

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 IPR2014-00668
Patent 6,840,576 B2

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

COCKS, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

Petitioner, IGB Automotive Ltd. and I.G. Bauherin GmbH (collectively “IGB”), filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–6, 11, 12, 14–17, and 21–28 of U.S. Patent No. 6,840,576 (“the ’576 patent”). Patent Owner, Gentherm GmbH (“Gentherm”), filed a Preliminary Response (Paper 6, “Prelim. Resp.”).¹

We instituted an *inter partes* review based on the grounds that claims 1–3, 6, 14–17, and 21–27 are unpatentable under 35 U.S.C. § 102 as anticipated by Gendron², and claims 1–6, 11, 12, 14–17, 21–25, and 27 are unpatentable under 35 U.S.C. § 103 as obvious over Hayashi,³ Trotman,⁴ and Kawai⁵. Paper 8 (“Decision” or “Dec.”).⁶ Gentherm subsequently filed a Patent Owner Response (Paper 13, “PO Resp.”), to which IGB replied (Paper 16, “Pet. Reply”). An oral hearing was conducted on June 9, 2015, and a transcript of that hearing has been entered into the record (Paper 24, “Tr.”).

¹ We understand that W.E.T. Automotive Systems AG, which initially owned the ’576 patent, merged with Gentherm Europe GmbH, which then changed its name to Gentherm GmbH. Mandatory Notice Information (Paper 5, 1).

² U.S. Patent No. 6,511,125 B1 issued to Gendron (Jan. 28, 2003) (Ex. 1005).

³ U.S. Patent No. 4,413,857 issued to Hayashi (Nov. 8, 1983) (Ex. 1007).

⁴ U.S. Patent No. 2,992,604 issued to Trotman (July 18, 1961) (Ex. 1004).

⁵ U.S. Patent No. 5,921,858 issued to Kawai (July 13, 1999) (Ex. 1006).

⁶ We did not institute *inter partes* review of claim 28 based on any ground.

For the reasons explained below, and on the record now before us, we determine the following: (1) IGB has shown by a preponderance of the evidence that claims 1–3, 6, 14–17, and 21–27 are anticipated by Gendron; (2) IGB has not shown by a preponderance of the evidence that claims 16, 22, and 27 are anticipated by Gendron; and (3) IGB has not shown by a preponderance of the evidence that claims 1–6, 11, 12, 14–17, 21–25, and 27 are unpatentable as obvious over Hayashi, Trotman, and Kawai.

B. Related Matters

IGB indicates that the '576 patent is involved in a lawsuit styled *W.E.T. Automotive Systems, Ltd. v. IGB Automotive Ltd.*, Civil Action No. 2:13-CV-11536-AJT-PJK (E.D. Mich.). Pet. 2.

C. The '576 Patent (Ex. 1001)

The '576 patent is titled “Ventilated Seat” and “relates to a ventilated seat pad constructed to be connected to a forced air system of a vehicle.” Ex. 1001, 1:6–7. Figure 2 of the '576 patent is reproduced below.

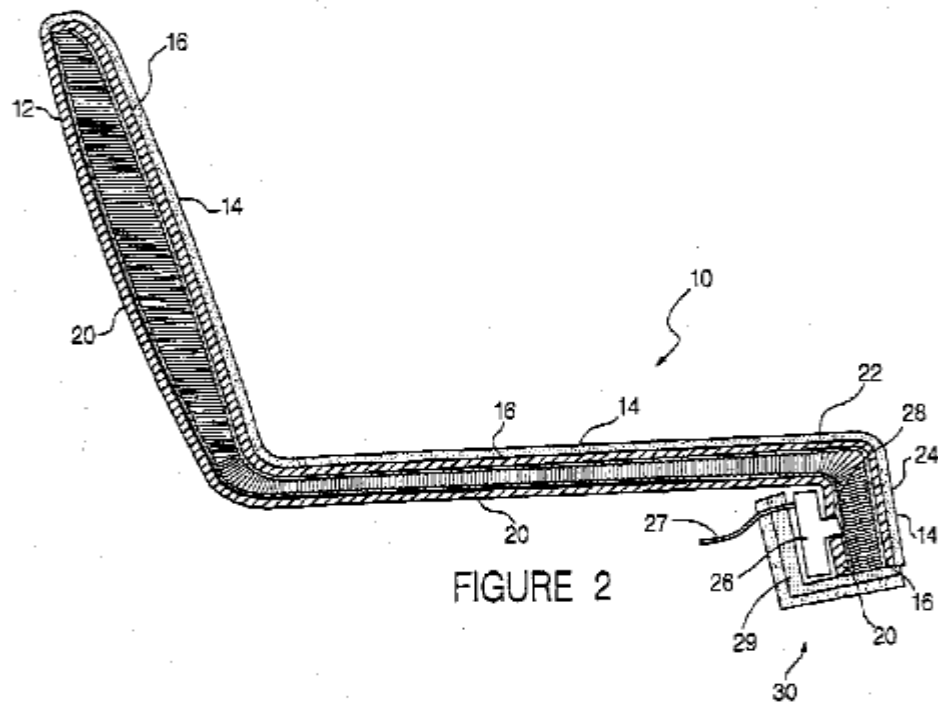


Figure 2 illustrates a “cross-sectional side view of the pad” according to an embodiment of the invention. *Id.* at 2:24–25. As shown in Figure 2, ventilated seat pad assembly 10 includes pad 12 with upper surface layer 14 “preferably formed of a porous material, e.g., fabric or perforated leather.” *Id.* at 2:46–54. The ’576 patent further describes the following with respect to the components that make-up pad assembly 10, including upper surface layer 14, first inner layer 16, porous second inner layer 22, tongue 24, lower surface layer 20, and fan 26:

A first inner layer 16 is formed of a non-porous material, as is a lower surface layer 20. Upper surface layer 14, first inner layer 16, and lower surface layer 20 are attached, for example, by sewing 18 . . . forming an air impermeable bag between the first inner layer 16 and the lower surface layer 20.

An expanded, porous second inner layer 22 is located between non-porous layers 16, 20 . . . Extending forwardly from the pad 12, is tongue 24 . . . coupled to a fan 26 powered

by wire 27. The fan 26 is coupled to the air space within layer 22.

Id. at 2:54–67.

D. Illustrative Claim

Claims 1, 17, and 23 are independent. Claim 1 is illustrative and is reproduced below:

1. A ventilated vehicle seat comprising:
 - a first portion having at least one edge comprising
 - a porous upper surface layer;
 - a non-porous first inner layer adjacent to the upper surface layer and including ventilation holes;
 - a non-porous lower surface layer; and
 - an expanded spacer layer between the non-porous layers providing an air space; and
 - a tongue portion comprising a tongue integrally-formed with the first portion and extending from the edge of the first portion and including an opening in one of the non-porous layers, the opening providing access to the air space within the expanded spacer layer.

II. ANALYSIS

A. Claim Construction

The Board construes claims in an unexpired patent using the broadest reasonable construction 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 (Fed. Cir. 2015) (“We conclude that Congress

implicitly approved the broadest reasonable interpretation standard in enacting the AIA.”). Claim terms also 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 in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

In the Petition, IGB urged that all of the claim terms of the challenged claims should be given their ordinary and customary meanings as would be understood by one of ordinary skill in the art, as the ’576 patent does not provide any special meaning for any claim term. Pet. 10. Nevertheless, IGB made explicit proposed constructions for ten claim terms. *Id.* at 10–12. Gentherm did not disagree with IGB that all terms of the claims of the ’576 should be given their ordinary and customary meanings, but generally was of the view that the constructions proposed by IGB were inadequate as being “open-ended.” Prelim. Resp. 17–18. In the Decision instituting trial, we determined that it was unnecessary, at that time, to construe expressly any claim term. Dec. 8.

In its Patent Owner Response, Gentherm proffered a construction of the term “adjacent,” which is distinct from the construction that was advanced by IGB. In that respect, although IGB contends that the term should be construed as including “nearby” (Pet. 11), Gentherm contends that the term “requires immediacy or sharing of boundaries, layers that are next to, adjoining, or confronting one another” (PO Resp. 13). We, therefore, construe the term “adjacent,” for purpose of this Decision, so as to reconcile the disagreement between the parties.

A portion of the Abstract of the '576 patent is reproduced below:

A ventilated vehicle seat includes a first portion and a tongue portion. The first portion includes a porous upper surface layer, a non-porous first inner layer that is adjacent to the upper surface layer and that includes ventilation holes, a non-porous lower surface layer, and an expanded spacer layer between the non-porous layers that provides an air space.

Ex. 1001, Abstract.

In that regard, the Abstract describes a non-porous first inner layer that is “adjacent” to an upper surface layer. In summarizing the invention, the '576 patent further characterizes the relationship of the layers as being such that the first inner layer “confronts” the upper surface layer. *Id.* at 1:57–58. Preferred embodiments of the invention introduce non-porous “first inner layer 16” and “upper surface layer 14.” *Id.* at 2:50–55. Those layers are depicted as contiguous to one another and share a boundary. *See id.* at Figs. 2 and 3.

In addition to the above-noted portions of the Specification of the '576 patent, Gentherm points to extrinsic evidence in the form of the “2002 OXFORD AMERICAN COLLEGE DICTIONARY,” and the testimony of its Declarant, Dr. James Rice (Ex. 2002 ¶ 46), in support of its proposed meaning for the term “adjacent.” PO Resp. 14. In particular, Gentherm contends that those sources set forth that the ordinary meaning of “adjacent” is “next to or adjoining something else,” and that such meaning conveys that “adjacent” in the context of the layers of the '576 patent “requires immediate contact between the layers rather than just proximity.” *Id.*

IGB, on the other hand, discounts Gentherm’s argument that “immediate contact” is required. Pet. Reply 1–2. Instead, IGB maintains that the broadest reasonable interpretation of “adjacent” in the context of the

'576 patent does not exclude “nearby, lying near, or close” beyond direct contact. *Id.*

We are mindful of the evidence cited by Gentherm, both intrinsic and extrinsic, as to the meaning of “adjacent.” We do not discern, however, that the evidence imposes a requirement of immediate or direct contact between components, such as layers, that are adjacent. To that end, we observe that other extrinsic sources provide additional context for the ordinary meaning of “adjacent.” For instance, one dictionary sets forth that the meaning of the term “adjacent” may include “nearby” and, in its discussion of synonyms of “adjacent,” explains that the term “may or may not imply contact but always implies absence of anything of the same kind in between.”⁷ In that respect, the ordinary meaning of “adjacent” in the context of layers would include non-contacting layers that are close to or nearby one another, but are not separated by an intervening layer. We conclude that such ordinary meaning is consistent with the Specification of the '576 patent, as well as the evidentiary record as a whole that is before us.

Accordingly, we construe “adjacent” in connection with layers of the '576 patent as including non-contacting layers that lie close or nearby one another, but excluding the presence of an intervening layer between those non-contacting layers.

B. Anticipation by Gendron

IGB contends that claims 1–3, 6, 14–17, and 21–27 are unpatentable under 35 U.S.C. § 102 as anticipated by Gendron. Anticipation requires that every element in a claim must be found in a single prior art reference, and

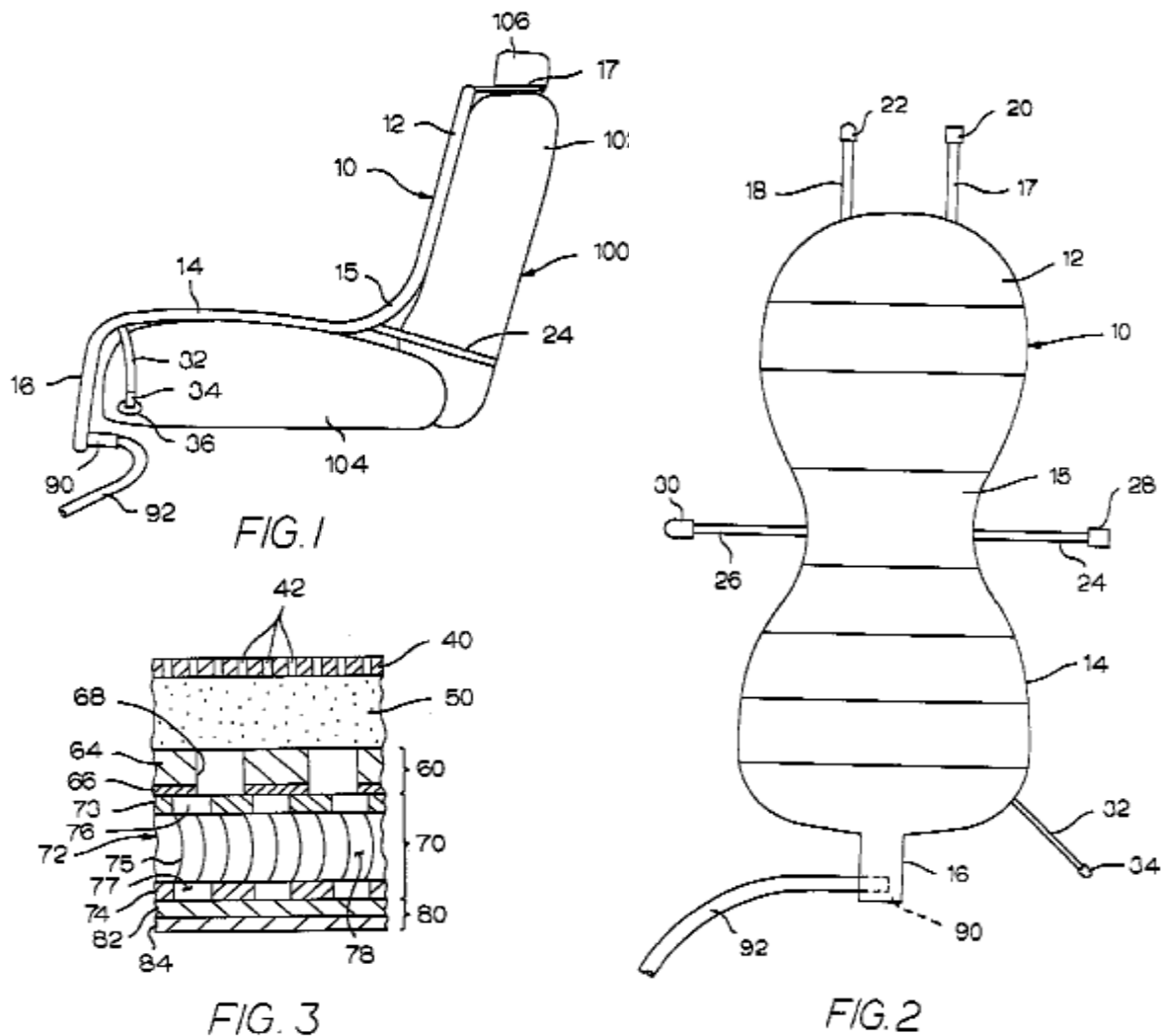
⁷ See MERRIAM-WEBSTER'S COLLEGIATE DICTIONARY 14 (10th Ed. 1996) (entered in this proceeding as Exhibit 3001).

arranged as recited in the claims. *Karsten Mfg. Corp. v. Cleveland Golf Co.*, 242 F.3d 1376, 1383 (Fed. Cir. 2001).

1. *Gendron*

Gendron is titled “Ventilated Seat Pad,” and “relates to a ventilated seat pad constructed to be connected to a forced air system of a vehicle.”

Ex. 1005, [54]; 1:6–8. Gendron’s Figures 1–3 are reproduced below:



Figures 1–3 above depict views of a ventilated seat pad according to an embodiment of Gendron’s invention. Gendron describes the following in connection with the ventilated seat pad:

Pad 10 includes a back portion 12 and a bottom portion 14. A middle portion 15, contoured for comfort, is provided between back portion 12 and bottom portion 14. An extension 16 extends from the forward edge of bottom portion 14. Preferably, back portion 12, bottom portion 14, middle portion 15, and extension 16 are formed as an integral member.

Ex. 1005, 2:9–15.

Gendron also explains that pad 10 is formed as a plurality of layers including first layer 40, second layer 50, third layer 60, fourth layer 70, and fifth layer 80. *Id.* at 2:33–3:2. Third layer 60 includes air impermeable backing 66 and is formed with a series of holes 68 that allow for the passage of air. *Id.* Fifth layer 80 is formed from an air impermeable material and is separated from third layer 60 via fourth layer 70, which is formed from air permeable space material 72. *Id.* Extension 16 includes fitting 90, which is connected to hose 92, and in turn connected to a forced air unit of a vehicle (not shown in figures above). *Id.* at 3:3–15.

2. IGB's Contentions

IGB contends that Gendron discloses all the features of claims 1–3, 6, 14–17, and 21–27. *See* Pet. 23–32. For instance, with respect to claim 1, IGB has likened Gendron's third layer 60 and fifth layer 80 to the required non-porous layers, and fourth layer 70 to the required expanded spacer layer. *Id.* at 24. IGB also has equated Gendron's extension 16 to the required tongue portion. *Id.* at 24–25.

3. Gentherm's Contentions

Gentherm disagrees that Gendron discloses all the features of claims 1–3, 6, 14–17, and 21–27. In explaining that disagreement, Gentherm contends that: (1) Gendron does not show a “tongue portion” or “tongue”

required by all of the above-noted claims (PO Resp. 16–18)⁸; (2) Gendron does not teach two non-porous layers coupled together to form an air impermeable bag as required by claims 16, 22, and 27 (*id.* at 18–19); and (3) Gendron does not disclose a non-porous first inner layer that is “adjacent” to an upper surface layer as required by claim 1–3, 6, 14–16, 21, and 25 (*id.* at 19–21).

4. Discussion - Anticipation

a. “tongue portion” or “tongue”

As noted above, IGB pointed to Gendron’s extension 16 as satisfying the required “tongue portion” or “tongue.” In challenging IGB’s position, Gentherm argues that “Gendron does not teach that extension 16 is an extension of or formed from the plurality of *layers* (*i.e.*, first layer 40, third layer 60, fourth layer 70, and fifth layer 80) that form the pad 10 of Gendron.” PO Resp. 17. Gentherm also contends that the extension is not disclosed inherently in Gendron. *Id.* at 17–18. In that respect, Gentherm is of the view that, in allegedly lacking those noted layers in the extension, either expressly or inherently, Gendron does not disclose that the extension: (1) “is integrally formed with the first portion” as required by claims 1–3, 6, and 14–16; (2) is “an extension of the at least two non-porous layers and an extension of the expanded spacer layer” as required by claims 17, 21, and 22; or (3) is “an extension of the first and second non-porous layers” as required by claims 23–27. *Id.* at 16–17.

⁸ Independent claims 17 and 23 require a “tongue” rather than a “tongue portion” as in claim 1.

At the outset, we observe that IGB's anticipation ground does not rest on a theory that Gendron's extension inherently includes the layers. Rather, IGB bases its anticipation theory on the express disclosures of Gendron, itself. Pet. 24–25. To that end, Gendron makes clear that back portion 12, bottom portion 14, middle portion 15 and extension 16 “are formed as an integral member.” Ex. 1005, 2:13–15. Gendron's Figure 2 is described as showing a front view of a “ventilated seat pad,” and that Figure depicts all of elements 12, 14, 15, and 16. Furthermore, during oral argument, and after inquiry from the panel, counsel for Gentherm agreed that Gendron's pad includes all of those elements, including extension 16.⁹ Thus, there is no dispute that pad 10 includes extension 16. Gendron's Figure 3 is described as “an enlarged sectional view of the ventilated seat pad of FIGS. 1 and 2, illustrating five layers.” *Id.* at 2:54–55.

A reference stands for all of its specific teachings, as well as the inferences one of ordinary skill in this art reasonably would have been expected to draw therefrom. *In re Fritch*, 972 F.2d 1260, 1264–65 (Fed. Cir. 1992). In this case, given at least the above-noted disclosures of Gendron, we conclude that a skilled artisan would infer reasonably that because extension 16 is disclosed as a part of pad 10, which includes five layers, and extension 16 is formed as an “integral member” with the other pad components, the extension also is composed of the layers.

⁹ JUDGE COCKS: Counsel, let me ask you, the portions that Gendron identified, pad 10 includes elements 12, 14, 15, and 16. Do you agree with that? I'm looking at column 2, lines 9 to 15. Does the pad include those four elements?

MR. BUNKER: Yes, it does, yes, you are right. The pad includes the extension.

Tr. 15:9–18.

We are cognizant of Dr. Rice's testimony in favor of the opposite conclusion. See Ex. 2002 ¶¶ 53–55. For example, Dr. Rice generally opines that “[o]ne of ordinary skill would understand that Gendron's extension 16 does not need to be an extension of any of the various pad layers.” *Id.* ¶ 55. We are not persuaded, however, that Dr. Rice provides adequate underlying support for his opinion. To that end, we also are not satisfied that Dr. Rice has taken into account appropriately the express teachings of Gendron concerning the composition of extension 16, including those discussed above.

Accordingly, in considering the record before us, we conclude that Gendron discloses the “tongue portion” and “tongue” features required by claims 1–3, 6, 14–17, and 21–27.

b. The requirement of “adjacent” layers

Each of claims 1–3, 6, 14–16, 21, and 25 includes features directed to the relationship of particular layers being “adjacent to” one another. For instance, claim 1 requires “a non-porous first inner layer adjacent to” a porous upper surface layer. Ex. 1001, 4:18–22. Gentherm submits that IGB's Petition is deficient in accounting for the “adjacent to” requirement of the claims, arguing the following:

Gendron teaches that a first layer 40 is a top or outer layer of pad 10 upon which an occupant sits. Ex. 1005 at col. 2, ll. 32–37. Immediately below and adjacent to first layer 40 is a second layer 50, which is formed from an air permeable cushioning material. *Id.* at col. 2, ll. 40–41. Next, below second layer 50, is third layer 60, which consists of foam layer 64 having an air impermeable backing 66. *Id.* at col. 2, ll. 45–48. Gendron therefore fails to teach that a nonporous first inner layer (*i.e.*, third layer 60) is adjacent to an upper surface layer

(i.e., first layer 40), as required by Claims 1–3, 6, 14–16, 21, and 25. Ex. 2002 ¶¶ 63–64.

PO Resp. 20.

Thus, Gentherm contends that Gendron’s outer layer 40 is not adjacent to inner layer 60 because of the presence of layer 50 between those two layers. That is a position echoed by Dr. Rice. Ex. 2002 ¶¶ 63–65. IGB does not agree with either Gentherm or Dr. Rice, (Pet. Reply 4–5), but also argues that its Petition sets forth that the porous upper surface layer of, for instance, claim 1 is formed by both layers 40 and 50, and that those layers taken together form a layer that is adjacent to layer 60 (*id.* at 6).

Considering our construction of the term “adjacent,” we agree with Gentherm that Gendron’s layers 40 and 60 cannot be considered adjacent to one another given the intervening presence of layer 50. In that regard, we conclude that, in the context of the ’576 patent, when two particular layers are separated by an additional intervening layer, those particular layers are not considered reasonably as being adjacent to one another.

We, however, further consider the content of IGB’s Petition vis-à-vis IGB’s position that the pertinent upper layer may be composed of both Gendron’s layers 40 and 50. With respect to claim 1, IGB’s Petition presented the following:

Gendron discloses that the pad 10 is formed as a plurality of layers including a first layer 40 formed from an air permeable material such as fabric having relatively small openings or perforations 42. First layer 40 is a top or outer layer upon which an occupant sits. The pad 10 also includes a second layer 50 formed from an air permeable cushioning material such as a polymeric fiber. (Ex. 1005: col. 2, ll. 32-37, 40-43; FIG. 3). Gendron therefore discloses that the first portion includes “*a porous upper surface layer.*” . . . the pad 10 of Gendron includes a third

layer 60 that is formed from a material that has a selected hole pattern 62 and that is a foam layer 64 having an air impermeable backing 66. The third layer 60 is underneath the first and second layers 40, 50. (Ex. 1005: col. 2, ll. 44-47; FIGS. 3, 5). Gendron therefore discloses that the first portion includes *“a non-porous first inner layer adjacent to the upper surface layer and including ventilation holes.”*

Pet. 23–24.

Thus, careful review of IGB’s Petition reveals that it did make reference to both of Gendron’s layers 40 and 50 in accounting for the required “porous upper surface layer” required by claim 1. The Petition also referenced both layers 40 and 50 in connection with their positioning relative to layer 60. Thus, the record conveys that the Petition had identified reasonably that both of Gendron’s layers 40 and 50 were proposed as the components making up the required porous upper surface layer.

Gendron discloses that its “first layer 40 is formed from an air permeable material such as fabric having relatively small openings or perforations 42,” and forms “a top or outer layer on which an occupant sits.” Ex. 1005, 2:35–38. Gendron also discloses that its “second layer 50 is formed from an air permeable cushioning material such as polymeric fiber,” and “is used to provide cushioning for the occupant.” *Id.* at 2:41–44. Thus, each of layers 40 and 50 is described as being made from “air permeable” material, and, as shown in Gendron’s Figure 3, is arranged at an upper portion of Gendron’s pad. Gendron also explains that layer 50 acts as a “manifold” to distribute air to perforations 42 in layer 40, and that “[t]he weight of an occupant on seat portion 14 causes first layer 40 and second layer 50 to restrict air flow from hole pattern 62 in the seat portion 12 of third layer 50.” *Id.* at 3:24–25, 38–40. Gendron, thus, describes that layer

40 and layer 50 work together to control air flow to an occupant. We are persuaded that those layers together are understood reasonably as forming a porous upper surface layer as recited, for example, in claim 1.

We have considered the record before us, and are persuaded that Gendron discloses the adjacent layers required by each of claims 1–3, 6, 14–16, 21, and 25.

c. The requirement of layers coupled together “to form an air impermeable bag” (claims 16, 22, and 27)

With respect to claims 16, 22, and 27, Gentherm contends that IGB has failed to show that Gendron teaches two non-porous layers that are coupled together to form an air impermeable bag. PO Resp. 18–19. IGB urged that “[t]he layers of the pad 10 of Gendron, from the first layer 40 to the fifth layer 80, inherently must be sealed along a peripheral edge to prevent air from escaping from the sides of the pad and for maintaining air pressure within the pad.” Pet. 26, 29, 31. On the record now before us, we are not persuaded that IGB’s inherency theory is correct.

Anticipation may be shown when a reference inherently discloses a claim limitation. *In re Schreiber*, 128 F.3d 1473, 1477 (Fed. Cir. 1997). Inherency, however, is not established by probabilities or possibilities. *MEHL/Biophile Int’l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999). More specifically, “[t]he mere fact that a certain thing may result from a given set of circumstances is not sufficient” to establish inherency. *Id.* As we observed in our Decision instituting trial (Dec. 12), there is content of Gendron tending to suggest that the sides of pad 10 may be configured to restrict air flow through the sides of the pad. Nevertheless, the appropriate inquiry is whether Gendron’s pad would *necessarily* be sealed so

as form an air impermeable pad. In other words, that it is only possible or even probable that the pad is sealed in the manner required by the claims is insufficient to establish inherency.

Here, Gentherm argues that in considering the record evidence, there is some possibility that Gendron's pad would not need to be sealed in the manner required by the claim so as to function as intended. PO Resp. 18–19. In making that argument, Gentherm draws support from the testimony of Dr. Rice. With respect to the limitation in question, Dr. Rice testifies the following:

One of ordinary skill in the art would not, however, understand that the pad 10 of Gendron necessarily include[s] this limitation. For example, one of skill would understand that pad 10 of Gendron need not be air-impermeable around all of the edges to be functional. Rather, so long as the edges of pad 10 are sufficiently sealed to maintain adequate internal air pressure to provide ventilation to the user, pad 10 need not be air impermeable around the entire edge. Gendron for example could rely on an adhesive to form a sufficient barrier seal around the perimeter to maintain enough air pressure for good ventilation, but it would not necessarily need to be air impermeable.

Ex. 2002 ¶ 59.

Dr. Rice also testifies that record evidence, i.e. Kawai, shows that ventilated vehicle seats may operate with “a discharge port along one or more of its edges,” referencing Kawai's disclosure of air discharge port 15C. *Id.* ¶ 60. Dr. Rice further testifies that “[t]his port means that part of the edge is completely open to the outside.” *Id.*

IGB discounts Kawai's disclosure, and presumably the testimony of Dr. Rice, concerning a discharge port along its edge, on a theory that the location of the port along an edge is “irrelevant” as concerns Gendron, and

maintains that Gendron is necessarily sealed along its edges. Pet. Reply 8. We conclude, however, that Kawai's noted disclosure has relevancy to the extent that it is evidence that complete edge sealing may not be necessary in Gendron's pad for the pad to function as a ventilated seat. That the pad may include a similar type of opening or duct, undercuts IGB's position that Gendron's pad necessarily excludes any openings along its edges.

Accordingly, on the record now before use, we conclude that IGB has not shown by a preponderance of the evidence that formation of an "air impermeable bag" as set forth in claims 16, 22, and 27 is inherent in Gendron's pad.

d. Summary - Anticipation

We have considered the record before us, including IGB's Petition and Reply, Gentherm's Patent Owner Response, and the testimony of Dr. Rice. We conclude that IGB has shown by a preponderance of the evidence that claims 1–3, 6, 14, 15, 17, 21, and 23–26 are anticipated by Gendron. We also conclude that IGB has not shown by a preponderance of the evidence that claims 16, 22, and 27 are anticipated by Gendron.

*C. Obviousness of Claims 1–6, 11, 12, 14–17, 21–25, and 27
based on Hayashi, Trotman, and Kawai*

In resolving the question of obviousness, we consider the following underlying factual determinations: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; and

(3) the level of skill in the art. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).¹⁰

1. Level of Skill in the Art

In determining the level of skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citing *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986)). There is evidence in the record before us that reflects the knowledge level of a person with ordinary skill in the art. Gentherm’s Declarant, Dr. James G. Rice, attests that a person with ordinary skill in the art would have the following background or experience:

- Vocational training in mechanical or electrical engineering or related field plus 3-4 years of experience designing consumer heating, cooling, or ventilation systems; or
- a B.S. in mechanical or electrical engineering or related field, plus 1-2 years of experience designing consumer heating, cooling, or ventilation systems

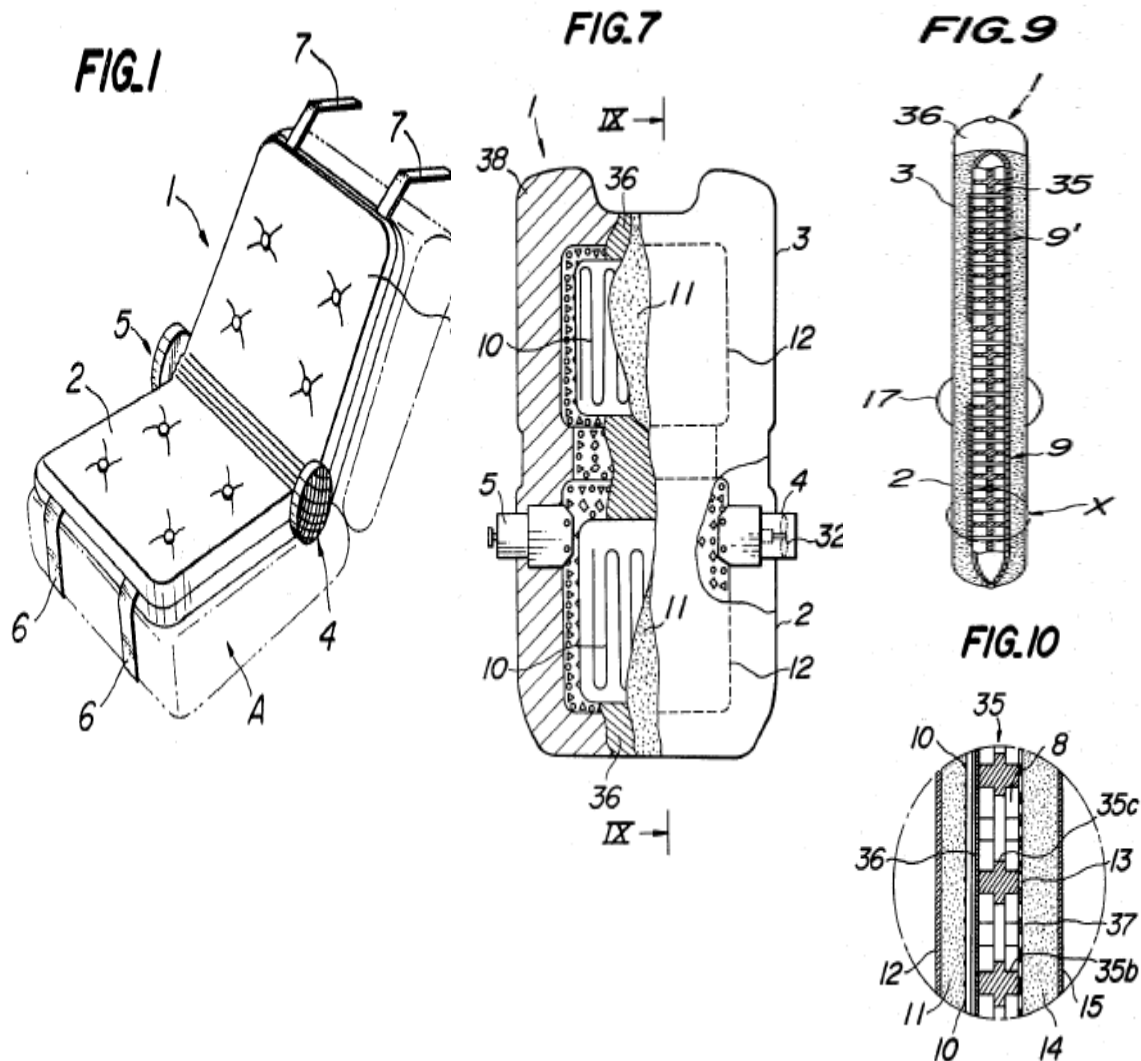
Ex. 2002 ¶ 34.

¹⁰ The court in *Graham* further noted “[s]uch secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.” 383 U.S. at 18. In this proceeding, however, evidence of “secondary considerations” has not been offered for evaluation by the panel.

IGB does not dispute Dr. Rice's assessment of the level of ordinary skill in the art. For purpose of this Final Written Decision, we accept Dr. Rice's characterization of the level of ordinary skill in the art.

2. Hayashi

Hayashi is titled "Seat Cover." Ex. 1007, [54]. Hayashi's Figures 1, 7, 9, and 10 are reproduced below:



Figures 1, 7, 9, and 10 depict embodiments of a ventilated seat cover according to Hayashi's invention. Ex. 1007, 2:16-37. As shown in the figures, seat cover 1 includes seat portion 2 and back portion 3, which

include hollow main bodies 9, 9', respectively, each of which defines air passage 8, and cushion layers 11 and 14. *Id.* at 2:45–56. Cushion layer 11 is covered on one side by trimming sheet 12, and cushion layer 14 is covered by trimming sheet 15 formed with a number of holes (not numbered). *Id.* at 2:60–67. As shown in Figures 9 and 10, main bodies 9, 9' may include core 35, which is covered on both sides by layers 36 and 37 of plastic sheet material, one of which is formed with a number of holes 13 and in communication with air passage 8. *Id.* at 4:34–47. Air circulating device 4 is provided with blower 32 for discharging air through passage 8 and through the holes in trimming sheet 15 and holes 13. *Id.* at 3:32–4:5.

3. *Trotman*

Trotman is titled “Forced Air Under Body Ventilating Device.” Ex. 1004, 3–4. *Trotman*’s Figure 2 is reproduced below:

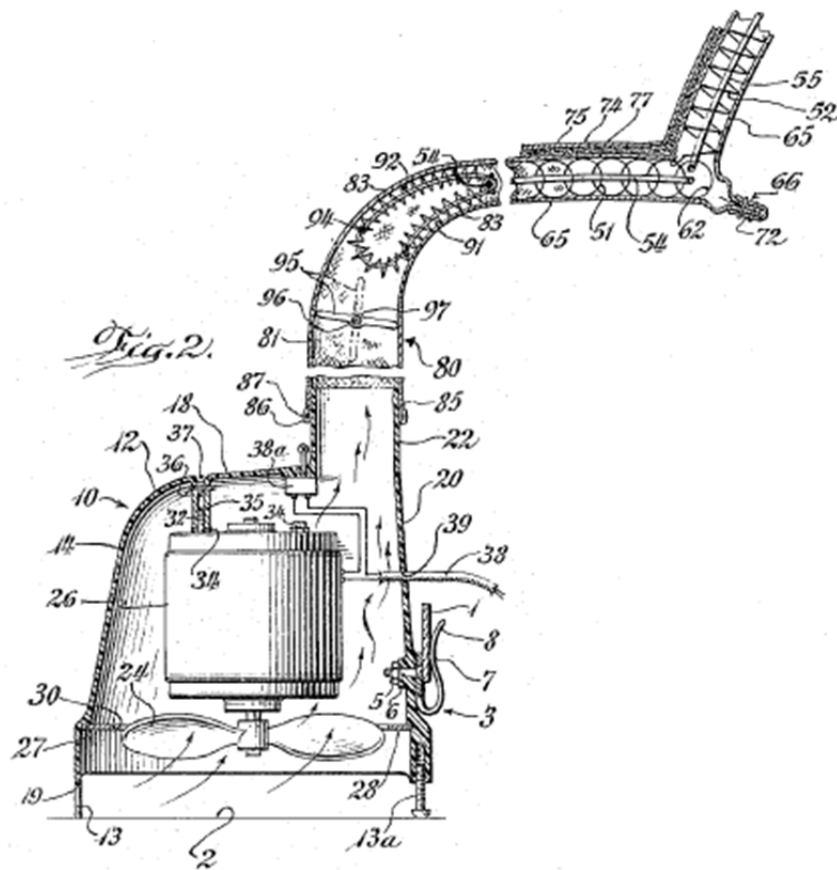
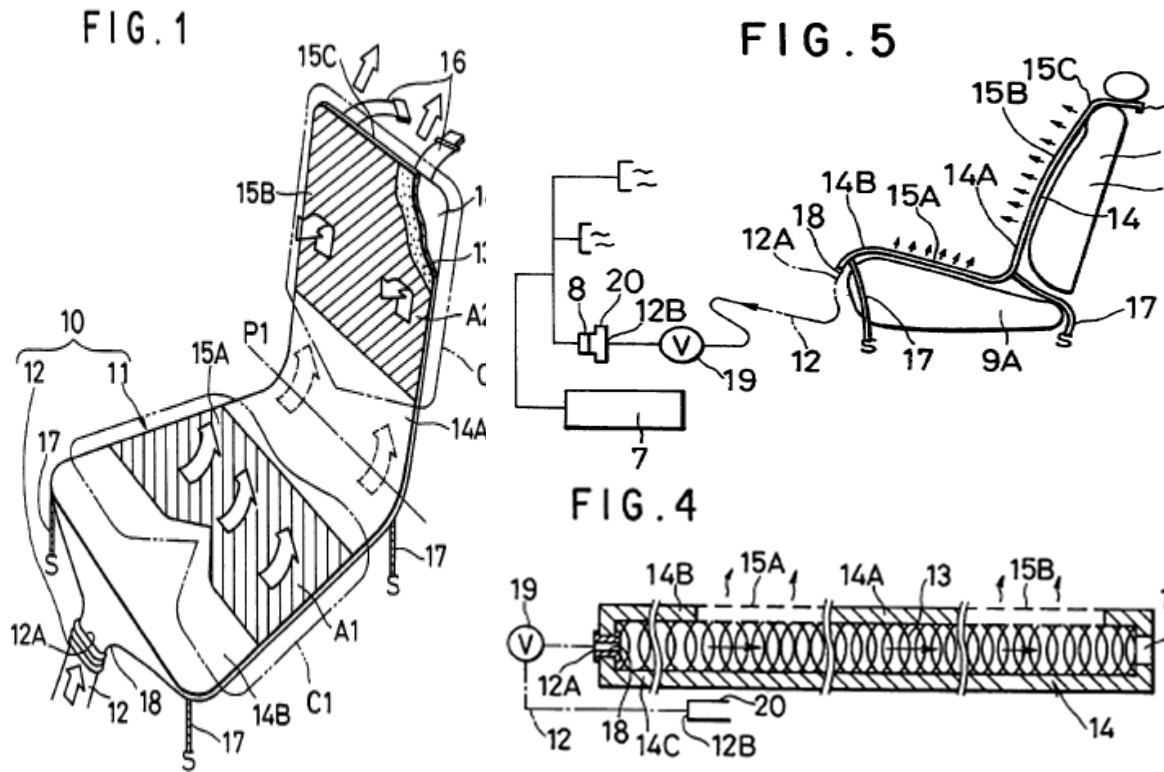


Figure 2 illustrates a transverse sectional view of fan unit 10 and flexible air supply conduit extension conduit 80, which operate together to supply air to a cushioning pad (not shown). *Id.* at 2:42–43, 5:4–18.

4. *Kawai*

Kawai is titled “Ventilator For Use with Vehicle Seat.” Ex. 1006, [54]. Kawai’s Figures 1, 4, and 5 are reproduced below.



Figures 1, 4, and 5 illustrate a ventilator for use with a vehicle seat according to an embodiment of Kawai's invention. Ex. 1006, 2:60–3:2.

Kawai describes that:

As shown in FIG. 1, a ventilator 10 for use with a vehicle seat according to a first embodiment of the invention comprises an air sheet 11 including a cushion member (air channel member) 13 configured substantially in conformity to a seat 9 (see FIGS. 3 and 5), of an automobile equipped with an air conditioner (see FIG, 5), for example, the seat 9 including a seating area 9A and a back rest 9B, the member 13 having a myriad of pores therein through which an air can pass, thus providing an air permeability, and a sheet-like member (non-permeable member) 14 mounted to cover substantially the entire surface of the cushion member 13 and having a permeable section 15 on its front surface side which allows a communication between the cushion member 13 and an exterior, and a hose (introduction passage) 12 detachably connected to the air sheet

11 for introducing an air at a given temperature from the exterior into the cushion member 13.

Ex. 1006, 3:60–4:9.

Kawai also describes that sheet-like member 14 includes non-permeable sections 14A, 14B, and 14C. *Id.* at 4:18–24. “An air introduction port 18 is disposed forwardly of the non-permeable section 14B or the seating area of the air sheet 11, and is connected to an outlet end 12A of hose 12.” *Id.* at 4:49–51.

5. *IGB’s Contentions*

IGB argues that Hayashi discloses a vehicle seat with a ventilated seat pad having all the features of claims 1–6, 11, 12, 14–17, 21–25, and 27, with the exception of the required “tongue portion” or “tongue,” and its associated configuration. Pet. 38–51. To make up for the deficiency, IGB relies on either Trotman or Kawai as disclosing a tongue or tongue portion in connection with a ventilated vehicle seat and reasons that the “combination amounts to use of a known technique to improve a similar device in a similar way.” *Id.* at 38–39. In particular, IGB contends that either Trotman’s air supply duct 80 or Kawai’s air introduction port 18 constitutes the tongue portion or tongue required by the claims, and that it would have been obvious to incorporate either of those components into the ventilated seat of Hayashi. *See, e.g.*, Pet. 41.

6. *Gentherm’s Contentions*

Gentherm disputes that any of claims 1–6, 11, 12, 14–17, 21–25, and 27 are rendered obvious by the teachings of Hayashi, Trotman, and Kawai. More specifically, Gentherm contends that “[a]n ordinary artisan would have had no reasoned motivation for modifying Hayashi’s device to include

Trotman's air supply duct 80 or Kawai's air introduction port 18, or any other extension." PO Resp. 25 (citing Ex. 2002 ¶ 90). To that end, Gentherm argues that given Hayassi's description of the purpose and function of its ventilated seat, a skilled artisan would have been discouraged from combining Hayashi with either Trotman's or Kawai's teachings. *Id.* at 22–25. Gentherm also contends even if the teachings of either Trotman or Kawai are combined with Hayashi, the resulting combination does not produce the "tongue portion" or "tongue" requirements of the claims of the '576 patent. PO Resp. 26–29. In addition, Gentherm contends that IGB's Petition is deficient in accounting for the requirement of layers that are "adjacent" to one another, as required by each of claims 1–6, 11, 12, 14–16, 21, and 25. *Id.* at 29–31 (citing Ex. 2002 ¶¶ 74–77).

7. Discussion - Obviousness

a. The requirement of "adjacent" layers

At the outset, we observe that unlike IGB's ground of unpatentability based on Gendron, the ground based on Hayashi, Trotman, and Kawai is not premised on the assertion that any multiple layers may be considered together to constitute, for example, the porous upper surface layer required by claim 1. Instead, IGB takes the view that it is Hayashi's trimming sheet 15 that is the required porous upper surface layer. Pet. 39. IGB also contends that trimming sheet 15's relationship to Hayashi's layers 36 and 37 satisfies the "adjacent to" requirements of each of 1–6, 11, 12, 14–16, 21, and 25. *Id.* at 39–42, 51. IGB makes clear that its assertion in that respect is based on the meaning of "adjacent" as broadly including "nearby" or "close." Pet. Reply 13–14.

b. Whether the record conveys adequate reason to combine the teachings of either Trotman or Kawai with Hayashi

Hayashi discloses that its inventive vehicle seat cover is one that “serves as a heater in winter and as a ventilator in summer.” Ex. 1007, 1:7–10. To that end, Hayashi explains that “[i]n winter, the seat cover 1 is mounted on the vehicle seat A such that the heating elements 10, 10 are on the upper side of the seat cover.” *Id.* at 3:46–48. Whereas, “[i]n summer, on the other hand, the seat cover is used upside-down” so that “seat cover 1 is mounted on the seat A such that the heating elements 10, 10 are on the lower side of the seat cover.” *Id.* at 3:63–66. We agree with Gentherm that “[t]his means that Hayashi’s cover is not designed to be fixed in one position during use; but, rather, flipped back and forth throughout different seasons” (citing Ex. 2002 ¶ 86). PO Resp. 23.

To effect the versatility in the use of the seat cover, Hayashi describes that “[a]ll the necessary components are accommodated in the seat cover.” *Id.* at 4:8–9. To that end, as shown, for instance, in Figure 3, Hayashi mounts its air recirculating device 4, which includes blower 32 and motor 33, within a cylindrical projection 17 at the connection of seat portion 2 and back portion 3. *Id.* at 3:33–37.

Gentherm argues (PO Resp. 24), and Dr. Rice testifies (Ex. 2002 ¶¶ 87–89), that IGB’s proposed combination of Trotman’s air supply duct 80 or Kawai’s air introduction port 18 with Hayashi’s ventilated seat contemplates locating fan and blower components externally to the seat. Gentherm and Dr. Rice, thus, urge that a skilled artisan would have been discouraged or lead away from so modifying Hayashi in the manner

advanced by IGB. PO Resp. 25; Ex. 2002 ¶¶ 90–91. On the record now before us, we agree with Gentherm and Dr. Rice.

A reference leads or teaches away when it suggests that the developments flowing from its disclosures are unlikely to produce the objective of an invention. *See Syntex (U.S.A) LLC v. Apotex, Inc.*, 407 F.3d 1371, 1380 (Fed. Cir. 2005). Here, we are mindful of Hayashi’s emphasis on creating a multi-seasonal and versatile seat cover that incorporates the necessary components within the seat cover itself such that the cover may be flipped over as desired. That emphasis does not lend itself to a conclusion that a skilled artisan would have contemplated the modifications proposed by IGB, in which ventilating components are mounted externally to the seat cover.

According to IGB, there would be no impediment to flipping over a Hayashi seat cover modified by either Trotman or Kawai. Pet. Reply 9. In that respect, IGB alleges that “[t]he end of the tongue would simply have to be disconnected from the air source prior to flipping and reconnected after flipping, which is not a significant impediment.” *Id.* Yet, absent from IGB’s proposed explanation is due consideration of the requirements of the claims of the ’576 patent. In that regard, independent claim 1 requires that the tongue portion be “integrally-formed” with a first portion that includes various porous and non-porous layers, as well as an expanded spacer layer. Ex. 1001, 4:25–27. Independent claims 17 and 23 require either that the tongue be an “extension of the at least two non-porous layers and an extension of the expanded spacer layer” or that the tongue be “an extension of the first and second non-porous layers.” *Id.* at 5:18–22, 5:51–6:5. IGB’s assertions that any tongue portions of Trotman and Kawai simply would be

“disconnected” and “reconnected” with respect to Hayashi’s device does not, in our view, consider appropriately what is required by the claims, i.e., that the tongue be “integrally-formed” with the first portion and constitute an “extension” of various layers. IGB does not explain how its theory of routine disconnection and reconnection of the tongue as a part of Hayashi’s device can be reconciled with the requirement that the tongue portion be formed integrally with, or be an extension of the layers in, the first portion.

Furthermore, IGB also contends the following with respect to asserted “reasoned motivation” to modify Hayashi:

[O]ne of ordinary skill would have been motivated to combine Hayashi with Trotman or Kawai in order to move the air mover to a more remote location. (Petition at 41). Such a repositioning of the air mover would beneficially reduce the level of noise heard by the seat occupant.

Pet. Reply 10.

IGB, however, does not point to underlying support for its premise that the positioning of Hayashi is one recognized as deficient, or that the “level of noise” generated by air moving components in Hayashi was a recognized problem in need of solution. Indeed, although IGB, in its Petition, generally contends that relocating Hayashi’s air moving components would have been a recognized “alternative,” on the present record, we are not persuaded that IGB had articulated a suitable reason with some rationale underpinning for the modification that it proposes. *See In re Kahn*, 441 F.3d 977, 989 (Fed. Cir. 2006).

In considering the totality of the record now before us, we conclude that the record does not reflect adequate reason for a person of ordinary skill in the art to have combined the teachings of Hayashi with those of Trotman

and Kawai. To that end, we do not discern that the combination as proposed by IGB amounts to an evaluation of that prior art as would be understood by a skilled artisan, but is instead an impermissible exercise of hindsight in an attempt to account for the “tongue portion” or “tongue” features that are required by all of the claims of the ’576 patent. *See W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983) (“To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.”).

c. Summary - Obviousness

Based on the present record, including IGB’s Petition and Reply, Gentherm’s Patent Owner Response, and the testimony of Dr. Rice, we conclude that IGB has not shown by a preponderance of the evidence that claims 1–6, 11, 12, 14–17, 21–25, and 27 are unpatentable over Hayashi, Trotman, and Kawai.

III. CONCLUSION

For the foregoing reasons, we determine the following:

- A. IGB has shown by a preponderance of the evidence that claims 1–3, 6, 14, 15, 17, 21, and 23–26 are anticipated by Gendron;
- B. IGB has not shown by a preponderance of the evidence that claims 16, 22, and 27 are anticipated by Gendron; and
- C. IGB has not shown by a preponderance of the evidence that claims 1–6, 11, 12, 14–17, 21–25, and 27 are unpatentable based on the combined teachings of Hayashi, Trotman, and Kawai.

IV. ORDER

After due consideration of the record before us, it is:

ORDERED that claims 1–3, 6, 14, 15, 17, 21, and 23–26 are held unpatentable as anticipated by Gendron; and

FURTHER ORDERED that claims 4, 5, 11, 12, 16, 22, and 27 are not held unpatentable based on the prior art on which trial was instituted in this proceeding.

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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