

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF ILLINOIS
EASTERN DIVISION

ASPHERIC LENS COMPANY,)
)
 Plaintiff,)
)
 v.)
)
 BAUSCH & LOMB INCORPORATED,)
)
 Defendant.)

No. 07 C 4098

Judge John W. Darrah

MEMORANDUM OPINION AND ORDER

Plaintiff Aspheric Lens Company ("ALC") brought suit against Defendant Bausch & Lomb, Inc. ("B&L"), alleging infringement of ALC's patent. Before the Court is the issue of claims construction. The parties have submitted written briefs and argued the issue before the Court on December 3, 2008.

LEGAL STANDARD

"[T]he interpretation and construction of patent claims, which define the scope of the patentee's rights under the patent, is a matter of law exclusively for the court." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (*Markman*). The words in the claim "are generally given their ordinary and customary meaning." *Vitronics Corp. v. Conceptor, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (*Vitronics*). "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005)

(*Phillips*). The other language of the patent may assist in determining the meaning of the claims: “the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313; *see also Markman*, 52 F.3d at 979 (“Claims must be read in view of the specification, of which they are a part.”). In addition, a court should consider the prosecution history of the patent, if it is in evidence, *Markman*, 52 F.3d at 980, which “consists of the complete record of the proceedings before the [Patent and Trademark Office] and includes the prior art cited during the examination of the patent.” *Phillips*, 415 F.3d at 1317. Finally, a court can consider extrinsic evidence, including expert and inventor testimony, dictionaries and learned treatises. *Markman*, 52 F.3d at 980. However, such extrinsic evidence is “less significant than the intrinsic record” in determining the meaning of the claims. *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004).

BACKGROUND

This case involves multifocal contact lenses. In a multifocal lens, the lens power gradually changes from the center of the lens towards the periphery of the lens’ optical region. This allows the lens to correct the wearer’s vision at both near and far distances. One way to accomplish the multiple focus correction is to give the front surface of the lens an aspheric shape. This aspheric shape changes the way light passes through the lens to the eye compared to a lens with a spherical front surface.

The patent at issue in this case, U.S. Patent 4,909,621, ("the '621 Patent") involves an aspheric contact lens. The patent, which lists Cyril C. H. Evans as the inventor, was filed August 17, 1987, and issued March 20, 1990. Dr. Evans is also the inventor of the earlier U.S. Patent 4,199,231 ("the '231 Patent"), which also relates to aspheric contact lenses.

The '621 Patent lists three claims; only Claim 2 is disputed here. However, because Claim 2 is dependent on Claim 1, it is necessary to consider Claim 1 as well. Those claims are:

1. A contact lens of soft, pliable ophthalmic plastic material, said lens when in its dehydrated state having a spherical back surface which in its hydrated state conforms to the corneal curvature of the wearer's eye and, when in its dehydrated state, having an aspheric front surface which is a surface of revolution of polar coordinate form, having an asphericity which is a function of $(n) \{ \sin(a) \}$ where (a) is the polar angle, and (n) is a radial offset of a tool-controlling circular surface and is equal to at least about 0.013 mm.

2. A contact lens as defined in claim 1 wherein the equation of the aspheric front surface, in polar form, is $p = r + (n) \{ \sin(m) - \sin(m - a) \}$ where (m) is a rotational angle of the radial offset (n) and is equal to at least about 40° .

Claim 2, written in independent form reads:

2. A contact lens of soft, pliable ophthalmic plastic material, said lens when in its dehydrated state having a spherical back surface which in its hydrated state conforms to the corneal curvature of the wearer's eye and, when in its dehydrated state, having an aspheric front surface which is a surface of revolution of polar coordinate form, having an asphericity which is a function of $(n) \{ \sin(a) \}$ where (a) is the polar angle, and wherein the equation of the aspheric front surface, in polar form, is $p = r + (n) \{ \sin(m) - \sin(m - a) \}$ and (n) is a radial offset of a tool-controlling circular surface and is equal to at least about 0.013 mm, where (m) is a rotational angle of the radial offset (n) and is equal to at least about 40° .

ANALYSIS

The following table sets out the disputed language of Claim 2, and the parties' proposed constructions:

Claim Language	B&L Construction	ALC Construction
when in its dehydrated state having a spherical back surface	In order to infringe the claim, an accused lens must, when in its dehydrated state, have a spherical back surface.	Non-limiting preamble terms
having an aspheric front surface which is a surface of revolution of polar coordinate form, having an asphericity which is a function of $(n) \{\sin(a)\}$ wherein the equation of the aspheric front surface, in polar form, is $p = r + (n) \{\sin(m) - \sin(m - a)\}$	The entire optical zone of the front surface of the contact lens is a surface of revolution of polar coordinate form conforming to and made through use of the equation $p = r + (n) \{\sin(m) - \sin(m - a)\}$.	The optical zone of the front surface of the contact lens has a close physical correspondence to a surface of revolution defined by the equation $p = r + (n) \{\sin(m) - \sin(m - a)\}$.
(n) is a radial offset of a tool-controlling circular surface and is equal to at least about 0.013 mm	(n) is a radial offset of a tool-controlling circular surface (where the tool-controlling surface is a component of a lathing machine) and is equal to at least about 0.013 mm.	(n) is a numerical value greater than or equal to about 0.013 mm.
(m) is a rotational angle of the radial offset (n) and is equal to at least about 40°	(m) is a rotational angle of the radial offset (n) and is equal to at least about 40°.	(m) is a numerical value greater or equal to about 40°.
r	r is the radius of the controlling circular surface.	No individual construction proposed for this term.

Spherical Back Surface

The parties dispute the meaning of the phrase “when in its dehydrated state having a spherical back surface.” B&L argues that in order to infringe the claim, an accused lens must, when in its dehydrated state, have a spherical back surface. ALC argues that the language is a non-limiting preamble phrase.

A claim is typically composed of three parts: the preamble, the transition and the body. *See Chisum on Patents* § 8.06[1][b] at 8-180-82 (2007) (*Chisum*). The preamble is an introductory phrase which is connected to the body of the claim by the transition. *See id.* Typical transitional words and phrases include “comprising” and “consisting of,” but other words or phrases, such as “having,” “including” and “being,” may function as transitions as well. *Id.*

In the case of the ‘621 Patent, the transitional word is “having.” However, the word “having” occurs three times in the claim. The claim describes “a contact lens . . . *having* a spherical back surface . . . *having* an aspheric front surface . . . *having* an asphericity which is a function of . . .” The parties dispute which instance of “having” should function as the transition dividing the preamble from the body.

ALC argues that the second use of the word “having” in the claim, rather than the first use, functions as the transition between preamble and body. A preamble, generally, will “summarize the invention, its relation to the prior art, or its intended uses or properties.” *Chisum*, § 8.06[1][b] at 8-181. However, ALC’s proposed preamble construct, that the lens *has* a spherical back surface, does not serve to summarize the invention. Rather, B&L’s proposed

preamble of an invention, limited to “[a] contact lens of soft, pliable ophthalmic plastic material” more clearly serves to summarize the device regarding its intended uses and properties.

The court in *Schering Corp. v. Amgen Inc.*, 18 F.Supp.2d 372 (D.Del. 1998) (*Schering*), addressed a similar issue in analyzing a claim which contained several instances of the transition “consisting of.” The court found that the first instance of “consisting of” was “clearly utilized as a transitional phrase” because all the language following that phrase stated “the structural elements which make up and form the nucleus of the invention.” *Schering*, 18 F.Supp.2d at 383. The same is true here.

Furthermore, even if the phrase describing a spherical back surface were considered to be part of the preamble in the context of this claim, it is still a limitation. “In general, a preamble limits the claimed invention if it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.” *In re Cruciferous Sprout Litigation*, 301 F.3d 1343, 1347 (Fed. Cir. 2002) (internal citations omitted). The spherical back surface is “essential structure” because optical properties of the lens depend on the back surface as well as the front.

Therefore, the phrase “when in its dehydrated state having a spherical back surface” is limiting.

Aspheric Front Surface

The parties next dispute the meaning of the language “having an aspheric front surface which is a surface of revolution of polar coordinate form, having an asphericity which is a function of $(n) \{ \sin(a) \}$ where (a) is the polar angle, and wherein the equation of the aspheric front surface, in polar form, is $p = r + (n) \{ \sin(m) - \sin(m - a) \}$.” The parties agree that this language refers to the optical zone of the front surface of the contact lens. B&L asserts that the

entire optical zone must be governed by the equation $p = r + (n) \{ \sin (m) - \sin (m - a) \}$. ALC argues that this language does not require that the entire optical zone be aspheric.

If the language of the claim were simply "having an aspheric front surface" then ALC might be right that the entire front surface need not be aspheric. An aspheric surface may include parts that are spheric: a perfect sphere altered in one location becomes, as a whole, aspheric, due to the alteration. But the claim language further states "the equation of the aspheric front surface, in polar form, is $p = r + (n) \{ \sin (m) - \sin (m - a) \}$." The operative word in this phrase is not "having" but, rather, "is" (as here emphasized). The claim states that curvature of the front surface is as stated in the equation. This language leaves no room for ALC's proposed construction in which the curvature of the front surface of the lens may depart from the stated equation. Thus, B&L is correct that the equation must govern the entire optical zone of the front surface.

The Sine Equation

B&L next asserts that in addition to conforming with the sine function, the front surface of the lens must also have been made using the sine equation. In other words, B&L argues that the second claim is a product-by-process claim. Specifically, B&L asserts that the '621 Patent describes an improved method for making the lens described in the earlier '231 Patent.

The specification supports this view. Under the heading "BRIEF SUMMARY OF THE INVENTION," the specification states:

"Accordingly, this invention is directed to a modified aspheric surface which yields optical results nearly indistinguishable from those attained by the Evans ['231 Patent] asphericity but which, in contrast thereto, is accurately and reproducibly controllable.

Basically this invention concerns a modified Evans ['231] patent asphericity which is capable of production by simple means requiring a minimum of modification to existing lathes”

This language shows that what is claimed under the '621 Patent is not the shape of the lens, which had been anticipated in the '231 Patent, but, rather, a method of making a lens with that same shape more efficiently.

Plaintiff objects to this reasoning, arguing that limitations from the specification are not to be read into claims. However, the above language from the specification is not a limitation but, in context, rather, a summary of the invention. That summary of the invention clearly suggests that the '621 Patent makes a product-by-process claim. Plaintiff has made no convincing argument as to why the Court should disregard this language.

The prosecution history of the '621 Patent provides further support for this product-by-process construction of the claim. The Patent Examiner initially rejected the claims, stating:

“The applicant has admitted that the claimed lens ‘yields optical results indistinguishable’ from those of the lens taught in Evans ('231). The applicant further states that ‘the optical performance of this invention cannot subjectively be differentiated from that of the Evans patent.’ In fact the applicant claims ‘the invention represents an improvement of the Evans patent in that the same optical performance is obtained but the lenses of this invention are easily generated. Because the optical performance of a lens is inherently defined by the curvature of the two surfaces of the lens, the above admissions imply that the lens taught in the Evans patent and the claimed lens cannot be substantially differentiated. It appears that the applicant has invented an improved *method* of producing the lens taught in the Evans patent, however, the lens itself is being claimed and not the method.” (emphasis added.)

In response to this rejection by the Patent Examiner, the inventor of the '621 Patent stated:

“The invention herein provides the optical performance of applicant’s previous patent, but without the onus of requiring such as precise and delicate machining operation as to render the outcome of same highly problematic.”

In other words, the inventor asserted that he had come up with a better way to manufacture the lens described in the '231 Patent. Thus, Claim 2 is a product-by-process claim. Thus, in order to infringe, a lens must have been made by using the sine equation.

The Terms (n) and (m)

The parties next dispute the meanings of language relating to the values (n) and (m). With respect to (n) language in question is "(n) is a radial offset of a tool-controlling circular surface and is equal to at least about 0.013 mm." B&L's proposed construction inserts the explanation "(where the tool-controlling surface is a component of a lathing machine)" into this definition. ALC's proposed construction is that "(n) is a numerical value greater than or equal to about 0.013mm." With respect to (m), the disputed language is "(m) is a rotational angle of the radial offset (n) and is equal to at least about 40°." B&L proposes no changes to the language. ALC suggests that the construction should read "(m) is a numerical value greater than or equal to about 40°."

The dispute here also centers on whether Claim 2 is a product-by-process claim, as discussed above. B&L argues that the '621 lens must be made with "a tool-controlling circular surface" that is radially offset in accordance with the values of (n) and (m) described in the claim. ALC argues that the definitions of (n) and (m) are mere surplusage that do not affect the scope of Claim 2.

As B&L points out, (n) and (m) can only be interpreted in terms of the manufacturing process. The only possible meaning for those constants are as values to be used in setting up a "tool-controlling circular surface." And that "tool-controlling circular surface," as B&L argues,

is a component of a lathing machine. No other construction could be reasonably inferred. Thus, Claim 2 speaks to how the lens is to be manufactured, not simply its shape. This reasoning is in agreement with the finding above that the specifications and prosecution history of the patent indicated that Claim 2 was a product-by-process claim. ALC attempts to avoid this conclusion by arguing that the definitions of (n) and (m) are mere surplusage. That argument is contrary to law. "No claim language may be interpreted as mere surplusage." *British Telecommunications PLC v. Prodigy Communications Corp.*, 189 F.Supp.2d 101,113 (S.D.N.Y. 2002) (citing *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1171 (Fed. Cir. 1993)).

Therefore, B&L's construction as to (n) and (m) will be adopted and no lens will infringe on the claim unless it is made with a lathing machine with a tool-controlling circular surface set in accordance with the prescribed values of (n) and (m).

The Term r

The parties next dispute the meaning of the term r B&L proposes "r is the radius of the controlling circular surface." Although no definition of r is found in the claim, B&L points to the specification, which defines r as "the radius of the controlling circular surface" or "the radius of the controlling surface S." ALC argues that r is merely a numeric value. Again, ALC's argument is not convincing. ALC offers no reason why the term r would not have the same meaning in Claim 2 as it does in the specification. Thus, B&L's construction of r is adopted.

CONCLUSION


For the reasons stated above, B&L's claim construction is adopted in its entirety.

Claim 2, written in dependent form, shall be construed to read:

A contact lens of soft, pliable ophthalmic plastic material, said lens when in its dehydrated state having a spherical back surface which in its hydrated state conforms to the corneal curvature of the wearer's eye and, when in its dehydrated state, having an aspheric front surface where the entire optical zone of the front surface of the contact lens is a surface of revolution of polar coordinate form conforming to and made through use of the equation $p = r + (n) \{ \sin (m) - \sin (m - a) \}$, where (a) is the polar angle, (n) is a radial offset of a tool-controlling circular surface (where the tool-controlling surface is a component of a lathing machine) and is equal to at least about 0.013 mm, (m) is a rotational angle of the radial offset (n) and is equal to at least about 40° and r is the radius of the controlling circular surface.

Dated:

January 29, 2009


JOHN W. DARRAH
United States District Court Judge