UNITED STATES DISTRICT COURT
DISTRICT OF RHODE ISLAND

INMUSIC BRANDS, INC.	:	
	:	
v.	:	C.A. No. 17-00010-JJM
	:	
ROLAND CORPORATION	:	

REPORT AND RECOMMENDATION

Lincoln D. Almond, United States Magistrate Judge

Plaintiff inMusic Brands, Inc. ("inMusic") filed this patent infringement action against Defendant Roland Corporation ("Roland") on January 10, 2017. inMusic alleges infringement of U.S. Patent Nos. 9,424,827 (the "827 Patent") entitled Electronic Percussion Instrument with Enhanced Playing Area; 8,039,724 (the "724 Patent") entitled Removable Electronic Drum Head for an Acoustic Drum; and 8,785,758 (the "758 Patent") entitled Electronic Hi-Hat Cymbal Controller.

The parties have filed Claim Construction Briefs (ECF Doc. Nos. 57, 60, 61 and 62) and, on May 3, 2019, District Judge John J. McConnell, Jr. referred the matter to me to conduct a Markman[1] hearing and issue a Claim Construction Report pursuant to 28 U.S.C. § 636(b)(1)(B) and (2). A Claim Construction Hearing was held on May 20, 2019.

Discussion

I. Claim Construction Principles

The general purpose of claim construction is to instruct the jury on what the claim means from the perspective of a person having ordinary skill in the art, i.e., "what the

[1] Markman v. Westview Instruments, Inc., 517 U.S. 370 (1996).

inventors actually invented and intended to envelop with[in] the claim[s]." Phillips v. AWH Corp., 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc). Claim construction presents a question of law for the Court to determine. See Pfizer, Inc. v. Teva Pharms. USA, Inc., 429 F.3d 1364, 1373 (Fed. Cir. 2005). In construing claim terms, they must be given "their ordinary and customary meaning," which is the meaning the terms "would have to a person of ordinary skill in the art in question at the time of the invention." Phillips, 415 F.3d at 1312-1313. To determine the proper meaning of patent claim terms, courts look first to intrinsic evidence – the patent and its prosecution history – but may also consider extrinsic evidence such as expert testimony, dictionaries and treatises. Id. at 1317.

The Court may also resolve the invalidity defense of indefiniteness in the claim construction process.[2] Patent claims must state with particularity the subject matter which the applicant regards as his invention. 35 U.S.C. § 112. The Supreme Court has held "that a patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." Nautilus, Inc. v. Biosig Instruments, Inc., 572 U.S. 898, 910 (2014) (emphasis added). The public notice function of definiteness "mandates clarity, while recognizing that absolute precision is unattainable," and that "[s]ome modicum of uncertainty" is permitted. Id. at 909-910. Because a patent carries a "presumption of validity," see 35 U.S.C. § 282, the accused bears the burden of proving

[2] While courts may defer the issue of indefiniteness to the summary judgment stage, see Koninklijke Philips Elecs. N.V. v. Zoll Med. Corp., 914 F. Supp. 2d 89, 100-101 (D. Mass. 2012), the parties here fully briefed and argued the issue of indefiniteness, and neither has argued that the record requires further development on the issue. Thus, the Court finds no reason to defer and elects to adjudicate the issue sooner rather than later.

invalidity due to indefiniteness by clear and convincing evidence. See BASF Corp. v. Johnson Matthey, Inc., 875 F.3d 1360, 1365 (Fed. Cir. 2017).

II. The Parties' Positions on Claim Construction

The parties' positions are detailed and prioritized in the Joint Claim Construction and Prehearing Statement filed on April 15, 2019. (ECF Doc. No. 65). The parties present several terms for construction within the three patents in issue, and, additionally, Roland argues that three terms in the 827 Patent are indefinite. These issues are considered seriatim.

III. The Disputed Claim Terms/Indefiniteness

A. The 827 Patent

1. Indefiniteness

Roland attacks three claim terms on grounds of indefiniteness: "equivalent," "minimize," and "semipermeable." As previously noted, Roland bears the burden of establishing indefiniteness by clear and convincing evidence, and a claim is indefinite if, read in the context of the specification and prosecution history, it "fail[s] to inform, with reasonable certainty, those skilled in the art about the scope of the invention." Nautilus, 572 U.S. at 910 (emphasis added). Because definiteness is a threshold inquiry, it should generally be considered before engaging in claim construction.

First, as to the term "equivalent," Roland contends that inMusic's attempt to redefine the term as "similar, but not exactly the same" renders the phrase indefinite. Roland argues that inMusic's position is problematic because the patent provides no test or method for anyone to determine how "similar" two signals must be to satisfy the redefinition of equivalent. Roland asserts that the term is indefinite because it is ambiguous as to the requisite degree of equivalence.

inMusic counters that the specification teaches that equivalent means "similar but not exactly the same." 827 Patent 6:7-8. The claim term in issue reads "generate an electrical signal with a magnitude equivalent to the magnitude of the force of the impact." inMusic argues that, since an electrical signal is measured differently from force of impact, it is not possible to equate the two.

As previously noted, Roland bears the burden of proving indefiniteness by clear and convincing evidence. In addition, "a patentee need not define his invention with mathematical precision in order to comply with the definiteness requirement." Oakley, Inc. v. Sunglass Hut Int'l, 316 F.3d 1331, 1341 (Fed. Cir. 2003) (considering the patent term "vivid color appearance"); see also In re Marosi, 710 F.2d 799, 802-803 (Fed. Cir. 1983) (holding that the patent term "essentially free of alkali metal" was not indefinite).

The Court agrees with Roland that the term "equivalent" would be indefinite if construed as "similar" in this context. However, as discussed below, inMusic's request to construct "equivalent" as "similar but not exactly the same" is rejected as unsupported by the claim language and the specification as a whole. Accordingly, the term "equivalent" as construed herein is not indefinite.

Second, as to the term "minimize," it appears in Claim 3 as follows: "wherein the strands of the semipermeable playing surface are arranged to minimize the production of acoustic waves within the acoustic cavity, in response to an impact on the playing surface."

Roland argues that the term is indefinite because it fails to instruct what level of reduction falls within the boundaries of the term "minimize." inMusic counters that neither the claim language, specification nor prosecution history includes any specific numerical limitation and thus it is not required. It also argues that Roland's position before the Patent

Trial and Appeal Board ("PTAB") during inter partes review contradicts and thus "negates" its current indefiniteness argument.

Before the PTAB, Roland argued that prior art anticipated Claims 3 and 4 of the 827 Patent by describing a "mesh drum head" and that "mesh drum heads were known to a POSA [person of skill in the art]…to have strands of ductile fiber arranged in a lattice to minimize the production of acoustic waves within the acoustic cavity, in response to an impact on the playing surface." (ECF Doc. No. 58-11 at p. 3) (emphasis added). Although claims of indefiniteness are not within the purview of the PTAB, 35 U.S.C. § 311(b), Roland plainly argued to the PTAB in December 2017 that Claims 3 and 4 of the 827 Patent including the term "minimize" were previously "known" to a POSA but it now claims that the term "minimize" is indefinite and not understandable by a POSA. These arguments are irreconcilable and lead to the conclusion that Roland has not met its heavy burden of establishing indefiniteness in this context. Further, the patent discloses various means for noise "reduction" including in Claim 1 the reference to "an acoustic noise reducing cavity" covered by a "semipermeable surface." Roland has not convinced the Court that the term "minimize" as used in the 827 Patent is indefinite absent a specific numerical standard. See Invitrogen Corp. v. Biocrest Mfg., L.P., 327 F.3d 1364, 1369 (Fed. Cir. 2003) (affirming District Court's construction of term "improved competence" as "generally increased" without any specific numerical limitation).

Third, as to the term "semipermeable," it appears in Claims 1, 3-7, 9 and 15 of the 827 Patent. It is used to describe the "playing surface" of an electronic percussion instrument. Roland argues that the term is ambiguous as to the requisite degree of permeability and thus indefinite. inMusic counters that a semipermeable surface simply

allows certain substances to pass through, and a POSA would understand this concept within the context of this invention. (See ECF Doc. No. 59 at ¶¶ 31-34).

Roland has failed to meet its burden. The term "semipermeable" is sufficiently definite. A POSA would understand this as a playing surface material that can be struck with a drumstick but allows air to pass through. The patent provides that the surface is "configured to receive an impact, and comprising strands of ductile material covering the acoustic noise reducing cavity." It also provides that the "strands of the semipermeable playing surface are arranged to minimize the production of acoustic waves within the acoustic cavity, in response to an impact on the playing surface." This is a musical instrument, and neither the claims nor specification suggest any specific permeability of the playing surface. The absence of any specificity of the size of a molecule or ion allowed to pass through the surface does not render the term "semipermeable" indefinite in the context of this Patent.

2. Claim Terms 1 and 1a – "wherein the generated electrical signal is equivalent in magnitude to any other electrical signal generated by the sensor in response to any other received impact" (Claim Term 1); "wherein the electrical signal is equivalent in magnitude to any other electrical signal generated by the one or more electromechanical transducers in response to any other received impact" (Claim Term 1a).

inMusic proposes the following construction: "where the electrical signal is similar, but not exactly the same, to any other electrical signal generated…in response to other impact(s) of similar force." It proposes to remove the term "generated," replace "equivalent" with "similar," and change "any other received impact" to "other impact(s) of similar force."

Roland proposes "the magnitude of electrical signals, i.e., the voltage, generated is the same in response to impacts across the entire defined impact region." (ECF Doc. No. 60 at p. 21).

First, as to the term "equivalent," both sides present result-oriented constructions. Roland argues that it should be construed as the "same." inMusic proposes "similar, but not exactly the same." The plain and ordinary meaning of equivalent is clearly not just similar. Equivalent is universally defined as "equal in force, amount, or value." (ECF Doc. No. 60-18 at ¶ 37). inMusic points to a reference in the specification to the term as being defined as "similar but not exactly the same." 827 Patent 6:7-8. However, before the PTAB, inMusic argued as to Claim 1 on April 4, 2018 in the context of the "broadest reasonable construction" standard that "generating uniform signals in an impact region" "explicitly requires generating the same signal to generate the same sound in response to an impact within the predefined region." (ECF Doc. No. 60-16 at pp. 9, 13) (emphasis added).[3]

The Court cannot accept inMusic's proposal to replace "equivalent" with "similar." First, doing so in the context of this claim term would render it indefinite as discussed previously. Second, equivalent is clearly more than similar, and inMusic has not convinced the Court that the term should be so significantly redefined in claim construction. Claim 1 plainly defines the invention as requiring the generation of "equivalent" electrical signals for separate impacts within the predefined impact region. It is an apples to apples comparison and requires mathematical equivalence and not similarity. It is not a situation when two

[3] In its Reply Brief (ECF Doc. No. 62 at p. 31, n.28), inMusic characterizes Roland's reference to its prior PTAB position as an "out-of-context citation" and argues that its positions are consistent – "that Term 1 of these claims requires the creation of similar (though not necessarily precisely the same) signals in response to impacts of similar force within the predefined impact region." inMusic's attempt to side-step this issue is unconvincing, and it provides no direct support as to how "same" now becomes "similar" other than a general citation to its opening Brief argument.

distinct but equivalent things have the same or a similar effect or meaning. inMusic has also not convinced the Court that the specification supports adding the "similar force" limitation to the playing impacts. Claim 1 is clear on its face that the equivalence extends to "any other received impact" within the predefined impact region and not just impacts of "similar force." In other words, Claim 1 plainly reads that equivalence of the electrical signals is based on location and not force of impact. inMusic's proposed construction is rejected. Likewise, Roland has not convinced the Court that the totality of its proposed construction is warranted. However, the Court agrees that the term "equivalent" in Claim 1 should be construed as being the same or equal.

3. Claim Term 1b – "predefined impact region"

Roland proposes "an area determined before the user plays by use of a controller on the drum that is user adjustable." inMusic argues for plain and ordinary meaning.

Roland argues that the specification is unequivocal that the "predefined impact region" is determined by the user prior to playing by way of a controller. inMusic counters that the specification does not support this construction. While it recognizes that the specification discloses a potentiometer to adjust sensitivity levels in some embodiments, inMusic contends that adjustments can also be made manually. See 827 Patent 12:49-52, 13:29-33 and 14:32-34. Roland's proposed instruction is improper because it adds a controller/user adjustment limitation when the specification discloses embodiments that are not user adjustable before playing by use of a controller. In fact, Claims 5 and 6 are written to provide that the size and shape of the predefined impact region is "determined by a user;"

while such language is omitted from Claims 1 and 19. Roland's proposed construction is rejected.[4]

4. Claim Terms 3 and 4 – "configured to transfer a force of the impact from the semi-permeable playing surface to the plates (Claim Term 3)…[c]onfigured to sense the force of the impact transferred to the one or more plates, and to generate an electrical signal with a magnitude equivalent to the magnitude of the force of the impact (Claim Term 4)"

inMusic contends that no construction is necessary for Claim Term 3 but argues that Claim Term 4 be constructed as follows: "generate an electrical signal with a magnitude that is similar but not exactly the same in response to impacts with the same magnitude of force." Roland proposes the following single construction for both terms: "transducers generate a signal based on force transferred from the plates rather than the cushions on top of the transducer." The parties also argue about whether the term "equivalent" in Claim Term 4 is indefinite.

These terms appear in Claim 15. Roland's proposed parallel constructions represent a substantial change and seek to introduce and then exclude, "the cushions on top of the transducer" from the equation. Roland appears to propose substituting "cushions" for "shock absorbing posts" and describes it as "shorthand" in a footnote in its Reply Brief. (ECF Doc. No. 61 at p. 20, n.4). Roland has provided no support for this "shorthand" substitution, and its proposed construction is rejected.

Roland's proposed construction also divorces itself from the concept in Claim 15 that the transducers be "communicatively coupled" to the plates, and the shock absorbing posts

[4] Despite its argument that the term requires construction, Roland's proposed construction of Claim Term 1 includes the term "entire defined impact region" without any reference to a controller for user adjustment.

"communicatively coupled" to the playing surface. inMusic persuasively argues that this language does not require direct contact as suggested by Roland's proposed construction. See, e.g., Cardiac Science, Inc. v. Koninklijke Philips Electronics, N.V., No. 03-1064, 2006 WL 1050629 at *34 (D. Minn. April 20, 2006) (construing "communicatively coupled" as not requiring "direct contact" and "configured to enable electrical connection…").

As to the term "equivalent" in Claim 15, it is used in the context of an apples to oranges comparison of electrical signal to force. In particular, it provides "to generate an electrical signal with a magnitude equivalent to the magnitude of the force of the impact." 827 Patent Claim 15 (emphasis added). Since the measurements for electricity and force are distinct, they cannot have mathematically equal magnitudes. inMusic persuasively argues that the term "equivalent" in Claim 15 would be understood by a POSA as referencing a "corresponding" magnitude. (See ECF Doc. No. 59 at ¶¶ 22-26). Claim 15, unlike Claims 1 and 19, does not include the "predefined impact region" limitation, and thus is consistent with an embodiment providing for a range of responses based on the magnitude of force of strikes across the playing surface. See 827 Patent 5:40-47. Thus, although inMusic's proposed "similar but not exactly the same" construction would be indefinite in the context of Claims 1 and 19, it is not in the context of Claim 15, and the Court recommends it be adopted.

5. Claim Term 5 – "user"

Roland proposes that this term be constructed as "an end user who is playing the percussion instrument." inMusic argues for plain and ordinary meaning.

This issue merits little discussion. Based on the specification, a POSA would plainly understand that the term "user" in Claims 5, 6 and 15 refers to an end user playing the instrument and not a manufacturer or designer. No construction is necessary.

B. The 724 Patent

1. Claim Term 1 – "drum hoop"

Roland proposes that "the outer body or shell of a drum" is the proper construction of this claim term. inMusic counters that no construction of this term is necessary, and plain and ordinary meaning controls.

The 724 Patent is for a removable electronic drum head that attaches to an acoustic drum. There does not appear to be any dispute about the plain and ordinary meaning of the term "drum hoop." It is commonly understood to be a hoop or rim used to hold a drumhead or drumskin against a drum shell or body. Roland argues that inMusic has defined "drum hoop" in the 724 Patent contrary to its ordinary meaning. It asserts that inMusic has acted as its own "lexicographer" in doing so. "To act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning" and must "clearly express an intent to redefine the term." Thorner v. Sony Comput. Entm't Am. LLC, 669 F.3d 1362, 1365 (Fed. Cir. 2012). Roland primarily relies on Figure 5 of the specification which has a line connecting the number 402 (referenced as drum hoop in the specification, 4:1) to the lower side of a drum. The specification provides a similar reference in Figure 8 for a separate embodiment which includes element 502 (bass or kick drum) and corresponds generally to structure 402 in Figure 5. See 4:25-26. Given the plain and ordinary meaning of drum hoop and the absence of any clear expression of

redefinition in the Claim or specification, Roland has not convinced the Court that this term requires construction.

2. Claim Terms 2 and 3 – "configured and arranged to insert into a drum hoop and a lip extending outwardly from the sidewall configured and arranged to hook over an edge of the drum hoop."

This is a mouthful, and the parties have made layered and, at times, confusing arguments as to construction versus plain meaning. In the end, inMusic appears to propose a construction as follows: "designed to insert within a drum hoop such that the drum head is nestled inside the circumference of the drum rim" and "a lip extending outwardly from the sidewall designed to extend laterally beyond a support for nestling onto a drum hoop." (ECF Doc. No. 62 at p. 12). Roland appears to propose no construction and application of plain meaning. inMusic contends that its proposed construction is necessary to ensure that the claim is not interpreted in a manner that excludes a disclosed embodiment. In particular, inMusic is referencing the fourth embodiment shown in Figures 7 and 8 directed to an electronic drum head for a bass or kick drum. See 4:24-32. Roland counters that the proposed construction improperly attempts to broaden the meaning of the claim term and recapture an abandoned embodiment. On balance, inMusic's proposed construction strikes the Court as an improper attempt to rewrite and not clarify.

Roland's position is persuasively supported by the prosecution history. In response to a United States Patent and Trademark Office rejection over prior art, inMusic amended its claims for the 724 Patent on April 5, 2011 to amend Claim 1 and to cancel Claims 11 and 12. See ECF Doc. Nos. 60-9 and 60-10. Claim 1 was amended, in part, "to clarify how the structural body sidewall and lip relate to one another and the drum hoop that the structural

body fits into." (ECF Doc. No. 60-10 at p. 6). In short, it reasonably appears to the Court that inMusic canceled Claim 12 (embodiment Figures 7 and 8) in view of a prior art rejection during patent prosecution. At the same time, it amended Claim 1 to add the language "lip extending outwardly from the sidewall configured and arranged to hook over an edge of the drum hoop." Id. at p. 2. inMusic is now attempting to significantly rewrite Claim 1 to recapture a disclaimed embodiment, and its effort should be rejected. The claim should be construed as presently written.

C. The 758 Patent

1. Claim Term 1 – "detect the position of the control shaft"

Roland proposes the following construction: "identify the location of a plunger that moves with an upper cymbal." inMusic contends that no construction of this term is necessary. It argues that Roland's proposal is inconsistent with the plain meaning of the claims and specification in context.

The 758 Patent is for an electronic hi-hat cymbal controller. The specification provides that "[t]he foot pedal control module includes a position detector that senses the position of the upper cymbal relative to the foot pedal control module." 758 Patent at 4:21-23. While one disclosed embodiment references a "spring-loaded plunger," id. at 4:23-25, Claim 1 does not recite a plunger, and Roland's construction improperly seeks to read limitations from the specification into the claim. Roland has not shown that construction of this term is warranted. The term in issue should be given its plain and ordinary meaning.

Conclusion

For the foregoing reasons, I recommend that the disputed Claim Terms be construed in the manner described herein.

Any objection to this Report and Recommendation must be specific and must be filed with the Clerk of the Court within fourteen days of its receipt. See Fed. R. Civ. P. 72(b); LR Cv 72. Failure to file specific objections in a timely manner constitutes waiver of the right to review by the District Court and the right to appeal the District Court's decision. See United States v. Valencia-Copete, 792 F.2d 4, 6 (1st Cir. 1986); Park Motor Mart, Inc. v. Ford Motor Co., 616 F.2d 603, 605 (1st Cir. 1980).

/s/ Lincoln D. Almond
LINCOLN D. ALMOND
United States Magistrate Judge
June 12, 2019