

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 IPR2016-01794
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 (“the challenged claims”) of U.S. Patent No. 9,043,093 B2 (Ex. 1001, “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 6 (“Prelim. Resp.”)), relying on a Declaration of Michael Nranian P.E. (Ex. 2008) 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 23, 2017, we instituted *inter partes* review on the following grounds:

whether claims 1, 10, 17–20, 26, 27, and 36–40 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland² and Stütz³;

whether claims 2 and 3 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland, Stütz, and Faigle⁴;

whether claims 5 and 7 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland, Stütz, and Kaji⁵;

whether claim 9 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland, Stütz, and Steffens⁶;

whether claims 11, 28–32, and 41 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland, Stütz, and Davis⁷;

whether claim 16 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland, Stütz, and Swann⁸;

whether claims 22, 24, and 25 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland, Stütz, and Suzuki⁹;

² U.S. Patent No. 5,788,270, issued Aug. 4, 1998, filed Feb. 20, 1996 (Ex. 1008).

³ U.S. Patent No. 5,957,487, issued Sept. 28, 1999, filed Mar. 19, 1997 (Ex. 1009).

⁴ U.S. Patent No. 6,176,518, issued Jan. 23, 2001, filed July 26, 1999 (Ex. 1010).

⁵ U.S. Patent No. 5,222,761, issued June 29, 1993 (Ex. 1012).

⁶ U.S. Patent No. 5,524,924, issued June 11, 1996, filed Nov. 15, 1993 (Ex. 1013).

⁷ U.S. Patent No. 5,269,561, issued Dec. 14, 1993 (Ex. 1014).

⁸ U.S. Patent No. 5,507,890, issued Apr. 16, 1996, filed May 17, 1994 (Ex. 1016).

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

whether claim 21 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland, Stütz, and Enders¹¹;

whether claims 1, 4, 6, 8, 10, 17–20, 26, 27, and 36–40 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland and Daniel¹²;

whether claims 1, 10, 12–15, 17–20, 26, 27, 33, and 36–40 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland and Tanase¹³;

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

whether claims 42–44 would have been obvious under 35 U.S.C. § 103(a) in view of HÅland.

See Paper 7 (“Inst. Dec.”). Subsequent to institution, Patent Owner filed a Patent Owner Response (Paper 10, “PO Resp.”), along with a second declaration of Michael Nranian P.E. (Ex. 2018) to support its positions. Pctitioner filed a Reply (Paper 13, “Reply”) to the Patent Owner Response.

An oral hearing was held on December 6, 2017. A transcript of the hearing is included in the record. Paper 21 (“Tr.”).

⁹ U.S. Patent No. 4,021,058, issued May 3, 1977 (Ex. 1017).

¹⁰ U.S. Patent No. 3,966,225, issued June 29, 1976 (Ex. 1015).

¹¹ U.S. Patent No. 5,845,935, issued Dec. 8, 1998, filed Mar. 7, 1997 (Ex. 1019).

¹² U.S. Patent No. 5,540,459, issued July 30, 1996, filed Oct. 5, 1994 (Ex. 1011).

¹³ U.S. Appl. Pub. 2002/0180192, published Dec. 5, 2002, filed May 23, 2002 (Ex. 1018).

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 5, 2; Pet. 1–2.

Claims 1–44 of the '093 patent also are subject to review in IPR2016-01790. *See Autoliv ASP, Inc. v. Am. Vehicular Scis.*, Case IPR2016-01790 (PTAB Mar. 28, 2017) (Paper 16). 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) (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 5, 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 (“the '330 application”) on October 31, 2007. Ex. 1001, at [21], [22], [54]. The '093 patent claims priority, via a chain of continuation-in-part and divisional applications, to

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