United States District Court,
D. Maine.

BAYCHAR, INC., et al,
Plaintiffs.
v.
FRISBY TECHNOLOGIES, INC., et al,
Defendants.

No. 01-CV-28-B-S

Aug. 1, 2002.

Owner of patent for fabric sued competitors for infringement. Construing claims, the District Court, Singal, J., held that: (1) "breathable" liner was composite material that was permeable to water vapor and that conducted moisture; (2) "first layer of foam" included, but was not limited to, types of foam identified in specification; and (3) requirement that foam layer by "treated" to have reversible enhanced thermal properties meant that layer had to be treated by means of some process that did not involve physical attachment of tangible, distinct layer of material to surface of foam.

Claims construed.

6,048,810. Construed.

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PATENT CLAIM CONSTRUCTION

SINGAL**, District Judge.**

An inventor of fabrics sued several manufacturers of fabric, outdoor clothing and footwear for patent infringement. Having held a *Markman* hearing on May 13, 2002, Markman v. Westview Instruments, Inc., 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996), the Court construes the allegedly infringed patent claim below.

I. LEGAL STANDARD

Patent infringement claims require a two-step analysis. *See* CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002). First, the Court construes the elements of the allegedly infringed patent claim. *Id*. Second, a judge or jury compares "the properly construed claims to the accused device, to see whether that device contains all the limitations ... in the claimed invention." *Id*. The case at bar is at the first stage of this analysis.

[1] [2] [3] [4] [5] [6] The construction of a patent claim is a task conducted solely by the Court. *See* Markman, 517 U.S. at 370, 116 S.Ct. 1384. Generally speaking, the Court will endeavor to construe a claim term "consistently with its appearance in other places in the same claim or in other claims of the same patent." Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1342 (Fed.Cir.2001) (collecting cases). In construing a patent claim, the Court looks first to the "intrinsic evidence, *i.e.*, the claims, the rest of the specification and, if in evidence, the prosecution history." CCS Fitness, 288 F.3d at 1366 (collecting cases). The Court gives claim terms their "ordinary and customary meaning" to one skilled in the art embodied by the patent, unless the patentee specifically limited or defined the term in the patent language or specification. *Id*. The prosecution history can also limit the meaning of a claim term by excluding "any interpretation that was disclaimed during prosecution." Southwall Tech., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576 (Fed.Cir.1995). If ambiguities remain after consulting the intrinsic evidence, the Court may also employ extrinsic evidence, such as treatises or dictionaries, in construing a claim element. *Id*.

II. OVERVIEW

Plaintiffs Baychar, Inc., and Baychar Holdings, LLC, are Maine corporate entities wholly owned and controlled by Plaintiff Baychar. Baychar, who goes by that name alone, is an inventor of fabrics and composite fabric materials. She holds U.S. Patent No. 6,048,810 for a "Waterproof/Breathable Moisture Transfer Liner for Snowboard Boots, Alpine Boots, Hiking Boots and the Like" (the " '810 patent"). The '810 patent consists of eight claims.

Claim 1, is an independent claim that describes:

"A liner for a snowboard boot comprising:

an inner liner;

a cellular elastomeric composite being formed from a first layer foam backed by a non-woven top sheet, the cellular elastomeric composite being attached to the inner liner; and

a second layer of foam material attached to the cellular elastomeric composite

wherein the first layer of foam is one of a reticulated foam or a hydrophilic open-cell foam."

Claims 2 through 7 are dependent claims that describe variations upon Claim 1. In particular, Claim 3

teaches "[a] liner according to claim 1, further comprising a temperature regulating membrane provided between the inner liner and the cellular elastomeric composite."

Finally, Claim 8 is a second independent claim that describes:

"A liner comprising:

an inner moisture transfer material;

a first layer of foam attached to the inner moisture transfer material;

a non-woven top sheet attached to the first layer of foam; and

wherein the first layer of foam is treated to have reversible enhanced thermal properties."

Baychar contends that Defendants' products infringed Claim 8.

III. CONSTRUCTION OF CLAIM ELEMENTS

Having considered the parties' claim construction arguments, the Court, engaging in the first step of the infringement analysis, construes the elements of Claim 8 as follows.

A. "A Liner Comprising"

The parties dispute both the meaning of the word "liner," and the meaning of the word "comprising."

1. "Liner"

[7] The parties agree that a "liner" under Claim 8 possesses so-called "moisture transfer qualities," and that the '810 patent also teaches a liner that is "breathable." They disagree, however, whether there is a distinction between these two terms. Plaintiffs contend they are different, and that the specification requires that the liner possess the distinct qualities of moisture transfer *and* breathability. Defendants believe that the Claim describes only a liner that is permeable to moisture vapor, and that breathability means the same thing.

The '810 patent does not define "breathable" or "moisture transfer." However, the specification employs the term "breathable" in the context of permeability to moisture vapor. "An object of the present invention," the specification reads, "is to provide ... a more breathable liner ... This object ... is realized by providing a lining system having lining materials which act as a moisture transfer system. Moisture vapors are transferred through the liner from one side to the other side." ('810 Patent, col. 1, lines 37-47.) "Breathable" is also used in contradistinction to "waterproof." For instance, the patent refers to "a waterproof/breathable membrane," which it defines as a membrane permeable to moisture vapor in one direction, but impervious to moisture or moisture vapor in the other. (Id. at col. 5, lines 52-62; *see also* col. 4, lines 59-61; col. 8, lines 43-49.) Thus, the Court defines "breathable" as "permeable to water vapor."

Plaintiffs distinguish permeability to water vapor from "moisture transfer," however. One skilled in the art, they argue, would know that "moisture transfer" is an active function encompassing "wicking," "absorbing," "adsorbing," "siphoning," and other actions involving the conduction of moisture. "Breathability," by

contrast, is merely a passive function, according to Plaintiffs, such that fabric that merely allows moisture vapor to pass cannot be said to have "moisture transfer qualities" if it does nothing actively to conduct the moisture through the material.

Intrinsic evidence supports Plaintiffs' construction. The specification discusses a number of fabrics that "have good moisture transfer characteristics" that prevent "excessive moisture built-up [sic]." (*See* '810 Patent, col. 3, lines 55-57.) The "moisture transfer characteristics" of these fabrics " *causes* [sic] moisture vapors to be passed from a rider's body through" the first liner layer. (Id. at col. 3, lines 58-60.) (emphasis added) "To cause" is an active verb, suggesting that the materials having "moisture transfer qualities" *conduct* moisture vapor away from the rider, and not simply that they passively allow moisture vapor to travel through them.

Plaintiffs also point to extrinsic evidence to support their reading. Technical descriptions of these moisture transferring fabrics, produced by their manufacturers and placed in the record by Plaintiffs, describe the materials' ability to conduct moisture via wicking, absorption, adsorption, capillary action, siphoning and so forth.

The Court finds Plaintiffs' arguments persuasive, and Defendants offer no counterargument. The Court therefore concludes that the liner taught by Claim 8 must possess moisture transfer qualities that are distinct from its permeability to water vapor. Accordingly, the Court construes " *liner* " in Claim 8 as *a composite material that is permeable to water vapor and that conducts moisture via any one of number of water-transferring processes, including but not limited to wicking, absorbing, adsorbing, siphoning, capillary action and the like*. FN1

FN1. Plaintiffs insist that "each and every layer" of the Claim 8 liner must possess these qualities. The Court does not agree. While "breathability" must necessarily be a quality of *every* layer of a breathable liner, it is not obvious why "moisture transfer" must be. Plaintiffs fail to point to a portion of the specification supporting such a requirement, and the Court rejects it.

2. "Comprising"

[8] In the context of patent interpretation, " *comprising* " is a term of art used in claim language to mean that " *the named elements are essential, but other elements may be added and still form a construct within the scope of the claim*." Genentech, Inc. v. Chiron Corp., 112 F.3d 495, 501 (Fed.Cir.1997); Applera Corp. v. Micromass UK Ltd., 186 F.Supp.2d 487, 504 (D.Del.2002) (collecting cases).

B. "An Inner Moisture Transfer Material"

[9] The composite liners described in Claims 1-7 incorporate a first layer termed "inner liner." In contrast, the first layer of the Claim 8 composite liner is named "inner moisture transfer material." The parties agree that the "inner liner" described in Claims 1-7 is synonymous with "inner liner **10**," the name given to the first layer of a composite liner described in the specification and depicted in the patent diagrams. They disagree, however, whether the narrow definition that the examiner gave the term "inner liner **10**" during patent prosecution also applies to the term "inner moisture transfer material."

[10] Generally speaking, the doctrine of "claim differentiation" teaches that when different words or phrases are used in separate claims, there is presumed to be a difference in the meaning or scope of the claims. *See*

Tandon Corp. v. United States Int'l Trade Comm'n, 831 F.2d 1017, 1023 (Fed.Cir.1987). Yet, this is not a hard and fast rule. The *Tandon* court also cautioned that "two claims which read differently can cover the same subject matter." *Id*. In the instant case, the specification does not clearly indicate whether "inner liner" and "inner moisture transfer material" have the same definition. Thus, the Court must dig deeper into the intrinsic evidence.

The prosecution history is instructive. Plaintiffs originally submitted fourteen claims for patent approval. Eight of them (Application Claims 1-8) described a composite liner with an "inner liner" attached to a "first layer of foam." The remaining six claims (Application Claims 9-14) described a composite liner with a first layer of "inner moisture transfer material" followed by a "first layer of foam." Finding no clear definition in the claim language, the patent examiner limited the definition of "inner liner" to a list of moisture transferring fabrics described in the specification at column 3, lines 7-61. He did not separately define "inner moisture transfer material."

The examiner then proceeded to approve the eight claims naming a first "inner liner" layer, and Application Claim 14, which named the first "inner moisture transfer material" layer. FN2 He rejected the rest of the claims that named a first layer of "inner moisture transfer material," however, as anticipated by the prior art. It is the significance of the examiner's failure to define "inner moisture transfer material," and his subsequent rejection of most of the claims employing that term as a first layer, about which the parties now disagree.

FN2. Application Claim 14 recited the elements that are now Claim 8. It differed from the claims the examiner rejected by incorporating "reversible enhanced thermal properties" as a claim element.

Plaintiffs argue that throughout the specification and patent diagrams, the only liner found next to a "first foam layer" is "inner liner **10**." By implication, they contend, "inner moisture transfer material" must be synonymous with "inner liner **10**," since "an inner moisture transfer material" precedes a "first foam layer" as an element of Claim 8. Defendants counter that if "inner moisture transfer material" were synonymous with "inner liner," then there would have been no reason for Plaintiffs to use the term "inner moisture transfer material" in the first place. Rather, they contend, "inner moisture transfer materials" are any material that transfers moisture, not simply those fabrics enumerated in column 3, lines 7-61.

The prior art the examiner relied upon consists of three patents for layered composite materials that are permeable to water vapor and include a first, moisture vapor-permeable layer of film or "poromeric" (synthetic leather) material. Neither films nor poromeric materials are included in the list of fabrics described in column 3, lines 7-61. Nonetheless, the examiner found that these prior art liners anticipated composite liners with a first "inner moisture transfer material" layer. By implication, the examiner read "inner moisture transfer material" to include, at a minimum, moisture-transferring films and poromeric materials. FN3 Plaintiffs did not object to this interpretation in their subsequent prosecution of the '810 patent. FN4

FN3. It is irrelevant to this conclusion whether the examiner defined "moisture transfer" in the active sence in which the Court defines it in this Claim Construction. Even supposing that the first layers of the prior are did not actively conduct moisture, their failure to do so would be relevant only to the validity of the claims the examiner rejected. It would not undercut the conclusion that the examiner considered "inner moisture transfer material" to be a broader category than fabrics.

FN4. Plaintiffs argue that they did not disclaim a broader reading of the term because they have continued to prosecute Application Claims 9 through 13. That evidence does not form a part of the prosecution history in this case, however, and the Court will not speculate as to Plaintiffs' motivations for dropping those claims in earlier proceedings.

Because the Plaintiffs appeared to concede the examiner's construction, and because Plaintiffs need not have used the general term "inner moisture transfer material" when "inner liner" would have served the purpose, the Court finds that the terms are different. It construes " *an inner moisture transfer material* " as *any material that actively conducts moisture as described in this claim construction, including, but not limited to, those materials listed in column 3, lines 7-61 of* the '810 patent *specification*.

C. "A First Layer of Foam Attached to the Inner Moisture Transfer Material"

1. "A first layer of foam"

[11] The '810 patent suggests broad parameters for "a first layer of foam." It must be "breathable," and can be of variable thickness. It may include (but is not limited to) "open-cell, hydrophilic" foam, or "reticulated" foam. (*See* '810 patent, col. 2, lines 65-67; col. 3, lines 1-3.) Specific examples of open-cell hydrophilic foam are those that go by the trade names "Aquazone" and "Comfortemp." (*See* id. at col. 4, lines 29-30.)

Is not entirely clear what dispute the parties have about this claim element. At the May 13 *Markman* hearing, neither party highlighted the definition of "a first layer of foam" as one that was in dispute. In pre- and post-hearing filings, however, Plaintiffs allude to a dispute over whether the specification limits the types of foam to the named embodiments. To the extent this is an issue, the Court finds that the foams that may compose the "first layer of foam" are not limited to those specifically identified. *See* Toro Co. v. White Consol. Indus., 199 F.3d 1295, 1301 (Fed.Cir.1999) ("[i]t is well established that the preferred embodiment does not limit broader claims that are supported by the written description"). The specification offers only one explicit criterion for the composition of the first layer of foam, and that is that it be "breathable."

Plaintiffs urge that the foam must also possess "moisture transfer qualities." To support this proposition, they refer to language in the specification that describes moisture "traveling" through "the first foam material." However, unlike material that "causes" moisture to pass through it, material that merely allows moisture "to travel" through it does not fall within the Court's definition of material having active "moisture transfer qualities." Although *some* of the foams named as preferred embodiments explicitly possess such qualities, such as "hydrophilic" foam, there is no intrinsic or extrinsic evidence supporting Plaintiffs' claim that all such foams must possess them.

The Court therefore construes " *a first layer of foam* " to indicate *a layer of foam that is breathable as defined in this claim construction, and that includes, but is not limited to, reticulated foam and open-cell hydrophilic foam. Foams known by the trade names "Aquazone" and "Comfortemp" are specifically included*.

2. "Attached"

[12] The parties disagree whether the term "attached" indicates that the layers of the liner listed in Claim 8 must be attached to each other directly, or signifies that other layers may be inserted between them.

Plaintiffs insist that all three layers named in Claim 8 must be *directly* adjacent to one another. Defendants, on the other hand, contend that the individual layers of the liner taught by Claim 8 need not be directly adjacent, but may have other layers inserted between them provided all of the named layers are also present.

The language of Claim 8 does not give the Court any indication of what the meaning of "attached" might be. However, because the Court construes claim terms consistently throughout a patent, it may look to the use of "attached" in other Claims for guidance. *See* Rexnord, 274 F.3d at 1342. Claim 1 describes a liner with layers "attached" to one another. Claim 3 teaches a liner as described in Claim 1, with an additional layer inserted in the middle. The interplay between these two claims is significant. It is a principle of patent law that dependent claims encompass *all* of the elements of the independent claims upon which they depend, so that a dependent claim cannot be found infringed unless the independent claim is also found to be infringed. *See* Wahpeton Canvas Co. v. Frontier, Inc., 870 F.2d 1546, 1553 n. 10 (Fed.Cir.1989). Claim 3 is a variation upon Claim 1, with a particular added feature. Because the added element in Claim 3 is an additional layer, the Court must infer that Claim 1 contemplates the insertion of additional layers between its elements. By implication, "attached" does not mean *directly* attached or adjacent.

Therefore, the Court construes " *attached* " as meaning *physically attached, but not necessarily directly so*. Coupling this construction with the Court's interpretation of the term "comprising," Claim 8 teaches a liner that requires the named elements, but may also include additional elements inserted between the named elements while still forming a construct within the scope of the Claim.

D. "A Non-Woven Top Sheet"

[13] There appears to be no dispute between the parties as to this definition. The '810 patent does not define "non-woven top sheet," although it names "wood pulp, rayon, cotton, polypropylene, polyester, lycra, or a combination thereof" as the elements of the non-woven material. In the absence of further clarification in the specification, the parties agree that various definitions of "non-woven" submitted as extrinsic evidence by Defendants are informative. The Court, borrowing from these definitions, construes " *a non-woven top sheet* " as *a sheet, web or batt of fibers or filaments of wood pulp, rayon, cotton, polypropylene, polyester, lycra or a combination thereof that are bonded to each other by any of several means. Papers, wovens, knits and felts are specifically excluded*. The parties each stressed qualifications to this generic definition, none of which was objected to by the other. The Court adopts these qualifications as incorporated into its construction: (1) there is no minimum thickness for the non-woven top sheet; (2) certain materials loosely defined as "felts," but not made of animal hair or paper, are *not* excluded from the definition of "non-woven" top sheet; and (3) a scrim, gauze, netting, yarn or other conventional sheet material may be added to one or both faces of the top sheet, or embedded within as reinforcement.

E. "Wherein the First Layer of Foam is Treated to Have Reversible Enhanced Thermal Properties."

[14] The final area of dispute between the parties involves the interpretation of Claim 8's phrase "wherein the first foam layer is *treated* to have reversible enhanced thermal properties." (emphasis added) Plaintiffs and Defendants agree that foam may be "treated" by coating it with "phase change materials" ("PCMs"), or embedding them within it. They disagree, however, whether inserting a separate "temperature regulating membrane" between the inner layer and the first foam layer also constitutes a "treatment" of the foam.

Plaintiffs argue that the prosecution history resolves the dispute. The patent examinerdefined "the structure and/or chemistry responsible for the claimed 'reversible enhanced thermal properties' " ("RETPs") by reference to a passage in the patent application that now appears in the specification at col. 4, lines 21-34.

That passage describes two different means by which a composite liner inherits RETPs: (1) the application of PCMs to foam; or (2) the insertion of a "temperature regulating membrane" between layers or on the outside of the liner. Plaintiffs reason that because the phrase "RETP" appears only in Claim 8, the examiner must have intended for both of these means to be ways in which foam could be "treated." Because they assented to this construction of the "structure and/or chemistry responsible" for RETPs, Plaintiffs argue, it is conclusive.

Defendants take a different tack. One skilled in the art, they argue, would understand that "treated" means "subjected to a process," and that inserting a membrane between two layers is not a "process" in the same way coating or impregnating foam with PCMs is. Defendants also argue that calling the insertion of a membrane a "treatment" would be inconsistent with the language of Claim 3, which also describes the insertion of a membrane between two claim elements but does not employ the term "treated."

The Court finds neither party's argument wholly convincing. It is not obvious from the prosecution history that just because "RETP" appears only in Claim 8, the examiner intended for *all* of the means by which the liner can inherit RETPs to be incorporated into the meaning of the phrase "foam treated to have...." After all, some of the embodiments that describe a membrane being incorporated into the liner do not relate to the foam layer at all. For instance, one embodiment describes apply applying the membrane "to the fibers of" the innermost liner layer. (*See* '810 patent, col. 4, lines 24-25.) This cannot possibly be pertinent to the foam layer, which is neither the innermost nor has "fibers." Nor is it clear, as Defendants argue, that inserting a membrane next to foam does not subject the foam to a process, if, for instance, the membrane were bonded directly to the foam layer in some way. Moreover, the absence of the term "treated" in Claim 3 is not necessarily inconsistent with the use of "treated" in Claim 8, insofar as treatment and insertion of a membrane could be synonymous.

The Court finds, however, that the weight of the evidence favors Defendants' interpretation, although not for all of the reasons Defendants cite. Claim 8 teaches a structure in which the second (foam) layer is "treated" in a particular fashion. Plaintiffs would have it that the insertion of a membrane next to that foam layer, or the attachment or application of the membrane to it, would work a change to the foam itself, so that afterwards it would be considered "treated" foam. Yet, all of the Claims in the '810 patent describe a composite material consisting of distinct elements, each having its own qualities. There is no indication anywhere in the patent that the mere attachment or application of one layer to the next renders the two layers a single, unified "treated" element. For example, Claim 8 teaches a layer of foam and a non-woven top sheet that can be directly attached to each other, without the foam being termed "treated" by the top sheet. Thus, the claim language and nature of the '810 patent foreclose Plaintiffs' suggestion that "treating" can mean inserting, applying or attaching one layer to another.

The Court construes " *wherein the first layer of foam is treated to have reversible enhanced thermal properties* " to mean " *wherein the first layer of foam possesses reversible enhanced thermal properties by means of being coated with PCMs, or having PCMs embedded within it, or by means of some other process that does not involve the physical attachment of a tangible, distinct layer of material, such as a temperature regulating membrane, to the surface of the foam*."

IV. CONCLUSION

The Court construes the '810 patent as described herein.

SO ORDERED.

D.Me.,2002.
Baychar, Inc. v. Frisby Technologies, Inc.

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