
 QTS ENGINEERING, INC.,)
)
 Defendant.)
 _____)

Civil Action No. 16-10919-LTS

MEMORANDUM AND ORDER ON CLAIM CONSTRUCTION

October 25, 2017

SOROKIN, J.

In this intellectual property dispute, the plaintiffs ASM Assembly Systems Switzerland GmbH and ASM VectorGuard Limited (collectively, “ASM”) allege that QTS Engineering, Inc. (“QTS”) manufactures and sells products that infringe upon three of their patents: U.S. Patent No. 8,490,545 (“the ’545 patent”), U.S. Patent No. 8,904,929 (“the ’929 patent”), and U.S. Patent No. 9,623,650 (“the ’650 patent”). QTS counterclaims for a declaratory judgment of invalidity and non-infringement. Before the Court are the parties’ briefs on claim construction. The Court held a hearing on October 13, 2017, pursuant to Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996), at which it heard argument and technology tutorials.

I. BACKGROUND

The parties dispute the proper construction of two terms: “attachment elements” and “slot.”¹ Each of the disputed terms appears in the claims of one or more of the three patents at issue in the case. All of the patents at issue are either a continuation-in-part or divisional from one patent, U.S. Patent Number 8,069,783 (“the ’783 Patent”). The ’783 Patent is not at issue in this case.

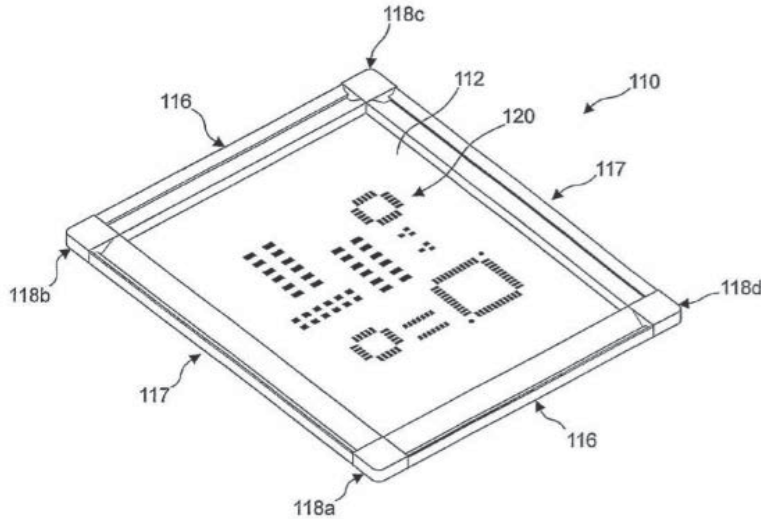
The three patents at issue relate to stencil printing screens for electronics manufacturing. Stencil printing screens are used to attach small electronic packages to printed circuit boards. The printing screens are typically thin metal sheets with patterns cut through. Solder paste, a powder metal alloy, is pressed through the screens onto circuit boards to establish electrical connections. The stencil printing screen controls the volume of solder paste printed onto the circuit board.

ASM and QTS are each in the business of developing stencil printing screens and component parts. ASM’s products include the VectorGuard® stencil frame (“VectorGuard Frame”). QTS’s products include the Apshen Stencil Foil Adapter System (“Apshen Frame”). ASM claims QTS’s Apshen Frame infringes upon their patented property, specifically the ’545 patent, the ’929 patent, and the ’650 patent.

A stencil printing screen unit includes an intermediate frame attached to the printing screen. The intermediate frame engages with a tensioning device that prevents flexing of the

¹ In their initial briefs, the parties disputed the construction of four other terms. They now agree that the plain and ordinary meaning of two of those terms controls, so no discussion of them is required. Doc. No. 73 at 2; Doc. No. 73-1. The parties also have agreed to construe “corner pieces” to mean “at least one selectively detachable corner piece that is not integral with the interface members.” Doc No. 67 at 5. After the claim construction hearing, the parties notified the Court that they had agreed to construe “frame” to mean “a structure surrounding the printing screen.” Doc. No. 77. The Court accepts and adopts these agreed-upon constructions.

printing screen. The intermediate frame also protects and stores the screen. This concept is illustrated by the figure below drawn from the patents at issue.² Doc. No. 68-1 at 10; Doc. No.68-2 at 10; Doc. No. 68-3 at 10.



For present purposes, it is enough to say that each patent at issue teaches different claims relating to a printing screen unit. To the extent the patents at issue differ in a manner material to claim construction, the Court addresses such differences, below.

II. LEGAL STANDARD

The “construction of a patent, including terms of art within its claim, is exclusively within the province of the court.” Markman, 517 U.S. at 372. “It is a bedrock principle of patent

² The Court presents Figure 10 for illustrative purposes and to provide some context for the claim construction discussion that follows. The printing screen unit is the entire object depicted in the figure and is marked as 110, the printing screen is the section of the figure marked 112, the two sets of parallel sides forming the frame are marked 116 and 117, the four corner pieces are marked 118a – 118d, and the apertures are marked as 120. Doc. No. 68-1 at 10; Doc. No. 68-2 at 10; Doc. No. 68-3 at 10.

law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.” Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (internal quotations omitted). The claim itself is “of primary importance, in the effort to ascertain precisely what it is that is patented.” Id. (citing Merrill v. Yeomans, 94 U.S. 568, 570, 24 L.Ed. 235 (1876)); see Aro Mfg. Co. v. Convertible Top Replacement Co., 365 U.S. 336, 339 (1961) (“the claims made in the patent are the sole measure of the grant”).

The words of the claim “are generally given their ordinary and customary meaning.” Phillips, 415 F.3d at 1312. The “ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” Id. at 1313. 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.” Id. “In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” Id. at 1314.

The correct construction of a claim “stays true to the claim language and most naturally aligns with the patent’s description of the invention.” Phillips, 415 F.3d at 1316 (quoting Reinshaw PLC v. Marposs Societa’ Per Azioni, 158 F. 3d 1243, 1250 (Fed. Cir. 1998)). “A claim construction is persuasive, not because it follows a certain rule, but because it defines terms in the context of the whole patent.” Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243 at 1250. Intrinsic evidence—the patent claims, specification, and prosecution history—is the most reliable and useful evidence in determining the meaning of a patent’s

claims. Phillips, 415 F.3d at 1317-19. Extrinsic evidence, including expert and inventor testimony, dictionaries, and learned treatises, may also assist the court in understanding the underlying technology, the meaning of terms to one skilled in the art, and how the invention works. Id.; Markman, 52 F.3d at 980.

In this case, neither party proposed an evidentiary hearing and neither side has submitted affidavits or extrinsic evidence with the exception of the definition of “element” drawn from Merriam-Webster and submitted by QTS. Doc. No. 71-1. The Court agrees with the parties’ approach.

III. DISCUSSION

A. Term 1: “Attachment Elements” (’545 Patent, claim 1; ’929 Patent, claim 1)

Claim 1 of the ’545 patent and Claim 1 of the ’929 patent refer to a printing screen comprised in part by “attachment elements.” Claim 1 of the ’545 patent, for example, recites:

A printing screen unit, comprising:

a printing screen, comprising a sheet having two pairs of opposite edges, at least sections of which include attachment elements; and a frame including first and second pairs of interface members attachable to the attachment elements.

Doc. No. 68-1 at 24.

Claim 1 of the ’929 patent recites:

A printing screen unit, comprising:

A printing screen, comprising a sheet having two pairs of opposite edges, with each respective edge of the sheet including attachment elements; and a rectangular frame comprising first and second pairs of interface members attached to the attachment elements.

Doc. No. 68-2 at 24.

ASM asserts that “attachment elements” means “elements that engage corresponding elements of an interface member.”³ Doc. No. 69 at 9. QTS argues the term means “attachment structures that are out of plane with the remainder of the sheet and not merely holes or apertures.” Doc. No. 67 at iv.

The teachings of the specifications provide “the single best guide to the meaning of a disputed term.” Phillips, 415 F.3d 1303 at 1321. Relying on that principle, QTS points out that each time ASM used the term “attachment elements” in the specifications, ASM did so to describe an embodiment in which the attachment element conformed to the construction QTS advances. ASM concedes that QTS accurately categorized the embodiments. Doc. No. 72 at 2. Nonetheless, the term, even in light of this use of the term in the specification, is more accurately defined by ASM’s proposed definition for several reasons.

First, “the written description part of [a] specification itself does not delimit the right to exclude,” Markman, 52 F.3d at 980, and “even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 906 (Fed. Cir. 2004) (citations omitted). These principles strongly support ASM’s construction while undermining the specification theory advanced by QTS.

Second, neither the language of the specifications nor the examples themselves expressly limit attachment elements to something that must be folded or out of plane with the printer sheet. The use of attachment elements in the specifications in conformity with QTS’s construction and

³ ASM originally proposed that its construction include the phrase “resulting in the attachment of the interface member and printing screen”; however, it dropped that request in its reply memorandum to resolve a portion of QTS’s objections. Doc. No. 72 at 8.

the omission of this term from the descriptions of embodiments not conforming to QTS's construction gives rise to QTS' argument, but the foregoing is not enough to define the term in the limiting fashion that QTS proposes. Rather, the language of the claims is of primary importance in determining the meaning of the terms in the claims. Phillips, 415 F.3d at 1314; ACTV, Inc. v. Walt Disney Co., 346 F.3d, 1082, 1088 (Fed. Cir. 1996) (“The context of the surrounding words of the claim must be considered in determining the ordinary and customary meaning of those terms.”). Here, neither the claim term “attachment element” nor the surrounding claim language supports the limiting language advanced by QTS. See Prima Tek II, L.L.C. v. Polypap S.A.R.L., 318 F.3d 1143, 1149 (Fed. Cir. 2003) (declining to construe the term “floral holding material” as limited to an apparatus that flower stems can be “inserted into and through” because “[n]either the phrase ‘inserted into’ nor ‘inserted through’ appears in any of the asserted claims”).

QTS contends that its more narrow construction should be adopted because the asserted patents' specifications use the term “attachment elements” exclusively to reference physical structures that are out of plane with the remainder of the printer sheet. For example, patent '545 states, “the present invention provides a printing screen . . . [with] at least one pair of opposite edges of which are folded such as to define attachment elements” and “preferably the attachment elements are each folded inwardly.” Doc. No. 68-1 at 24. QTS's argument is unpersuasive. The embodiment language is language of description, not definition. When the specification explains the term or used the word define, it did so with qualifying language suggesting an example, not an exclusive definition. Doc. No. 68-1 at 17 (“at least sections of each of the pairs of opposite edges of the sheet are folded such as to define attachment elements”); id. (“Preferably, the attachment elements are each folded inwardly”).

While ASM's claimed "attachment elements" construction reaches further than the QTS construction, ASM's fits both the claim language and the invention. The concern of the claim is not the mechanism of attachment but rather the innovative intermediate frame, which attaches to a printing screen and engages an external tensioning device. The intermediate frame and its capacity to engage an external tensioning device are significant because they make possible efficient and safe storage of stencil frames as well as increased positional accuracy and a simpler printing process. Doc. 68-1 at 2.

Third, QTS's proposed construction excludes a hole (or set of holes) from constituting an attachment element.⁴ Contrary to its argument, the portions of the printing screens that form holes necessarily have structure or boundaries. Or, put another way, the portion of the screens forming holes are "a constituent part" of the screen or "a distinct part of a composite device [the screen]", thus satisfying the dictionary definition submitted by QTS. Doc. No. 71-1 at 2. Furthermore, although QTS claims that ASM's use of the term "apertures" in prior art is proof that ASM intended to distinguish "attachment elements" from "apertures," this is not so. "Attachment elements" is a broad term. ASM, as demonstrated by their prior art, was well aware of apertures as one type of attachment structure. Had ASM wished to limit the claims at issue only to hooked out-of-plane structures, ASM could have done so. Instead, the claims at issue recite "attachment elements," a term encompassing physical structures of attachment (as opposed to chemical methods of attachment, such as adhesives).

Fourth, QTS also argues that ASM's proposed construction is improperly focused on function. QTS relies on Hewlett-Packard Co. v. Bausch & Lomb Inc., 909 F.2d 1464 (Fed. Cir.

⁴ Indeed, that appears to be the purpose of its construction and the central matter in dispute between the parties as to this term.

1990) to support its contention, but Hewlett-Packard Co. is inapposite. In Hewlett-Packard Co., the claim at issue specifically described the physical structure of the claimed technology as “a rough surface [with] random pattern, size, and height of rough spot.” See id. at 1468. The Court determined that the specific language of the claim precluded an expansive construction of the claim. See id. (finding the claim language to “certainly encompass[] ‘grit’ while excluding other possible surfaces”). Here, the claim language is broad. It is not evident that the claim, while certainly including attachment elements that are out of plane with the printing sheets, excludes in-plane attachment elements such as apertures. The court “cannot construe [a] claim to add a limitation not present in the claim itself.” Nellcor Puritan Bennett, Inc. v. Masimo Corp., 402 F.3d 1364, 1371 (Fed. Cir. 2005)). Because there is nothing in the claims at issue suggesting that attachment elements are limited to out-of-plane structures, the Court will not add such a limitation.

Finally, ASM’s construction of “attachment elements” does not reduce the term to a free-standing function devoid of structure. As explained, the term describes a structure, not a function. For example, chemical methods of attachment are not attachment elements. Supra.

Accordingly, the Court adopts ASM’s construction of the term “attachment elements.” This construction applies to each use of “attachment elements” in each of the claims at issue. See Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1119 (Fed. Cir. 2004) (“Unless otherwise compelled, when different claims of a patent use the same language, we give that language the same effect in each claim.”). Neither party has argued otherwise as to this last point.

B. Claim term 2: “slot” (’650, claim 1; ’929, claim 1)

The parties dispute the meaning of the term “slot,” which appears in claim 1 of the ’650 patent and claim 1 of the ’929 patent. Claim 1 of the ’929 patent recites:

A printing screen unit, comprising:

A printing screen, comprising a sheet having two pairs of opposite edges, with each respective edge of the sheet including attachment elements; and . . . a rectangular frame . . . wherein the attachment section comprises a first, lower body part and a second upper body part which together define an attachment slot which extends along the attachment section.

Doc. No. 68-2 at 24.

Claim 1 of the ’650 patent recites:

A printing screen unit, comprising:

A printing screen, comprising a sheet having two pairs of opposite sides; and a rectangular frame comprising first and second pairs of interface members attached to the respective sides of the sheet and coupled together corners of the frame. . . wherein the attachment section comprises first and second body parts which together define a slot in which the respective side of the sheet is located.

Doc. No. 68-3 at 24.

ASM contends that a “slot” is a “narrow channel.” QTS agrees that a “slot” is a “narrow channel” but, more specifically, a “narrow channel that extends along the length of the attachment section of each interface member in which one attachment element is located.”

The Court agrees that a “slot” is “a narrow channel,” but finds QTS’s additional language problematic for several reasons. First, QTS’s construction improperly imports a limitation from the patents’ preferred embodiment. See SanDisk Corp. v. Memorex Prod., Inc., 415 F.3d 1278, 1286 (Fed. Cir. 2005) (“References to a preferred embodiment . . . are not claim limitations.”). Second, its construction improperly injects limitations recited in the ’929 patent into the ’650 patent. Although the ’929 patent describes a slot as “extend[ing] along the attachment section,” Doc. No. 68-2 at 24, the ’650 patent makes no mention of the length of the slot. See generally

Doc. No. 68-3. Finally, their proposed construction of “slot” renders superfluous the surrounding language of the ’929 patent describing the slot as “extend[ing] along the attachment section.”

Doc. No. 68-2 at 24. Claims should be interpreted “with an eye toward giving effect to all terms in the claim.” Bicon, Inc. v. Straumann Co., 441 F.3d 945, 950 (Fed. Cir. 2006).

Nevertheless, QTS contends that its construction avoids the ambiguity which it claims is created by ASM’s construction, which does not specify the depth of “slot.” ASM’s construction is not ambiguous; it has no double meaning. The construction allows for a range of slot depths, which is consistent with both the likely need to make bigger or smaller stencil printing technology and the claim language which imposes no depth limitation. The claims at issue need not specify the depth of the “slot”.

In conclusion, because the parties agree that a “slot” is a “narrow channel,” and QTS’s additional language is either superfluous, in the case of the ’929 patent, or improper, in the case of the ’650, the Court construes “slot” to mean “a narrow channel.” This construction applies to each use of “attachment elements” in each of the claims at issue.

IV. CONCLUSION

The claim terms at issue will be construed for the jury and for all other purposes in the pending litigation in a manner consistent with the above rulings of the Court. With regard to assertions of claim indefiniteness, the Court defers ruling. The Court will entertain argument on such matters at summary judgment.

SO ORDERED.

/s/ Leo T. Sorokin
Leo T. Sorokin
United States District Judge