

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AUTOLIV ASP, INC.; NIHON PLAST CO., LTD.;
NEATON AUTO PRODUCTS MANUFACTURING INC.;
TAKATA CORPORATION; TK HOLDINGS, INC.;
TOYODA GOSEI CO., LTD.; HYUNDAI MOBIS CO., LTD.;
MOBIS ALABAMA, LLC; and MOBIS PARTS AMERICA LLC,
Petitioner,

v.

AMERICAN VEHICULAR SCIENCES, LLC,
Patent Owner.

Case IPR2016-01790
Patent 9,043,093 B2

Before TREVOR M. JEFFERSON, JENNIFER MEYER CHAGNON, and
SCOTT C. MOORE, *Administrative Patent Judges*.

CHAGNON, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

We have jurisdiction to hear this *inter partes* review under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed herein, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1–44 (“the challenged claims”) of U.S. Patent No. 9,043,093 B2 (Ex. 1001, “the ’093 patent”) are unpatentable.

A. Procedural History

Toyoda Gosei Co., Ltd.; Autoliv ASP, Inc.; Nihon Plast Co., Ltd.; Neaton Auto Products Manufacturing, Inc.; Takata Corporation; TK Holdings, Inc.; Hyundai Mobis Co., Ltd.; Mobis Alabama, LLC; and Mobis Parts America LLC (collectively, “Petitioner”)¹ filed a Petition for *inter partes* review of claims 1–44 of the ’093 patent. Paper 1 (“Pet.”). Petitioner provided a Declaration of Stephen W. Rouhana, Ph.D. (Ex. 1003) in support of its positions. American Vehicular Sciences, LLC (“Patent Owner”) filed a Preliminary Response to the Petition (Paper 14 (“Prelim. Resp.”)), relying on a Declaration of Michael Nranian P.E. (Ex. 2005) in support of its positions.

¹ Petitioner identifies Toyoda Gosei North America Corp.; Autoliv, Inc.; and Mobis America, Inc. as additional real parties-in-interest. Pet. 1.

Pursuant to 35 U.S.C. § 314(a), on March 28, 2017, we instituted *inter partes* review on the following grounds:

whether claims 1, 6, 8, 10, 12, 17–21, 26, 27, 33, 39, 43, and 44 are unpatentable under 35 U.S.C. § 103(a) as obvious in view of Leising² and Lau³;

whether claims 2, 3, 11, 28–32, and 41 would have been obvious under 35 U.S.C. § 103(a) in view of Leising, Lau, and Davis⁴;

whether claims 4 and 13–15 would have been obvious under 35 U.S.C. § 103(a) in view of Leising, Lau, and Daniel⁵;

whether claims 5, 7, 34, and 35 would have been obvious under 35 U.S.C. § 103(a) in view of Leising, Lau, and Kaji⁶;

whether claims 9, 38, 40, 42, and 44 would have been obvious under 35 U.S.C. § 103(a) in view of Leising, Lau, and Steffens⁷;

whether claims 22, 24, and 25 would have been obvious under 35 U.S.C. § 103(a) in view of Leising, Lau, and Suzuki⁸;

whether claim 16 would have been obvious under 35 U.S.C. § 103(a) in view of Leising, Lau, and Paxton⁹;

² U.S. Patent No. 3,897,961, issued Aug. 5, 1975 (Ex. 1005).

³ U.S. Patent No. 5,273,309, issued Dec. 28, 1993 (Ex. 1006).

⁴ U.S. Patent No. 5,269,561, issued Dec. 14, 1993 (Ex. 1007).

⁵ U.S. Patent No. 5,540,459, issued July 30, 1996, filed Oct. 5, 1994 (Ex. 1008).

⁶ U.S. Patent No. 5,222,761, issued June 29, 1993 (Ex. 1009).

⁷ U.S. Patent No. 5,524,924, issued June 11, 1996, filed Nov. 15, 1993 (Ex. 1010).

⁸ U.S. Patent No. 4,021,058, issued May 3, 1977 (Ex. 1011).

⁹ U.S. Patent No. 4,998,751, issued Mar. 12, 1991 (Ex. 1012).

whether claim 23 would have been obvious under 35 U.S.C. § 103(a) in view of Leising, Lau, Suzuki, and Marlow¹⁰;

whether claims 1, 10, 17–21, 26, 27, 33, 36, 37, 39, and 43 would have been obvious under 35 U.S.C. § 103(a) in view of Karlow¹¹ and Lau;

whether claims 2, 3, 11, 28–32, and 41 would have been obvious under 35 U.S.C. § 103(a) in view of Karlow, Lau, and Davis;

whether claims 4, 6, 8, and 12–15 would have been obvious under 35 U.S.C. § 103(a) in view of Karlow, Lau, and Daniel;

whether claims 5, 7, 34, and 35 would have been obvious under 35 U.S.C. § 103(a) in view of Karlow, Lau, and Kaji;

whether claims 9, 38, 40, 42, and 44 would have been obvious under 35 U.S.C. § 103(a) in view of Karlow, Lau, and Steffens;

whether claims 22, 24, and 25 would have been obvious under 35 U.S.C. § 103(a) in view of Karlow, Lau, and Suzuki;

whether claim 16 would have been obvious under 35 U.S.C. § 103(a) in view of Karlow, Lau, and Paxton; and

whether claim 23 would have been obvious under 35 U.S.C. § 103(a) in view of Karlow, Lau, Suzuki, and Marlow;

See Paper 16 (“Inst. Dec.”). Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 19, “PO Resp.”), along with a second Michael Nranian P.E. (Ex. 2013) to support its positions. Petitioner filed a Reply (Paper 22, “Reply”) to the Patent Owner Response.

¹⁰ U.S. Patent No. 3,966,225, issued June 29, 1976 (Ex. 1013).

¹¹ U.S. Patent No. 5,588,672, issued Dec. 31, 1996, filed Oct. 20, 1995 (Ex. 1014).

An oral hearing was held on December 6, 2017. A transcript of the hearing is included in the record. Paper 30 (“Tr.”).

B. Related Proceedings

The parties indicate that the '093 patent is the subject of the following district court proceedings: *Am. Vehicular Scis. LLC v. Hyundai Motor Co.*, No. 5:16-cv-11529-JEL-APP (E.D. Mich.); *Am. Vehicular Scis. LLC v. Nissan Motor Co.*, No. 5:16-cv-11530-JEL-APP (E.D. Mich.); *Am. Vehicular Scis., LLC v. Toyota Motor Corp.*, No. 5:16-cv-11531-JEL-APP (E.D. Mich.); and *Am. Vehicular Scis., LLC v. Am. Honda Motor Co.*, No. 5:16-cv-11532-JEL-APP (E.D. Mich.). Paper 13, 1–2; Pet. 1–2.

Claims 1–44 of the '093 patent also are subject to review in IPR2016-01794. See *Autoliv ASP, Inc. v. Am. Vehicular Scis.*, Case IPR2016-01794 (PTAB Mar. 23, 2017) (Paper 7). Claims 1, 8, 10, 12, 17–19, 26, 27, and 36 of the '093 patent previously were determined to be unpatentable. See *Unified Patents Inc. v. Am. Vehicular Scis.*, Case IPR2016-00364 (PTAB May 19, 2017) (Paper 35) (“the 364 Final Written Decision,” “364 FWD”) (appeal currently pending, Fed. Cir. Case No. 17-2307).

Patent Owner also identifies pending application No. 14/721,136, which claims priority to the '093 patent (Paper 13, 2); according to USPTO records, this application has been abandoned.

C. The '093 Patent

The '093 patent is titled “Single Side Curtain Airbag for Vehicles,” and was filed as U.S. application No. 11/930,330 on October 31, 2007. Ex. 1001, at [21], [22], [54]. The '093 patent claims priority, via a chain of

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