

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

IGB AUTOMOTIVE LTD. and
I.G. BAUERHIN GmbH,
Petitioner,

v.

GENTHERM GmbH,
Patent Owner.

Case IPR2014-00661
Patent 7,735,932 B2

Before JOSIAH C. COCKS, BENJAMIN D. M. WOOD, and
RICHARD E. RICE, *Administrative Patent Judges*.

RICE, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background/Summary

IGB Automotive Ltd. and I.G. Bauerrhin GmbH (collectively, “Petitioner”) filed a Petition (Paper 1, “Pet.”) for *inter partes* review of claims 1, 3, 4, 6, 7, 11, 13, 14, 16, 18, and 20 of U.S. Patent No. 7,735,932 B2 (Ex. 1001, “the ’932 Patent”). We instituted an *inter partes* review as to claims 1, 3, 4, 6, 11, 13, 14, 16, 18, and 20, but not claim 7. Paper 9 (“Inst. Dec.”), 1. After institution, Gentherm GmbH (“Patent Owner”) filed a Patent Owner Response (Paper 14, “PO Resp.”), to which Petitioner replied (Paper 17, “Pet. Reply”).

An oral hearing was held on June 9, 2015. The transcript of the oral hearing has been entered into the record. Paper 26 (“Tr.”).

The parties rely on the following references, declarations, and deposition testimony:

Reference	Patent No./Title	Date	Exhibit
Knoll ’113	US 7,862,113 B2	Jan. 4, 2011 (filed Jan. 30, 2006)	Ex. 1003
Knoll ’028	US 7,452,028 B2	Nov. 18, 2008 (filed Dec. 3, 2004)	Ex. 1004
Bevan	US 7,168,758 B2	Jan. 30, 2007 (filed Apr. 2, 2004)	Ex. 1005

Nelson	Linda Water Nelson, Interior Systems: Heated and Cooled Seats, <i>Cooled seats are hot—But can temperature-managed seating move into the mass market?</i> AUTO INTERIORS, 18, 20 (Nov./Dec. 2001)	2001	Ex. 1006
Jost	Kevin Jost, <i>Bosch and the new E-Class</i> , AEI focus on electronics, New Car Supplier Engineering, 66 (Nov. 2002)	2002	Ex. 1007
Declaration of Gerald Keith Ferguson			Ex. 1020
Declaration of James G. Rice, Ph.D.			Ex. 2003
Transcript of Deposition of James G. Rice, Ph.D.			Ex. 1022
Declaration of Michael Gutierrez			Ex. 2010
Declaration of Marinko Lazania			Ex. 2011
Declaration of Ed Marlovits			Ex. 2012
Declaration of Scott Chapple			Ex. 2013
Declaration of Tim Normand			Ex. 2014
Declaration of Margaret Krzywinski			Ex. 2015

The grounds for trial are as follows:

References	Basis	Claims Challenged
Knoll '113, Knoll '028, Bevan, Nelson, and Jost	§ 103(a)	1, 3, 4, 6, 11, 13, 14, 16, 18, and 20

We have jurisdiction under 35 U.S.C. § 6(c). The evidentiary standard is a preponderance of the evidence. *See* 35 U.S.C. § 316(e); 37

C.F.R. § 42.1(d). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73.

For the reasons explained below, we determine that Petitioner has shown, by a preponderance of the evidence, that claims 1, 3, 4, 6, 11, 13, 14, 16, 18, and 20 are unpatentable as obvious over Knoll '113, Knoll '028, Bevan, Nelson, and Jost.

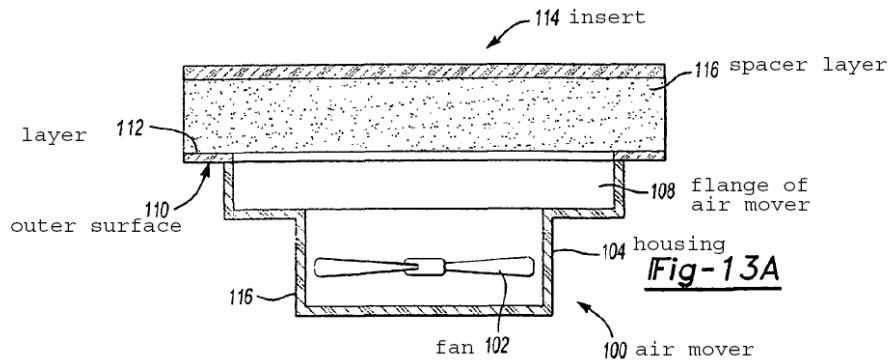
B. Related Lawsuit

The '932 Patent is involved in *W.E.T. Automotive Systems Ltd. v. IGB Automotive Ltd.*, Case No. 2:13-CV-11536-AJT-PJK (E.D. Mich.). Pet. 1; Paper 6, 1. Patent Owner is the successor-in-interest of W.E.T. Automotive Systems Ltd. to the '932 Patent. Paper 6, 1.

C. The '932 Patent

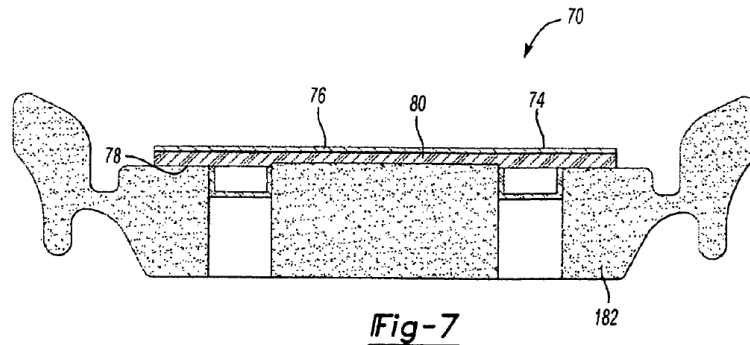
The '932 Patent, titled “Automotive Vehicle Seat Insert,” issued from U.S. Application No. 12/354,191, filed January 15, 2009. Ex. 1001, at [54], [21], [22]. The '932 Patent is a continuation of U.S. Application No. 11/464,859, filed on August 16, 2006, now U.S. Patent No. 7,478,869 B2, and claims the benefit of the August 19, 2005 filing date of Provisional Application No. 60/709,686 and the March 30, 2006 filing date of Provisional Application No. 60/787,363. *Id.* at [63], [60]. The named inventors are Marinko Lazanja, Goran Bajic, Ed Marlovits, and Dmitri Axakov (“the Inventors”). *Id.* at [75]. The '932 Patent relates to an insert for providing heating, cooling, or ventilation to a seat of an automotive

vehicle. *Id. at* 1:12–14. Figure 13A of the '932 Patent is reproduced below, with annotations that we added to identify certain elements.



Annotated Figure 13A is a sectional view of insert 114 depicting spacer layer 116, forward or rearward layer 112, and air mover 100 comprising fan 102, housing 104, and flange 108. Ex. 1001, 2:12–14, 11:33–36, 46–50, Fig. 13A. Air mover 100 is attached to outer surface 110 of layer 112, preferably, “with an adhesive, one or more mechanical fasteners or both.” *Id. at* 11:46–50, Fig. 13A.

“[O]ne or multiple fans [may be] connected to an insert at predetermined locations such that those fan[s] are positioned within openings (e.g., cavities, through-holes or combinations thereof) of a cushion (e.g., a foam cushion) of a seat (e.g., an automotive seat).” *Id. at* 12:52–56. Figure 7, reproduced below, depicts a front sectional view of an embodiment of the invention:



As depicted in Figure 7, insert 70 is assembled to seat cushion 182, and two fans are positioned within through-holes in the seat cushion and connected to the insert. *Id.* at 2:1–3, 12:49–60, Fig. 7. The insert includes spacer layer 80 sandwiched between forward layer 76 (which faces the occupant) and rearward layer 78 (which faces the cushion). *Id.* at 10:35–40.

D. Illustrative Claim

Claim 1, which is the sole independent claim, is illustrative and is reproduced below:

1. A seating system, comprising:
 - a seat having a seat cushion and a seat backrest cushion, at least one of which is part of a ventilated component, each ventilated component having an air-permeable trim surface at an occupant contact area of the seat;
 - an insert located beneath the trim surface of each ventilated component, the insert including the following:
 - i. a forward layer including a plurality of openings in fluid communication with the air-permeable trim surface;
 - ii. a rearward layer including at least

one opening;

iii. a spacer material intermediate of the forward layer and the rearward layer, creating an open space within the insert; and

iv. an air moving member including a fan and a housing that at least partially surrounds the fan, the air moving member disposed on an outside of the insert, attached to an outer surface of the rearward layer at the at least one opening, and in fluid communication with the spacer material;

wherein the ventilated component includes a through-hole that receives the air moving member upon assembly of the insert to the ventilated component.

Ex. 1001, 14:23–44.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, the Board gives claim terms in an unexpired patent their broadest reasonable interpretation in light of the specification of the patent in which they appear. 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1278, 1279 (Fed. Cir. 2015) (“We conclude that Congress implicitly approved the broadest reasonable interpretation standard in enacting the AIA” and “the standard was properly adopted by PTO regulation.”). Under the broadest reasonable interpretation standard, and absent any special definition, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definition for a

claim term must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

The parties in the present case assert competing definitions of a person of ordinary skill in the art. Petitioner asserts that one of ordinary skill in the art would have had a good working knowledge of vehicle seats, including those employing heating and/or ventilation systems, obtained through either education and training or several years of practical work experience. Pet. 7–8. In contrast, Patent Owner asserts that one of ordinary skill in the art would have had either: vocational training in mechanical or electrical engineering, or a related field, plus 3–4 years of experience designing consumer heating, cooling, or ventilation systems; or a bachelor of science degree in mechanical or electrical engineering, or a related field, plus 1–2 years of experience designing consumer heating, cooling, or ventilation systems. PO Resp. 8–9 (citing Ex. 2003 ¶¶ 29–31). As Patent Owner’s definition is supported by the testimony of its expert declarant, Dr. Rice, while Petitioner’s assertion as to the level of skill is not supported by expert testimony, we adopt Patent Owner’s definition for purposes of our Final Written Decision. See Ex. 2003 ¶¶ 29–30.

Petitioner has proposed constructions for eleven claim terms (Pet. 9–12), which are summarized below:

Claim Term	Proposed Construction	Claims
ventilated component	a seat or seat backrest that is ventilated, onto which an insert is disposed	1, 6, 7, and 20
air-permeable trim surface	a covering including a surface portion through which air can pass	1
occupant contact area	a portion of a seat that an occupant contacts when seated in the seat	1
insert	a component or assembly of components that is inserted into a seat or seat backrest	1, 6, 7, 19, and 20
forward layer	a layer configured to be closer to a seat occupant	1, 3, 4, and 16
rearward layer	a layer opposite the forward layer	1, 4, 6, 7, 16, and 18–20
spacer material	a material that is intermediate of a forward and rearward layer	1, 4, 6, 7, 16, 19, and 20
open space	internal space within the insert, including space that is defined by voids in the spacer material through which fluid can flow	1
air moving member	a device that moves air, such as a fan	1, 6, 7, and 18–20
heater	a device that provides heat	3 and 13
single sealed edge	a seal along a periphery that is formed by an adhesive, by IR, RF, or ultrasonic welding, or other similar fixing means	4 and 16

With the exception of Petitioner’s proposed construction for the term “spacer material,” Patent Owner does not oppose the proposed constructions in the table above. See PO Resp. 9–11. We are persuaded, with the noted

exception, that Petitioner's proposed constructions are the broadest reasonable interpretations consistent with the Specification. *See* Pet. 9–12.

Petitioner contends that “[t]he broadest reasonable interpretation of the term ‘spacer material’ should include ‘a material that is intermediate of a forward and rearward layer.’” Pet. 11 (citation omitted). Patent Owner contends that Petitioner's proposed construction of “spacer material” is overly broad. PO Resp. 9; *see* Ex. 2003 ¶¶ 32–36.

Patent Owner asserts that the Patent Specification “defines the spacer material's characteristics and explains that it provides space to permit air flow.” PO Resp. 9 (citing Ex. 1001, 1:37–38 (“a spacer material creating an open space within the insert”), 7:61–62 (“the spacer layer maintains internal open space”)). In support of Patent Owner's proposed construction, Dr. Rice testifies:

According to the '932 patent specification, the spacer material in the '932 patent is not simply any material, but is described as a material that creates an open space within the insert and maintain[s] an internal open space. Hence the use of the word “spacer.”

Ex. 2003 ¶ 33. Dr. Rice also testifies that a person of ordinary skill “would understand the claim term ‘spacer material’ as ‘a material or layer that maintains space and allows air flow between two layers or objects.’” Ex. 2003 ¶ 36. Petitioner's Reply does not address Patent Owner's proposed construction of “spacer material.” *See* Pet. Reply 1–9.

Upon consideration of the competing arguments and the evidence of record, we determine that the broadest reasonable interpretation consistent

with the Specification of “spacer material” is a material or layer that is intermediate of a forward layer and a rearward layer, maintains space between the forward layer and the rearward layer, and allows air flow between the forward layer and the rearward layer. This interpretation is consistent with Petitioner’s proposed construction of “open space” as “internal space within the insert, including *space that is defined by voids in the spacer material through which fluid can flow*” (emphasis added). See Pet. 11 (citing Ex. 1001, 1:36–38, 2:36–39, 7:61–63, 8:9–11).

B. Asserted Obviousness

Petitioner contends that the combination of Knoll ’113, Knoll ’028, Bevan, Nelson, and Jost teaches all the limitations of challenged claims 1, 3, 4, 6, 7, 11, 13, 14, 16, 18, and 20. Pet. 37; *see also id.* at 36 (contending that Knoll ’113, Knoll ’028, and Bevan, either alone or in combination, disclose all of the limitations of the challenged claims, and referencing sections B.1, B.2, B.3, and B.4 of section IV of the Petition). In response, Patent Owner asserts that Knoll ’113 is not prior art to the challenged claims under 35 U.S.C. § 102(e), contrary to Petitioner’s contention. PO Resp. 11–12; *see* Pet. 12 (asserting “Knoll has an effective filing date of January 30, 2006, and is prior art at least under §102(e)”).

1. Prior Art Status of Knoll ’113

Patent Owner asserts that Knoll ’113 is not prior art to the challenged claims under 35 U.S.C. § 102(e), because the claimed invention was conceived before the January 30, 2006 filing date of Knoll ’113 and

diligently reduced to practice at least as early as February 28, 2006. *See* PO Resp. 11–12. Petitioner counters that Patent Owner’s evidence of conception prior to the filing date of Knoll ’113 is insufficient to show a limitation that is required by all the challenged claims—i.e., “the ventilated component includes a through-hole that receives the air moving member upon assembly of the insert to the ventilated component” (referred to hereinafter as “the through-hole limitation”), recited in claim 1. *See* Pet. Reply 3 (citing Ex. 1001, 14:42–44). We focus our discussion below, therefore, on the competing arguments and evidence pertinent to the through-hole limitation.

a. Patent Owner’s Evidence

As evidence of conception of the through-hole limitation prior to January 30, 2006, Patent Owner relies on a January 23, 2006 report summarizing the inventors’ designs (Ex. 2022), a computer-aided design (“CAD”) drawing dated January 25, 2006 (Ex. 2024), a February 20, 2006 test report (Ex. 2070), a February 1, 2006 photograph (Ex. 2080), and the Lazanja, Marlovits, Normand, and Krzywinski Declarations (Exs. 2011, 2012, 2014, 2015). On the basis of this evidence, Patent Owner asserts:

The inventors conceived seat systems with both the seat cushion and the seat backrest cushion that included through-hole ducts to accommodate the blowers. Ex. 2011 ¶¶ 5, 12; Ex. 2012 ¶¶ 6, 13; Ex. 2014 ¶¶ 12–13; Ex. 2015 ¶¶ 9, 19; Ex. 2070 at 2, 7; Ex. 2080. This shows that the inventors conceived that “*at least one of [the seat cushion or backrest cushion] is part of a ventilated component,*” as recited in Claim 1.

PO Resp. 36.

The inserts were designed in view of the Chrysler automobile seats in which they were intended to be used. Ex. 2011 ¶¶ 4, 5, 10, 12; Ex. 2012 ¶¶ 4, 10, 13; Ex. 2014 ¶¶ 5, 8, 12; Ex. 2015 ¶ 11; Exs. 2022, 2024. The inventors' design included modification of the seats to provide ducts or channels to accommodate the blowers, as confirmed by the photographs showing the inserts laying flat on top of the cushions, which were made according to the prototype drawings, and the Chrysler test seat, and by the goal of delivering ventilated air to an occupant, which required the blowers to access air. Ex. 2011 ¶¶ 5, 12, 20, 23, 25; Ex. 2012 ¶¶ 6, 13, 15; Ex. 2014 ¶¶ 12–13, 18, 20, 26; Ex. 2015 ¶¶ 9, 19, 22; Ex. 2070 at 6–7; Ex. 2080. This show that, as conceived by the inventors, *“the ventilated component includes a through-hole that receives the air moving member upon assembly of the insert to the ventilated component,”* as recited in Claim 1.

Id. at 42–43.

Patent Owner's evidence includes the declaration testimony of two Inventors—Marinko Lazanja and Ed Marlovits. Exs. 2011, 2012. Their testimony may be summarized, in pertinent part, as follows:

(1) In 2005 and January 2006, Mr. Lazanja and Mr. Marlovits worked for W.E.T. Automotive Systems, Ltd. (“W.E.T.”). Mr. Lazanja's job title was Director of Account Manager, and Mr. Marlovits's job title was Advanced Process Development Specialist. Ex. 2011 ¶ 3; Ex. 2012 ¶ 3. During that time, Mr. Lazanja and Mr. Marlovits worked with the other Inventors on a project for W.E.T.'s customer, Daimler Chrysler, to develop a vehicle seat trim bag for two planned 2008 model cars. Ex. 2011 ¶¶ 4, 5; Ex. 2012 ¶¶ 4, 5.

(2) As instructed by Daimler Chrysler's Project Manager, Keith Ferguson, in late 2005 and early 2006, the vehicle seat trim bags were to include a certain thin heater manufactured by a company called EcoTemp and a certain blower or small fan manufactured by a company called Papst. Ex. 2011 ¶ 4; Ex. 2012 ¶ 4.

(3) Mr. Marlovits testified:

We developed trim bag designs that included multiple layers, including bags with spacer material, such as spacer fabric from a company called Muller, surrounded by sealed layers of polymer film with and without a fleece or other layers. We designed the bags to have the blowers attached to the bottom or cushion-facing side of the bag and extending away from the bags. The vehicle seat-cushion foams would include a duct or channel through them to accommodate the blowers.

Ex. 2012 ¶ 6.

(4) Mr. Lazanja similarly testified:

We came up with trim bag designs that included multiple layers, this included bags with spacer material, such as spacer fabric from a company called Müller, surrounded by sealed layers of polymer film, as well as an optional fleece layer. We designed the bags so that the blowers could attach to the bottom or foam-facing side of the bag and extend away from the bags. The vehicle seat foams would include ducts or channels through them to accommodate the blowers.

Ex. 2011 ¶ 5.

(5) On or before January 23, 2006, the Inventors prepared a report (Ex. 2022) summarizing some of their designs. Ex. 2012 ¶ 8; Ex. 2011 ¶ 7.

(6) Mr. Lazanja testified: “Around January 23, 2006, my team started working with Tim Normand, one of W.E.T.’s Design Engineers, to prepare schematic drawings we could use to prepare prototypes of the designs we had come up with.” Ex. 2011 ¶ 9.

(7) Mr. Lazanja testified that two schematic drawings, one for a “Front Seat Back” or “FSBK” (Ex. 2024) and one for a “Front Seat Cushion” or “FSCH” (Ex. 2026), were approved by the Inventors and completed on January 25, 2006. Ex. 2011 ¶¶ 9, 10, 11.

(8) Mr. Lazanja and Mr. Marlovits testified identically that: “The trim bags were designed in view of the seat foams that Chrysler intended to use with the two 2008 car models that it was working on with W.E.T.” Ex. 2011 ¶ 12; Ex. 2012 ¶ 13.

(9) Chrysler provided W.E.T. with samples of the seat foams intended for use in the two cars. Ex. 2011 ¶¶ 12, 16; Ex. 2012 ¶ 13.

(10) Mr. Marlovits testified: “We had to make some modifications to the foams to accommodate the trim bags. We had to make a cavity or depression to hold the trim bag and ducts or channels through the foams to accommodate and encompass the blowers.” Ex. 2012 ¶ 13.

(11) Mr. Lazanja similarly testified: “We had to make some modifications to the foams to accommodate the trim bags. We had to make a cavity or depression to hold the trim bag and ducts or channels through the foams to accommodate and encompass the blowers.” Ex. 2011 ¶ 12.

(12) After the two schematic drawings were finished, Mr. Lazanja asked Tim Normand “to have W.E.T.’s Prototyping Department prepare samples according to the drawings.” Ex. 2011 ¶ 16.

(13) Mr. Lazanja testified: “Our team had a meeting scheduled with Daimler and [Johnson Controls, Inc. (“JCI”)] later that week on Thursday, February 2, 2006, to discuss the designs. We wanted to evaluate one set of the sample trim bags and foams before that meeting, and then ship samples to Chrysler and JCI right around the time of the meeting.” *Id.*

(14) On January 31, 2006, Mr. Lazanja “received and inspected the initial samples of the FSCH and FSBK trim bags.” Ex. 2011 ¶ 17.

(15) Exhibit 2080 is a photograph of a sample sent to Daimler Chrysler on or around February 2, 2006. As indicated in the photograph, the vehicle seat trim bag lies flat, which Patent Owner contends indicates that the back foams have ducts to accommodate the Papst fans. Ex. 2011 ¶¶ 20, 21, 22; PO Resp. 42–43.

(16) In early- to mid-February 2006, Chrysler provided W.E.T. with a prototype of the seat intended for use in the two cars, and Mr. Lazanja asked Tim Normand to have W.E.T.’s “Prototyping Department prepare sample trim bags according to the drawings, install them in the seat, and prepare the seat for some performance testing.” Ex. 2011 ¶ 24. The seat was prepared and delivered to the Test Lab on February 20, 2006. *Id.*

(17) Exhibit 2070 is a report prepared by the Test Lab on February 28, 2006. *Id.*

Patent Owner's evidence also includes the declaration testimony of two non-inventors—Tim Normand and Margaret Krzywinski. Exs. 2014; 2015. During 2005–2006, Mr. Normand worked in W.E.T.'s Design Engineering department; his job title was Product Specialist. Ex. 2014 ¶ 3. Mr. Normand testifies that the schematic drawings (Exs. 2024; 2026) were completed on January 25, 2006. *Id.* Mr. Normand testified with respect to the samples as follows:

12. DaimlerChrysler or JCI gave us foams that would match the seats to be used in the two 2008 car models they asked us to work on. The trim bags were designed to fit with the foams. The foams were modified to include a cavity to accommodate the trim bags and ducts or channels to accommodate the blowers.

13. With Marinko's instructions, I began working with our Prototyping Department to build samples according to the drawings. Around January 26, 2006, I prepared a draft "Prototype Requisition" form for this project. I spoke with Margaret Krzywinski, the Technology Center Coordinator for the Prototyping Department, about my request. Together with Margaret, I prepared a formal Prototype Requisition on January 31, 2006, and instructed Margaret to prepare one sample of each FSCH and FSBK trim bag and harness according to the prototype drawings I had prepared for the project. I also instructed Margaret to prepare the cushion and back foams to accommodate the sample trim bags. The cushion and back foams were to include a cavity for holding the trim bags and ducts through the cushions to accommodating [sic] the Papst fans. A copy of the January 31 Prototype Requisition is labeled Exhibit 2032. My signature is near the bottom above the "Requestor" signature block. Margaret's signature is located above the "Prototype" signature block. The January 31

Prototype Requisition were [sic] given the W.E.T. Prototype Reference # (or “WP” number) of 060058.

During 2005–2006, Ms. Krzywinski was the Technology Center Coordinator for W.E.T.’s Prototyping Department. Ex. 2015 ¶ 2. Ms. Krzywinski pertinently testified that Elzbieta Kolodziejczyk prepared the samples:

9. On January 31, 2006, I assigned Elzbieta Kolodziejczyk to prepare the sample trim bags and harnesses based on the released drawings associated with the E04391 project and used in WP 060058. Tim instructed Elzbieta to also prepare foam cushions to accommodate the sample trim bags. The foam cushions were to include a cavity for holding the trim bags and ducts through the cushions to accommodating the Papst fans.

* * *

10. On January 31, 2006, Elzbieta prepared one sample of each part listed in the January 31 Prototype Requisition, i.e., (a) DCX WK Hybrid FSCH; (b) DCX WK Hybrid FSBK; (c) DCX WK FSCH Harness; and (d) DCX WK FSBK Harness.

b. Petitioner’s Response

In response, Petitioner contends that “the documents submitted by the Patent Owner to establish a conception date prior to January 30, 2006 do not describe adequately an air moving member attached to an outer surface of the rearward layer at the at least one opening and received in a through-hole of the ventilated component.” Pet. Reply 3–4 (citing Ex. 2022; Ex. 2024; Ex. 2026). Petitioner’s position is that Patent Owner’s declarants “have

failed to provide a date when they conceived of the through-hole,” and any Inventor testimony indicating a possible conception date prior to January 30, 2006 is uncorroborated. Tr. 12:5–6, 17:6–18.

Petitioner further contends that Kevin Ferguson, the DaimlerChrysler engineer who met with the Inventors in 2005, “instructed W.E.T. to incorporate an Ecotemp heater and Papst fan mounted in a rubber boot into a sealed plenum bag for insertion into a vehicle seat *including through ducts for receiving the rubber boot*. Pet. Reply 7 (emphasis added). In support of this contention, Petitioner submits a declaration from Mr. Ferguson in which he testifies that he “submitted a DaimlerChrysler Invention Development Record dated May 31, 2005” that describes key features of the claimed invention. Ex. 1020 ¶ 5. According to Mr. Ferguson, this Invention Development Record described a vehicle seat heating and ventilation system with “seat foam [that] *included ducts extending through the seat foam* and located in specific regions of the seat[, and] [f]an units . . . mounted in each duct of the seat foam.” *Id.* (emphasis added); see Ex. 1021. Mr. Ferguson states that a prototype of this design was built by Ecotemp, and that he showed the prototype to Mr. Lazanja and Mr. Normand when he met with them in late 2005. *Id.* ¶¶ 6, 8.

c. Analysis

Under 35 U.S.C. § 102(e)(2), “[a] person shall be entitled to a patent unless . . . (e) the invention was described in . . . (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent.” Accordingly, to determine whether a

patent application is prior art to a patentee's claimed invention under § 102(e)(2), it is necessary to determine the patentee's date of invention. As defined by the Federal Circuit, "[t]he invention date is the date of conception." *Allergan, Inc. v. Apotex Inc.*, 754 F.3d 952, 967 (Fed. Cir. 2014) (citing *Invitrogen Corp. v. Clontech Labs., Inc.*, 429 F.3d 1052, 1063 (Fed. Cir. 2005)). "Conception is the 'formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied in practice.'" *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1376 (Fed. Cir. 1986) (citations omitted). "An idea is definite and permanent when the inventor has a specific, settled idea, a particular solution to the problem at hand, not just a general goal or research plan he hopes to pursue." *Burroughs Wellcome Co. v. Barr Labs., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994). "A conception must encompass all limitations of the claimed invention." *Singh v. Brake*, 317 F.3d 1334, 1340 (Fed. Cir. 2003) (citations omitted). An inventor's testimony regarding his own prior inventorship must be corroborated:

It is well-established in our case law that a party claiming his own prior inventorship must proffer evidence corroborating his testimony. . . . "This rule addresses the concern that a party claiming inventorship might be tempted to describe his actions in an unjustifiably self-serving manner in order to obtain a patent or to maintain an existing patent." . . . "[A] 'rule of reason' analysis is applied to determine whether an inventor's testimony . . . has been corroborated." In applying the "rule of reason" test, "all pertinent evidence" is examined in order to determine whether the "inventor's story" is credible. . . . "[E]ach corroboration case must be decided on its own facts

with a view to deciding whether the evidence as a whole is persuasive.”

Sandt Tech., Ltd. v. Resco Metal & Plastics Corp., 264 F.3d 1344, 1350 (Fed. Cir. 2001) (internal citations omitted).

The testimony of Inventors Lazanja and Marlovits, summarized above, is insufficient to show formation in the Inventors’ minds of a definite and permanent idea of the complete and operative invention, including the through-hole limitation, prior to January 30, 2006. As to the through-hole limitation, Inventors Lazanja and Markovits testify only that the seat foams or cushions “*would include*” ducts or channels through them to accommodate the blowers. Ex. 2011 ¶ 5; Ex. 2012 ¶ 6 (emphasis added). That conditional wording does not evince a specific, settled idea of the Inventors to include the through-hole limitation in their design as of any particular date. *See Burroughs Wellcome*, 40 F.3d at 1228. The absence of an affirmative statement of conception as to the through-hole limitation contrasts with the clear wording used elsewhere in the declarations, such as “[w]e came up with,” “[w]e designed,” and “[w]e developed,” to show conception of other claim limitations. *See* Ex. 2011 ¶ 5; Ex. 2012 ¶ 6. Further, there is no other evidence of record that shows conception of the through-hole limitation prior to January 30, 2006. For example, neither the January 23, 2006 report nor the drawings completed January 25, 2006 make any reference at all to a seat cushion, much less to a seat cushion including a through-hole that receives the blower upon assembly of the insert to the seat cushion. Ex. 2022; Ex. 2024; Ex. 2026.

At the oral hearing, Patent Owner’s counsel argued that the Inventors testified they modified the seat foams to provide a cavity and ducts to accommodate the trim bag and encompass the blowers. Tr. 29:7–10. In that regard, Mr. Lazanja testifies that “[w]e had to make some modifications to the foams,” i.e., “[w]e had to make a cavity or depression to hold the trim bag and ducts or channels through the foams to accommodate and encompass the blowers.” Ex. 2011 ¶ 12. Mr. Marlovits makes the same statement. Ex. 2012 ¶ 13. Neither Inventor, however, specifies when such modifications were made or precisely by whom they were made. Moreover, to the extent Inventors Lazanja and Marlovits assert that, prior to January 30, 2006, they conceived of a seat cushion having a through-hole that receives the blower upon assembly of the insert to the seat cushion, their testimony is uncorroborated. Rather, a review of all pertinent evidence of record makes clear that (1) the modifications to the foam cushion were made at the direction of Mr. Normand, who is not a named inventor (Ex. 2014 ¶ 13; Ex. 2015 ¶ 9); (2) the modifications were made by Ms. Kolodzjejczyk, also not named as an Inventor (Ex. 2015 ¶ 9); and (3) both Mr. Normand’s direction and Ms. Kolodzjejczyk’s modifications occurred after January 30, 2006 (*id.*). Further, Mr. Lazanja requested Mr. Normand to prepare samples “according to the drawings.” Ex. 2011 ¶ 16; Ex. 2014 ¶ 13. But the drawings (Exs. 2024; 2026) contain no reference to the through-hole limitation. Indeed, Patent Owner concedes that “the cushions are not shown in the drawings.” Tr. 40:23.

At the oral hearing, Patent Owner's counsel "appeal[ed] to some common sense," and argued that if the blower is "on the bottom side of the bag, and there is a cushion there that it is mounted into . . . there has to be a duct for that thing," i.e., "there is no other place for [the blowers] to go, because they are put on a seat cushion." Tr. 28:17–29:19. In essence, Patent Owner's counsel asks us to assume that the Inventors *must have* conceived of a cushion having a through-hole when they conceived of the trim bag having fans attached to the bottom of the bag. But if this were the case, it would have been a simple matter for the Inventors to have said so themselves, rather than make the puzzling statement that the seat foams "would include" ducts through them to accommodate the blowers. Further, the '932 Patent discloses that *either* "through-holes" *or* "cavities" can be used to accommodate fans connected to an insert. Ex. 1001, 12:49–60, Figs. 5, 6, 8, 9. There is no evidence in the record that the Papst blowers needed to be received within through-holes rather than cavities in the seat cushion. *See also* Tr. 33:9–12 (Gentherm's counsel stating that if the fans are extending from the bottom of the bag, "I would challenge any of us in this room to conceive of a different place for those fans to go than in a cavity in the cushion").

Finally, we cannot ignore Mr. Ferguson's testimony that he conceived of a seat ventilation system comprising a seat foam with ducts extending through the foam and with fan units mounted in each duct, and that he showed the Inventors a prototype of this system in late 2005. It is true, as Patent Owner's counsel points out, that this is not a derivation proceeding.

Tr. 42:17–20. Mr. Ferguson’s declaration and Invention Development Record may help explain, however, the Inventors’ reluctance to testify that they conceived of a seat foam with ducts extending through the seat cushion and fan units mounted in the ducts.¹

In any event, Patent Owner does not contend that Mr. Ferguson’s declaration serves to corroborate any Inventor testimony. Indeed, Patent Owner *disputes* that Mr. Ferguson showed the Inventors a prototype of his system in late 2005. Tr. 53:11–54:23. Patent Owner contends that Mr. Ferguson’s declaration is inconsistent with the Inventors’ testimony, which does not mention that Mr. Ferguson showed them a prototype of his system in late 2005. *Id.*; see Ex. 2011 ¶ 4; Ex. 2012 ¶ 4.

Upon consideration of the competing arguments and evidence of record, we are persuaded by Petitioner that Patent Owner’s evidence is insufficient to show an invention date prior to January 30, 2006. In particular, the Inventor testimony on which Patent Owner relies to show conception of the through-hole limitation is insufficiently specific or clear, and is uncorroborated. On this record, therefore, we determine that Knoll ’113 is prior art to the challenged claims under 35 U.S.C. § 102(e).

¹ Unfortunately, neither Mr. Ferguson nor any of Patent Owner’s witnesses were deposed, so we do not have the benefit of their cross-examination testimony.

2. Overview of Knoll '113

Knoll '113 discloses a ventilation diffuser bag for disposition on a seat portion of a vehicle occupant support. Ex. 1003, 3:12–13. Figure 1 of Knoll '113 is reproduced below.

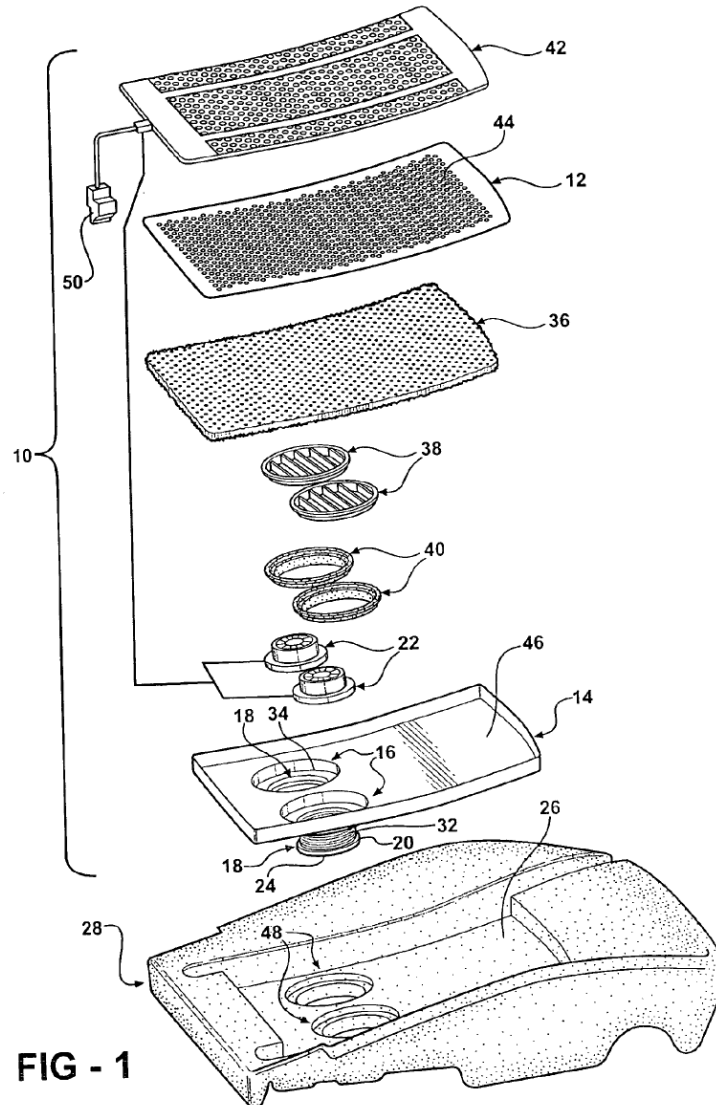


Figure 1 is an exploded view of diffuser bag 10 in combination with seat support 28. *Id.* at 2:62, 3:12–13, 65–67, Fig. 1. Bag 10 includes

perforated, occupant-facing side 12 and opposite non-perforated, support-surface-facing side 14. *Id.* at 3:24–26. As shown in Figure 1, air permeable material 36, which provides an even distribution of air throughout the diffuser bag, is disposed in diffuser bag 10 between perforated side 12 and non-perforated side 14. *Id.* at 4:17–21. Non-perforated side 14 includes an opening 16 to allow air flow into the diffuser bag. *Id.* at 3:41–42. “An air mover support 18 integral with the non-perforated side 14 includes an endless sidewall 20 extending from the opening 16 for providing support for an air mover 22.” *Id.* at 44–47. The air mover support may be molded together with the non-perforated side, or may be separately molded and then adhered or welded to the non-perforated side around the opening. *Id.* at 48–52. Figure 4 of Knoll ’113 is reproduced below.

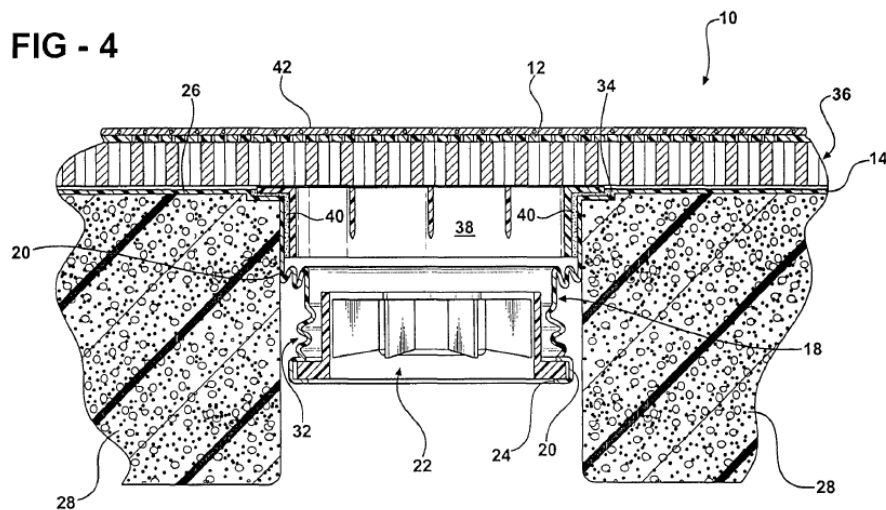


Figure 4 is a sectional view of ventilation diffuser bag 10 installed in seat portion 28. Ex. 1003, 3:5–7, Fig. 4. As depicted in Figure 4, air mover 22 is received in air mover support 18 and retained in endless sidewall 20 by retaining edge 24. *Id.* at 3:59–61.

3. Analysis

A claim is unpatentable for obviousness under 35 U.S.C. § 103(a) if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). A patent claim composed of several elements, however, is not proved obvious merely by demonstrating that each of its elements was known, independently, in the prior art. *Id.* at 418. In analyzing the obviousness of a combination of prior art elements, it can be important to identify a reason that would have prompted one of skill in the art to combine the elements in the way the claimed invention does. *Id.* A precise teaching directed to the specific subject matter of a challenged claim is not necessary to establish obviousness. *Id.* Rather, “any need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed.” *Id.* at 420. The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness, i.e., secondary considerations, if in evidence.² *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

² Patent Owner does not contend in the Patent Owner Response that any

Here, Petitioner contends that the combination of Knoll '113, Knoll '028, Bevan, Nelson, and Jost teaches all limitations of claims 1, 3, 4, 6, 11, 13, 14, 16, 18, and 20. Pet. 37; *see also id.* at 36 (contending that Knoll '113, Knoll '028, and Bevan, either alone or in combination, teach all limitations of claim 1, and referencing Sections IV.B.1, IV.B.2, IV.B.3, and IV.B.4 of the Petition). Petitioner argues that combining these references amounts to nothing more than using known techniques to improve a similar device in similar ways:

It would have been obvious to combine the prior art elements disclosed in Nelson and Jost with Knoll '113, Knoll '028, and Bevan because all of these references are similarly related to vehicle seating systems, and more particularly to comfort systems for vehicle seats. The combination amounts to use of a known technique to improve a similar device in a similar way.

Id. at 36; *see id.* at 21, 28–29.

a. Claim 1

Petitioner contends that Knoll '113 teaches all limitations of claim 1 except “an air moving member . . . attached to an outer surface of the rearward layer at the at least one opening,” “an air-permeable trim surface,” and “an insert located beneath the trim surface.” Pet. 36–42. Petitioner contends that it would have been obvious to modify Knoll '113’s air mover support 18 to meet the requirement for an air moving member attached to an outer surface of the rearward layer at the at least one opening. *Id.* at 20; *see*

secondary considerations are present that would render the challenged claims patentable over the combined teachings of these references.

id. at 36 (referencing the discussion of obviousness over Knoll '113 in Section IV.B.2 of the Petition). In support of that contention, Petitioner argues:

It would have been obvious to one of ordinary skill in the art to permanently attach the air mover support 18 to the outer surface of the rearward support surface facing side 14 at the opening 16, as it is well-known to adhere two surfaces together, and adhering the air mover support 18 to the outer surface would have been an obvious choice among a finite number of solutions (i.e., adhere to outer surface, inner surface, or side surface of the rearward side 14) having predictable results.

Id. Petitioner contends that the “air-permeable trim surface” limitation was well known in the art. *Id.* at 38 (citations omitted). Petitioner argues that Knoll '028's perforated fabric cover 16, for example, discloses that limitation. *Id.* (citing Ex. 1004, 6:52–56, Fig. 1). Petitioner additionally contends that both Knoll '028 and Bevan disclose “an insert located beneath the trim surface of each ventilated component.” *Id.* at 38–39 (citing Ex. 1004, 6:52–56, Figs. 1, 4, 7, 10; Ex. 1005, 3:39–51, Figs. 1–7). Patent Owner does not dispute Petitioner's contentions. PO Resp. 1–54; Tr. 45:4–5.

On this record, we are persuaded that that a person of ordinary skill in the art would have combined the teachings of Knoll '113, Knoll '028, Bevan, Nelson, and Jost, and that the combination teaches all the limitations of claim 1, as Petitioner contends. With respect to the requirement of claim 1 for “an air moving member . . . attached to an outer surface of the rearward layer at the at least one opening,” we find that a skilled person

would have modified Knoll '113 by adhering air mover support 18 to the outer surface of rearward support-surface-facing side 14 at the opening 16, as Petitioner contends. Adhering the air mover support to the outer surface rather than the inner surface of the rearward layer would have been “an obvious matter of design choice within the skill of the art.” *In re Kuhle*, 526 F.2d 553, 555 (CCPA 1975). Further, we find that Knoll '028 and Bevan teach “an air-permeable trim surface” and “[a]n insert located beneath the trim surface,” and that a person of ordinary skill in the art would have had reason to combine the teachings of Knoll '113, Knoll '028, Bevan, Nelson, and Jost for the reasons set forth by Petitioner. We also find that the asserted combination teaches all the limitations of claim 1, as set forth in Petitioner’s claim chart. *Id.* at 37–42. Having reviewed the record, we determine that a preponderance of the evidence supports Petitioner’s contentions, and that claim 1 would have been obvious over Knoll '113, Knoll '028, Bevan, Nelson, and Jost.

b. Claims 3, 4, 6, 11, 13, 14, 16, 18, and 20

Petitioner contends that Knoll '113 discloses all additional limitations of dependent claims 3, 4, 6, 11, 13, 14, 16, 18, and 20. Pet. 16–19, 36. Patent Owner does not dispute Petitioner’s contentions. PO Resp. 1–54; Tr. 45:4–5. Having reviewed the record, we find that a preponderance of the evidence supports Petitioner’s contentions, and that claims 3, 4, 6, 11, 13, 14, 16, 18, and 20 would have been obvious over Knoll '113, Knoll '028, Bevan, Nelson, and Jost.

III. CONCLUSION

For the reasons given above, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 3, 4, 6, 11, 13, 14, 16, 18, and 20 of the '932 Patent are unpatentable as obvious over Knoll '113, Knoll '028, Bevan, Nelson, and Jost.

IV. ORDER

In view of the foregoing, it is hereby:

ORDERED that claims 1, 3, 4, 6, 11, 13, 14, 16, 18, and 20 of the '932 Patent are unpatentable.

This is a Final Written Decision. Parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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Patent 7,735,932 B2

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