

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MERCEDES-BENZ USA, LLC,
Petitioner,

v.

YECHEZKAL EVAN SPERO,
Patent Owner.

IPR2023-01034
Patent 11,208,029 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 1–33 (“the challenged claims”) of U.S. Patent No. 11,208,029 B2 (Ex. 1001, “the ’029 patent”). Yechezkal Evan Spero (“Patent Owner”) filed a Preliminary Response. (Paper 10, “Prelim. Resp.”). As authorized, Petitioner filed a Preliminary Reply (Paper 14, “Prelim. Reply”), and Patent Owner filed a Preliminary Sur-Reply (Paper 15, “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. 3. 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 ’029 patent. Paper 3, 1 (Patent Owner’s Mandatory Notices).

B. RELATED MATTERS

The parties identify the following related federal district court litigations of the ’029 patent: *Torchlight Techs. LLC v. Daimler AG et al.*, No. 1:22-cv-00751

IPR2023-01034
Patent 11,208,029 B2

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

The parties identify the following PTAB *inter partes* reviews of the '029 patent: IPR2022-01500; IPR2023-01586; IPR2023-01122; IPR2023-01226. Pet. 3; Paper 3, 1–2.¹

C. THE '029 PATENT

The '029 patent is titled “Adaptive Headlight System” and relates to motor vehicle headlamps with LED light sources and a processor to control the headlamp light pattern. Ex. 1001, codes (54), (57). The specification more 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 18:29–33.

The specification further describes transportation-vehicle applications. *Id.* at 50:49–57:35. One such application involves a DLF headlamp device that includes a cluster of LEDs to illuminate around a curve. *Id.* at 51:54–63, 54:8–15. With LEDs having a variety of aims, the headlamp’s light distribution pattern may be controlled based on a number of factors, including location data from a GPS system, providing information about upcoming curves in the road. *See id.* at 51:54–67, 54:15–22.

¹ Patent Owner further lists reissue applications, reexaminations, and IPRs involving patents related to the '029 patent. Paper 3, 2–3.

D. CHALLENGED CLAIMS

Petitioner challenges all thirty-three claims of the '029 patent. Pet. 4.
Claim 1 is independent and is reproduced below:

1. A system, for a motor vehicle, comprising:
a plurality of headlamps, each comprising a plurality of LED light sources;
one or more processors; and
a memory storing instructions that, when executed by one or more of the one or more processors, enable the one or more processors to:
receive first data, including at least map data, indicating a road curvature upcoming along a road on which the motor vehicle is traveling;
[²] determine a light change, the change adapting a light pattern of the headlamps in at least one of color, intensity or spatial distribution to increase light in a direction of the road curvature ahead of the motor vehicle and shaping light based at least in part on the road curvature; and
[³] control at least a first plurality of the LED light sources to provide light based at least in part on the determined light change and prior to the motor vehicle reaching the road curvature.

Ex. 1001, 95:56–96:8. Claims 2–11 depend, directly or indirectly, from claim 1. *Id.* at 96:9–97:44. Claim 12 is independent and recites limitations similar to claim 1's. *Id.* at 97:45–62. Claims 13–22 depend, directly or indirectly, from claim 12. *Id.* at 97:63–99:27. Claim 23 is independent and recites limitations similar to claim 1's.

² Patent Owner refers to these as the “predictive curve illumination limitations.” Prelim. Resp. 8.

³ Patent Owner refers to these as the “control limitations.” Prelim. Resp. 8.

Id. at 99:28–43. Claims 24–33 depend, directly or indirectly, from claim 23. *Id.* at 99:44–100:66.

E. PRIOR ART AND ASSERTED GROUNDS

This proceeding includes the following unpatentability grounds:

Claims Challenged	35 U.S.C. § ⁴	References/Basis
1–8, 10–19, 21–30, 32, 33	103	Alden ⁵ , Kobayashi ⁶
9, 20, 31	103	Alden, Beam ⁷ , Kobayashi

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

II. ANALYSIS

A. DISCRETIONARY DENIAL

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. 43–59.

The '029 patent was challenged by Unified Patents, LLC, in IPR2022-01500; we instituted review and later terminated by the parties' agreement. IPR2022-01500, Paper 15 (institution), Paper 26 (termination). The

⁴ 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 '029 patent issued was filed before this date, the pre-AIA version of § 103 applies.

⁵ US 2003/0137849 A1, filed Jan. 22, 2002 (Ex. 1005).

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

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

'029 patent was challenged also by Volkswagen Group of America, Inc., in IPR2023-01586; we instituted review, which remains pending. IPR2023-01586, Paper 7. Patent Owner challenges institution here based on both prior proceedings. Prelim. Resp. 47–51. 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 with both Unified, to which Patent Owner asserts Petitioner is a real party in interest (Prelim. Resp. 47–49), and Volkswagen, which is a co-defendant with Petitioner in Patent Owner's infringement suit (*id.* at 50–51).

As to Unified, Petitioner points out that Patent Owner makes no argument regarding a statutory bar or estoppel, arguing that we should therefore not assess the potential relationship. Prelim. Reply 1; *see SharkNinja Operating LLC v. iRobot Corp.*, IPR2020-00734, Paper 11 at 18–20 (PTAB Oct. 6, 2020) (precedential). Regardless of whether an RPI relationship may, in some case, influence factor 1, we determine that it would not support discretionary denial here. In particular, in IPR2022-01500, we instituted review and did not find the petition deficient. IPR2022-01500, Paper 15. Thus, Petitioner's assertion of a different reference does not appear to have resulted from that prior IPR. And that proceeding settled without a final written decision, further supporting that Petitioner received no benefit from Unified's IPR.

To argue that we should consider Petitioner related to VW, 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. 50–51), but that is insufficient. Patent Owner asserts that both parties’ accused headlights were “developed jointly with Hella KGaA Hueck & Co.” (*id.* at 51), 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, accused of infringing based on two different products, not as a supplier and customer of a single product, as was at issue in *Valve*. Prelim.

Reply 1.

Additionally, although Patent Owner asserts that Petitioner and VW “have a history of coordinating serial IPR petitions” (Prelim. Resp. 51–53), 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

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. 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.

that Petitioner saw Patent Owner's preliminary responses to Unified's and Volkswagen's petitions and the Board's institution decisions, any roadmapping concern is substantially reduced in light of our decision to institute review for the two prior petitions. *See* IPR2022-01500, Paper 15 (institution); IPR2023-01586, Paper 7. Patent Owner's roadmapping contention relates to our evaluation of VW's ground using Beam as a primary reference in IPR2023-01586. Prelim. Resp. 56–57. Because we noted “that Beam's disclosures cast doubt on [VW's] combination” of Beam and Kobayashi (IPR2023-01586, Paper 7, 20), Patent Owner submits that Petitioner here “dropped Beam as a primary reference for the independent claims” (Prelim. Resp. 57). Petitioner disputes that contention, submitting that it “developed its own challenges based on Alden.” Prelim. Reply 3–4, 4 n.3.

We are not persuaded that the Petition shows unfair roadmapping. As discussed below, Patent Owner argues that Alden suffers from the same deficiency that it asserted against Beam in IPR2023-01586. *See infra* at 14 (discussing Patent Owner's argument that Alden teaches projecting a high beam everywhere other than towards a detected oncoming vehicle); IPR2023-01586, Paper 7, 19–20 (discussing same argument as to Beam). Although we read Alden as not suffering from Beam's possible deficiency, had Petitioner wanted to address Patent Owner's IPR2023-01586 argument (and our institution decision), Petitioner would have adjusted its challenge here more directly and fully. Stated otherwise, if Petitioner had roadmapped in light of IPR2023-01586, we would expect such an adjustment to be more evident. Instead, we view the Petition's challenges as resulting from Petitioner's independent evaluation of the prior art. Given our determination that Petitioner is not substantially related to VW, Petitioner should have the opportunity

to proceed with its own challenge against a patent for which Petitioner has been accused of infringing.

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. 8–9 (citing Ex. 1003 ¶ 33). Patent Owner does not dispute that level of ordinary skill in the art. Prelim. Resp. 9. 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. 9. 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)).

Below, we discuss Patent Owner’s argument relating to the “shaping” claim term, which appears to imply a claim construction that Patent Owner has not yet explained. *See infra* at 15. Should Patent Owner wish to pursue such an argument

in the instituted trial, Patent Owner should offer and support a construction for the term.

D. OBVIOUSNESS OVER ALDEN AND KOBAYASHI

Petitioner asserts that claims 1–8, 10–19, 21–30, 32, and 33 are unpatentable as obvious over Alden and Kobayashi. Pet. 12–68. For most of claim 1’s limitations, Petitioner relies on Alden alone. *Id.* at 12–30.

Alden discloses a vehicle headlight system using a segmented-beam headlight and a sensor to detect other vehicles, such that the headlight’s beam can be dimmed in the area of a detected vehicle, maximizing illumination for the equipped vehicle while minimizing glare to other vehicles. Ex. 1005, codes (54), (57). Alden describes a sensor such as a photodiode array for detecting oncoming vehicles’ headlights as pairs of bright dots, and a controller that interprets those dots as an oncoming vehicle and designates for dimming a portion of the illumination field corresponding to the possible driver of the oncoming vehicle, then reduced the brightness of the segmented-beam headlight in the designated area. *Id.* ¶¶ 25–28. As one embodiment for the headlight, Alden discloses an array of individual LEDs, controlled to implement the desired lighting pattern in the projected beam. *Id.* ¶ 29. As an additional application of its system, Alden discloses that it may be “used to concentrate light to look around corners in response to road conditions.” *Id.* ¶ 36. When a vehicle detects road turns, the system “direct[s] light into the corner to maximize the driver’s ability to see there.” *Id.*

For receiving map data indicating an upcoming road curvature, Petitioner relies on Kobayashi, submitting that it would have been obvious to “use map data to identify road curvature when adapting the LEDs of Alden to ‘direct light into the

corner.” Pet. 23–24 (quoting Ex. 1005 ¶ 36). Petitioner reasons that Alden discloses detecting road curvature through roadside reflectors and steering-wheel sensors, and Kobayashi discloses an additional way to detect road curvature. *Id.* at 24. Petitioner continues that, because Kobayashi discloses using map data to control vehicle headlights, skilled artisans would have had reason to adopt its teachings in Alden’s system “to maximize successful detection in different environments.” *Id.* at 24–25 (citing Ex. 1003 ¶ 70). Petitioner relies on Kobayashi also for determining a light change to increase light in the direction of road curvature and shaping light based on the road curvature. *Id.* at 27. Finally, Petitioner relies on Kobayashi for the requirement to control the light sources both based on the determined light change and also prior to the vehicle reaching the road curvature. *Id.* at 30.

Patent Owner disputes several aspects of Petitioner’s contentions relating to the independent claims. Prelim. Resp. 22–41. The disputes relate to limitations that Patent Owner identifies as the “Predictive Illumination Determination Limitation” and the “Control Limitation.” *Id.* at 8; *see supra* at 4 n.2, n.3 (§ I.D). As noted above, Petitioner relies on a combination of Alden and Kobayashi for those limitations. Petitioner asserts that Alden discloses determining illumination based on road curvature as shown in Figure 11, reproduced below:

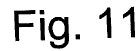


Figure 11 illustrates an application of Alden’s invention “being used to concentrate light to look around corners in response to road conditions” in which vehicle 153 senses that the road turns and “direct[s] light into the corner to maximize the driver’s ability to see there.” Ex. 1005 ¶ 36.

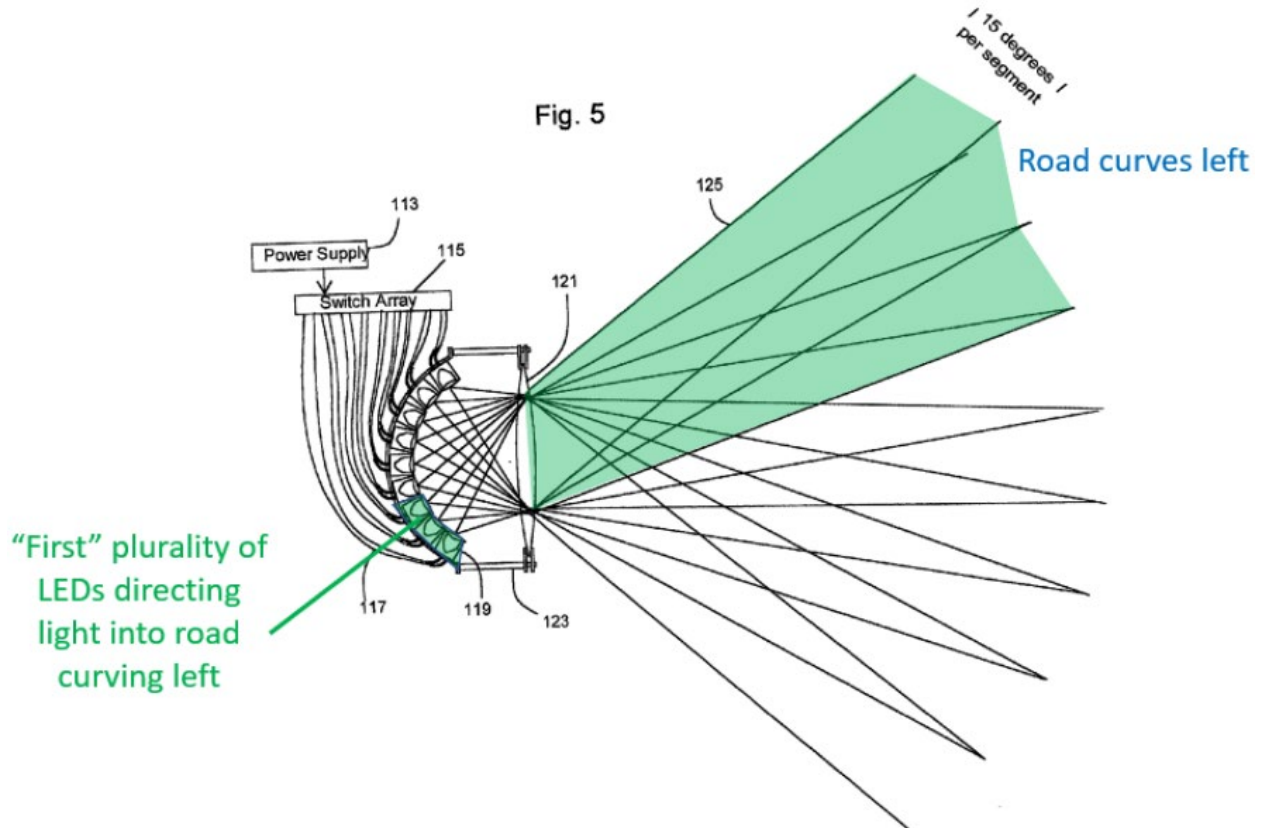
Petitioner asserts that Alden’s system determines a light change that both increases light in the direction of road curvature and shapes the light based on the road curvature. Pet. 25–27. Petitioner relies on Alden’s disclosures that it can “concentrate light to look around corners” and “direct light into the corner.” *Id.* Petitioner asserts further that Kobayashi discloses shaping light because it discloses controlling its lights “in accordance with the course concerned.” Pet. 23 (quoting Ex. 1006, 17:59–61), 27 (referencing Pet. 23). Petitioner reasons that it would have been obvious to use Kobayashi’s teachings to adapt lighting to the road shape informed by map data. *Id.* at 27.

Patent Owner argues first that Petitioner relies on multiple embodiments in Alden but provides no reason that a skilled artisan would have combined those

embodiments. *Id.* at 24–27. 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. The same is true for Figure 11, in which Alden illustrates an application where its controllable headlights are used “to concentrate light to look around corners in response to road conditions.” Ex. 1005, ¶ 36, Fig. 11. As Alden states, the application directing light around road bends “can be achieved with the segmented sensing elements and segmented light distribution elements described herein.” *Id.* ¶ 36. That disclosure supports that any of its embodiments for controllable headlights could be operated in a manner to light in the direction of road curvature.

Patent Owner argues also that Alden does not disclose controlling its lights to increase light in the direction of road curvature. Prelim. Resp. 28–31. Patent Owner identifies Petitioner’s annotated Figure 5 from Alden, which Petitioner uses

to show how Alden would operate its segmented light to achieve Figure 11's application. Petitioner's annotated Figure 5 is reproduced below:



Pet. 29. Figure 5 illustrates Alden's segmented-beam headlight using a number of individual lighting element 119 to project light through headlight lens 121.

Ex. 1005 ¶ 29. Petitioner's annotations show a plurality of lighting elements being used to illuminate only one side of the possible lighting distribution area. Pet. 28–29.

In Patent Owner's view, Alden never discloses deactivating LED elements as depicted in Petitioner's annotated Figure 5, because Alden discloses projecting a high beam everywhere other than where an oncoming vehicle is detected. Prelim. Resp. 29–31. Because all lights are activated in Alden's base state, argues Patent Owner, Alden does not disclose increasing light in the direction of a curve. *Id.*

Patent Owner's argument, however, does not consider Alden's Figure 11 application discussed above, in which light is directed towards the road curvature and not provided to the opposite side. We view Petitioner's annotated Figure 5 as accurately depicting how Figure 5's embodiment would operate when implementing the Figure 11 application.

Next, Patent Owner argues that neither Alden nor Kobayashi discloses "shaping light" as claimed. Prelim. Resp. 31–33. In that regard, Patent Owner asserts Alden's Figure 11 application "merely changes the direction of light emitted by the headlight . . . but does not shape the light emitted." *Id.* at 32 (emphasis omitted). Patent Owner further supports its position by pointing out that Alden never discusses "shaping" the projected light. *Id.* As discussed above, Petitioner relies on Alden's disclosures that the Figure 11 application can "concentrate light to look around corners in response to road conditions" and that the headlights "direct light into the corner." Pet. 25–26 (citing Ex. 1005 ¶¶ 36, 54, Fig. 11). Petitioner relies additionally on Kobayashi's teaching of controlling light according to "the road profile." Pet. 23 (quoting Ex. 1006, 5:5–8).

Patent Owner asserts that Petitioner's contentions conflate "directing" light with "shaping" light, but Patent Owner does not explain further. Patent Owner appears to be relying on particular view of what "shaping" requires but has not offered a claim construction at this stage. It seems that light projected out at different angles through Alden's or Kobayashi's optical system would have different shapes, as a result of each system's characteristics. Moreover, Alden's teaching to "concentrate" light appears to address the claims' requirement for shaping light. We determine that Petitioner's contentions support institution.

Finally, Patent Owner argues that neither Alden nor Kobayashi discloses controlling lights based on road curvature "prior to" the vehicle reaching the

curvature. Prelim. Resp. 33–37. For that aspect of the claims, Petitioner asserts that Alden discloses detecting an upcoming turn using roadside reflectors, such that “sensing would occur before the road curves.” Pet. 29–30 (citing Ex. 1005 ¶¶ 36–40, Figs. 1, 4). Petitioner asserts that Alden teaches concentrating the light around the turn as soon as the turn is detected, thus “prior to” the vehicle reaching the turn. *Id.* Petitioner further relies on Kobayashi, which discloses using map data to indicate road curves to a controller that directs light into the curve. *Id.* at 23, 30.

We agree with Petitioner that at least Kobayashi discloses controlling lights prior to the vehicle reaching a road curvature. Kobayashi’s Figure 10 is reproduced below:

FIG. 10

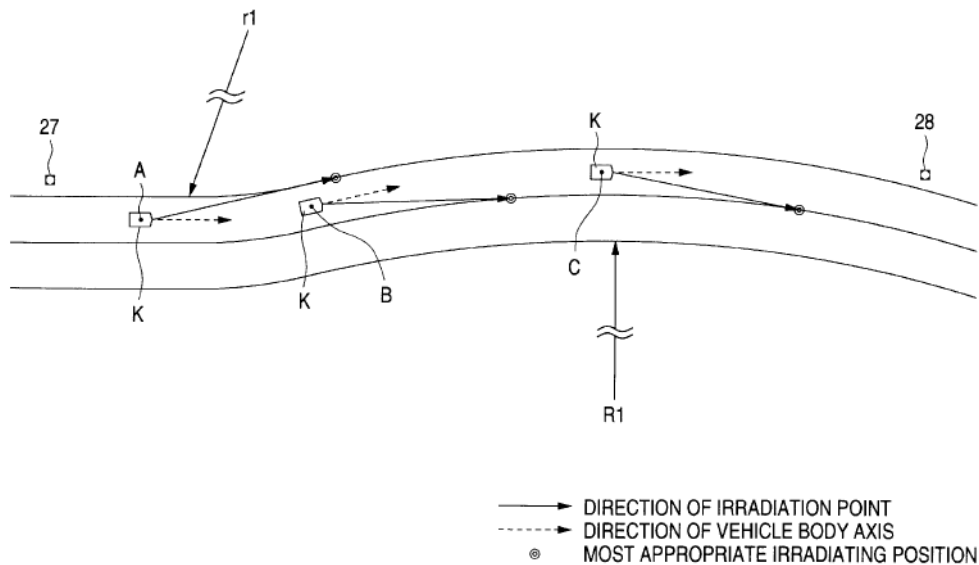


Figure 10 depicts vehicle K approaching a road curvature and shows that the “direction of irradiation point” has been altered in the direction of road curvature before the vehicle reaches the curvature. Ex. 1006, Fig. 10 (position A); *see id.* at 15:20–23. Controlling lights using Kobayashi’s method based on map data would therefore result in a vehicle that turns its lights toward a road curvature prior

to the vehicle reaching the curvature. Patent Owner points to Kobayashi's statement that, "[w]hen the vehicle turns to the left, the left shoulder is illuminated" to argue that Kobayashi does not support adjusting lights prior to a curve. Prelim. Resp. 35 (quoting Ex. 1006, 15:21–23) (emphasis omitted). But that statement (1) does not preclude adjusting the lights before the vehicle turns left and (2) may be read as describing the general relationship without restricting the exact timing. Because Kobayashi's Figure 10 discloses the claimed timing, we determine that Petitioner's contentions support institution.

Patent Owner does not otherwise contest Petitioner's obviousness challenge to the independent claims. We have reviewed Petitioner's contentions and evidence regarding obviousness of the independent claims and determine that they support institution. Additionally, at this stage, Patent Owner does not challenge Petitioner's contentions regarding the dependent claims. We will evaluate the merits of those contentions during the instituted trial.

E. OBVIOUSNESS OVER ALDEN, BEAM, AND KOBAYASHI

Petitioner asserts that dependent claims 9, 20, and 31 would have been obvious over Alden, Beam, and Kobayashi. Pet. 68–79. Those claims indirectly depend from claims 1, 12, and 23, respectively, and further recite, *inter alia*, that controlling a second plurality of LEDs "includes termination of light from at least one LED providing light directed to the area prior to the termination." *E.g.*, Ex. 1001, 97:33–36. Petitioner asserts first that skilled artisans would have understood that Alden's approach of dimming an LED "could include operating at zero" and that "turning off LEDs that emit light directly at the drive of the other vehicle would accomplish Alden's purpose of reducing glare to other drivers."

Pet. 75 (citing Ex. 1003 ¶ 147). Those contentions appear to address obviousness without reliance on Beam.

Petitioner asserts additionally that Beam discloses a headlight system using individually controlled microbeams to eliminate glare for other vehicles, “controlled to darken light directed to the areas of the sensed oncoming and preceding vehicles.” *Id.* at 76 (emphasis omitted) (citing Ex. 1007, 4:9–25, 4:45–59, 5:61–6:8, 6:61–7:8). Petitioner points also to Beam’s disclosure that its lighting elements can be “blanked” (*id.* at 77 (quoting Ex. 1007, 4:26–52, 5:33–54)), which skilled artisans would understand as terminating light output (*id.* (citing Ex. 1003 ¶¶ 149–150)). Petitioner reasons that skilled artisans would have had reason to modify Alden’s system to place at least one LED of the claimed second plurality in the terminated output state “to further dim headlight beam output directed to areas of the oncoming vehicles as taught by Beam.” *Id.* (citing Ex. 1003 ¶ 151).

Patent Owner argues that including Beam does not remedy the deficiencies with Petitioner’s independent-claim challenge. Prelim. Resp. 42. To the extent Patent Owner addresses Beam’s disclosures, it does so in relation to the limitations of the independent claims, for which Petitioner does not rely on Beam. *Id.* For the reasons discussed above and considering Petitioner’s unchallenged contentions, we determine that Petitioner’s contentions for the independent claims support institution. And Petitioner’s contentions directed to Beam support obviousness of dependent claims 9, 20, and 21, further supporting institution.

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

IPR2023-01034

Patent 11,208,029 B2

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 1–33 of the '029 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.

IPR2023-01034
Patent 11,208,029 B2

For PETITIONER:

Celine Crowson
Joe Raffetto
Scott Hughes
Ryan Stephenson
HOGAN LOVELLS US LLP
celine.crowson@hoganlovells.com
joseph.raffetto@hoganlovells.com
scott.hughes@hoganlovells.com
ryan.stephenson@hoganlovells.com

For PATENT OWNER:

Sangeeta G. Shah
David Bir
Andrew Turner
BROOKS KUSHMAN P.C.
sshah@brookskushman.com
aturner@brookskushman.com
btomsa@brookskushman.com