

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MERCEDES-BENZ USA, LLC,
Petitioner,

v.

YECHEZKAL EVAN SPERO,
Patent Owner.

IPR2023-01040
Patent 9,955,551 B2

Before JON M. JURGOVAN, JASON W. MELVIN, and
AARON W. MOORE, *Administrative Patent Judges*.

MELVIN, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Mercedes-Benz USA, LLC (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting *inter partes* review of claims 48–87 (“the challenged claims”) of U.S. Patent No. 9,955,551 B2 (Ex. 1001, “the ’551 patent”). Yechezkal Evan Spero (“Patent Owner”) filed a Preliminary Response. (Paper 7, “Prelim. Resp.”). As authorized, Petitioner filed a Preliminary Reply (Paper 8 (“Prelim. Reply”)), and Patent Owner filed a Preliminary Sur-Reply (Paper 9 (“Prelim. Sur-Reply”)). Pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), we have authority to determine whether to institute review.

An *inter partes* review may not be instituted unless “the information presented in the petition . . . and any response . . . 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). For the reasons set forth below, we conclude that Petitioner has shown a reasonable likelihood it will prevail in establishing the unpatentability of at least one challenged claim.

A. REAL PARTIES IN INTEREST

As real parties in interest, Petitioner identifies: Mercedes-Benz USA, LLC; Mercedes-Benz Group AG; Mercedes-Benz AG; and Mercedes-Benz Intellectual Property GmbH & Co. KG. Pet. 2. Patent Owner identifies Yechezkal Evan Spero and Torchlight Technologies LLC as the real parties in interest, noting that Torchlight is the exclusive licensee of the ’551 patent. Paper 4, 1 (Patent Owner’s Mandatory Notices).

B. RELATED MATTERS

The parties identify the following related federal district court litigations of the ’551 patent: *Torchlight Techs. LLC v. Daimler AG et al.*, No. 1:22-cv-00751

(D. Del.); *Torchlight Technologies LLC v. General Motors LLC et al.*, No. 1:22-cv-00752 (D. Del). Pet. 2–3; Paper 4, 1.

The parties identify the following PTAB *inter partes* reviews of the '551 patent: IPR2023-00315; IPR2023-00318; IPR2023-00336; IPR2023-01039; IPR2023-01225. Pet. 3; Paper 4, 2.¹ Patent Owner identifies pending Reissue Application 16/858,342. Paper 4, 1.

C. THE '551 PATENT

The '551 patent is titled “Detector Controlled Illuminating System” and relates to an “illuminating device” whereby “illumination intensity and spectrum” are varied to illuminate “areas according to the principles of correct lighting practice,” e.g., “adapt to ambient lighting, movement, visual tasks being performed, and environmental and personal conditions.” Ex. 1001, codes (54), (57). The specification generally describes a lighting device that “incorporates one or more discrete light sources and their ancillary optical and electrical control equipment in an integrated illuminating element.” *Id.* at 13:34–36. The combined unit is referred to as a Digital Lighting Fixture (DLF). *Id.* at 18:18–22.

The specification further describes transportation vehicle applications. *Id.* at 50:38–57:37. One such application involves a DLF headlamp device that includes a cluster of LEDs for flexible illumination. *Id.* at 50:50–58. With LEDs having a variety of aims, the headlamp’s light distribution pattern may be controlled based on a number of factors, including detected oncoming vehicles. *See id.* at 51:43–47, 52:59–65.

¹ Patent Owner further lists IPRs involving patents related to the '551 patent. Paper 4, 1–3.

D. CHALLENGED CLAIMS

Petitioner challenges claims 48–87. *See* Pet. 5. Independent claim 48 is reproduced below, with additional formatting to distinguish limitations:

48. An illuminating device having automatic control of light provided to an illuminated area comprising:

- a structure for incorporating illuminating device elements, wherein the structure comprises a motor vehicle;

- a plurality of individually controllable LEDs incorporated in the structure via at least one headlamp mounted to the structure, each headlamp including at least one of the LEDs, the LEDs in communication with a power source;

- electronic circuitry apparatus for the controlled powering of the LEDs and other of the illuminating device elements;

- one or more processors;

- one or more sensors, including one or more cameras, placed on the structure for detecting coordinate-specific information about the illuminated area, at least one of said cameras in communication with power, and in communication with at least one of the one or more processors;

- a controller including at least one of the one or more processors, integrated with the structure via mounting, in communication with the LED controlling power electronic circuitry apparatus, said controller arranged to process the information communicated from the cameras and to automatically control the light provided to the illuminated area; and

- memory storing instructions that, when executed by one or more processors of the controller, enable the controller to:

- illuminate a portion of at least one object, indicated by data from at least one of the one or more sensors, by selecting a first cluster of the LEDs to emit first light directed towards a first area including the at least the portion of at least one object, the first area determined based at least in part on the data, the first cluster selected based at least in part on known aimings of light associated with the first cluster

determined to correspond to the first area, and the first light determined based at least in part on classifying the object based at least in part on the data; and

control light emitted from the first cluster directed towards the first area to be different in at least one emission characteristic, based on the first light determination, from second light emitted from a second, different cluster of the LEDs, directed towards one or more illuminated second areas at a common elevation with the first area and laterally adjacent to the area.

Ex. 2014, 1186–87 (6:24–7:5), 1216–17 (Certificate of Correction).² Claims 56, 64, 72, and 80 are independent and recite limitations similar to those of claim 48, while the remaining challenged claims depend from one of the challenged independent claims, directly or indirectly. *Id.* at 1187–90 (7:6–14:52); *see* Pet. Appx. A, Appx. B.

² Through *ex parte* reexamination, original claim 6 was canceled and new claims 24–87 issued in a Reexamination Certificate. Ex. 2014, 1184–90. A number of typographical errors were corrected through a Certificate of Correction. *Id.* at 1214–19.

E. PRIOR ART AND ASSERTED GROUNDS

This proceeding includes the following unpatentability grounds:

Claims Challenged	35 U.S.C. § ³	References/Basis
48, 50–51, 53–55, 56–59, 61–63, 64–67, 69–71, 72–75, 77–79, 80–83, 85–87	102	Alden ⁴
48, 50–51, 53–55, 56–59, 61–63, 64–67, 69–71, 72–75, 77–79, 80–83, 85–87	103	Alden
49	103	Alden, Beam ⁵
49	103	Alden, Stam ⁶ , Beam
52, 60, 68, 76, 84	103	Alden, Kobayashi ⁷

Pet. 5. Petitioner also relies on the Declaration of Dr. Nikolaos Papanikolopoulos.
Ex. 1003.

³ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), effective March 16, 2013, amended the applicable statutes. Because the application from which the ’551 patent issued was filed before this date, the pre-AIA versions of §§ 102 and 103 apply.

⁴ US 2003/0137849 A1, filed Jan. 22, 2002 (Ex. 1005).

⁵ US 6,144,158, issued Nov. 7, 2000 (Ex. 1007).

⁶ WO 2001/070538 A2, published Sept. 27, 2001 (Ex. 1008).

⁷ US 6,049,749, issued April 11, 2000 (Ex. 1006).

II. ANALYSIS

A. DISCRETIONARY DENIAL

Patent Owner asserts that we should exercise our discretion to deny institution for two reasons. Prelim. Resp. 43–58.

1. Lack of particularity

First, Patent Owner contends that the Petition lacks particularity under 35 U.S.C. § 312(a)(3) because it improperly combines anticipation and obviousness grounds based on Alden alone. *Id.* at 44–48. We do not agree that the Petition’s approach presents a problem or is hard to understand. As discussed below, we agree with Patent Owner that Petitioner has not adequately supported its obviousness contention based on Alden alone (*see infra* at 19 (§ II.D.2)), but that does not undermine the anticipation ground or make it difficult to understand. Accordingly, we do not agree with Patent Owner that the Petition warrants discretionary denial for lack of particularity.

2. Serial petitions

Patent Owner argues that we should exercise our discretion under 35 U.S.C. § 314(a) to deny institution under the factors considering serial petitions set forth in *General Plastic Industrial Co., Ltd. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19, 15–16 (PTAB Sept. 6, 2017) (precedential). Prelim. Resp. 48–58. The ’551 patent was challenged by Volkswagen Group of America, Inc., in three prior IPR petitions. We instituted review in the first two proceedings and denied review in the third. IPR2023-00315, Paper 11 (instituting review of claims 24–55); IPR2023-00318, Paper 11 (instituting review of claims 56–87); IPR2023-00336, Paper 11 (denying institution for a petition challenging claims 7, 8, and 10–18). Contesting institution here, Patent Owner raises only the two

instituted Volkswagen proceedings. Prelim. Resp. 48–49. We do not agree that this case warrants discretionary denial.

The first *General Plastic* factor considers whether the same petitioner previously challenged the same claims of the same patent. *General Plastic*, Paper 19, 16. Here, Patent Owner asserts that although Petitioner did not do so, we should consider Petitioner as having a substantial relationship to Volkswagen, which is also as a defendant in Patent Owner’s infringement suit. Prelim. Resp. 50–51. In that regard, Patent Owner relies on *Valve Corp. v. Electronic Scripting Products, Inc.*, IPR2019-00062, Paper 11, 2 (PTAB April 12, 2019) (precedential). We do not agree, because *Valve* involved parties that were accused of infringement based on the same product. *Valve*, Paper 11, 9–10. Here, Patent Owner asserts that Petitioner is accused of infringing “based on the same type of headlight technology” (Prelim. Resp. 51), but that is insufficient. Patent Owner asserts that both parties’ accused headlights were “developed jointly with Hella KGaA Hueck & Co.” (*id.*), but that also is an insufficient connection for us to consider two parties substantially related for purposes of discretionary denial. As Petitioner points out, it and VW are direct competitors, and they are accused of infringing based on two different products, not as a supplier and customer of a single product, as at issue in *Valve*. Prelim. Reply 1.

Additionally, although Patent Owner asserts that Petitioner and VW “have a history of coordinating serial IPR petitions against asserted patents” (Prelim. Resp. 52), the facts of each case are unique and we will not infer a motive from

prior proceedings. Having considered Patent Owner's arguments,⁸ we conclude that the first *General Plastic* factor weighs strongly against discretionary denial.

Factors 2 through 5 relate to Petitioner's knowledge of its asserted art, knowledge of Patent Owner's or the Board's position on previously asserted art, and any explanation for the time between two petitions. *General Plastic*, Paper 19, 16. Because we determine that Petitioner did not previously challenge the challenged claims, those factors are substantially diminished. Even considering that Petitioner saw Patent Owner's preliminary responses to Volkswagen's petitions and the Board's institution decisions, any roadmapping concern is substantially reduced in light of our decision to institute review for two prior petitions. *See* IPR2023-00315, Paper 11; IPR2023-00318, Paper 11. Patent Owner's roadmapping contention relates to arguments it made in a preliminary response, but we concluded those arguments were not persuasive when instituting review. IPR2023-00315, Paper 11, 10–12; IPR2023-00318, Paper 11, 10–12; *see* Prelim. Resp. 55–56. In short, we do not agree with Patent Owner that the IPR2023-00315 institution decision gave Petitioner any reason to move away from Beam as a reference. Although Patent Owner raises other related IPRs, those decisions considered different claims and therefore do not show that Petitioner gained an advantage here. *See* Prelim. Resp. 56 (raising IPR2022-01586).

⁸ Patent Owner asserts further that we should follow *Shenzhen Silver Star Intelligent Tech. v. iRobot Corp.*, IPR2018-00761, Paper 15 at 16-17 (PTAB September 5, 2018), to apply a presumption that a petition should be denied when it is filed after a preliminary response or institution decision arising from an earlier-filed petition. Prelim. Resp. 50–51. Patent Owner does not acknowledge that the discussion it seeks to rely on comes from a concurrence, which is not the opinion of the Board. That opinion is not binding and we decline to adopt its approach.

We have considered Patent Owner’s arguments based on *General Plastic* and conclude that this case does not warrant discretionary denial.

B. LEVEL OF ORDINARY SKILL IN THE ART

Petitioner asserts that an ordinarily skilled artisan “would have had an undergraduate degree in mechanical engineering, electrical engineering, automotive engineering, optical engineering, applied physics, computer science, or similar disciplines, along with two years of experience working with intelligent vehicle systems, automotive control systems, or lighting control systems.” Pet. 9 (citing Ex. 1003 ¶ 33). Patent Owner does not dispute that level of ordinary skill in the art. Prelim. Resp. 6. We adopt the undisputed level of ordinary skill in the art for purposes of this decision.

C. CLAIM CONSTRUCTION

The parties agree that no express claim construction is required at this stage. Pet. 8; Prelim. Resp. 6. As discussed below, however, Patent Owner applies and argues for a particular construction of “classifying an object.” *See infra* at 11 (§ II.D.1.a). We discuss that potential construction below. Beyond that term, we agree with the parties and therefore do not further construe the claims for this decision. *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms that . . . are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

D. ANTICIPATION BY OR OBVIOUSNESS OVER ALDEN

Petitioner asserts that claims 48, 50–51, 53–59, 61–67, 69–75, 77–83, and 85–87 are anticipated or rendered obvious over Alden. Pet. 11–71. Patent Owner

disputes several aspects of Petitioner’s contentions regarding independent claims 48, 56, 64, 72, and 80. Prelim. Resp. 14–41.

1. Anticipation

a. Claim 48

First, Patent Owner argues that Alden does not teach “determining whether an object is an oncoming vehicle or anything else, *i.e.*, classifying an object.” Prelim. Resp. 17. In Patent Owner’s view, Alden’s CPU instead “simply determines whether detected incoming light has a threshold intensity and controls the beam segments produced by the LED elements 119 of headlight 123 accordingly.” *Id.* at 17–18. Patent Owner takes the position that “classifying an object requires identifying an object and distinguishing that object among multiple classes or types of objects, such as distinguishing between vehicles, road signs, and pedestrians as described in the ’551 patent. *Id.* at 18 (citing Ex. 1001, 44:36–45:44, 52:66–53:4). We do not agree that the two specification passages Patent Owner cites compel such a construction.

The first passage relates to a preferred embodiment that includes “a machine vision system with pattern recognition capabilities as is known in the art.” Ex. 1001, 44:37–40. The ’551 patent describes that, using known pattern-recognition methods, camera outputs “are analyzed by appropriate computational means employing trained pattern recognition techniques to classify, identify or locate the contents.” *Id.* at 44:63–45:3. Although the specification states that known technologies can be used to classify an image’s contents, that does not define or restrict the understanding of what is required to “classify” an object.

The second passage states that, “[u]sing color and pattern recognition techniques it is possible to determine what is a sign.” *Id.* at 52:66–67. To the extent

that informs our understanding of “classify,” is supports a simple correlation between an image and an object. It does not include distinguishing the object among multiple classes or types of objects as Patent Owner contends.

Petitioner contends that Alden discloses “classifying the object” when it determines that the detected light corresponds to an oncoming vehicle. Pet. 33–34. In particular, Alden discloses that its sensor “detects the two headlights” of an oncoming vehicle when “[e]lectrons corresponding to the position and intensity of light are categorized by a logic and CPU 71 and stored in a memory 72.” Ex. 1005 ¶ 27; *accord id.* ¶ 44. The CPU makes “assumptions about the space that may potentially be occupied by the drive of the sensed vehicle” and identifies an area of the segmented headlight to dim. *Id.* Part of that process includes storing a map of sensed light. *Id.* ¶ 28. Alden’s Figure 3 is reproduced below:

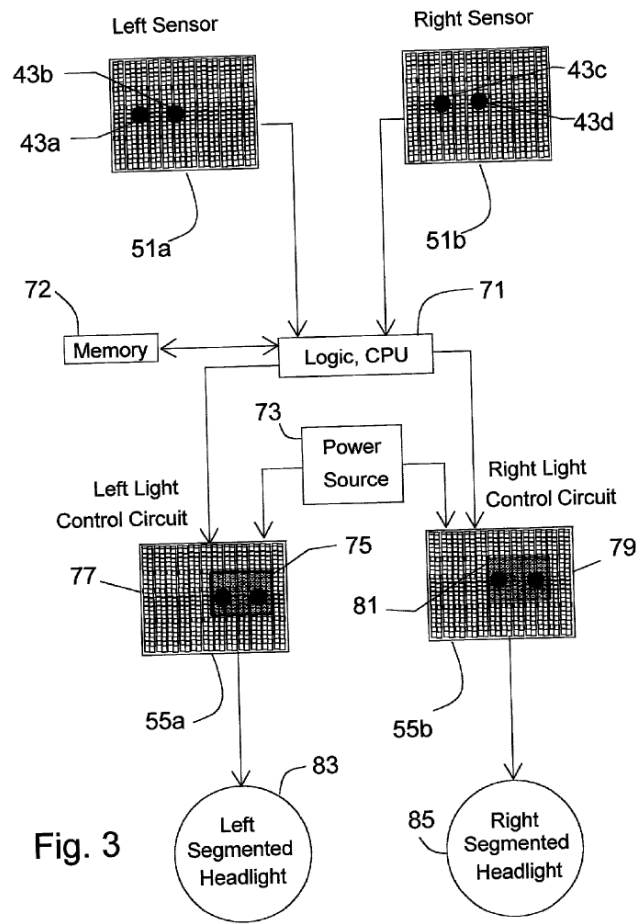


Fig. 3

Ex. 1005, Fig. 3. Figure 3 depicts the information flow, process, and architecture of Alden's system. *Id.* ¶ 27. It shows sensors 51a and 51b, providing information to logic and CPU 71, which provides information to light control circuits 55a and 55b, which in turn provide information to segmented headlights 83 and 85. *Id.* Figure 3 depicts detecting two spots from an oncoming vehicle, causing logic and CPU to create areas 75 and 79 in the control circuit in which light from the segmented headlights will be dimmed. *Id.* Notably, the dimmed areas are “significantly larger than the headlight dots that were initially received . . . because the CPU has made assumptions about the space that may potentially be occupied by the driver of the sensed vehicle.” *Id.*

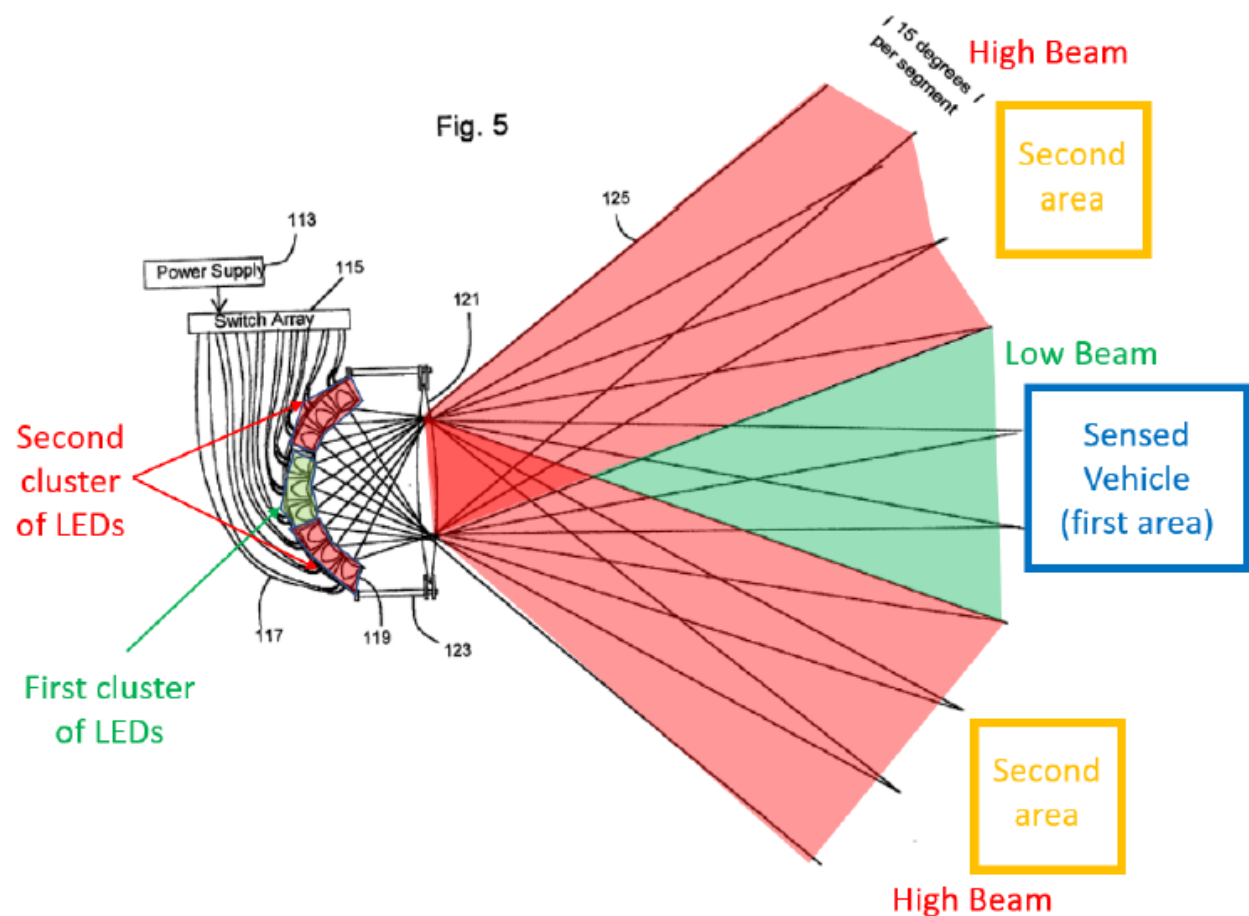
Patent Owner contends that Alden would “control the beam segments produced by the LED elements 119 of headlight assembly 123 accordingly — whether that single detected spot resulted from an oncoming motorcycle with a single headlight, an oncoming vehicle having only one functioning headlight, a flashlight held by a pedestrian, a streetlight, or a house light.” Prelim. Resp. 18. That assertion raises a potential factual issue about how Alden’s system would respond to a single detected light. Regardless, however, it would not necessarily undermine Petitioner’s contentions that Alden classifies two adjacent detected lights as an oncoming vehicle. Patent Owner argues in a related fashion that Alden is “fatally ambiguous” and cannot support Petitioner’s contentions. *Id.* at 22–23. As explained above, we read Alden as disclosing the claimed limitations with sufficient precision and detail.

Because Figure 3 and the associated description support that Alden detects two spots of light, then interprets those two lights as an oncoming vehicle, and uses that determination to control the size of a dimmed area corresponding to the vehicle, we agree with Petitioner that Alden discloses claim 48’s classifying limitation.

Patent Owner contends that Petitioner improperly combines Alden’s embodiments. Prelim. Resp. 19–22. We do not agree. Alden discusses “elements of a segmented distribution illumination process” in connection with Figure 2. Ex. 1005 ¶ 26. The described process uses “Segmented Beam Headlight” 61 to differentially illuminate sectors of the illumination. *Id.* Alden’s description is generic to the specific headlight embodiment, and states that “[s]ome methods employed within 61 to segment light into independently controlled sectors are discussed later.” *Id.* Similarly, Figure 3 and its associated discussion provides “a more detailed illustration of the information flow, processes and architecture of the

elements described in FIG. 2.” *Id.* ¶ 27, Fig. 3. Figure 3 depicts Segmented Headlights 83 and 85 generically, and the description refers to them without limiting the particular form of those headlights. *Id.* Thus, when Alden describes that Figure 5 “illustrates the segmented headlight means and controlling switch array in a first embodiment,” that does not describe an aspect disconnected from the components and operation depicted in Figures 2 or 3, but rather provides details regarding one embodiment of the segmented headlights included in Figures 2 and 3. *See id.* ¶ 29.

Patent Owner contends that Petitioner’s annotation of Alden’s Figure 5 shows features that Alden does not disclose. Prelim. Resp. 23–24. Petitioner’s annotation of Alden’s Figure 5 is reproduced below:



Pet. 29; *see* Prelim. Resp. 23. Figure 5 illustrates Alden’s segmented headlight and controlling switch array in an embodiment using individual lighting elements 119 such as LEDs arranged on a curve along the focal point of lens 121 “such that the light from each lighting element goes into a specified portion (or portions) of the headlight distribution area.” Ex. 1005 ¶ 29. Petitioner’s annotations identify a portion of the distribution area where an oncoming vehicle is sensed, such that Alden’s system reduces the intensity of the lighting elements corresponding to the distribution area where the vehicle is sensed, while the lighting elements outside that area remain at full intensity. Pet. 27–29 (citing Ex. 1005 ¶¶ 5, 26–28).

Although Patent Owner contends that Alden does not disclose the operations purportedly shown by Petitioner’s annotations (Prelim. Resp. 23–24, 27–28), we do not agree. Alden describes a system that detects an oncoming vehicle and modifies the intensity of light directed toward that vehicle, while providing a second intensity to other areas. Ex. 1005 ¶ 25. Alden describes using a sensor to detect oncoming light in multiple sectors and then modulating a segmented light to control illumination in corresponding sectors. *Id.* ¶ 26. And Alden describes an embodiment of its segmented light using LEDs. *Id.* ¶ 29. Thus, Petitioner’s annotations appear to accurately represent Alden’s disclosures.

Patent Owner argues further that Petitioner’s depiction of an oncoming vehicle in Alden’s Figure 5 and elsewhere uses an inaccurate scale, with the width of a vehicle being less than the headlight. Prelim. Resp. 24–25. In Patent Owner’s view, a properly scaled vehicle “would have a width that spans all the beam segments illuminating the distribution area.” *Id.* at 24. That is, Patent Owner contends that Alden’s headlight illuminates an area no wider than a single vehicle. We do not agree. Our conclusion is supported by Alden’s other figures, which show headlight illumination spreading much wider than an oncoming vehicle. *See*

Ex. 1005, Fig. 1, Fig. 2. Additionally, Alden indicates Figure 5 depicts an embodiment in which each lighting element provides 15 degrees of the overall illumination. *Id.* ¶ 39, Fig. 5. Using that example, each element's illumination would spread about 39 feet at a distance of 150 feet.⁹ Thus, Patent Owner's scale argument does not adequately consider Alden's disclosures. When considering those disclosures, Petitioner's contentions do not rely on an inaccurate scale.

Patent Owner argues that Alden does not disclose using Figure 5's multiple-LED embodiment to create illumination varying in two dimensions. Prelim. Resp. 25–26. We do not agree, because Alden's Figure 3 plainly shows two-dimensional sensor arrays and control circuits. Ex. 1005, Fig. 3. While Alden's Figure 5 shows a sectional view of one segmented-headlight embodiment, that does not restrict the embodiment as a whole to a one-dimensional array. Indeed, Alden's disclosures contradict such a view. The Figure 5 embodiment that Petitioner relies on includes a switch array to control the individual lighting elements, with “[e]ach lighting element being independently controlled by a corresponding switch in an array of switches 115.” *Id.* ¶ 29. The Figure 6 embodiment includes a face-on view of the segmented headlight plainly showing a two-dimensional array, in addition to a sectional view similar to Figure 5's. *Id.* at Fig. 6. And Alden describes that the Figure 6 embodiment uses “switch array similar to 115 and the process previously described herein.” *Id.* ¶ 30. Considering Alden's description of its sensing-and-control circuit in connection with Figure 3, which illustrates a two-dimensional array, and its description of Figure 5's segmented headlight as working with that approach, we find that Alden's LED-based segmented headlight is capable of selective illumination in two dimensions.

⁹ $150 \times \sin(15^\circ) = 38.8$

Id. ¶¶ 27, 29, Figs. 3, 5. Further, Alden illustrates that it operates to dim illumination only around a sensed vehicle, providing non-dimmed illumination above the vehicle. *Id.*, Fig. 3.

Although Patent Owner argues that Alden’s embodiments using a two-dimensional array are not compatible with its LED-based segmented headlight (Prelim. Resp. 25–26), we do not agree. As explained above, Alden’s disclosures are consistent with each other and are directed to a two-dimensional approach to sensing, control, and illumination.

Patent Owner does not otherwise contest Petitioner’s anticipation challenge to claim 48. We have reviewed Petitioner’s contentions and evidence regarding anticipation of claim 48 and determine that they support institution.

b. Independent claims 56, 64, 72, and 80

Patent Owner challenges Petitioner’s contentions for the additional independent claims (claims 56, 64, 72, and 80) for largely the same reasons raised against claim 48. Prelim. Resp. 31–41. As discussed above, we do not agree that Patent Owner has identified deficiencies in Petitioner’s contentions.

Claim 64 requires the control be able to select two different clusters of LEDs directing light towards a vehicle in two different, sequential positions. Ex. 2014, 1188 (10:14–29). Patent Owner argues additionally that Petitioner’s annotations fail to demonstrate that limitation because an oncoming vehicle could not move to a second position “and yet still remain at the same distance shorn from the headlight 123.” Prelim. Resp. 35. The claim does not require the oncoming vehicle be at the same distance, so we understand Patent Owner’s argument to be directed at Petitioner showing a sensed vehicle as the same size in the two illustrated positions. *See* Pet. 49–50. We do not interpret Petitioner’s annotations as

illustrating the precise size of a sensed vehicle, but rather as showing that as a sensed vehicle moves from one lateral position to another, Alden's system will identify new clusters of LEDs to dim. And although Patent Owner asserts that an oncoming vehicle moving laterally would not emit light toward Alden's sensors (Prelim. Resp. 36), that ignores realities of generally oncoming vehicles—at least that headlight beam spread illuminates objects outside of a vehicle's direct travel and that the angle to a sensed vehicle changes as the distance changes unless the two vehicles are on a collision course. Accordingly, Patent Owner's criticism of Petitioner's annotations do not show a deficiency in the contentions.

Patent Owner does not otherwise contest Petitioner's anticipation challenges to claims 56, 64, 72, and 80. We have reviewed Petitioner's contentions and evidence regarding anticipation of those claims and determine that they support institution.

c. Dependent claims

At this stage, Patent Owner does not challenge Petitioner's anticipation contentions regarding the dependent claims. We will evaluate the merits of those contentions during the instituted trial.

2. Obviousness

Petitioner presents its first ground as asserting "Alden Anticipates and Renders Obvious Claims 48, 50–51, 53–59, 61–67, 69–75, 77–83, and 85–87." Pet. 11. As reflected in our description of asserted grounds above, we consider obviousness over Alden a separate ground from anticipation. *See supra* at 6 (§ I.E). Patent Owner submits that Petitioner fails to explain its obviousness contentions based on Alden alone with any level of detail. Prelim. Resp. 28. We agree. It does not appear that Petitioner has provided any basis on which to account for

differences between Alden and the challenged claims based on Alden's disclosures alone (as considered by a skilled artisan).

E. PETITIONER'S OTHER OBVIOUSNESS CHALLENGES

The obviousness challenges asserting Alden in combination with Beam, Stam and Beam, or Kobayashi challenge only certain dependent claims, relying on the Alden-based contentions for the limitations of the independent claims and certain limitations of the dependent claims challenged as obvious. *See* Pet. 72–84. Petitioner gives contentions for why skilled artisans would have used teachings from Stam, Beam, or Kobayashi in combination with Alden's system. *Id.* At this stage, other than as discussed above regarding Alden alone, Patent Owner does not contest the merits of Petitioner's prima facie obviousness challenges.

Patent Owner submits that, during reexamination of the '551 patent, "Patent Owner detailed the long-felt need and industry praise for the glare-free adaptive beam technology claimed in the '551 Patent." Prelim. Resp. 42 (citing Ex. 2014, 67–83). Patent Owner submits further that its evidence shows a nexus between the objective evidence and the challenged claims. *Id.* at 42–43. Patent Owner contends that its evidence supports a conclusion of nonobviousness. *Id.* at 43.

Evidence of nonobviousness involves a number of factual determinations that are best resolved through trial. Thus, we conclude that the present record does not support denying institution here.

III. CONCLUSION

For the reasons discussed above, we conclude Petitioner has shown a reasonable likelihood of prevailing with respect to at least one claim. We have evaluated all of the parties' submissions and determine that the record supports institution.

IV. ORDER

Accordingly, it is

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review of claims 48–87 of the '551 patent is instituted on the grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this decision.

IPR2023-01040
Patent 9,955,551 B2

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