

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

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(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.

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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).

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