

**2017-1517, -1518**

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**United States Court of Appeals  
for the Federal Circuit**

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CASCADES PROJECTION, LLC

*Appellant,*

*v.*

EPSON AMERICA, INC., and SONY CORPORATION

*Appellees.*

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*Appeals from the United States Patent and Trademark Office,  
Patent Trial and Appeal Board in Nos. IPR2015-01206 and  
IPR2015-01846.*

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**REPLY BRIEF OF APPELLANT**

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September 22, 2017

**CERTIFICATE OF INTEREST**

Counsel for Appellant Cascades Projection, LLC certifies the following:

1. The full name of every party or amicus represented by me is:  
Cascades Projection LLC.
2. The name of the real party in interest (if the party named in the caption is not the real party in interest) represented by me is:  
Cascades Projection LLC.
3. The parent companies, subsidiaries (except wholly-owned subsidiaries), and affiliates that have issued shares to the public, of the party or amicus represented by me are:  
Cascades Ventures, Inc.
4. The name of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

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## **TABLE OF CONTENTS**

I.	INTRODUCTION.....	1
II.	ARGUMENT.....	2
	A. Epson and Sony Grossly Distort The Facts Regarding The Meaning Of “Fresnel Polarizer” .....	2
	1. No One But Mr. Dolgoff Has Used The Term, “Fresnel Polarizer” .....	4
	2. Given The Lack Of An Established Meaning, The Specification Of The ‘347 Patent Takes On Greater Meaning .....	6
	3. Neither Epson Nor Sony Successfully Refutes That Mr. Dolgoff Coined The Term, “Fresnel Polarizer”.....	6
	4. Epson And Sony Erroneously Claim That A “Fresnel Polarizer” Needs No “Optical Coating” .....	12
	B. The Board Improperly Construed “Means For Focusing”....	16
	1. The Board In Epson Erred In Its Identification Of The “Input Lens Array” .....	16
	2. The Board In Sony Also Erred In Its Identification Of The “Input Lens Array” And Relied On The Wrong Figure .....	20
	3. The Board In Epson and Sony Failed Properly To Consider The “Result” Obtained By The “Means For Focusing” Element Specified In The Claims.....	25
	C. The Board Improperly Held That Goldenberg Anticipates Claim 47 Of The ‘347 Patent .....	27
	D. The Effective Filing Date And Constitutional Issues .....	30
III.	CONCLUSION .....	34

## TABLE OF AUTHORITIES

	<b>Page(s)</b>
<b>Cases:</b>	
<i>B. Braun Medical v. Abbott Lab.</i> , 124 F.3d 1419 (Fed. Cir. 1997) .....	21
<i>Board of Trustees of the Leland Stanford Junior Univ. v. Chinese Univ. of Hong Kong</i> , 860 F.3d 1367 (Fed. Cir. 2017) .....	3
<i>Elgin v. Dept. of Treasury</i> , 132 S. Ct. 2126 (2012) .....	32
<i>Goldenberg v. Cytogen, Inc.</i> , 373 F.3d 1158 (Fed. Cir. 2004) .....	6
<i>Hettinga v. United States</i> , 560 F.3d 498 (D.C. Cir. 2009) .....	31
<i>Irdeco Access, Inc. v. Echostar Satellite Corp.</i> , 383 F.3d 1295 (Fed. Cir. 2004) .....	6
<i>J.E.F.M. v. Holder</i> , 107 F. Supp. 3d 1119 (W.D. Wash. 2015).....	31
<i>Med. Instrumentation &amp; Diagnostics Corp. v. Elekta AB</i> , 344 F.3d 1205 (Fed. Cir. 2003) .....	21
<i>Netword, LLC v. Centraal Corp.</i> , 242 F.3d 1347 (Fed. Cir. 2001) .....	8
<i>SEC v. Chenergy Corp.</i> , 318 U.S. 80 (1943) .....	3, 16
<i>Secure Axcess, LLC v. PNC Bank Nat'l Ass'n</i> , 859 F.3d 998 (Fed. Cir. 2017) .....	3
<i>Thunder Basin Coal Co. v. Reich</i> , 510 U.S. 200 (1994) .....	31
<i>Ultratec, Inc. v. CaptionCall, LLC</i> , __ F.3d __, 2017 U.S. App. LEXIS 16363 (Fed. Cir. Aug. 28, 2017) .....	33
<i>Withrow v. Larkin</i> , 421 U.S. 35 (1975) .....	32, 33

**Statutes & Other Authorities:**

Ryan Davis, "USPTO Chief Predicts Supreme Court Will Uphold AIA Reviews," Law360 (June 29, 2017) ..... 34

## I. INTRODUCTION

In their oppositions, Epson and Sony largely reiterate, (1) the arguments they presented below and, (2) the holdings and findings of the Board. There is no question that the Board made the findings and holdings that it did, and there is no question its written decisions say what they say. The relevant question, however, is not what the Board ultimately held but, rather, whether its holdings are correct.

Neither Epson nor Sony has properly refuted Cascades' showing that the Board erred in construing the relevant terms of the subject claims and, in so doing, improperly held the claims invalid. Indeed, by offering a virtual word salad of confusing, contradictory and, in some cases, outright demonstrably false statements, Epson and Sony apparently hope this Court will simply go directly to "affirmed" without engaging in the analysis this case deserves.

As demonstrated by Cascades in its opening brief, the Board erred in its construction of (1) "Fresnel polarizer," (2) "means for enhancing brightness," and (3) "means for focusing" as used in the subject claims. Based on its flawed claim construction, the Board erroneously found that the subject claims were either anticipated by the prior art or were

obvious in light of that art. Accordingly, the Board's conclusion that the cited prior art renders these claims not patentable is fundamentally flawed and should be vacated and, preferably, reversed.

## II. ARGUMENT

### A. Epson and Sony Grossly Distort The Facts Regarding The Meaning Of “Fresnel Polarizer”

Both Epson and Sony repeat the arguments that misled the Board regarding the meaning of “Fresnel Polarizer” as used in Claims 48 and 69 of the ‘347 Patent. In particular, Epson and Sony repeat the factually baseless claim that, prior to Mr. Dolgoff’s work, “Fresnel polarizer” somehow had an established meaning among those of ordinary skill in the art, and that “Fresnel polarizer” can be construed simply by combining “Fresnel Lens” with “polarizer.” In so doing, Epson and Sony go to great lengths to ignore *what the ‘347 Patent says, what the technical dictionaries do not say, and what their own experts actually did say.*

Correcting the errors in claim construction alone resolves the appeal of this matter in Cascades’ favor. This follows because the Board conducted no prior art analysis under the correct claim

construction. Under controlling Supreme Court law, this Court does not affirm on a ground not used below. *See SEC v. Chenery Corp.*, 318 U.S. 80 (1943); *Board of Trustees of the Leland Stanford Junior Univ. v. Chinese Univ. of Hong Kong*, 860 F.3d 1367, 1376 (Fed. Cir. 2017) (“We must base our review on the analysis presented by the Board.”) (citing *Chenery*); *see also Secure Axcess, LLC v. PNC Bank Nat'l Ass'n*, 859 F.3d 998, 1013 (Fed. Cir. 2017) (Plager, J., concurring in denial of reh'g *en banc*, joined by Reyna, J. and O’Malley, J.) (citing *Chenery*: “The appellate court cannot stray afield to determine how the matter at issue could have been resolved had the agency explained its decision differently, perhaps under a different theory.”). As bound by *Chenery*, this Court must vacate the decision of the Board where, as here, that decision is based on an incorrect claim construction and no sound alternative ground, not based on such faulty claim construction, is expressly offered to support the decision.

**1. No One But Mr. Dolgoff Has Used The Term, “Fresnel Polarizer”**

Nowhere in the record below has either Epson or Sony pointed to a dictionary definition of “Fresnel polarizer.” Nor can they.<sup>1</sup> Nor have they identified anyone other than Mr. Dolgoff who has used the term, “Fresnel polarizer.”

As noted by Epson, the Board did, indeed, look to a dictionary definition of “Fresnel lens”. (Epson Brief, p. 10.). Significantly lacking, however, is any dictionary definition of “Fresnel polarizer” as a stand-alone term. Clearly had the term, “Fresnel polarizer” been in actual use, and clearly had there been a dictionary definition of the term, such would certainly have been cited in the proceedings below. Sony even admitted in its Petition that the term was “coined” by Mr. Dolgoff. (Appx2467, Appx2474; Sony Pet. pp. 11 and 18: “To date, Petitioner has not found any explicit reference to a ‘Fresnel polarizer’ in the prior art; it appears this is a term coined by the patentee.”). A dictionary

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<sup>1</sup> Indeed, as of today, a simple “Google” search on “Fresnel polarizer” finds no actual reference to the term, “Fresnel polarizer,” and instead returns results for “Polarizer,” “Fresnel Rhomb,” “Polarizer Film,” etc., none of which comports with the construction adopted by the Board.

definition of “Fresnel polarizer” never appeared in the record below for the simple reason that no such dictionary definition exists.

In the proceedings below, Epson and Sony argued, and the Board accepted, that simply because “Fresnel lens” and “polarizer” are well-known, but *independent*, structures familiar to those of skill in the art, a “Fresnel polarizer” is simply, “a polarizer constructed with stepped sawtooth-like elements so as to have the optical properties of a much thicker polarizer.” Nowhere have Epson, Sony or the Board shown that anyone, other than they, have ever ascribed this oversimplified meaning to the term. Again, what the technical dictionaries *do not* say makes clear that, prior to Mr. Dolgoff’s coining of the term, the term was *not* known and had *no* established meaning in the art. Simply combining the definitions of “Fresnel lens” and “polarizer” (while ignoring what the ‘347 Patent actually says) oversimplifies and circumvents the actual process of claim construction. The Board erred in taking this simplistic approach, and its conclusion is not supported by substantial evidence.

**2. Given The Lack Of An Established Meaning, The Specification Of The ‘347 Patent Takes On Greater Meaning**

Because no ordinary and customary meaning of “Fresnel polarizer” exists in the first place, the teachings of the ‘347 Patent specification as to what are the essential aspects of a “Fresnel polarizer” take on heightened significance. *Irdet Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1303 (Fed. Cir. 2004) (“repeatedly, consistently, and exclusively” using a coined term in a particular way in the specification manifests “patentee’s clear intent to so limit the term.”); *Goldenberg v. Cytogen, Inc.*, 373 F.3d 1158, 1164 (Fed. Cir. 2004) (“The parties agree that the term ‘marker substance’ has no accepted meaning to one of ordinary skill in the art, and we find no reason to disagree with their conclusion. Accordingly, we construe it only as broadly as is provided for by the patent itself.”). For this reason, what the ‘347 Patent actually says becomes of prime importance, and the Board’s disregard of the ‘347 Patent’s actual words in this regard is not harmless error.

**3. Neither Epson Nor Sony Successfully Refutes That Mr. Dolgoff Coined The Term, “Fresnel Polarizer”**

Epson and Sony repeat their arguments that Mr. Dolgoff never

ascribed a particular meaning to, “Fresnel polarizer” other than as just a polarizer constructed with “stepped sawtooth-like elements so as to have the optical properties of a much thicker polarizer.” The facts show otherwise.

Epson and Sony devised and advanced this inaccurate and oversimplified construction to leave out the essential attributes used by Mr. Dolgoff to achieve his goals, namely, (1) optical coatings to ensure polarization and reflection, and (2) the use of a wave plate and further reflection to assure that nearly 100% of incident light leaves the polarizer with uniform polarization. (See Cascades’ opening brief at pp. 8-10). In fact, without these attributes, the claim term’s scope would encompass a structure having *solely* the sawtooth-like elements. Such a structure, however, would, in turn not efficiently polarize at all (for lack of the coatings), and/or would lose more than 50% of the light from the uncorrected separation of P- and S-polarized beams into 90-degree different directions. It makes no sense to interpret a claim term to encompass structures that bring about *inferior* results that the inventor skillfully overcame. Indeed, doing so flies in the face of this Court’s mandate to interpret claims to ascertain what the inventor actually

invented. *Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed. Cir. 2001) (stating that the claims should not “enlarge what is patented beyond what the inventor has described as the invention.”).

Epson mainly attacks the evidence and documentary support Cascades offered to show that Mr. Dolgoff’s patent treats certain related terms as interchangeable. Again, the ‘347 Patent *itself* states that:

Applicant has devised a "Fresnel MacNeille prism," which functions as a MacNeille prism beam splitter but has, at the outer surfaces of the plates, a multiplicity Of [sic] tiny saw-tooth surfaces, each behaving as a normal prism. This device weighs much less than a prism, consumes less space, operates over the entire visible spectrum, and costs less to produce.

(Appx208, ‘347 Patent, 44:02-44:08) Epson tries to downplay this direct quote from the ‘347 Patent by claiming that “Fresnel MacNeille prism” and “Fresnel polarizer” are entirely different. (Epson Brief, p. 50). However, the ‘347 Patent uses the respective phrases interchangeably (Appx209, 46:21-46:23), and Epson’s attempt to avoid this fact with the claim that a supposed “linguistic tangle” makes things unclear is without basis.

It is Epson and Sony who over-complicate a simple claim

construction exercise and find “linguistic tangles” where none exist. They repeat the Board’s error of believing that Cascades was asserting that Mr. Dolgoff acted as his own lexicographer in defining the term “Fresnel polarizer.” (E.g., Epson Brief, pp. 52-53, citing Appx15). This is a classic red herring. Cascades does not (and did not) advance a “patent lexicography” argument. Rather, Cascades asked the tribunal to ascertain what one of ordinary skill in the art would understand Mr. Dolgoff to intend and mean with his coined two-word term, “Fresnel polarizer,” in the full context of the intrinsic record.

These attacks by Epson, Sony and the Board on Cascades for supposedly failing to prove up a definition under legal standards relating to “patent lexicography,” show how fundamentally they each botched the claim interpretation process.

Significantly, the passage of the ‘347 Patent that Epson relies on to make its argument actually supports Cascades. In particular, Col.44 lines 2-3 of the ‘347 Patent says, “*Applicant has devised a ‘Fresnel MacNeille prism,’ which functions as a MacNeille prism beam splitter but has, at the outer surfaces of the plates, a multiplicity Of [sic] tiny saw-tooth surfaces, each behaving as a normal prism.*” (Appx208,

emphasis supplied.). Continuing, this same column of the ‘347 Patent states, “Fig. 78 depicts *this device*” (emphasis supplied) and further expressly states that “this device” includes, “A multi-layer dielectric coating 7800...deposited on the flat surface of a saw-tooth component 7810.” (Appx208, 44:9-11). Given that the ‘347 Patent expressly refers to “the MacNeille or Fresnel polarizer” at Col. 46:21-46:23, (Appx209) and thereby uses the terms interchangeably, a fair reading of the ‘347 Patent would indicate to one of skill in the art that a “Fresnel polarizer” *is* the structure shown in Figure 78 along with its accompanying description in the ‘347 Patent.

Indeed, in the proceedings below, *Epson argued, and the Board accepted, that Figure 78 shows the “Fresnel Polarizer” called for by the subject claims.* (Appx13-14: “Petitioner [Epson] also points to numerous instances where the ‘347 Patent describes and depicts a ‘Fresnel polarizer’....See, e.g....(Fresnel polarizer plate 7830 of FIG. 78).” Emphasis supplied.) Thus, even *Epson itself* knew (and knows) that Fig. 78 of the ‘347 Patent – which by its express terms shows a “Fresnel MacNeille prism,” – in fact shows the “Fresnel polarizer” called for by the claims.

Meanwhile Sony, apparently without critical thought, relies on the Board's mistaken belief (Appx53) that Fig. 78 "does not have a coating where the saw-tooth elements meet." (Sony Brief, p.61). To the Board, this meant that one of the "Fresnel polarizer" embodiments disclosed in the '347 Patent did not align with Cascades' proffered claim construction, and, therefore, Cascades' entire proposed construction must be wrong. (Appx53). However, Figure 78 *does*, in fact, show the coating (i.e., ref. num. 7800) where the elements "meet," only in a variant where that place is the flat side of the plurality of elements. Accordingly, even this basis for the Board's rejection of Cascades' proposed construction proves to be in error.

The relevant facts are beyond dispute. The '347 Patent expressly states that Mr. Dolgoff, "has devised a Fresnel MacNeille prism," and Epson *itself* not only recognized but, in fact, argued that this very structure is the "Fresnel polarizer" called for by the claims. Furthermore, all the embodiments of a "Fresnel polarizer" disclosed in the '347 Patent have two essential features that were left out of the erroneous claim construction adopted by the Board, namely: (1) an optical coating, and (2) reflection and passage of separated light

through a wave plate to achieve near 100% transmission of incident light as uniformly polarized. (See Cascades' Opening Brief, pp. 8-10). Appellee's argument that Mr. Dolgoff did not coin "Fresnel polarizer" comports with neither the actual disclosure of the '347 Patent nor Epson's own earlier interpretation of the term. Again, even Sony called the term "coined" in its Petition. (Appx2467, Sony Pet. pp. 11, 18). And the claim that the Board's oversimplified construction somehow aligns with how Mr. Dolgoff used the term fails entirely to account for the improvement in results over the prior art that Mr. Dolgoff sought to achieve and did, in fact, achieve with his "Fresnel polarizer."

#### **4. Epson And Sony Erroneously Claim That A "Fresnel Polarizer" Needs No "Optical Coating"**

The Board, over Cascades' objections, adopted the arguments of Epson and Sony that, "Fresnel polarizer" as used in the '347 Patent, does not require an "optical coating." Epson and Sony continue to advance this flawed argument mistakenly accepted by the Board.

Without support in the record, and faced with the clear language of the '347 Patent that, "A hologram, which can be recorded with a single exposure, provides an alternative to such a multi-layer coating at a lower cost in much less time" (Appx209, 46:37-46:39), Epson simply

and conveniently claims that a “hologram” is not a “coating.” (Epson brief at pp. 53-54). This claim is factually wrong, and it was error for the Board to adopt it.

Unlike “Fresnel polarizer,” the term “hologram” is very well known in the art, is not subject to serious dispute, and has historically consisted of a photographic emulsion (i.e. optical coating) to record interference patterns between reference and illumination beams. Thus, one skilled in the art would understand a hologram to be a form of optical coating, and would, from the context of the ‘347 Patent, understand that a “hologram” would be an alternative to a “multi-layer” coating ***manufactured by vacuum deposition*** and *not* an alternative to a “coating” altogether. Epson and Sony rely on a strained reading of the passage at Column 46 of the ‘347 Patent to conclude that one reading the patent would not view a hologram as a coating. Indeed this argument contradicts Epson’s own expert’s admission that every disclosed embodiment of a Fresnel polarizer required an optical coating. (Appx1497, Kahn Deposition, p 74, Cascades’ opening brief, p. 40).

Sony additionally relies on Column 46 to make a new argument on appeal that “dielectric coatings, liquid crystal layers, and gratings”

could all be used where the multilayer vacuum deposition dielectric coating would otherwise go. (Sony Brief p.63). Sony fails to appreciate that each of these is an “optical coating” in the context of that column. For example, after the “simple diffraction grating” is mentioned at Column 46, line 23, the ‘347 Patent goes on to affirm at Column 46, lines 34-36 that “[a]ll previously described . . . Fresnel polarizers have utilized multi-layer dielectric coatings which must be applied with vacuum deposition.”

Significantly, neither the Board, Sony nor Epson explain how the construction adopted by the Board, namely, “a polarizer constructed with stepped sawtooth-like elements so as to have the optical properties of a much thicker polarizer” is supported even if a hologram is somehow not a “coating.” The passage at Column 46, lines 34-54 of the ‘347 Patent makes clear that a “Fresnel polarizer” requires *either* a “multilayer dielectric coating” *or* a hologram. Nowhere does the ‘347 Patent support an interpretation that a “Fresnel polarizer” can be made without one or the other. Indeed, it was only after the fact, when Cascades pointed out the inconvenient fact that even Epson’s own expert, Dr. Kahn, agreed that a “Fresnel polarizer” requires a coating,

that the Board helpfully assisted Epson by noting that Cascades did not question Dr. Kahn about holograms. (Appx15)<sup>2</sup>

However, the more important question is why, even if this makes a difference, the Board did not include either “optical coating” or “hologram” in its construction of “Fresnel polarizer.” Even if a “hologram” is somehow not an “optical coating,” (and there is no basis for saying that is isn’t) the Board erred in ignoring *both* terms in its construction of “Fresnel polarizer.” The Board’s complete failure to include “coating,” “hologram” or any other structure clearly referenced by the ‘347 Patent as an essential element of a “Fresnel polarizer” speaks volumes.<sup>3</sup>

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<sup>2</sup> Why Cascades would be expected to question Dr. Kahn about an argument that had not yet even been made is not explained, especially since counsel’s questions invited Dr. Kahn to consider the whole patent.

<sup>3</sup> Sony’s reliance on a figure in Mr. Dolgoff’s April 1995 article that does not show polarization conversion is nonsensical. (Sony Brief p.36, citing Appx4725). Not only is this extrinsic evidence that would ostensibly contradict the intrinsic evidence (and thus cannot be considered); it also significantly post-dates the 1994 priority date. Nor is it surprising that Mr. Dolgoff would leave some details of his innovation out of a published article, to preserve trade secrecy for as long as possible.

**B. The Board Improperly Construed “Means For Focusing”**

**1. The Board In Epson Erred In Its Identification Of The “Input Lens Array”**

Epson has not shown and cannot show that the Board properly identified the “corresponding structure” in construing the claim term, “means for focusing.” In particular, “input lens array” is a specified element of the “means for focusing,” and a misidentification of the “input lens array” necessarily taints the resulting claim construction. The Board discounted the clear testimony of Cascades’s expert, Mr. Bohannon that the proper “input lens array” is the lenses 6560 and 6570 *along with the unnumbered prisms* shown in Figure 65 of the ‘347 Patent and *not* the lens 6580, which is simply a staple part of any commercial image forming element. Contrary to Epson’s argument, this error by the Board is material and further corrupts the Board’s validity analysis.

As with “Fresnel polarizer,” correcting the claim construction resolves the appeal in Cascades’ favor. This again follows from the *Chenery* doctrine, and the Board’s refusal to analyze validity questions using Cascades’ claim construction. A prime example is the Board recognizing that Cascades advanced a “way/result” analysis for claim

29's means term that scrutinized whether the prior art achieved the patented corresponding structure's undisputed "result" of achieving brightness uniformity on the IFE. (Appx21-22). The Board declined to analyze this "result" in the prior art, on the illogical ground that one should not construe unclaimed ***functions*** into a means-plus-function term. (*Id.*). Analyzing the "result" (as case law requires) has nothing to do with importing unclaimed "functions." The Board's confusion on this point caused it not to perform any "result" comparison at all. And this omission (under the *Cheney* doctrine) means that this Court's recognition of the proper "result" as a matter of claim construction precludes affirmance.

Initially, Epson argues that, "Cascades does not identify any way in which the Board's identification of the Figure 65 'input lens array' might affect obviousness." (Epson Brief at p. 30). In so doing, Epson merely repeats the holding of the Board and ignores Cascades' actual argument that misidentification of the "input lens array" is material because it affects the "way" analysis of the means plus function term, "means for focusing."

As clearly argued by Cascades at pp. 44-47 of its opening brief, and as testified to by Cascades' expert, Mr. Bohannon below, the Board's misidentification of the *lens* structure 6580 rather than the proper *prism* structure associated with element 6570 and 6560 in Figure 65, affects the "way" in which the claimed "means for focusing" is accomplished. Accordingly, it is simply untrue that this error by the Board has no effect on claim construction and, in turn, the validity analysis.

As did the Board, Epson further makes light of and ignores the material difference between focusing light "onto" pixels as opposed to "into" pixels. Mr. Bohannon testified, and Cascades clearly argued, that lens array 6580 shown in Figure 65 is merely a staple component of standard image forming elements and is not part of what Mr. Dolgoff invented or claimed. (Appx1717). In particular, and on the contrary, it is Mr. Dolgoff's prism structure, in conjunction with elements 6570 and 6560 in Figure 65, that directs light *onto* the *pixel*, and it is the staple lens 6580 that thereafter gathers that light and directs it *into* the pixel

*hole.* This is not complicated, and both the Board, and Appellees' attempts to make it so are disingenuous.<sup>4</sup>

Again, it is the unnumbered prism structure along with lens elements 6570 and 6560 in Figure 65 – a structure that Mr. Dolgoff invented – that make up the “means for focusing” that includes the “input lens array” as specified in the claim, not the lens array 6580 that makes up part of any standard commercial image forming element and that was so used long before. Mr. Bohannon clearly testified below that the “way” in which multiple light segments impinge on the IFE “at proper angles” as called for by the claims, “is through the use of prisms,” (Appx1718, at ¶38) and that prisms and lenses operate in fundamentally different ways. (Appx1719, at ¶¶39-41). The Board’s misidentification of the relevant structure, and, in particular, its consequent failure to appreciate the substantially different way in which prisms and lenses work, materially affected the “way” element of a proper “means plus function” construction and, therefore, tainted both

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<sup>4</sup> Appellees, along with the Board, continue to overlook the conclusive evidence that “pixel” and “pixel hole” are not synonymous: the ‘347 patent’s use of reflective “pixels” that have no “holes,” yet are still called “pixels.” (Appx193, Col. 13, ll. 43-44, discussing Fig. 20).

claim construction and the validity analysis based on that tainted claim construction.

Mr. Bohannon likewise confirmed (and the Board ignored) that the “result” of the properly-understood corresponding structure was to achieve brightness uniformity. (Appx1717, Bohannon Declaration, ¶37; see Cascades’ Opening Brief p.45). This “brightness uniformity” was so central to Mr. Dolgoff’s invention that it forms part of the ‘347 Patent’s title. Neither Epson nor Sony offer a reasoned argument in their briefs for refusing to recognize that the properly construed “result” is brightness uniformity.

## **2. The Board In Sony Also Erred In Its Identification Of The “Input Lens Array” And Relied On The Wrong Figure**

In its opposition, Sony throws out a flurry of words and accusations that, “Cascades merely recites the same flawed arguments that were rejected by the Board.” However, Sony never directly refutes that Figure 69 of the ‘347 Patent – which the Board mistakenly held discloses the “means for focusing” – does not disclose any such structure and instead discloses a *different* structure intended to accomplish a *different* function.

The law is clear that, “[S]tructure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” *B. Braun Medical v. Abbott Lab.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997). This means that the Board must reject a proposed structure that the patentee has linked to some other function, but not the function of the particular claim under analysis. *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1216 (Fed. Cir. 2003) (“[W]e have rejected similar attempts to include as additional corresponding structure for a particular function a structure that is disclosed in the specification but is not associated with the particular claimed function.”)

As developed at pp. 51 and 52 of Cascades’ opening brief, the ‘347 Patent makes clear at column 50, line 46 through column 51, line 12 (Appx211-212) that the structure shown in Figure 69 addresses the altogether *different* problem of accommodating for glass thickness when a far-away light source is used and is *not* concerned with focusing light “at proper angles” as specified in the claims. Given that Cascades *directly cited to and quoted the ‘347 Patent itself* in making its

argument, Sony’s claim that, Cascades’ argument “finds no support in the record or the law,” is as irresponsible as it is false.

Sony’s further argument that Figure 69 somehow discloses the “means for focusing” simply makes little sense. In response to Cascades’ accurate observation that Figure 69 and the patent text associated with it (namely col. 50;46 – 51;12) say nothing about the express claim terms (1) “proper angles,” (2) “different segments of a light beam,” or (3) “onto the pixels” of an element, Sony simply says such observations do “nothing to alter the plain disclosure in the specification.” However, Sony does not point out where these express claim requirements are supposedly disclosed in Figure 69 and, instead, simply reproduces Figure 69. Again, as pointed out by Cascades, the actual language of the ‘347 Patent discussing Figure 69 expressly relates to accounting for large glass thickness and not the functions intended by the “means for focusing” element of the subject claims. And rather than focusing “different segments” of a beam from a source, it focuses a full aerial image of the entire source.

In contrast, the ‘347 Patent’s disclosure discussing Fig. 65 repeats many (if not all) of the relevant functional claim terms. (Appx205-206;

‘347 Patent, 38:38-39:4). The Board discounted this fact by noting that a “clear link” or “association” need not use the exact words. (Appx46-47). Yet when multiple alternative structures might be deemed “corresponding” structures, and one uses the functional claim terms when the other does not, this should be strong evidence for the one and against the other qualifying.

Even more telling and egregious is that both the Board and Sony attribute to Mr. Bohannon *testimony that he never gave* and rely on that made-up testimony to support their erroneous conclusions. In particular, Sony claims at p. 49 of its brief that, “Cascades’ expert testified at deposition and in his sworn declaration ‘that lens arrays (such as element 6910 in Figure 69) split beams into separate segments.’” To support this, Sony cites to the record as follows: “Appx48; see Appx4633 ¶22, Appx4636-4637 ¶26, and Appx4640-4642 ¶¶29-30; see also Appx4797 68:4-11.”

A review of these citations to the record reveals, however, that Mr. Bohannon *never said* what both the Board and Sony attribute to him. Indeed, Mr. Bohannon never said the words, “element 6910” or referred to “Figure 69” at any point in these citations. On the contrary, he was

clearly discussing Figure 65, not Figure 69 – a figure that unlike Figure 69 **does** have a lens array that splits a source’s light into beam segments. Furthermore, at page 99, lines 15-20 of his deposition where he *was* discussing Figure 69, Mr. Bohannon testified that, “Regardless of whether 69 focuses into holes or not, it doesn’t – *it doesn’t perform the function of focusing different segments of the light beam emanating from a light source onto said image-forming element at proper angles.*” (Appx4828, emphasis supplied). In fact, Sony’s own expert, Dr. Willner, *confirmed* that Figure 69’s lens array focuses an “aerial image” of the entire light source, which is not the same thing as a “different segments of a light beam” from that source as required by the claims. (Appx3638, Willner Dec., ¶203).

Thus, not only did Mr. Bohannon *not* give the testimony falsely attributed to him by both the Board and Sony, the actual testimony he gave is directly to the contrary, and is, in fact, confirmed by the testimony of Sony’s own expert. In short, the Board falsely attributed testimony to Mr. Bohannon in order to support its incorrect conclusion, and Sony now repeats and relies on that non-existent testimony in

seeking affirmance. Such dubious matters alone should be grounds for vacating the Boards' decision.

**3. The Board In Epson and Sony Failed Properly To Consider The “Result” Obtained By The “Means For Focusing” Element Specified In The Claims**

Epson and Sony both argue that Mr. Dolgoff's undisputed efforts to achieve high efficiency and brightness uniformity are immaterial because these do not appear in the language of the claims. This argument fails in that, along with Sony and Epson, the Board neglected the “result” element in its construction of “means for focusing.” In particular, the Board at page 21 of its decision in Epson challenges Cascades' argument that Brandt teaches away from the claimed *result* with the holding that, “The claimed *function* associated with the ‘means for focusing’ of claim 29, however is the *function* of ‘focusing different segments of a light beam emanating from said light source....’” (Appx21, emphasis supplied). A proper construction of a “means plus function” claim element, however, requires not only that the “function” be considered, but that the *result* of the “corresponding structure” be considered as well.

Throughout the ‘347 Patent, Mr. Dolgoff makes clear that one of the *results* he seeks to obtain from the structure of Figure 65 is uniformity of the illumination of the image forming element. Indeed, this goal and result appears in the very title of his ‘347 Patent. By discounting Cascades’ argument regarding the *result* obtained by the “means for focusing,” and, instead, pointing to the “function” of such means, the Board disregarded a full one-third of the required and appropriate analysis. Not only did the Board misconstrue this claim element, its failure to do so gives lie to the argument that uniformity of illumination is not claimed. Function and result are different concepts under the means plus function law. The Board misunderstood this, however, and committed reversible error in so doing.

In short, with the claim construction corrected, this Court has no proper authority to affirm with respect to claim 29. Indeed it should reverse. Ample evidence and argument showed that (re Epson) Brandt discloses a substantial difference from, and teaches away from, uniform illumination. (Cascades’ Opening Brief pp. 54). And (re Sony) there was never any argument or evidence tying Fushimi to the properly-identified corresponding structure within Figure 65.

**C. The Board Improperly Held That Goldenberg Anticipates Claim 47 Of The ‘347 Patent**

The Board’s holding that Goldenberg anticipates independent Claim 47 of the ‘347 Patent<sup>5</sup> is unsupported by any credible evidence. In particular, Goldenberg fails to disclose the claimed, “means for enhancing brightness,” and what Goldenberg does disclose would not work in practice. Sony is unable to refute these facts.

Sony argues that the true issue is not the Board’s construction of “means for enhancing brightness” but, rather, whether Goldenberg discloses such structure. Either way, there is no substantial evidence to support the Board’s holding that Goldenberg anticipates Claim 47.

The crux of the Board’s holding in Sony regarding Claim 47 is that Goldenberg discloses either a “light tunnel” or the “equivalent” of one. (Appx61-63). These conclusions are a result of the Board’s wholesale and unfounded rejection of Mr. Bohannon’s unchallenged testimony that the structure disclosed by Goldenberg is not only substantially different from a light tunnel but would not even work in the actual world.

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<sup>5</sup> Claim 47 was considered only in the Sony proceeding, not Epson.

As it did in misquoting Mr. Bohannon's testimony above, Sony falsely accuses Cascades of offering only "conclusory statements, unsupported by citation to the record," and "nothing more than conclusory attorney argument." (Sony Brief at pp. 55-56). Indeed, Sony goes so far as to claim that, (1) "Cascades offers no actual citation to evidence as support" for Cascades' accurate observation "that in actual practice, the structure proposed by Goldenberg...would not work and could not actually be practically built," and, (2) that Cascades did not, "make any effort to overcome the presumption that Goldenberg is presumptively enabled." (Sony Brief at p.56). These accusations by Sony are not only irresponsible, they are demonstrably inaccurate as well.

As to Sony's claim that Cascades offered no support from the record for its argument that, "that the lamp enclosed within an aluminum tube shown by Goldenberg operate[s] in a distinct fashion from the light tunnels shown in Figures 66 and 68," (Sony brief at p. 55), this false claim is belied by reference to pages 25 and 26 of Cascades' opening brief wherein Cascades cites specifically to, (1) where it made its arguments below and (2) where Mr. Bohannon testified to,

(a) the substantial differences between light tunnels and the Goldenberg structure and (b) why the Goldenberg structure would not work.

As to the claim that Cascades did not, “make any effort to overcome the presumption that Goldenberg is presumptively enabled,” this, too, is refuted by Cascades’ direct citation, at p.26 of its opening brief, to where, in the record, Mr. Bohannon testified that placing an electric arc lamp inside an aluminum tube as directed by Goldenberg would melt the aluminum tube and destroy the device. How pointing out, under oath, that such a spectacular failure would occur does *not* constitute a challenge to the “presumption that Goldenberg is presumptively enabled” is difficult to see.

Significantly, the Board in Sony does not point to any evidence refuting Mr. Bohannon’s testimony in this regard. Nor did Sony’s expert, Dr. Willner, ever actually refute these facts. Instead, the Board, at page 30 of its decision (Appx62) cites to and relies on paragraphs 330-332 of Dr. Willner’s declaration (Appx3689-3690). These paragraphs, however, say *nothing* about whether the structure proposed by Goldenberg would actually work and they in no way refute

the clear testimony of Mr. Bohannon that it would not. Indeed, paragraphs 330-332 do not even acknowledge the existence of the “dumb” design aspects clearly identified by Mr. Bohannon, much less serve to refute them. In short, the Board simply discounted Mr. Bohannon’s clear, direct testimony that the structure proposed by Goldenberg would not work in the actual world without receiving *any evidence whatsoever* to the contrary. Under such circumstances, how “substantial evidence” supposedly supports the Board’s conclusion that Goldenberg “anticipates” Claim 47 is difficult to see.

#### **D. The Effective Filing Date And Constitutional Issues**

Epson and Sony misunderstand Cascades’ position regarding the effective filing date of the ‘347 Patent. Cascades agrees that this issue has little, if any, bearing on the patent validity issues before this Court, and simply notes that, because the effective filing date issue is presently pending before the Patent and Trademark Office and has not yet been resolved, it preserves whatever rights it might enjoy should the Patent and Trademark Office hold in its favor on the issue.

Similarly, with respect to its constitutional challenge to the proceedings below, Cascades again preserves whatever rights it may

enjoy should the Supreme Court hold, in whole or in part, that *Inter Partes Review* proceedings before the Board violate Constitutional principles.

Epson, but not Sony, challenges the merits of Cascades' additional due process challenge. Sony instead alleges waiver. But waiver cannot apply, since "exhaustion of administrative remedies" is excused on grounds of futility. *J.E.F.M. v. Holder*, 107 F. Supp. 3d 1119, 1127 (W.D. Wash. 2015). Agencies (such as the USPTO) lack jurisdiction to assess the constitutionality of their enabling enactments. *Thunder Basin Coal Co. v. Reich*, 510 U.S. 200, 215 (1994) ("[W]e agree that '[a]djudication of the constitutionality of congressional enactments has generally been thought beyond the jurisdiction of administrative agencies."); see also *Hettinga v. United States*, 560 F.3d 498, 506 (D.C. Cir. 2009) (agency proceedings would not include fact-finding relevant to structure of statute or legislative history, reversing "administrative exhaustion" dismissal of collateral attack on agency statute's constitutionality). Consistently, the Supreme Court itself granted cert in the *Oil States* case, even though the petitioner first made its AIA unconstitutionality argument here at the Federal Circuit, not in the

PTAB. And the Supreme Court encourages the appeals court, in the first instance, reaching questions of constitutionality of agency enabling enactments (like the facial due process challenge here). *See Elgin v. Dept. of Treasury*, 132 S. Ct. 2126, 2136-39 (2012) (claim attacking constitutionality of CSRA can be “meaningfully addressed” by Federal Circuit in the first instance).

On the merits, Epson’s arguments offer no plausible justification for due process violations here. Cascades demonstrated that the PTAB lacks required neutrality (*i.e.*, showing a reasonable probability that perceived bias exists), for two reasons. First, the same panel adjudicates both institution and final cancellation. This subjects the entire proceeding to the “anchoring” bias. Second, PTAB jobs depend on the continued popularity of AIA trials. A reasonable perception exists that the PTAB succumbs to financial incentives to bias outcomes for petitioners.

Epson tries to justify the same-panel practice by pointing to inapposite case law that actually supports Cascades. Epson cites *Withrow v. Larkin*, 421 U.S. 35 (1975). But that case approved a two-phase administrative process by the same panel involving (1)

investigation of, and then (2) adjudication of, a medical license issue. The Supreme Court sharply contrasted this investigation/adjudication framework from what the PTAB does – initial *adjudication*, followed by *review* of that result by the same panel. *Id.* at 58 n.25 (“[W]hen review of an initial decision is mandated, the decisionmaker must be other than the one who made the decision under review.”). As is typical, the panels here used this forbidden practice. They assessed Cascades’ arguments to determine whether to “maintain” their prior decisions, and to decide whether such decisions were “incorrect.” (Appx12, Appx49). These are hallmarks of “review.”

The Supreme Court also indicated that in a given case, the “local realities” might overcome presumed fairness even in the investigation/adjudication context. *Id.* at 58 (holding on the facts that no such “local realities” existed). Here, such “local realities” exist. These include the statutorily-constrained time frame for rendering final decisions (usually 12 months from institution), and recently-overruled practices preventing patentees from recording favorable evidence. *See Ultratec, Inc. v. CaptionCall, LLC*, \_\_ F.3d \_\_, 2017 U.S. App. LEXIS 16363 (Fed. Cir. Aug. 28, 2017).

Nor is it speculation (as Epson suggests, p.65) that members of the Board face strong incentives to administer PTAB trials in a way that keeps their jobs safe and secure. Events after Cascades filed its opening brief support Cascades. Indeed, public comments by the Acting Patent Office Director about the *Oil States* case signal that PTAB judges understand the link between continued popularity of PTAB trials, and keeping their jobs. *See* Ryan Davis, “USPTO Chief Predicts Supreme Court Will Uphold AIA Reviews,” Law360 (June 29, 2017) (“Don’t worry about your jobs. We’re going to win that case,’ he told the judges and attorneys in attendance at the gathering in Alexandria, Virginia. ‘And you heard it here first: It’s going to be a 9-0 decision in the agency’s favor.”).

Because Cascades need not establish actual bias to show a due process violation, only a reasonable probability of bias, it has shown that PTAB trials violate patentees’ due process, notwithstanding Epson’s arguments to the contrary.

### **III. CONCLUSION**

For all the foregoing reasons, the decisions of the Board in Epson and Sony are in error. Accordingly, the finding that Claims 29, 30, 32,

33, 47, 48 and 69 of the subject '347 Patent are invalid should be vacated, and the final PTAB invalidity written decisions reversed or remanded for further action.

Dated: September 22, 2017. Respectfully submitted,



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**United States Court of Appeals  
for the Federal Circuit**

*Cascades Projection, LLC v. Epson America, Inc., et al., 2017-1517, -1518*

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I, Melissa Pickett, being duly sworn according to law and being over the age of 18, upon my oath depose and say that:

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On **September 22, 2017**, counsel has authorized me to electronically file the foregoing **Reply Brief for Appellant** with the Clerk of Court using the CM/ECF System, which will serve via e-mail notice of such filing to all counsel registered as CM/ECF users, including the following principal counsel for the other parties:

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September 22, 2017

/s/ Melissa Pickett  
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