

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ESSILOR INTERNATIONAL (COMPAGNIE GENERALE D'OPTIQUE),
Petitioner,

v.

EHS LENS PHILIPPINES, INC.,
Patent Owner.

Case IPR2016-01539
Patent 6,019,470

Before KRISTEN L. DROESCH, MICHAEL J. FITZPATRICK, and
ROBERT J. WEINSCHENK, *Administrative Patent Judges*.

DROESCH, *Administrative Patent Judge*.

DECISION

Denying Institution of *Inter Partes* Review
35 U.S.C. § 314, 37 C.F.R. § 42.108

I. INTRODUCTION

A. Background

EHS Lens Philippines Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) for *inter partes* review of claims 1–11, 13–15, 17, 19, and 20 (“the challenged claims”) of U.S. Patent No. 6,019,470 (“the ’470 Patent”). See 35 U.S.C. §§ 311–312. Essilor International (Compagnie Generale D’Optique) (“Patent Owner”) timely filed a Preliminary Response (Paper 6, “Prelim. Resp.”). See 35 U.S.C. § 313.

We have authority under 35 U.S.C. § 314 and 37 C.F.R. § 42.4. An *inter partes* review may not be instituted unless it is determined that “the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a).

After considering the Petition and Preliminary Response, for the reasons provided below, we determine, based on the record before us there is not a reasonable likelihood Petitioner would prevail in showing claims 1–11, 13–15, 17, 19, and 20 are unpatentable.

B. Related Proceedings

The parties indicate the ’470 Patent is involved in the following related matters:

EHS Lens Philippines, Inc. v. Essilor Int’l, S.A., Case No. 3:16-cv-00563-JAG (E.D. Va); and

petition for *inter partes* review in Case No. IPR2016-01541 (concurrently filed). Pet. 5; Paper 5, 2.

C. The '470 Patent (Ex. 1001)

The '470 Patent discloses a progressive multifocal lens for vision correction and a related manufacturing method. *See* Ex. 1001, 1:7–9.

Figures 10a and 10b of the '470 Patent are reproduced below:

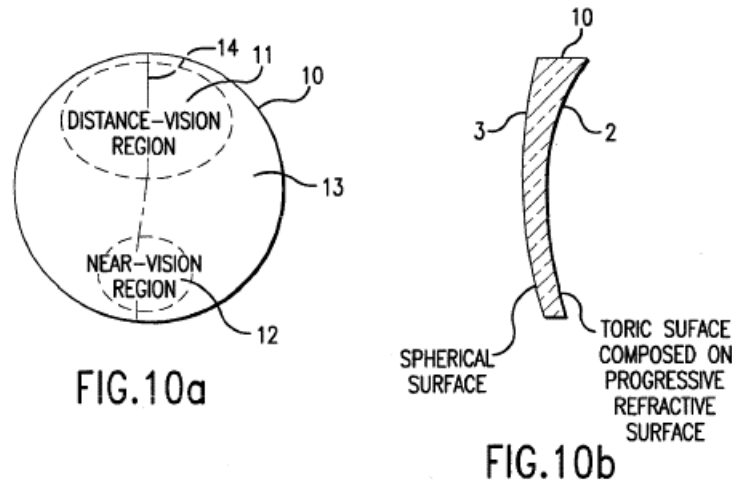


Figure 10a depicts progressive multifocal lens 10 having distance-vision region 11, near-vision region 12, progressive region 13, and main line of sight 14. *See* Ex. 1001, 2:19–21; 9:47–60. Figure 10b depicts lens 10 having the properties of a progressive refractive surface and a toric surface provided on lens surface 2 on the side of the eye. *See id.* at 14:23–26. A composite equation is utilized to determine the values of the z coordinates of lens surface 2 on the side of the eye. *See id.* at 14:27–59.

[T]he curvature of a toric surface for correction of astigmatism can be applied to the surface on the side of the eye in addition to the curvature of a progressive refractive surface for correction of vision, and it can be made such that the surface on the side of the eye has an astigmatism correcting property, that is, a cylinder power.

Ex. 1001, 15:25–31. Because a progressive refractive surface having vision correcting power and an astigmatism correcting power is prepared on the lens surface on the side of the eye, the difference in magnification between

distance-vision region 11 and near-vision region 12 can be reduced, whereby the jumping and warping of images is reduced. *See id.* at 15:31–39.

D. Illustrative Claims

Claims 1 and 17 are independent, claims 2–11 and 13–15 depend from claim 1, and claims 19 and 20 depend from claim 17. Claims 1 and 17 are illustrative:

1. A progressive multifocal lens capable of correcting a user's vision and having a first major surface and a second major surface, where the first major surface is positioned closest to the user's eye when the progressive multifocal lens is worn by the user, the progressive multifocal lens comprising:
a distance-vision region having a first refractive power;
a near-vision region having a second refractive power; and
a progressive region joining the distance-vision region and the near-vision region and having a refractive power that varies gradually;
wherein the first major surface is a composite surface that comprises a progressive refractive surface comprising the distance-vision region, near-vision region, and progressive region; and
wherein the first major surface includes a surface that corrects astigmatism.

17. A method of manufacturing a progressive multifocal lens capable of correcting a user's vision and having a first major surface and a second major surface, where the first major surface is positioned closest to the user's eye when the progressive multifocal lens is worn by the user, the progressive multifocal lens having a distance-vision region having a first refractive power, a near-vision region having a second refractive power, and a progressive region joining the distance-vision region and the near-vision region and having a refractive power that varies, the method comprising:
determining parameters of an original progressive refractive surface capable of correcting the user's vision;

determining parameters of an original toric surface capable of correcting astigmatism; and
determining parameters of the first major surface of the progressive multifocal lens from the parameters of the original progressive refractive surface and the parameters of the original toric surface.

E. Asserted Grounds of Unpatentability

Petitioner challenges the patentability of the following claims on the following grounds based on the following references (Pet. 18–61):

Claim(s)	Statutory Basis	Reference(s)
1, 2, 5, 9–11, 14, 15, 17, and 19	§ 103	Logan ¹ and Lombard ²
3 and 20	§ 103	Logan, Lombard, and Jalie ³ or Logan, Lombard, and Fowler ⁴
4 and 6–8	§ 103	Logan, Lombard, and Fuëter ⁵
13	§ 103	Logan, Lombard, and Kato ⁶
1, 2, 5, 9–11, 14, 15, 17, and 19	§ 103	Logan, Lombard, and Kanolt ⁷
3 and 20	§ 103	Logan, Lombard, Jalie, and Kanolt or Logan, Lombard, Fowler, and Kanolt

¹ Ex. 1010, European Published Patent Application 0 281 754 A2 (published Sept. 14, 1988) (“Logan”). Referred to as “EP754” by the parties.

² Ex. 1011, US Patent No. 5,402,607 (filed Sept. 14, 1992) (“Lombard”). Referred to as “US607” by Petitioner.

³ Ex. 1014, Ex. 1018, Mo Jalie, *Aspheric Lenses*, OPTICIAN, Oct. 23, 1987, at 14 (“Jalie”). Referred to as “Mo Jalie” by Petitioner.

⁴ Ex. 1015, Ex. 1018, Colin Fowler, *Aspheric Lenses*, THE OPTICIAN, Aug. 13, 1982, at 14 (“Fowler”).

⁵ Ex. 1012, US Patent No. 4,606,622 (filed Jan. 13, 1984) (“Fuëter”). Referred to as “US622” by Petitioner.

⁶ Ex. 1013, US Patent No. 5,455,642 (filed Dec. 25, 1991) (“Kato”). Referred to as “US642” by Petitioner.

⁷ Ex. 1016, US Patent No. 2,878,721 (filed Feb. 3, 1954) (“Kanolt”). Referred to as “US271” by Petitioner.

4 and 6–8	§ 103	Logan, Lombard, Fuëter, and Kanolt
13	§ 103	Logan, Lombard, Kato, and Kanolt

The Petition also relies on the Declaration of Dr. Gilles Le Saux (Ex. 1002).

II. ANALYSIS

A. Claim Construction

Claims of an unexpired patent that will not expire before issuance of a final written decision are interpreted using the broadest reasonable interpretation in light of the specification. *See* 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016). Patent Owner asserts that, after the Petition was filed, the ’470 Patent expired and, therefore, the broadest reasonable interpretation does not apply. *See* Prelim. Resp. 20. Petitioner contends the “broadest reasonable construction in light of the specification” should apply. *See* Pet. 12. In any event, Petitioner contends that, “[e]ven if the Board were to apply a district court-type claim construction, the analysis herein would remain the same.” *See* Pet. 12 n.2.

Based on the face of the ’470 Patent, it issued from a Patent Cooperation Treaty (PCT) application filed on October 11, 1996. *See* Ex. 1001, [22]; 35 U.S.C. § 363; *Broadcast Innovation, L.L.C. v. Charter Commc’ns, Inc.*, 420 F.3d 1364, 1368 (Fed. Cir. 2005). Accordingly, the October 11, 1996, filing date of the PCT application is the calculation date for the expiration of the ’470 Patent. *See* 35 U.S.C. § 154(a)(2). On this record, we agree that the ’470 Patent expired on October 11, 2016, after the Petition for *inter partes* review was filed. *See id.*

Because the ’470 Patent has expired, we need not apply the broadest reasonable construction; instead, we may apply a district court-type claim construction and we do so here. *See* 37 C.F.R. § 42.100(b). Thus, we

construe the claims in accordance with their ordinary and customary meanings, as would be understood by a person of ordinary skill in the art, in the context of the '470 Patent Specification. *See generally Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc).

Petitioner proposes the following constructions for the following claim phrases (Pet. 12–17):

Claim Phrase	Petitioner's Proposed Construction
"progressive multifocal lens"	"a lens comprising two field sections having different refractive power, and a field section between those two fields wherein the refractive power changes progressively"
"a distance-vision region having a first refractive power"	"a portion of the progressive multifocal lens having a refractive power for viewing objects at a distance"
"a near-vision region having a second refractive power"	"a portion of the progressive multifocal lens having a refractive power for viewing nearby objects"
"a progressive region joining the distance-vision region and the near-vision region and having a refractive power that varies gradually"	"a region of the lens disposed between the distance-vision region and the near-vision regions and having a refractive power that varies gradually"
"the first major surface includes a surface that corrects astigmatism"	"the eye-side surface of the lens includes a surface that corrects astigmatism of the eye"
"rotationally symmetric"	"a lens surface that is rotationally symmetric will look the same when it is rotated about its z-axis to a new position, such as when it is rotated 180° about its z-axis, where the z-axis is orthogonal to the surface of the lens at the axis of rotation"
"main line of sight"	"a line extending from the distance-vision region to the near-vision region somewhat bent on the side of the nose."

“join power”	“the difference in prescription (<i>i.e.</i> , difference in dioptric power) between the distance-vision region and the near-vision region.”
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Patent Owner does not dispute explicitly Petitioner’s proposed constructions. *See* Prelim. Resp. 20. Based on the current record, each of Petitioner’s proposed claim constructions are consistent with their ordinary and customary meaning, as they would be understood by a person of ordinary skill in the art in the context of the ’470 Patent Specification. *See Phillips*, 415 F.3d at 1312–13. Accordingly, on this record and for purposes of this decision, we adopt Petitioner’s proposed claim constructions. In addition, we determine that no additional claim terms require express construction.

B. Asserted Grounds of Unpatentability

1. § 103 Unpatentability of Claims 1, 2, 5, 9–11, 14, 15, 17, and 19 Over Logan and Lombard

a. Logan (Ex. 1010)

Logan discloses a method and apparatus for making prescription eyeglass lenses from a lens blank wherein one of the two preformed major surfaces of the blank is cut and finished to cause the blank to satisfy a prescription. *See* Ex. 1010, 3:41–45. “Another object of the invention is to provide an apparatus and method . . . which permit the cutting and finishing of a lens surface including a multifocal segment, thereby permitting a multifocal lens to be produced from a lens blank having initially two plain spherical or other non-segmented surfaces.” *Id.* at 3:26–32. With respect to multifocal lenses, Logan discloses:

[M]aking of a multifocal lens requires the stocking of a large inventory of lens blanks having differently powered and

differently configured multifocal segments so that a blank with the proper multifocal segment to fill a given prescription can be selected from the inventory.” Each multifocal lens blank has a multifocal segment formed on one of its major surfaces and in producing a lens from the blank with the present practice, the opposite major surface of the blank is worked to give the blank characteristics satisfying the prescription.

Ex. 1010, 2:26–37. Figure 2 of Logan is reproduced below:

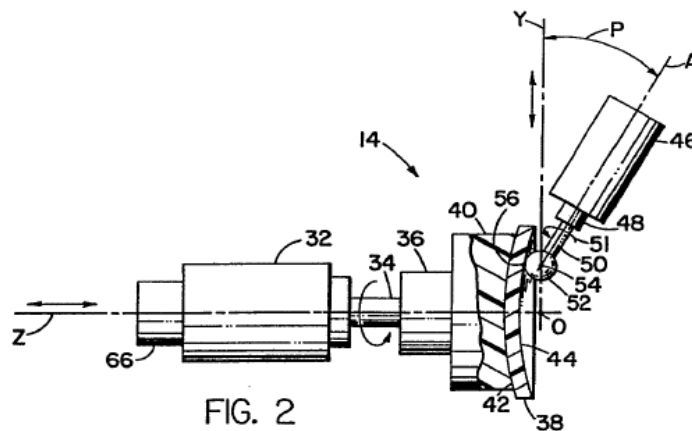


Figure 2 depicts a portion of machine 14. Lens blank 38 is attached to chuck 36 through block 40. See Ex. 1010, 5:28–31. Lens blank 38 initially has two major surfaces 42 and 44 which are usually spherical. Surface 44 is cut and finished to give it a changed shape to satisfy a given prescription. See *id.* at 5:31–35. Unworked surface 42 of the blank is releasably bonded to block 40 by any suitable known bonding technique. See *id.* at 5:35–38. A rotary cutter includes drive motor 46 and cutting tool 50 with spherical cutting surface 52. See *id.* at 5:44–51.

[G]iven a prescription for a lens, as stated for example in terms of ‘sphere’, ‘cylinder’, and ‘prism’ values . . . , and given information as to the index of refraction and curvature of the unworked lens blank surface, the prescription information can be converted to a set of surface point data consisting of three coordinates for each of a large number of points located on and

distributed over the desired surface, and therefore defining that surface.

Ex. 1010, 7:14–23.

b. Lombard (Ex. 1011)

Lombard discloses a method and multi-axis numerically controlled machine for machining surfaces. *See* Ex. 1012, Abstract, 1:8–39. Lombard discloses:

Machines of this type are already known (see European patent application No. 0,281,754, for instance). The machines of this type can notably be used for producing aspheric, concave or convex surfaces, e.g., surfaces referred to as ‘progressive surfaces’ or variable power surfaces either directly on an ophthalmic lens blank, or on a block of material suitable for subsequent use as a sagging shape for the manufacture of an ophthalmic lens

Id. at 1:41–52.

c. Claims 1, 2, 5, 9–11, 14, and 15

Petitioner contends that Logan and Lombard teach or suggest “[a] progressive multifocal lens . . . having a first major surface . . . positioned closest to the user’s eye when the progressive multifocal lens is worn by the user,” as recited in claim 1. Pet. 18. In support of its assertion, Petitioner directs attention to the following disclosure of Logan:

Another object of the invention is to provide an apparatus and method of the forgoing character which permit the cutting and finishing of a lens surface including a multifocal segment, thereby permitting a multifocal lens to be produced from a lens blank having initially two plain spherical or other non-segmented surfaces.

Pet. 18 (quoting Ex. 1010, 3:26–32). Petitioner contends that Lombard “explains that a multifocal lens made with the apparatus and method of

[Logan] may be a multifocal lens having a progressive surface.” *Id.* at 18–19 (quoting Ex. 1011, 1:41–52).

Petitioner also asserts that Logan and Lombard teach “the first major surface is a composite surface that comprises a progressive refractive surface comprising the distance-vision region, near-vision region, and progressive region,” as recited in claim 1. *See* Pet. 20. Petitioner acknowledges that claim 1 requires the progressive surface on the eye-side of the lens. *See id.* Petitioner asserts that Logan teaches the eye-side surface of the lens blank is cut and finished to match the wearer’s prescription. *See id.* Petitioner bases the assertion on the following altered quotation from Logan:

In Figs. 1 and 2 a lens blank 38 is shown attached to the chuck 36 with such attachment being obtained through the intermediary of a block 40. The lens blank 38 initially has two major surfaces [object-side surface] 42 and [eye-side surface] 44 [see Fig. 2] both of which are usually spherical. In the illustrated case the [eye-side] surface 44 is cut and finished to give it a changed shape causing the blank to satisfy a given prescription.

...

Given the particular material of which the lens blank is made (which determines its index of refraction) and the curvature of the [object-side] surface 42 which is to be left unworked [and hence spherical], the prescribed characteristics dictate the shape needed to be given to the worked blank [eye-side] surface 44 in order for the lens blank to satisfy the prescribed characteristics.

Pet. 20–21 (quoting Ex. 1010, 5:28–38, 7:7–13 (bracketed material added by Petitioner)). Petitioner further contends Logan “teaches cutting and finishing the eye-side surface of the lens ‘to satisfy a given prescription,’ and [Lombard] teaches that the eye-side surface may be a progressive surface.” *Id.* at 21.

In response, Patent Owner argues that Petitioner does not show how either Logan or Lombard disclose a progressive surface on the eye-side of the lens. *See* Prelim. Resp. 25. Patent Owner contends that “Petitioner *rewrites* the prior art by inserting the words ‘object-side surface’ and ‘eye-side surface’ into its quotations from the [Logan] reference, *see* Pet., p. 20, and then uses it to contend that Logan and Lombard teach a progressive surface on the eye-side of the lens.” *Id.* Patent Owner further asserts that Petitioner is incorrect to assert that Lombard teaches the eye-side surface may be a progressive surface, because there is nothing in the cited teachings of Lombard that teaches the eye-side surface may be a progressive surface. *See id.* at 25–26 (citing Pet. 21; quoting Ex. 1011, 1:41–50).

We agree that Petitioner’s quoted portions of Logan with added material denoting which lens surfaces Petitioner considers the “object-side surface” and “eye-side surface” are insufficient to demonstrate that Logan teaches or suggests a multifocal surface on the eye-side surface of the lens. Logan is silent regarding whether the worked (i.e., cut and finished) surface 44 or the unworked surface 42 constitute the eye-side surface. *See* Ex. 1010, 5:28–38, 7:7–13. Petitioner does not present persuasive argument or direct us to evidence sufficient to support the position that Logan’s worked surface 44 is on the eye-side surface of the lens. *See* Pet. 20–23; Ex. 1010, 5:28–38, 7:7–13. We also agree that Lombard is silent regarding which surface of a lens may have a progressive surface. *See* Ex. 1011, 1:41–52.

Patent Owner further argues that Petitioner conflates Logan’s disclosure of working a surface to satisfy a given prescription with creating a progressive surface. Prelim. Resp. 26. Patent Owner contends that there is no evidence to support Petitioner’s assertion that the “wearer’s prescription”

refers to the progressive curve of the lens. *See id.* Patent Owner asserts that Logan’s disclosure is contrary to Petitioner’s assumption because Logan states that an eyeglass prescription at the present time commonly specifies, for each lens, values of sphere, cylinder, and prism. *See id.* (quoting Ex. 1010, 1:54–2:1). Patent Owner also asserts that Logan does not refer to a progressive surface or a multifocal part of the prescription, but instead teaches the multifocal surfaces are on the surface of the semi-finished lens left unworked, and then placing cylinder power on the worked surface. *See id.* at 26–27 (quoting Ex. 1010, 2:31–37). Patent Owner contends, in other words, that Logan discloses a multifocal portion on the opposite side of the lens from the prescription, not the same side. *See id.*

We agree that Petitioner does not present evidence sufficient to support the assertion that Logan’s “wearer’s prescription” refers to a progressive curve or a multifocal part of the prescription. As pointed out by Patent Owner (*see* Prelim. Resp. 26–27), Logan teaches a multifocal lens blank has a multifocal segment formed on the major surface to be left unworked, and *the opposite major surface* is worked to give the characteristics satisfying the prescription. *See* Ex. 1010, 2:31–37. Logan discloses the characteristics satisfying the prescription are sphere, cylinder and prism. *See id.* at 1:54–2:4, 7:7–23. And, Petitioner’s expert Dr. Le Saux defines “sphere” as indicating the amount of lens power measured in diopters with a minus sign indicating correction for nearsightedness and a plus sign indicating correction for farsightedness, and defines “cylinder” as indicating the amount of lens power needed to correct for a patient’s eye astigmatism. *See* Ex. 1002 ¶ 6. In contrast, Dr. Le Saux defines “add” as the added magnifying power applied to the bottom part of multifocal lenses

to correct presbyopia. *See id.* Although Logan describes the characteristics imparted to the worked surface to satisfy the prescription include sphere, cylinder, and prism, consistent with Patent Owner's argument that Logan makes no reference to a progressive surface or a multifocal part of the prescription, Logan's description is silent regarding an "add" power utilized for prescribing a multifocal lens.

As to the final limitation of claim 1, which requires the first major surface also to include a surface that corrects for astigmatism of the eye (*see* Pet. 15, 21; Prelim. Resp. 20), Petitioner provides the following altered quotation of Logan:

An eyeglass prescription, for each lens of a pair of eyeglasses, defines characteristics wanted in the finished lens. Given the particular material of which the lens blank is made (which determines its index of refraction) and the curvature of the [object-side] surface 42 which is to be left unworked, the prescribed characteristics dictate the shape needed to be given to the worked blank [eye-side] surface 44 [*see* Fig. 2] in order for the lens blank to satisfy the prescribed characteristics. Thus, given a prescription for a lens, as stated for example in terms of "sphere," "cylinder," and "prism" values (or perhaps different and/or additional values), and given information as to the index of refraction and curvature of the unworked lens blank surface, the prescription information can be converted to a set of surface point data consisting of three coordinates for each of a large number of points located on and distributed over the desired surface, and therefore defining that surface. . . . It therefore follows that the coordinate information defining the tool points can be used to control the machine 14 to cut a surface of the desired shape on the mounted blank.

Pet. 21–22 (quoting Ex. 1010, 7:5–37 (bracketed material added by Petitioner)). Petitioner directs attention to the following disclosure of Logan: "When cylinder is specified for a given lens the worked surface of

the lens blank in its finished state should be toric in shape.” *Id.* at 23 (quoting Ex. 1001, 2:1–4). Petitioner contends “as of the priority date for the ’470 Patent . . . one of ordinary skill would have known that a prescription that includes a specification for ‘sphere’ corrects far and/or near vision, and that a specification for ‘cylinder,’ which results in a toric surface, corrects eye astigmatism.” *Id.* (citing Ex. 1001, 2:1–4) *see also* Ex. 1002 ¶ 54 (Dr. Le Saux testifying to the same). Petitioner asserts that Logan “teaches the entire prescription can be developed on the eye-side surface of the lens, including both ‘sphere,’ which corrects for far and near vision, and ‘cylinder,’ which corrects for eye astigmatism, and [Lombard] teaches that the worked surface in [Logan], *i.e.*, the eye-side surface, may include a progressive surface.” Pet. 23; *see also* Ex. 1002 ¶ 54 (Dr. Le Saux testifying to the same). Petitioner contends that “from the combination of [Logan] and [Lombard], a person of ordinary skill would understand that an entire prescription can be developed on the eye-side of the lens, including a progressive surface for correcting far and near vision and a toric surface for correcting eye astigmatism.” Pet. 23 (citing Ex. 1002 ¶¶ 6, 54); *see also* Ex. 1002 ¶ 54 (Dr. Le Saux testifying to the same).

In response, Patent Owner argues that Logan does not teach the entire prescription can be developed on the eye-side surface of the lens and Lombard does not teach the worked surface in Logan may include a progressive surface. *See* Prelim. Resp. 27–28 (citing Pet. 21–23). Patent Owner asserts that Logan discloses an eyeglass prescription for eye astigmatism includes a prescribed cylinder power along with prescribed sphere and prism, and in the case of a multifocal lens, Logan teaches putting the prescriptions on the opposite side of the lens from the multifocal surface.

See id. at 28 (citing Ex. 1010, 1:54–2:1, 2:23–37; Ex. 2017, 24). Patent Owner contends that Lombard does not make up for the deficiencies of the teachings of Logan because Lombard merely discloses that machines like those described in Logan can be used to make progressive surfaces. *See id.* at 29 (citing Ex. 1011, 1:41–51).

We agree that Petitioner has not shown sufficiently that the combined teachings of Logan and Lombard teach or suggest a multifocal or progressive surface including a surface correcting astigmatism of the eye on the eye-side of the lens. As explained above, Logan describes the characteristics imparted to the worked surface to satisfy the prescription include sphere, cylinder, and prism, but Logan’s description is silent regarding an “add” power utilized for prescribing a multifocal lens. *See* Ex. 1002 ¶ 6 (eyeglass prescription definitions). In addition, as pointed out by Patent Owner (*see* Prelim. Resp. 26–27), Logan teaches a multifocal lens blank has a multifocal segment formed on the major surface left unworked, while *the opposite major surface* is worked to give the characteristics satisfying the prescription (e.g., cylinder for correcting astigmatism of the eye). *See* Ex. 1010, 2:31–37.

As to rationale to combine, Petitioner contends that Lombard provides a motivation to combine the teachings of Logan and Lombard because Lombard teaches that the method and apparatus of Logan may be used to make progressive lenses. Pet. 23–24 (quoting Ex. 1011, 1:41–52; citing *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 665 (Fed. Cir. 2000)). Petitioner asserts:

[Logan] and [Lombard] both concern ophthalmic lenses for eyeglasses and combining their teachings is merely (a) the combination of prior art elements according to known methods

to yield predictable results; (b) the simple substitution of known elements for one another to obtain predictable results; (c) the use of known techniques to improve similar devices in the same way; (d) the application of known techniques to known devices ready for improvement to yield predictable results; (e) obvious to try; and/or (f) known to work in one field of endeavor prompting variations for use in the same field based on design incentives or other market forces since the variations are predictable to one of ordinary skill in the art.

Pet. 24 (citing *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416–418 (2007); Ex. 1002 ¶ 54).

In response, Patent Owner contends that Petitioner sets forth mere conclusory statements without articulating reasoning with rational underpinning to support the legal conclusion of obviousness. *See* Prelim. Resp. 33 (citing *KSR*, 550 U.S. at 418). Patent Owner argues that, in addition to Logan and Lombard failing to teach the claimed features, Petitioner does not explain why a person of ordinary skill in the art would have combined an eye astigmatism correcting surface and a progressive surface on the eye-side of the lens. *See id.* at 32. Patent Owner contends “Petitioner resorts to enumerating considerations from *KSR* without any explanation of how those considerations apply to its proposed combination of references,” and is non-committal regarding which *KSR* considerations are applicable due to the use of “and/or” in the listing. *Id.* at 33 (citing Pet. 24).

In addition to the deficiencies of Logan and Lombard discussed above, we agree Petitioner’s proposed combination is unsupported by sufficient articulated reasoning with rational underpinning. Petitioner does not adequately explain *why* one with ordinary skill in the art at the time of the invention would have modified the teachings of Logan and Lombard to

arrive at a lens having a composite progressive surface including a surface for correcting astigmatism of the eye on the eye-side of the lens. Likewise, Petitioner's conclusory enumeration of alternative and combined *KSR* considerations leaves us to speculate as to which one(s) of the *KSR* considerations is applicable to the combined teachings of the references.

Accordingly, based on the record before us there is not a reasonable likelihood Petitioner would prevail in showing that independent claim 1, and dependent claims 2, 5, 9–11, 14, and 15, are unpatentable over Logan, and Lombard.

d. Claims 17 and 19

Petitioner asserts: “[a]s explained above for claim 1, all of these steps [of claim 17] are taught by the combination of [Logan and Lombard].” Pet. 38. Specifically, Petitioner contends that Logan “teaches developing the entire prescription on the eye-side of the lens, including ‘sphere’ for correcting far and/or near vision, and ‘cylinder for correcting eye astigmatism, and [Lombard] teaches that the eye-side surface of Logan’s lens for correcting far and near vision can be a progressive surface.” *Id.* at 38–39. Petitioner asserts “the combination of [Logan] and [Lombard] teaches that the eye-side surface can be developed by determining parameters for a progressive surface for correcting far and near vision, determining parameters for a toric surface for correcting astigmatism . . . , and then using those parameters to control the apparatus of [Logan] to shape the eye-side surface accordingly.” *Id.* at 39 (citing Ex. 1010, 6:55–7:37; Ex. 1002 ¶ 88).

For the same reasons as those explained above addressing claim 1 in Section II.B.1.c., Petitioner does not show sufficiently that the combined

teachings of Logan and Lombard teach, or suggest a multifocal surface or progressive surface including a surface correcting astigmatism of the eye on the eye-side of the lens. Also, as pointed out by Patent Owner, Petitioner does not address how the prior art teaches or suggests a step of “determining parameters of the first major surface of the progressive multifocal lens from the parameters of the original progressive refractive surface and the parameters of the original toric surface,” as recited in claim 17. *See* Prelim. Resp. 32 (citing Ex. 1001, 22:26–30). As Patent Owner argues, Petitioner does not address how the original progressive surface parameters and the original toric surface parameters are determined based on the prior art disclosures. *See id.*; Pet. 37–39.

Therefore, based on the record before us there is not a reasonable likelihood Petitioner would prevail in showing that independent claim 17 and dependent claim 19 are unpatentable over Logan and Lombard.

2. *§ 103 Unpatentability of Claims 1, 2, 5, 9–11, 14, 15, 17, and 19 Over Logan, Lombard, and Kanolt*

a. *Kanolt (Ex. 1016)*

Kanolt discloses an ophthalmic lens that has a multifocal surface on one face of the lens, preferably the rear face of the lens or the face nearest the wearer’s eye. *See* Ex. 1016, 1:71–2:2. The other face of the lens may be given a spherical, cylindrical, or toroidal form adapted to compensate for the imperfections of the wearer’s eye. *See id.* at 2:2–4. Kanolt discloses that it may be desirable to make the dioptric power of the multifocal surface of the lens different from zero along the horizontal axis with gradual and continuous changes in dioptric power above and below the horizontal axis. *See id.* at 9:33–38. To accomplish this purpose, Kanolt discloses that

it is sufficient to add to the value of z a value corresponding to the z coordinate of a section of a spherical surface or of a cylindrical or toroidal surface. . . . the resulting surface will have at each point a power that is very near[] . . . the algebraic sum of the powers at this point of the original surface and of the spherical surface or cylindrical or toroidal surface.

Id. at 9:47–54.

b. Claims 1, 2, 5, 9–11, 14, 15, 17, and 19

Petitioner relies on the same teachings of Logan and Lombard addressing the limitations of claims 1 and 17 at pages 18 to 40 of the Petition. *See* Pet. 56. Petitioner further relies on Kanolt for teaching how to combine the parameters for an eye-side progressive surface with the parameters for an eye-side toric surface for developing an eye-side surface having the properties of both a progressive surface and a toric surface. *See id.* Petitioner asserts that Kanolt discloses a multifocal lens with an eye-side progressive refractive surface of continuously varying dioptric power. *See id.* (citing Ex. 1016, 1:70–2:19, 6:16–18). Petitioner contends that Kanolt “explains that such a progressive surface can be combined with a toric surface by adding the ‘ z ’ values of the two surfaces together, where the ‘ z ’ value is the height of the lens surface at any given point.” *Id.* at 56–57 (quoting Ex. 1016, 9:38–54). Petitioner contends:

[A] person of ordinary skill following the teachings of [Logan] and [Lombard] to develop on the eye side of the lens a progressive refractive surface having a near-vision region, a far-vision region, and a region of varying power extending between those two regions, and also having a toric surface for correcting eye astigmatism would know from [Kanolt] that such a surface could be developed by adding the ‘ z ’ values for an original progressive surface to the ‘ z ’ values for an original toric surface.

Pet. 57; *see also* Ex. 1002 ¶ 139 (Dr. Le Saux testifying to the same).

Petitioner further contends:

For the reasons explained for claim 1 . . . , one of ordinary skill would have been motivated to combine the teachings of [Logan] and [Lombard]. A person of ordinary skill would have been further motivated to combine the teaching of [Kanolt], which also concerns ophthalmic lenses for eyeglasses, because a person of ordinary skill developing a lens wherein a progressive surface for correcting near and far vision and also a toric surface for correcting eye astigmatism are both on the eye side of the lens in accordance with the teachings of [Logan] and [Lombard] would recognize the benefit of the teaching in [Kanolt] that such a surface can be developed by summing the *z* values of an original progressive surface and an original toric surface. [Ex. 1002], ¶ 140. Certainly that combination would have been within the capabilities of the person of ordinary skill who had these references before him or her. [Ex. 1002], ¶¶ 141–142.

Pet. 58; *see also* Ex. 1002 ¶¶ 140, 142 (Dr. Le Saux testifying to the same).

In response, Patent Owner argues that trial should not be instituted for the same reasons as those addressing claims 1 and 17 set forth at pages 23–26 of the Preliminary Response. *See* Prelim. Resp. 46. We agree. For the reasons explained above in Section II.B.1.c., Petitioner does not show sufficiently that Logan and Lombard disclose, teach, or suggest a lens including an eye-side composite surface with a progressive surface for vision correction and a toric surface for correcting eye astigmatism on the eye-side of the lens. Also, as pointed out by Patent Owner (*see* Prelim. Resp. 47), Petitioner fails to address the steps of method claim 17. *See* Pet. 57–58.

Patent Owner further argues that Petitioner concludes incorrectly “that Kanolt discloses ‘a progressive surface for correcting near and far vision and

also a toric surface for correcting eye astigmatism are both on the eye side of the lens.” Prelim. Resp. 47 (quoting Pet. 58). We agree. As pointed out by Patent Owner (*see id.*), Kanolt discloses a way to create a multifocal surface with gradually and continuously increasing dioptric power on one face of the lens and discloses *the other face* of the lens is given a spherical, cylindrical, or toroidal form adapted to compensate for imperfections of the user’s eye (e.g., astigmatism). *See* Ex. 1016, 1:48–2:2.

Patent Owner further argues that Petitioner’s rationale for combining Logan, Lombard, and Kanolt are conclusory and lack an articulated rational underpinning to support the legal conclusion of obviousness. *See* Prelim. Resp. 48 (citing Pet. 58; *KSR*, 550 U.S. at 418). Patent Owner contends that just because a surface could have been developed by a person of ordinary skill in the art does not explain why a person of ordinary skill in the art would have modified the teachings of Logan or Lombard in view of Kanolt in the way Petitioner proposes. *See id.* at 49.

We agree that Petitioner’s conclusion of obviousness is not supported by sufficient articulated reasoning with rationale underpinning. Specifically, Petitioner’s assertions that (1) a person of ordinary skill in the art “would recognize the benefit of the teaching in [Kanolt] that such a surface can be developed” and (2) the “combination would have been within the capabilities” of a person of ordinary skill in the art are insufficient and conclusory. *See* Pet. 58; Ex. 1002 ¶¶ 139–142; Prelim. Resp. 48–49. Without sufficient articulated reasoning with rational underpinning, we are left to speculate as to a reason *why* one with ordinary skill in the art at the time of the invention would have modified the teachings of Logan, Lombard, and Kanolt to arrive at a lens having a composite progressive

surface including a surface for correcting astigmatism of the eye on the eye-side of the lens.

Accordingly, based on the record before us there is not a reasonable likelihood Petitioner would prevail in showing that independent claims 1 and 17, and dependent claims 2, 5, 9–11, 14, 15, and 19, are unpatentable over Logan, Lombard, and Kanolt.

3. *§ 103 Unpatentability of Claims 3, 4, 6–8, 13, and 20 Over Logan, Lombard, Kanolt, and Additional Prior Art*

Claims 3, 4, 6–8, 13, and 20 depend from claims 1 and 17. As applied by Petitioner, the teachings of Jalie or Fowler, Fuëter, and Kato do not remedy the deficiencies of the references discussed in the preceding sections addressing claims 1 and 17. *See* Pet. 40–55, 58–61. Accordingly, for the same reasons as those addressing claims 1 and 17 in the preceding sections, based on the record before us there is not a reasonable likelihood Petitioner would prevail in showing that claims 3, 4, 6–8, 13, and 20 are unpatentable.

III. CONCLUSION

For the foregoing reasons, based on this record there is not a reasonable likelihood Petitioner would prevail in showing any of claims 1–11, 13–15, 17, 19, and 20 of the '470 Patent is unpatentable.

IV. ORDER

Accordingly, it is ORDERED that *inter partes* review of U.S. Patent No. 6,019,470 is not instituted based on this Petition.

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Patent 6,019,470

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