United States District Court,
W.D. Michigan, Southern Division.

JACKSON PRODUCTS, INC,
Plaintiff.
v.
The FIBRE-METAL PRODUCTS COMPANY,
Defendant.

Nos. 1:05-CV-590, 1:06-CV-191

July 28, 2008.

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CLAIM CONSTRUCTION MEMORANDUM OPINION AND ORDER

ROBERT J. JONKER**, District Judge.**

Background

This is a patent infringement suit. The invention at issue is an auto-darkening lens that provides eye protection. The particular product application in this case involves use of the lens in a welding helmet. Plaintiff, Jackson Products. Inc. ("JPI"), owns U.S. Patent No. 5,208,688 (the '688 patent), and U.S. Patent No. 5,751,258 (the '258 patent). JPI asserts that Fibre-Metal Products Company ("FMPC") infringes both patents with a line of auto-darkening filter lenses and the helmets using them. FMPC argues that neither its filters, nor the helmets that incorporate them, infringe the patents.

This case has suffered under the combined delays of a good faith, but ultimately unsuccessful, settlement interlude, and of judicial re-assignment. Under a November 17, 2005, Case Management Order, the parties originally filed claims construction briefs. The Honorable Gordon J. Quist heard oral argument on the claim construction issues on October 18, 2006. The case then went into a settlement interlude (docket34, 54) that ultimately failed (docket # 56). The case was reassigned to me on August 27, 2007. At the Court's invitation, the parties filed supplemental briefs focusing on three key disputed claims construction issues: (1) claim 1, clause b of the '688 Patent; (2) claim 28, clause b of the '688 Patent; and (3) claim 21, final clause of the '258 patent. The Court heard oral argument on the these issues on May 16, 2008. This Claims Construction Memorandum contains the Court's construction of these disputed claims.

Principles of Claim Construction

Construction of patent claims is a matter of law. *See* Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454-56 (Fed.Cir.1998) (en banc). When there is a dispute about the meaning of language used in a claim, the court must ascertain the scope of the exclusive rights claimed in the patent. Markman v. Westview Instruments, Inc.., 52 F.3d 967, 979 (Fed.Cir.1995) (en banc), *aff'd* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). Proper claim construction begins with the language of the claims themselves. *See* Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). " 'In construing claims, the analytical focus must begin and remain centered on the language of the claims themselves, for it is that language that the patentee chose to use to "particularly point[ ] out and distinctly claim[ ] the subject matter which the patentee regards as his invention." 35 U.S.C. s. 112, para. 2.' " Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc., 334 F.3d 1294, 1298 (Fed.Cir.2003) (quoting Interactive Gift Express, Inc. v. Compuserve, Inc., 256 F.3d 1323, 1331 (Fed.Cir.2001)). The Court must give claim terms the ordinary and customary meaning ascribed to them by "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." Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed.Cir.2005) (en banc). This "starting point is based on the well-settled understanding that inventors are typically persons skilled in the field of the invention and that patents are addressed to and intended to be read by others of skill in the pertinent art." *Id*. A court must also consider the written description in the patent, "because it is relevant not only to aid in the claim construction analysis, but also to determine if the presumption of ordinary and customary meaning is rebutted." Brookhill-Wilk 1, LLC, 334 F.3d at 1298. In fact, the specification is usually "the single best guide to the meaning of a disputed term." Vitronics, 90 F.3d at 1582. The prosecution history may also be relevant because it may "inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." Phillips, 415 F.3d at 1317.

In construing the three disputed claim terms here, the Court must use a means plus function analysis under 35 U.S.C. s. 112 para. 6:

[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

This type of "claiming applies only to purely functional limitations that do not provide the structure that performs the recited function." *Phillips,* 415 F.2d at 1311. A claim limitation that actually uses the word "means" gives rise to a rebuttable presumption that s. 112, para. 6 applies. Personalized Media Commc'n, LLC v. Int'l Trade Comm'n, 161 F.3d 696, 703-04 (Fed.Cir.1998). The presumption is rebutted if the claim uses the word "means" but fails to specify corresponding function for the "means." *See* Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1427 (Fed.Cir.1997). The presumption is also rebutted if the claim, in addition to the functional language, recites structure sufficient to perform the claimed function in its entirety. *See* Altiris, Inc. v. Symantec Corp., 318 F.3d 1363, (Fed.Cir.2003). In this case, the parties agree that the three disputed claim terms at issue in this memorandum require "means plus function" analysis.

A court may resort to extrinsic evidence, such as dictionaries, treatises, and expert or inventor testimony, in constructing patent claims. *See id*. Technical dictionaries may be helpful in providing an understanding "of particular terminology to those of skill in the art of the invention." *Id*. at 1318. Likewise, expert testimony

may be useful for explaining the technology at issue and how the particular invention works, to ensure that the court's understanding of the technical aspects of the patent is consistent with that of a person of ordinary skill in the art, or to establish that a particular claim in the patent or in prior art has a particular meaning in the pertinent field. *See id*. However, the intrinsic evidence of the specification and prosecution history is generally more reliable and thus generally entitled to greater weight. *See id*. at 1320-21. Both intrinsic and extrinsic evidence can facilitate a proper claim construction, but what ultimately controls is, of course, the language of the claims themselves: "[T]he court's focus [must] remain[ ] on understanding how a person of ordinary skill in the art would understand the claim terms." *Id*. at 1323. Thus, " '[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 (quoting Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed.Cir.1995)).

Analysis

I. The '688 Patent

The Plaintiff claims that Defendant's products infringe at least two claims under the '688 Patent, claims 1 and 28. The Court here focuses on subparagraph b of each of these claims, as provided in the Claims Construction Case Management Order (docket # 65).

The first claim at issue (claim 1 of the '688 patent) covers:

1. A light transmission control device, comprising

a. band pass filter means for transmitting visible light of a prescribed wavelength and for blocking transmission of visible light of a different prescribed wavelength, and

b. variable optical filter means for controllably transmitting light of a visible wavelength, and

c. wherein said band pass filter and variable optical filter are cooperatively related to provide at least three different light transmitting conditions, including a maximum transmission, a minimum transmission, and a third transmission.

The second claim at issue (claim 28 of the '688 patent) covers:

28. Device for controlling transmission of visible light energy which has a plurality of wavelengths and is incident thereon, comprising

a. band pass filter means for transmitting at least some of said light energy in the green area of the spectrum and for blocking transmission of most of the light in the other visible areas, ultraviolet area, and infrared area of the spectrum, and

b. electronically controlled variable optical filter means for controllably transmitting light of a wavelength,

c. said electronically controlled variable optical filter means being operational in the absence of a prescribed input to filter light energy in the green area of the spectrum.

The dispute regarding the construction of claim 1, subparagraph b, and claim 28, subparagraph b, is essentially the same. The parties agree that the claim term "variable optical filter means" requires use of a liquid crystal cell, but the parties disagree about whether the term is limited to *surface mode* liquid crystal cells. The following chart summarizes the competing constructions proposed by the parties:

'688 Claim Language	JPI Construction	FMPC Construction
Claim 1, subparagraph b:	One or more variable liquid crystal cells that forms another part of the lens of the device and a circuit providing a prescribed input to control the intensity of the visible light transmitted through the variable liquid crystal cells.	At least one tunable birefringent (e.g. surface mode) liquid crystal cell positioned between a pair of plane polarizers and connected to a drive circuit for controlling the passage of light visible to the human eye in response to the drive circuit establishing a requisite electrical field across the liquid crystal cell.
variable optical filter means for controllably transmitting light of a visible wavelength		
Claim 28, subparagraph b:	One or more variable liquid crystal cell(s) operated by a circuit providing a prescribed input to control the intensity of the light transmitted through the variable liquid crystal cell(s).	At least one tunable birefringent (e.g. surface mode) liquid crystal cell positioned between a pair of plane polarizers and connected to a drive circuit that controls the liquid crystal cell by the application of electronic signals thereto to cause the liquid crystal cell to pass light within a certain range of wavelengths.
electronically controlled variable optical filter means for controllably transmitting light of a wavelength		

The parties agree that subparagraph b of each of claims 1 and 28 is a means-plus-function limitation, requiring resort to the specification for definition. As support for its proposed construction of claim 1, subparagraph b, JPI cites to Figure 1, (Col 11, ll. 26-27), which provides a schematic view of a welding helmet with a variable liquid crystal cell lens, and to an introductory paragraph to the "Detailed Description" section, (Col.12, ll.29-38), which provides a general description of the device. JPI also cites Columns 2 and 3 as providing examples from prior art of other types (twisted nematic and dyed) and configurations of liquid crystal cells for controllably transmitting light of a visible wavelength.

FMPC contends that JPI's proposed construction is improper under s. 112, para. 6 because the references fail to provide sufficient structure to enable a person of ordinary skill in the art to make and practice the invention. Instead, FMPC asserts that the portion of the specification that provides sufficient structure is

Column 16, line 37 through Column 17, line 32, which references surface mode crystals. FMPC further notes that several references in the specification show that the liquid crystal is a surface mode liquid crystal that "can be tuned with respect to the band pass filter 20 by selecting of liquid crystal material with a particular birefringence characteristic," (Col.18, ll.31-34), and that the embodiments shown in Figs. 5, 7, and 8 all employ surface mode liquid crystal cells.

The Court concludes that the disclosed structure for the variable optical filter means is a "surface mode liquid crystal cell." The use of a "surface mode liquid crystal cell" is referenced throughout the specification, notably in Column 16, line 45, through Column 17, line 31; Column 18, lines 31-60; and Column 20, lines 3-24. The specification also indicates that the surface mode type liquid crystal cell, as opposed to twisted nematic or dyed-type liquid crystal cells, is chosen for its birefringent characteristics, or ability to be tuned: "[P]referably the axis of the surface mode liquid crystal cell ... is oriented approximately at about 45 degrees relative to the polarization direction of the polarizers 33, 34. This will maximize and optimize utilizing the birefringence characteristics of the surface mode liquid crystal cell." (Col.16, ll.58-64); "It will also be appreciated that tuning of the surface mode liquid crystal cell may be achieved by selection of the materials thereof (e.g., according to birefringence characteristics of the liquid crystal material, which are well known) ...." (Col.18, ll.47-52); "Moreover, an advantage of using a surface mode liquid crystal cell and driving it to the clear state as well as in the dark state is the substantial uniformity of optical response across the entire liquid crystal cell due to substantial uniformity of thickness of the birefringent layers ...." (Col.20, ll.10-15). Indeed, the only figures that disclose structures to accomplish the function of wavelength control involve at least one surface mode liquid crystal. Under a means plus function analysis, the scope of the claim must be so limited.

The background section of the specification reinforces this construction by explaining some of the reasons why the invention uses surface mode liquid crystals. First, prior automatic welding lenses had only two operational states, dark and clear, and upon power failure would default to a predetermined state, either dark or clear, thus sacrificing either work speed (dark state) or protection of the welder's eyes (clear state). (Col.6, ll.42-49.) The purpose of the invention is to provide a third state, which is accomplished through the surface mode liquid crystal lens. Second, speed of the lens to the dark state for maximum eye protection is important to the invention. The inventors thus explained that "a surface mode liquid crystal cell usually responds to energization significantly faster than a twisted nematic cell, and it, therefore, provides for faster operation in accordance with the present invention." (Col.5, ll.32-36.)

JPI's proposed construction is based, not upon the structure disclosed in the specification, but principally upon the background discussion of the prior art and upon an introductory statement of the detailed description of the invention, which states only generally that the invention includes a liquid crystal cell. However, as noted above, the specification is replete with references to a surface mode liquid crystal cell, and the reasons for using surface mode liquid crystals. Given that the inventors cited the shortcomings of the prior art to distinguish their invention, JPI may not claim the benefit of the older structure the inventors used to distinguish their invention. *See* Ballard Med. Prods. v. Allegiance Healthcare Corp., 268 F.3d 1352, 1359 (Fed.Cir.2001).

JPI invokes the doctrine of claim differentiation to support its argument that the patent claims more than surface mode liquid crystal cells. Under the doctrine of claim differentiation, each claim in a patent is presumptively different in scope. *See* Comark Commc'ns, Inc. v. Harris Corp., 156 F.3d 1182, 1187 (Fed.Cir.1998). In this case, JPI notes that claim 34 expressly claims use of "surface mode" liquid crystal. Accordingly, JPI argues that claim 1 and claim 28 must be broader because they include no such language

limitation.

The Federal Circuit has noted that claim differentiation is not a "hard and fast rule of construction," and it cannot be used to "broaden claims beyond their correct scope." Kraft Foods, Inc. v. Int'l Trading Co., 203 F.3d 1362, 1368 (Fed.Cir.1988) (citations and quotation marks omitted). Moreover, in Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533 (Fed.Cir.1991), the Federal Circuit held that the doctrine of claim differentiation cannot override the statutory mandate of s. 112, para. 6 for construing means-plus-function limitations. The court observed:

[T]he judicially developed guide to claim interpretation known as "claim differentiation" cannot override the statute. A means-plus-function limitation is not made open-ended by the presence of another claim specifically claiming the disclosed structure which underlies the means clause or an equivalent of that structure. If Laitram's argument were adopted, it would provide a convenient way of avoiding the express mandate of section 112(6). We hold that one cannot escape that mandate by merely adding a claim or claims specifically reciting such structure or structures.

Id. at 1538.

The means plus function analysis required by statute reveals that the recited structure for the variable optical filter means is a "surface mode liquid crystal cell." The doctrine of claim differentiation can neither change nor trump this analysis.

Accordingly, the Court adopts FMPC's proposed constructions of claim 1, subparagraph b and claim 28, subparagraph b, to the extent these constructions limit the claims to "tunable birefringent (e.g. surface mode) liquid crystal cells."

II. The '258 Patent

Plaintiff claims Defendant's products also infringe claim 21 of the '258 patent. That claim covers:

21. Protective eye gear, comprising:

a variable shutter to control the amount of light transmitted to the eyes, the shutter being operable between relatively clear and relatively dark states;

a power supply circuit for the variable shutter;

first adjusting means for adjusting the dark state; and

second adjusting means for adjusting the dark state.

The Court here focuses on the fourth element of the claim, **"second adjusting means for adjusting the dark state,"** as provided in the Case Management Order. To keep the issue in context, the Court also refers at times to the third element of the claim ("first adjusting means").

The parties again agree that the fourth element is a means-plus-function limitation under 35 U.S.C. s. 112, para. 6. The Court must first determine the claimed function and then identify the corresponding structure in

the written description that performs the function. *See* Applied Med. Res. Corp. v. U.S. Surgical Corp., 448 F.3d 1324, 1332 (Fed.Cir.2006).

"The specification must be read as a whole to determine the structure capable of performing the claimed function." Budde v. Harley-Davidson, Inc., 250 F.3d 1369, 1379 (Fed.Cir.2001). A structure disclosed in the specification qualifies as "corresponding" structure only if the specification or prosecution history clearly links or associates that structure to the to the function recited in the claim. B. Braun Med. v. Abbott Labs., 124 F.3d 1419, 1424 (Fed.Cir.1997). This duty to link or associate structure to function is the *quid pro quo* for the convenience of employing s. 112, para. 6. O.I. Corp. v. Tekmar Co., 115 F.3d 1576, 1583 (Fed.Cir.1997).... While corresponding structure need not include all things necessary to enable the claimed invention to work, it must include all structure that actually performs the recited function. *See* Cardiac Pacemakers, Inc. v. St. Jude Med., Inc., 296 F.3d 1106, 1119 (Fed.Cir.2002).

Default Proof Credit Card Sys., Inc. v. Home Depot U.S.A., Inc., 412 F.3d 1291, 1298 (Fed.Cir.2005).

The claimed function is adjustment of the dark state. JPI contends that the corresponding structure for both the first and second adjusting means is "[a] circuit which allows for a change in the voltage level provided to the shutter after the shutter is initially placed in a dark state." According to JPI, nothing in the claim requires the adjusting means to be accessible to the user; it is enough that the mechanism be adjustable at some point, even if only at the point of original manufacture. FMPC argues that this construction belies the only disclosed structure for accomplishing the adjustment. In its proposed construction, FMPC describes the disclosed structure for the first adjusting means as "a knob, accessible by the user, [ ] connected to a potentiometer or variable resistor to change a voltage applied to the variable shutter to adjust the light passing capability of the shutter in the dark state." FMPC describes the disclosed structure for the second adjusting means as "another knob, accessible by the user, [ ] connected to another potentiometer or another variable resistor to finely change the voltage applied to the variable shutter to finely adjust the light passing capability of the shutter in the dark state."

The parties cite the same specification language for the second adjusting means to support their competing constructions: "The fine tuning circuit 523 is made up of resistor 563 and potentiometer 564." (Col.20, ll.41-42.) FMPC also cites the following specification language regarding the second adjusting means: "The potentiometer 564 of the fine tuning circuit 523 is mounted in an opening 608 in a wall 610 of the welding helmet 1 to permit adjustment of the potentiometer 564 from outside of the helmet, e.g., by the welder turning a knob 611." (Col.23, ll.47-51.) The specification has no structural disclosure or description of the second adjusting means apart from the one that includes an adjusting knob.

The key issue of construction is whether the adjustable knob 611 connected to potentiometer 564 (second adjusting means) is part of the structure necessary to perform the function of adjusting the dark state. The Court concludes that the knob is part of the structure that performs the recited function. The potentiometer alone cannot adjust anything. It can only provide for functioning at a pre-determined level set by the factory. In some metaphysical sense, this may still be adjustable since the same potentiometer could presumably be pre-set to a variety of different resistance levels. But the whole point of a fine tuning adjustment is to permit on the spot refinement of resistance to suit the task and situation at hand, not to permit the original manufacturer to select on a single occasion a single resistance level that will thereafter apply for all times-without adjustment or the further capacity to adjust by anyone. In any meaningful sense, an "adjusting" means requires some end user adjustment, and the only disclosed mechanism for that are the knobs.

The Court finds that the adjustment mechanism must in some meaningful way be accessible by the end user, though not necessarily readily accessible by a welder during the actual welding operation. The embodiment disclosed in Figure 4 and described in Column 23, line 30 through Column 24, line 8 shows the adjustable knob 555a for the first adjusting means on the inside of the helmet and the adjustable knob 611 for the second adjusting means on the outside wall of the helmet. The specification explains that the fine tuning circuit 523 is preferably mounted on the outside of the helmet to allow for fine tuning adjustments during welding, while for safety purposes, the coarse adjusting circuit is not readily available during welding:

The fine tuning circuit 523 can be used preferably while a person is using the shutter 10, for example, while the helmet 1 is being worn. The fine tuning circuit 523 allows small adjustments to be made to the shade (darkness) of the shutter 10 over a limited range to the desire of the welder. Since preferably large changes in shade cannot be made by the fine tuning circuit, the possibility of the welder making the shutter too light (clear) while welding and, thus, possibly allowing too much light to reach the eyes, is avoided. A larger range of adjustment of shade can be made by adjusting the dark state adjust potentiometer 555. However, that adjustment preferably is not easily accessible, and especially is not directly accessible while the welding helmet is worn.

(Col.20, ll.20-31.) Because the potentiometer 555/adjustable knob 555a is located inside the welding helmet, it is neither easily nor directly accessible during the welding operation. It is nonetheless accessible to the user, as opposed to pre-set by the factory without any later possible adjustment by the user. The fine tuning circuit could also be located inside the helmet. This would still provide adjustment potential to the end user. In short, the key point for the Court's construction is that the adjustment means must be accessible to the end user as opposed to pre-set by the factory without any possible later adjustment. "Accessible" does not mean "most conveniently located."

The doctrine of claim differentiation does not require a different construction. JPI contends that because the coarse and fine limitations are contained in claims 22, 23, and 24, which depend upon claim 21, but are not found in claim 21, claim differentiation precludes such limitations in claim 21. However, the Court's means plus function analysis dictates a different conclusion. In light of the specification's disclosure of the first adjusting means and the second adjusting means as potentiometers for the coarse and fine tuning circuits, the Court will not apply the doctrine of claim differentiation as suggested by JPI.

Accordingly, the Court will adopt FMPC's proposed construction of the final clause of claim 21 of the '258 Patent to the extent it requires "another knob, accessible by the user," as part of the second adjusting means. As noted, accessibility to the end user does not necessarily require a location convenient to use during the welding process.

IT IS SO ORDERED

W.D.Mich.,2008.
Jackson Products, Inc. v. Fibre-Metal Products Co.