

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

DASSO INTERNATIONAL, INC. and
EASOON USA, LLC,

Plaintiffs,

v.

MOSO NORTH AMERICA, INC. and
MOSO INTERNATIONAL BV,

Defendants.

Civil Action No. 1:17-cv-01574-RGA

MEMORANDUM OPINION

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ANDREWS, U.S. DISTRICT JUDGE:

Presently before the Court is the issue of claim construction of multiple terms in U.S. Patent No. 8,709,578 (“’578 patent”). I have considered the Parties’ Joint Claim Construction Brief. (D.I. 106). I heard oral argument on April 25, 2019. (D.I. 127 (“Tr.”)).

I. BACKGROUND

The ’578 Patent relates to “bamboo scrimber¹ including a plurality of pressure-pressed bamboo strips impregnated with an adhesive and modified through heat-treatment and a method of manufacturing such bamboo scrimber.” (’578 Patent at 1:20-24).

The Parties dispute terms in claims 1, 8, and 16 of the ’578 Patent. Claim 1 is representative:

A bamboo scrimber comprising:

a plurality of pressure-pressed bamboo strips impregnated with an adhesive and *modified through heat-treatment so that at least a part of hemicelluloses in said bamboo strips is pyrolyzed, wherein each of said bamboo strips is formed with a plurality of slots penetrating through said bamboo strip* substantially in a direction of thickness defined by said bamboo strip and a substantially longitudinal direction defined by said slots is substantially consistent with a substantially longitudinal direction defined by fibers of said bamboo strip.

(’578 Patent, claim 1 (disputed terms italicized)).

The Parties dispute a term that appears in claims 13 and 17 of the ’578 Patent. Claim 13 is representative:

A method of manufacturing a bamboo scrimber as set forth in claim 8, wherein the heat-treatment includes steps of heating the bamboo strips to *absolute dryness* and cooling the pyrolyzed bamboo strips.

(’578 Patent, claim 13 (disputed term italicized)).

The Parties agree on constructions for three additional terms. (D.I. 106 at 14).

¹ Scrimber is a variety of engineered wood product. (D.I. 106 at 1).

II. LEGAL STANDARD

“It is a bedrock principle of patent 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) (en banc) (internal quotation marks omitted). “[T]here is no magic formula or catechism for conducting claim construction.’ Instead, the court is free to attach the appropriate weight to appropriate sources ‘in light of the statutes and policies that inform patent law.’” *SoftView LLC v. Apple Inc.*, 2013 WL 4758195, at *1 (D. Del. Sept. 4, 2013) (quoting *Phillips*, 415 F.3d at 1324) (alteration in original). When construing patent claims, a court considers the literal language of the claim, the patent specification, and the prosecution history. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 977–80 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). Of these sources, “the specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Phillips*, 415 F.3d at 1315 (internal quotation marks omitted).

“[T]he words of a claim are generally given their ordinary and customary meaning. . . . [Which 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 1312–13 (citations and internal quotation marks omitted). “[T]he ordinary meaning of a claim term is its meaning to [an] ordinary artisan after reading the entire patent.” *Id.* at 1321 (internal quotation marks omitted). “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.

When a court relies solely upon the intrinsic evidence—the patent claims, the specification, and the prosecution history—the court’s construction is a determination of law.

See Teva Pharm. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831, 841 (2015). The court may also make factual findings based upon consideration of extrinsic evidence, which “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Phillips*, 415 F.3d at 1317–19 (internal quotation marks omitted). Extrinsic evidence may assist the court in understanding the underlying technology, the meaning of terms to one skilled in the art, and how the invention works. *Id.* Extrinsic evidence, however, is less reliable and less useful in claim construction than the patent and its prosecution history. *Id.*

“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, 1250 (Fed. Cir. 1998). It follows that “a claim interpretation that would exclude the inventor’s device is rarely the correct interpretation.” *Osram GMBH v. Int’l Trade Comm’n*, 505 F.3d 1351, 1358 (Fed. Cir. 2007) (citation and internal quotation marks omitted).

III. CONSTRUCTION OF DISPUTED TERMS

A. *“modified through heat-treatment so that at least a part of hemicelluloses in said bamboo strips is pyrolyzed”²*

1. Plaintiffs’ proposed construction:

No construction.

Alternatively, “most or nearly all of the hemicelluloses are pyrolyzed through heat treatment”

2. Defendants’ proposal:

The term is indefinite.

² This language appears in claims 1 and 8. The Parties agree that the “modifying the bamboo scrimber through heat-treatment so that at least a part of hemicelluloses in said bamboo scrimber is pyrolyzed” language of claim 16 should be construed identically.

3. Court's construction:

Plain and ordinary meaning.

The Parties dispute whether “at least a part of hemicelluloses” renders the claims indefinite. (D.I. 106 at 14-26). Specifically, Defendants argue that the claim term is open to two possible, equally plausible, interpretations: “[a]t least part of *each* of the hemicelluloses in the bamboo strips is pyrolyzed,” or, “[a]t least part of *any* of the hemicelluloses in the bamboo strip is pyrolyzed.” (D.I. 106 at 17 (emphasis in original)). They support their position with attorney argument about what a POSA would and would not know. (*Id.* at 18-19). Defendants’ attorney argument falls far short of meeting their burden to prove, by clear and convincing evidence, that the ’578 Patent fails to reasonably inform a POSA about the scope of the invention. Thus, I will not find the claim indefinite at this time.

Plaintiffs argue that no construction of the term is necessary. Alternatively, Plaintiffs propose construing “at least a part of hemicelluloses” to mean “most or nearly all of the hemicelluloses.” (*Id.* at 22). The ’578 Patent repeatedly discusses that “most hemicelluloses or nearly all the hemicelluloses” of the claimed scrimber are pyrolyzed. (*See, e.g.*, ’578 Patent at 3:4-6, 3:18-19, 3:52-55, 4:65-66, 5:4-6). The Applicant did not, however, limit the claim language to require “most or nearly all of the hemicelluloses are pyrolyzed.” Rather, the Applicant chose to write a broader claim that requires only “at least a part of hemicelluloses” are pyrolyzed. There is no basis in the intrinsic record to limit “at least a part” as Plaintiffs suggest. I will not adopt Plaintiffs’ proposed construction.

Thus, I will construe “modified through heat-treatment so that at least a part of hemicelluloses in said bamboo strips is pyrolyzed” to have its plain and ordinary meaning.

Plaintiffs may not argue that “at least a part” means “most or nearly all.” Defendants may readdress the definiteness of this term at the summary judgment stage, after expert discovery.

B. *“wherein each of said bamboo strips is formed with a plurality of slots penetrating through said bamboo strip” and “forming a plurality of slots in each of the prepared bamboo strips penetrating through the bamboo strip substantially in a direction of thickness defined by the bamboo strip”*

1. Plaintiffs’ proposed construction:

“The slots penetrate beyond the surface of the bamboo strip in a general direction of thickness defined by said bamboo strip.”

2. Defendants’ proposed construction:

“The bamboo strip has slots extending through the entire thickness of each bamboo strip such that each bamboo strip is broken into a plurality of small strips connected to each other.”

3. Court’s construction:

Plain meaning. The slots need not extend all the way through the strip, but must penetrate deeper than an incision.

The Parties disagree on whether the claim term “penetrating through” requires that the claimed slots must penetrate all the way through the bamboo strips. (D.I. 106 at 26-52). For the reasons discussed more fully below, I find that it does not so require.

The plain language of the claims provides limited insight into the meaning of “through” in the context of the ’578 Patent. Defendants argue that the ordinary meaning of “through” is its dictionary definition. The dictionary definitions they submit are all some variation on “in at one end, side, or surface and out at the other.” (*Id.* at 32 (quoting *Through*, The Random House Dictionary of the English Language (2d ed. 1987), among others)). Plaintiffs respond that the dictionaries identified by Defendants are not technical dictionaries, and are, therefore, less useful. (*Id.* at 40). I do not agree with Plaintiffs that a technical dictionary would be a more appropriate tool in this case. “Through” is not a technical term and is not used as a term of art in

the claim. I also do not agree with Defendants that the dictionary definition of the term “through” clarifies the term’s meaning in the context of the claims. The Oxford English Dictionary, for example, contains dozens of definitions of “through.” One of those definitions is consistent with Plaintiffs’ position on the term’s meaning: “[e]xpressing movement in a more or less continuous line within a large expanse (without implying passage all the way across).” *Through*, Oxford English Dictionary (3d ed. 2017). The Merriam-Webster Unabridged Dictionary is similarly consistent with Plaintiffs’ argument: “used to indicate penetration of or passage within, along, or across an object, substance, or space *usually* from one side or surface to the opposite one.” *Through*, Merriam-Webster Unabridged Dictionary (emphasis added). Thus, I find that the dictionary definitions of “through” are not particularly helpful in resolving this dispute, except that they support the possibility that “through” may have Plaintiffs’ proposed meaning.

The specification supports Plaintiffs’ proposal that “through” does not mean “all the way through.” Defendants argue that Figure 1 of the ’578 Patent clearly indicates that the slots pass “from the top surface to the bottom surface, or through.” (D.I. 106 at 33). Plaintiffs respond that it is inappropriate to import limitations from the specification. (*Id.* at 40). At oral argument, they made the additional argument that there are slots in Figure 1 for which the depth cannot be determined. (Tr. at 6:11-17). Consistent with Defendants’ position, Figure 1 appears to show only slots that pass “all the way through” the strip:

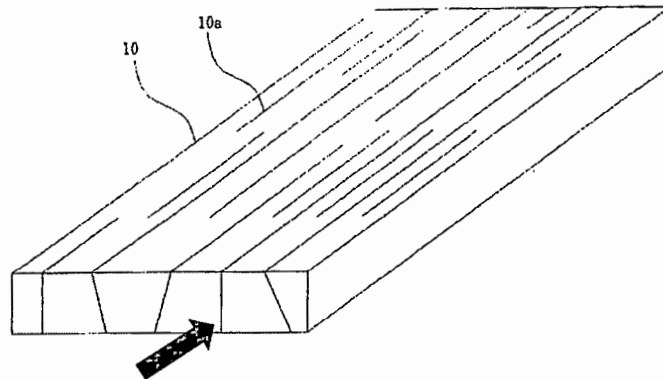


Fig.1

The proper understanding of Figure 1 is not, however, that straightforward. Of the slots with ends shown in the figure, the second from the right extends the entire length of the bamboo strip. The text of the specification similarly contemplates slots that extend the length of the bamboo strip: “The plurality of slots were continuous or discontinuous in the longitudinal direction of the bamboo strip, thus softening the bamboo strips and increasing the impregnated adhesive content.” (’578 Patent at 7:40-43). It is undisputed that a slot that passes all the way through the strip and extends the length of the strip would cut the strip in half, rendering it into two strips. (D.I. 121). The specification does not, however, contemplate the slots cutting the strips in half. (*See generally* ’578 Patent). Thus, the specification supports an understanding of “through” that keeps the bamboo strip intact when a slot extends the length of the strip.³

The Applicant did not clearly disclaim slots that penetrate only part of the way through the strip during prosecution of the ’578 Patent. Defendants argue that the Applicant disclaimed slots that do not go all the way through the bamboo strips to overcome a prior art reference,

³ Following oral argument, Defendants made an unsolicited supplemental submission to address the issue of the continuous slots contemplated by the specification. (D.I. 121). They argue that Figure 1 actually depicts two strips. (*Id.*). I do not find their argument persuasive, however, as the specification describes Figure 1 as a singular “bamboo strip.” (’578 Patent at 4:7).

Amundsen. (D.I. 106 at 33-38). Plaintiffs respond that the Applicant's arguments do not amount to clear and unmistakable disclaimer. (*Id.* at 41-47). I agree with Plaintiffs.

The prosecution history as a whole supports the conclusion that the Applicant did not disclaim slots that penetrate through less than the entire strip. In a March 16, 2013 Final Office Action, the Examiner noted, "The instant claim language only calls for penetration through the bamboo strips and not penetration through the entire thickness of the strips." (D.I. 79-3, Exh. C at 3 ('578 Patent File History: Final Office Action (March 16, 2013))). Later in prosecution, the Examiner rejected the pending claims as obvious over a prior art combination that includes Amundsen. (D.I. 79-2, Exh. F at 2-3 ('578 Patent File History: Office Action (June 11, 2013))).

The Applicant distinguished Amundsen by arguing:

U.S. Patent 4,318,433 to Amundsen (Amundsen '433 patent) discloses an incisor roll used to make incisions in lumber for the purpose of improving the penetration of a preservative into the lumber. In other words, the '433 patent only discloses forming incisions in the surfaces of the wood ties before impregnating with a preservative, so that the useful life thereof may be increased. (Col. 1, lines 10 – 25). The Amundsen '433 patent relates to processing wood other than bamboo strip. The Amundsen '433 patent does not disclose the *slots penetrating through* the bamboo strip substantially in a direction of thickness defined by the bamboo strip and a substantially longitudinal direction defined by the slots being substantially consistent with a substantially longitudinal direction defined by fibers of the bamboo strip.

...

The Amundsen '433 patent neither discloses nor teaches that the incisions, which are different from the slots, penetrate the wood in a thickness direction of the wood. In addition, the Amundsen '433 patent neither discloses nor teaches that a substantially longitudinal direction defined by the incision is substantially consistent with a substantially longitudinal direction defined by the fibers of the wood.

However, in the present application, the bamboo strip has *slots penetrating through* thereof, i.e., each bamboo strip may be broken into a plurality of smaller bamboo strips connected with each other, thus increasing the surface area of the bamboo strip to be impregnated with the adhesive, increasing the adhesive content, reducing rigidity, and avoiding non-uniform density and rough surfaces of the claimed bamboo scrimber (para. [0014]).

As described above, the structural configuration and function of incisions in the Amundsen '433 patent are different from those of the slots in the present application. Therefore, a person skilled in the art has no motivation to incorporate the incisions in the Amundsen '433 patent into the Chen '169 patent application publication. Moreover, even if the incisions in the Amundsen '433 patent are incorporated into the Chen '169 patent application publication, a person skilled in the art cannot obtain the bamboo scrimber in the present application.

(D.I. 79-2, Exh. G at 8-9, 12 ('578 Patent File History: Response to Office Action Dated June 11, 2013 (Sept. 9, 2013)) (original emphasis omitted) (emphasis added)). The Examiner accepted this argument and noted in the Notice of Allowance: "Amundsen only teaches putting slits in the surface of lumber and not *through the thickness* of each bamboo strip of a scrimber as required by independent claims 1, [8], and [16]." (D.I. 79-2, Exh. H at 2 ('578 Patent File History: Notice of Allowability (December 31, 2013)) (emphasis added)).

A review of the relevant prosecution history reveals that the majority of times the Examiner and the Applicant use the term "through," they are quoting, or closely paraphrasing, the language of the proposed claims. Paraphrasing or quoting the language of a proposed claim does not constitute clear and unmistakable disclaimer of claim scope. The only portion of the prosecution history that arguably supports Defendants' disclaimer position, and isn't simply a use of the claim language, is the Applicant's statement that "each bamboo strip may be broken into a plurality of smaller bamboo strips connected with each other." (D.I. 79-2, Exh. G at 12 ('578 Patent File History: Response to Office Action Dated June 11, 2013 (Sept. 9, 2013))). That statement is not clear and unmistakable disclaimer. It is stated permissively. A strip *may* be broken into smaller connected bamboo strips, but it is not required. Thus, I do not find that the Applicant disclaimed slots that penetrate only part of the way through a strip.

It is clear, however, that the Applicant disclaimed "incisions" such as those disclosed in Amundsen. Amundsen describes "incisions" as surface level penetrations of wood to improve penetration of preservatives or the like. (D.I. 79-2, Exh. J (U.S. Pat. No. 4,318,433 at 1:11-25)).

Thus, the slots of the claimed invention must penetrate the wood deeper than an incision. Plaintiffs propose capturing this disclaimer by adding that the slots “penetrate beyond the surface” of the strip. Based on the representation at oral argument that “incisions” are known in the art, I do not believe it is necessary to provide the further clarification that Plaintiffs propose. (See Tr. at 20:16-21:20; 27:18-28:1).

Thus, I will construe “wherein each of said bamboo strips is formed with a plurality of slots penetrating through said bamboo strip” and “forming a plurality of slots in each of the prepared bamboo strips penetrating through the bamboo strip substantially in a direction of thickness defined by the bamboo strip” to have their plain meaning. The slots need not extend all the way through the strip, but must penetrate deeper than an incision.

C. “*absolute dryness*”

1. Plaintiffs’ proposed construction:

“The water content in the bamboo strips being very small so that the subsequent hemicelluloses pyrolysing will not be affected.”

2. Defendants’ proposal:

The term is indefinite.

3. Court’s construction:

“The water content in the bamboo strips being very small so that the subsequent hemicelluloses pyrolysing will not be affected.”

The Parties agree that the ’578 Patent provides a lexicographic definition of “absolute dryness.” They dispute, however, whether the lexicographic definition of “absolute dryness” renders claims 13 and 17 indefinite. (D.I. 103 at 52-57). Specifically, Defendants argue that “very small” is a purely subjective term of degree. (*Id.* at 53). They note that the specification does not provide insight into the meaning of “very small” and argue, without expert support, that

a POSA could not know the scope of the claim with reasonable certainty. (*Id.* at 54-55).

Defendants' attorney argument does not provide clear and convincing evidence of whether a POSA could understand the scope of the claim. Thus, I will not find the claim indefinite at this time. Defendants may readdress the definiteness of this claim at the summary judgment stage, after expert discovery.

I will construe "absolute dryness" according to its lexicographical definition: "The water content in the bamboo strips being very small so that the subsequent hemicelluloses pyrolysing will not be affected."

IV. CONCLUSION

Within five days the parties shall submit a proposed order consistent with this Memorandum Opinion suitable for submission to the jury.