

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LORNIC DESIGN, INC.,
Petitioner,

v.

HUMBOLDT B.V.,
Patent Owner.

IPR2019-00346
Patent 9,433,225 B2

Before HYUN J. JUNG, JAMES A. WORTH, and RYAN H. FLAX,
Administrative Patent Judges.

JUNG, *Administrative Patent Judge.*

JUDGMENT

Final Written Decision

Determining No Challenged Claim Unpatentable

Denying Petitioner's Motion to Exclude

Denying Patent Owner's Motion to Exclude

Granting Petitioner's Motion to Seal

Granting Patent Owner's Motions to Seal

35 U.S.C. § 318(a)

I. INTRODUCTION

We have jurisdiction 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.

A. Background and Summary

Lornic Design, Inc. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting institution of an *inter partes* review of claims 1–5 and 7–22 of U.S. Patent No. 9,433,225 B2 (Ex. 1001, “the ’225 patent”). Humboldt B.V. (“Patent Owner”) filed a Preliminary Response (Paper 6). Pursuant to 35 U.S.C. § 314, we instituted an *inter partes* review of the ’225 patent. Paper 7 (“Inst. Dec.”). In particular, we instituted review of claims 1–5 and 17–22 on all presented challenges. Inst. Dec. 2, 44.

After institution, Patent Owner filed a Response (Paper 17, “PO Resp.”),¹ to which Petitioner filed a Reply (Paper 47, “Pet. Reply”).² Patent Owner thereafter filed a Sur-Reply (Paper 33, “PO Sur-reply”).³ Patent Owner filed a Motion to Seal confidential versions of the Patent Owner Response and Exhibits 2011–2028 and 2031–2035. Paper 15 (“1st Mot.”). Petitioner also filed a Motion to Seal confidential versions of the Reply to Patent Owner’s Response and Exhibits 1015–1017. Paper 19 (“2d Mot.”). Patent Owner filed another Motion to Seal confidential versions of Patent

¹ Patent Owner filed a sealed response (Paper 16) and a redacted, publicly available response (Paper 17). This decision refers to the publicly available response.

² Petitioner filed a sealed reply (Paper 20) and a redacted, publicly available reply (Paper 47). This decision refers to the publicly available reply.

³ Patent Owner also filed a sealed sur-reply (Paper 30) and a redacted, publicly available sur-reply (Paper 33). This decision refers to the publicly available sur-reply.

Owner's Sur-Reply and Exhibits 2039, 2040, and 2042–2045. Paper 29 (“3d Mot.”). No oppositions to any of these motions were filed.

We authorized the parties to file a joint paper identifying alleged new issues, alleged belatedly presented evidence, and the arguments that prompted the alleged new issues or belated evidence. Paper 24. The parties subsequently filed a Joint Statement Regarding Patent Owner's Request to File a Motion to Strike (Paper 25) and a Joint Statement Regarding Patent Owner's Request for Additional Rebuttal Evidence in Support of its Sur-reply (Paper 26).

Patent Owner also filed a Motion to Exclude (Paper 36, “PO Mot.”), which Petitioner opposed (Paper 40, “Pet. Opp.”) and Patent Owner thereafter filed a reply in support of the Motion to Exclude (Paper 43, “PO Reply to Opp.”). Petitioner likewise filed a Motion to Exclude (Paper 37, “Pet. Mot.”) which Patent Owner opposed (Paper 38), and Petitioner then filed a reply in support of the Motion to Exclude (Paper 42). An oral hearing in this proceeding was held on March 3, 2020; a transcript of the hearing is included in the record (Paper 46, “Tr.”).

For the reasons that follow, we determine that Petitioner has not shown by a preponderance of the evidence that claims 1–5 and 7–22 of the '225 patent are unpatentable. We also deny both Petitioner's Motion to Exclude and Patent Owner's Motion to Exclude, and grant the Motions to Seal.

B. Real Parties in Interest

Petitioner states that “Lornic Design, Inc. is the real party-in interest.” Pet. 44. Patent Owner indicates that “Humboldt B.V. . . . is a real party in interest.” Paper 4, 2.

C. Related Matters

The parties indicate that the '225 patent is asserted against Petitioner in *Humboldt B.V. v. MPS North America, Inc.*, Case No. 1:17-cv-009833 (W.D. Mich.). Pet. 44; Paper 4, 2; Ex. 1009 (Complaint); Ex. 1010 (Proof of Service).

D. The '225 Patent (Ex. 1001)

The '225 patent, titled “Brush Element, Assembly, Brushing Device and Methods of Coupling and Uncoupling,” claims priority to an international application published on September 7, 2007, and issued as a U.S. patent on September 6, 2016. Ex. 1001, codes (10), (45), (54), (87).

The '225 patent relates generally to “a brush element for processing carcasses of slaughtered animals” (*id.* at 1:15–16), as well as the assembly of a rotatable body and brush element, a brushing device that incorporates the rotatable body and brush element assembly, and a method for coupling and decoupling the brush element (*id.* at 1:16–21). The background of the '225 patent explains that “brush elements are driven by a rotating shaft which is mounted in a brushing device and is used to remove hair from, clean and/or beat carcasses dry,” “brush elements wear through use, . . . they must be regularly replaced by new brush elements,” and the “arranging and removing the known brush element is laborious and can cause considerable loss of time for the brushing device.” *Id.* at 1:27–35. Figure 1B of the '225 patent is reproduced below.

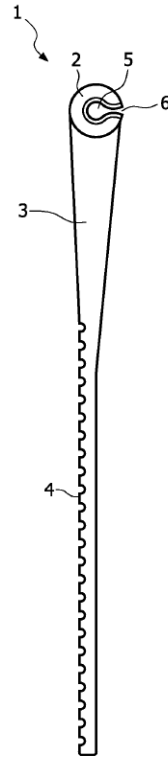


FIG. 1B

Figure 1B is “a side view of the brush element.” *Id.* at 5:20–21. In the embodiment illustrated in Figure 1B, brush element 1 includes a resilient cylindrical coupling member 2 and whip 3 connected to coupling member 2 having profiled contact surface 4 for removing hair from carcasses. *Id.* at 5:40–42.

Coupling member 2 includes inner cavity 5, which forms a receiving space, which is accessible via narrowed entrance channel 6. *Id.* at 5:44–47. Because whip 3 moves substantially in the direction of profiled surface 4 during carcass processing, the orientation of entrance 6 minimizes whip 3 from sliding off a counter-coupling member. *Id.* at 5:55–60. Specifically, “narrowed entrance 6 tapers toward receiving space 5 in the direction of receiving space 5, thereby creating a locating function which makes it easier to guide a counter-coupling member to receiving space 5.” *Id.* at 5:50–53. Figure 2A of the ’225 patent is reproduced below.

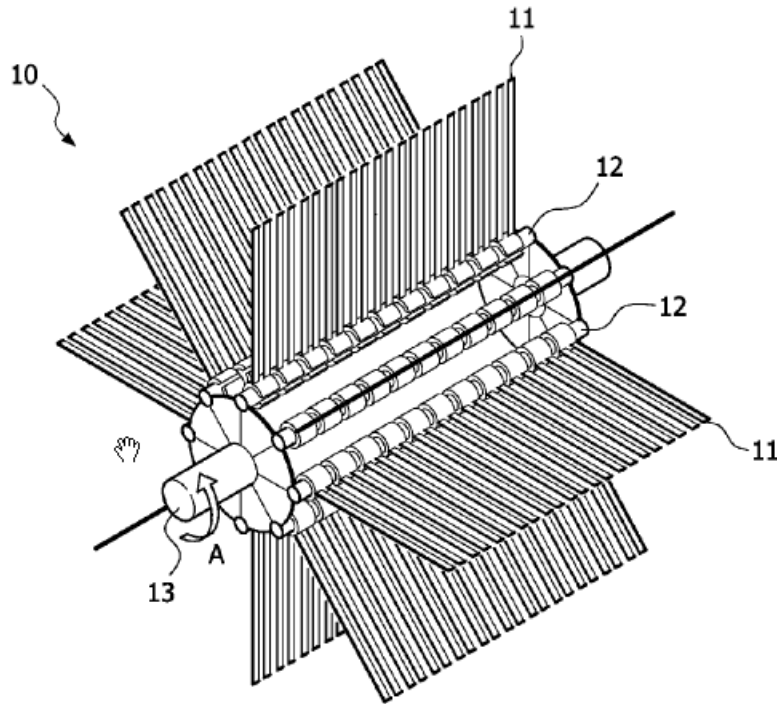


FIG. 2A

Figure 2A shows a brush assembly with a rotatable body. *Id.* at 5:28–30. There is “drive means for causing rotation of the rotatable body of the assembly.” *Id.* at 1:64–65, 4:46–47. Assembly 10 includes a plurality of brush elements 11 coupled to a plurality of rod-like counter-coupling members 12. *Id.* at 6:15–17. Rod-like counter-coupling members 12 form part of rotatable body 13, which together with brush elements 11, “form a rotatable brush which is rotatable about a rotation shaft A.” *Id.* at 6:17–21. The ’225 patent explains that “[t]he receiving space of the coupling member engages round the counter-coupling member so that the connection formed by the coupling member and the counter-coupling member is reliable.” *Id.* at 4:17–20.

E. Illustrative Claim

The '225 patent has 22 claims, of which Petitioner challenges claims 1–5 and 7–22. Of those, claims 1, 13, and 18–21 are independent. Claim 1 is reproduced below:

1. A detachable brush element for processing carcasses of slaughtered animals, comprising:

a) at least one female coupling member; and

b) at least one substantially elongated flexible whip extending from and integrated with the at least one female coupling member,

wherein the whip has a profiled side adapted to process carcasses of slaughtered animals,

wherein the female coupling member comprises a resilient cylinder comprising at least one female receiving space comprising, in cross-section, a ring having an opening with a narrowed entrance channel which can be enlarged counter to a bias,

wherein the narrowed entrance channel widens into the female receiving space, the female receiving space being substantially larger than the narrowed entrance channel along the longitudinal axis of the whip,

wherein the narrowed entrance channel is arranged in a lengthwise direction of the cylinder, the narrowed entrance channel is directed facing away from the profiled side of the whip, and the narrowed entrance channel narrows toward the female receiving space,

wherein the female coupling member is adapted to couple with a generally cylindrical shaped male counter-coupling member, the ring opening being sized to accommodate a portion of the male counter-coupling member by snap-fitting the female coupling member opening over the male counter-coupling member,

wherein the whip and the female coupling member are manufactured as a single material part,

wherein the male counter-coupling member forms a part of a separate rotatable body onto which the female coupling member can be releasably coupled by a snap connection and,

wherein the female coupling member can rotate about the male counter-coupling member.

Ex. 1001, 6:55–7:23.

F. Evidence

Petitioner identifies the following references as prior art:

(1) U.S. Patent No. 3,523,324, issued August 11, 1970 (Ex. 1005, “Debaere”);

(2) U.S. Patent No. 5,445,163, issued August 29, 1995 (Ex. 1006, “Machacek”);

(3) U.S. Patent No. 5,394,584, issued March 7, 1995 (Ex. 1007, “Breitschmid”); and

(4) U.S. Patent No. 5,447,021, issued September 5, 1995 (Ex. 1008, “Plamper”).

Petitioner also provides declarations by James A. Medsker (Ex. 1003), Paul R. Bonenberger (Ex. 1012), and Nick Hahn (Ex. 1014). Patent Owner proffers declarations by Prof. Larry A. Stauffer, Ph.D. (Ex. 2011), John H. Curtis (Ex. 2034), and Max Stasse (Ex. 2042).

Patent Owner filed deposition transcripts for Mr. Medsker (Ex. 2010), Mr. Hahn (Ex. 2039), and Mr. Bonenberger (Ex. 2040). The parties also filed deposition transcripts for Mr. Hahn (Exs. 1015, 2012) and Prof. Stauffer (Ex. 1016) from the related litigation identified above.

G. Asserted Grounds

Petitioner asserts that claims 1–5 and 7–22 would have been unpatentable on the following grounds:

Claims Challenged	35 U.S.C. §	References/Basis
1–5, 7–22	103(a) ⁴	Debaere, Machacek, Breitschmid
1–5, 7–22	103(a)	Debaere, Machacek, Plamper

II. ANALYSIS

A. Legal Standards

In an *inter partes* review, Petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail in its challenges, Petitioner must prove unpatentability by a preponderance of the evidence. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A claim is unpatentable 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 said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). 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;

⁴ The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (Sept. 16, 2011), took effect on March 16, 2013. Because the application from which the ’225 patent issued was filed before that date, our citations to Title 35 are to its pre-AIA version.

(3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

The parties’ disputes are related to whether Machacek, Breitschmid, and Plamper are analogous art; the scope and content of the asserted prior art; differences between claims 1–5 and 7–22 and the asserted prior art; and objective indicia of nonobviousness.

After reviewing the complete record and for the reasons below, we conclude that Petitioner has not shown by a preponderance of the evidence that Machacek, Breitschmid, and Plamper are analogous art. Because the full record does not persuade us that Machacek, Breitschmid, and Plamper are analogous art, we do not reach whether the asserted references teach or suggest all the limitations of the challenged claims, whether one of ordinary skill in the art would have combined the asserted references in the manner asserted by Petitioner with a reasonable expectation of success, and whether the asserted objective indicia of nonobviousness has nexus to the challenged claims and show that the challenged claims would not have been obvious.

Before turning to the parties’ dispute regarding whether Machacek, Breitschmid, and Plamper are analogous art, we address the parties’ motions to exclude.

B. Patent Owner’s Motion to Exclude

Patent Owner moves to exclude certain portions of Exhibits 1002, 1012, and 1014–1016. PO Mot. 1. Patent Owner indicates that it timely filed objections to these exhibits. *Id.* (citing Papers, 9, 21).

1. Exhibit 1002

Exhibit 1002 is the prosecution history of the ’225 patent. Patent Owner contends that Petitioner relies on Examiner’s statements to argue that the asserted prior art teaches or suggests certain claim elements and that

Petitioner's use of such statements violates Rule 802 of the Federal Rules of Evidence ("FRE") prohibiting hearsay. PO Mot. 2 (citing Pet. 20–23, 25, 26, 36; Ex. 1002, 364–366, 368), 4. Patent Owner asserts that the Examiner's statements were not made under oath, not subject to cross-examination, and represents two levels of hearsay. *Id.* at 2–3.

According to Patent Owner, Rule 808(3) of the FRE addresses whether prosecution history can be used to establish that the Examiner made the statement "but does not allow the Board to further rely on those words as evidence that the facts asserted by the Examiner are true." *Id.* at 3 (addressing Inst. Dec. 37). Patent Owner believes that Petitioner has conceded the argument because Petitioner does not address it in Petitioner's Reply. *Id.* (citing PO Resp. 49; Pet. Reply 10–11). Patent Owner, therefore, moves to exclude pages 364–366 and 368 of Exhibit 1002. *Id.* at 4.

Petitioner responds that statements from Exhibit 1002 are admissible under the public records exception of Rule 803(8) and, with support from case law, that there was only one declarant (the Examiner) so there cannot be two levels of hearsay. Pet. Opp. 1–4 (citing Paper 36, 3; Ex. 1002, 361, 363, 365).

Patent Owner replies that Petitioner has not met its burden to show that the Examiner's statements are admissible hearsay and the exception of Rule 803(8) does not apply because an Office Action does not set out the office's activities and does not set out factual findings from a legally authorized investigation. PO Reply to Opp. 1–2. According to Patent Owner, an Office Action is not a final conclusion on patentability, but only an interim opinion on a legal conclusion, not a factual finding. *Id.* at 2. Patent Owner also argues that, because an office action is an interim opinion

and not based on all facts, such as those now in the record, it may not be trustworthy. *Id.*

We agree with Petitioner that the Examiner’s statements from Exhibit 1002 are admissible under the public records exception of Rule 803(8). Pet. Opp. 3–4. We are not aware, and the parties do not cite, a case where Office documents, such as an Office Action, have been excluded as inadmissible hearsay. *See* PO Mot. 3; PO Reply to Opp. 1–2. Patent Owner, instead cites cases that, according to Patent Owner, “hold[] that memoranda setting out opinions were not records that set out ‘the office’s activities,’” state that “[a]s an interim report subject to revision and review, the report did not satisfy the express requirement of the Rule that the proffered evidence must constitute the ‘findings’ of an agency or official,” state that “[p]ure legal conclusions are not admissible as factual findings,” and indicate that an Examiner’s assertions may not be trustworthy. *See id.* (citing *Smith v. Isuzu Motors Ltd.*, 137 F.3d 859, 861–63 (5th Cir. 1998); *City of New York v. Pullman Inc.*, 662 F.2d 910, 914 (2d Cir. 1981); *Sullivan v. Dollar Tree Stores, Inc.*, 623 F.3d 770, 777 (9th Cir. 2010); *Rambus Inc. v. Infineon Tech. AG*, 222 F.R.D. 101, 108–09 (E.D. Va. 2004)).

Patent Owner’s cited cases do not directly address statements made by an examiner during prosecution of a patent application. The statements in dispute here are part of an Office Action and Interview Summary, which have not been shown to be memoranda, void of any factual findings, or contain only pure legal conclusions. Such documents are records of the Office’s activities in its review of a patent application. *D’Agostino v. Mastercard International Inc.*, 844 F.3d 945 (Fed. Cir. 2016) (“the Board ‘should also consult the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review’”);

Microsoft Corp. v. Proxyconn, Inc., 789 F.3d 1292 (Fed. Cir. 2015) (“The PTO should also consult the patent’s prosecution history in proceedings in which the patent has been brought back to the agency for a second review.”), *overruled on other ground by Aqua Prods., Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017) (*en banc*).

Additionally, courts regularly consider Examiner’s statements when construing claims for the purposes of infringement and validity analyses. *See, e.g., Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005) (“Nonetheless, the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.”); *Biagro W. Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296, 1303 (Fed. Cir. 2005) (“Biagro relies on only one passage—a statement made by the examiner during reexamination that the phosphite solution of a prior art reference was an example of a phosphorous acid solution. At most this shows that a person skilled in the art might refer to a phosphite solution as a phosphorous acid solution when the phosphite solution, like the accused product in this case, was formed from phosphorous acid.”).

We also agree with Petitioner that, because the Examiner is the only declarant of the cited statements from an Office Action and Interview Summary, there cannot be two levels of hearsay. *See* Pet. Opp. 2–4; *see also* PO Reply to Opp. 1–2 (stating that “Petitioner has at most shown that there are not ‘two levels of hearsay’” and providing no further argument regarding two levels of hearsay).

Moreover, even if the Examiner’s statements were hearsay, in this proceeding, the record contains the references Debaere and Machacek,

which were at issue in the Office Action and Interview Summary and which we can weigh with other record evidence to decide whether it would have been obvious to modify Debaere and Machacek, as stated by the Examiner. We do not have to rely on the truth of the matter asserted in the cited statements by the Examiner because we can decide the underlying matter itself.

Additionally, as shown below, we point to or quote from certain portions of prosecution history to determine whether the Applicant conceded that Machacek is analogous art. In other words, we rely only on the fact that the Examiner made certain statements, which Patent Owner states is permissible under Rule 808(3) of the FRE. *See* PO Mot. 3. We do not have to determine whether the facts asserted are true because we determine ourselves whether Machacek is analogous art based on the full record before us.

Furthermore, in our view, Petitioner adopts certain statements made by the Examiner in prosecution history and asserts those same statements as its own. Supporting our view is the fact that Petitioner's declarant, Mr. Medsker, provides the same statements in his declaration. *See, e.g.*, Ex. 1003 ¶ 61. As the record shows, Mr. Medsker made his statements under oath (*see id.* ¶ 95) and was cross-examined (Ex. 2010).

For the reasons above, we deny Patent Owner's Motion to Exclude with respect to pages 364–366 and 368 of Exhibit 1002.

2. Exhibit 1012

Exhibit 1012 is the Declaration of Paul R. Bonenberger. Patent Owner argues that the declaration should be excluded under Rule 702 of the FRE “because there is no evidence that Mr. Bonenberger is qualified to testify as to the understanding of a [person having ordinary skill in the art]”

and portions of his declaration assert what the understanding of such a person would have been. PO Mot. 4–5 (citing Ex. 1012 ¶¶ 16, 18–25). Patent Owner notes that the parties agree that the ordinary skilled artisan would have had “a bachelor’s degree in mechanical engineering or . . . equivalent work experience,” but “Mr. Bonenberger has a bachelor’s degree in industrial engineering” with no additional evidence, such as supplemental evidence, that he has “equivalent work experience.” *Id.* at 5 (citing Pet. 11; Paper 21, 6–7 (Objection to the Declaration); Ex. 1003 ¶ 46; Ex. 1012 ¶ 2; Ex. 1013, 1; Ex. 2011 ¶ 15).

Petitioner responds that Mr. Bonenberger is an expert in the art of mechanical attachments, and the parties agree that the ’225 patent replaces a known mechanical attachment for another. Pet. Opp. 4–5 (citing PO Resp. 16). Petitioner argues the Mr. Bonenberger has authored a book and articles about snap-fit connections, teaches classes regarding connections, and has extensive work experience in relevant technologies that would be equivalent to at least a bachelor’s degree in mechanical engineering. *Id.* at 5–6 (citing PO Mot. 5; Ex. 1012 ¶ 3; Ex. 1013, 2, 3, 5–8). Petitioner also argues that a mechanical engineering degree is not a requirement and Patent Owner has not shown that the difference in engineering degrees is relevant. *Id.* at 6.

Patent Owner replies that Mr. Bonenberger is not an expert in the pertinent art, that “Petitioner has provided no evidence that an industrial engineering degree is equivalent to a mechanical engineering degree,” and Petitioner has presented no evidence that Mr. Bonenberger’s experience is equivalent to a bachelor’s degree in mechanical engineering. PO Reply to Opp. 2–3 (citing Pet. 11; Pet. Opp. 5; Ex. 1003 ¶ 46; Ex. 2011 ¶ 15).

Patent Owner additionally argues that paragraphs 16–23 and 25 of Mr. Bonenberger’s declaration “offers conclusory opinions without

disclosing his underlying reasons or sufficient underlying facts or data to support his conclusions” and should be excluded under Rule 702 of the FRE. *Id.* at 6. According to Patent Owner, paragraphs 16 and 17 also contain statements from Mr. Bonenberger’s perspective, not one of ordinary skill in the art; paragraph 18 does not analyze why the snap-fit connections of Machacek, Breitschmid, and Plamper would work when applied to the ’225 patent; paragraphs 19–21 do not explain why one of ordinary skill in the art would have understood Machacek, Breitschmid, and Plamper could be incorporated into Debaere; paragraph 22 contain statements not based on analysis of the forces in whips; paragraph 23 does not explain why one of ordinary skill in the art would have understood forces experienced during use and the required strength and design for a coupling; and paragraph 25 does not explain how one of ordinary skill in the art would have designed Machacek, Breitschmid, or Plamper to stay reliably attached in Debaere.

Petitioner responds that Mr. Bonenberger later indicated in paragraph 16 and during his deposition that he was opining from the perspective of one of ordinary skill in the art. Pet. Opp. 7–10 (citing Ex. 2040, 12:8–13, 13:4–5, 13:13–14, 13:17–20, 22:6, 28:5–11, 29:4–11, 40:16–22, 63:24–64:11, 66:13–67:12, 68:10, 68:14–21, 68:24–69:7, 71:10–15, 73:1, 80:12–19). Petitioner argues that references to Mr. Bonenberger’s book are relevant and admissible because he authored the book. *Id.* at 10 (citing Ex. 1012 ¶ 3). Petitioner also argues that paragraphs 18 and 26 represent Mr. Bonenberger’s belief and understanding that are also stated in his book and offered for the truth of the matter asserted. *Id.* at 10–12 (citing Ex. 1012 ¶¶ 18, 26).

Patent Owner replies that Petitioner fails to identify the bases of Mr. Bonenberger’s declaration, only identifying deposition testimony. PO

Reply to Opp. 3 (citing Pet. Opp. 7–10). Patent Owner also argues that cross-examination testimony is not sufficient under Rule 702 and “is an inappropriate, back-door attempt to use Mr. Bonenberger’s cross-examination testimony to argue the merits of the case in briefing a motion to exclude.” *Id.* at 3–4 (citing Pet. Opp. 7–10).

The record shows, and Patent Owner does not dispute that, Mr. Bonenberger has significant education and experience in industrial engineering and with snap-fit applications. Ex. 1012 ¶¶ 2–5; Ex. 1013; Ex. 2040, 63:24–64:11, 66:13–67:12. Mr. Bonenberger’s testimony about snap-fit connections and their application is potentially helpful in determining the scope of the knowledge of one of ordinary skill in the art and whether the asserted references could be combined. Regarding whether the testimony lacks sufficient basis in facts or data, Mr. Bonenberger’s declaration expressly indicates that Mr. Bonenberger is opining based on his knowledge and experience and providing his opinion of what one of ordinary skill in the art would have understood or would have done. *See* Ex. 1012 ¶¶ 11 (“I have also relied upon my education, training and experience in the fields of mechanical attachments in general and, in particular, snap-fit attachment development for product applications.”), 14 (“I agree that a PHOSITA will have a bachelor’s degree in mechanical engineering or equivalent work experience.”), 16 (“A PHOSITA would make no such distinction.”), 18 (“For example, there is nothing in the relative forces experienced by the snap-fit in the application of the ‘225 that would lead a PHOSITA to believe . . . ”), 19 (“A PHOSITA would have easily understood . . . ”), 20 (“A PHOSITA would have easily understood . . . ”), 21 (“A PHOSITA would have easily understood . . . ”), 22 (“Both of these are well within the understanding of a PHOSITA.”), 23 (“Such a

construction would be well within the understanding of a PHOSITA . . . ”), 25 (“In reviewing Machacek, Breits[ch]mid and Plamper, there is nothing in these patents that would cause a PHOSITA to . . . ”); Ex. 2040, 68:14–21 (Mr. Bonenberger answering “yes” to the question “[s]o, this is an example of your talking from the perspective of what a PHOSITA would understand?”). Mr. Bonenberger has reliably applied the principles and methods to the facts of this proceeding.

Furthermore, even if Mr. Bonenberger does not meet the parties’ definition of one of ordinary skill in the art, his testimony, in combination with other record evidence, is useful in determining what he believes one of ordinary skill in the art may have known at the relevant time period about snap-fit connections and their application. Thus, we deny Patent Owner’s Motion to Exclude with respect to Exhibit 1012.

3. Exhibit 1014

Exhibit 1014 is the Declaration of Nick Hahn. Patent Owner moves to exclude paragraphs 8 and 12 of Exhibit 1014 under Rule 602 of the FRE because, according to Patent Owner, Mr. Hahn lacks personal knowledge of the matter. PO Mot. 13, 15. Petitioner responds, and Patent Owner provides reply arguments. Pet. Opp. 12–13; PO Reply to Opp. 4–5.

The exhibit at issue supports Petitioner’s position regarding objective indicia of nonobviousness. *See* Pet. Reply 13–14, 16–18 (addressing asserted long-felt need, failure of others, skepticism, copying, and commercial success) (citing Ex. 1014 ¶¶ 5–12, 18). Because we do not reach the issue of such indicia, we do not consider the evidence thereof and deny Patent Owner’s motion as moot with respect to Exhibit 1014.

4. *Exhibit 1015*

Exhibit 1015 is the Rule 30(b)(6) deposition of Mr. Hahn from related litigation. Patent Owner contends that the relied-upon portion of Exhibit 1015 is not relevant under Rule 401 of the FRE and should be excluded under Rule 402. PO Mot. 13–14 (citing Pet. Reply 19; Ex. 1015, 62:4–14), 15.

Petitioner responds that Mr. Hahn’s testimony in Exhibit 1015 is relevant to whether “commercial success of a carcass cleaning whip is due to the cleaning ability of the materials used to make the whip.” Pet. Opp. 13–14. Also, “Petitioner notes that the citation to Exhibit 1015 contained on page 19 of Petitioner’s Reply (Paper 20) contains a typographical error and should have been to page 239 of Mr. Hahn’s other deposition, which was introduced into evidence by Patent Owner as Exhibit 2012.” *Id.* at 14. Patent Owner replies that it “is too late” to correct an error that should have been corrected in response to Patent Owner’s objections. PO Reply to Opp. 5.

Because we do not reach the issue of commercial success and do not consider evidence thereof, we deny Patent Owner’s motion as moot with respect to Exhibit 1015.

5. *Exhibit 1016*

Exhibit 1016 is the deposition testimony of Prof. Stauffer from the above-identified related litigation. *See supra* Section I.C. Patent Owner moves to exclude this exhibit under Rules 401 and 402 of the FRE. PO Mot. 14. Patent Owner argues that Petitioner uses Prof. Stauffer’s deposition testimony to show that Prof. Stauffer was not aware of Mr. Bonenberger’s book, which has not been submitted as evidence, is not asserted as prior art,

and is not asserted as being within the knowledge of one of ordinary skill in the art. *Id.*

Petitioner responds with support from case law that the cross-examination explores Prof. Stauffer's lack of knowledge which is relevant to his testimony's weight and credibility. Pet. Opp. 14–15 (citing Ex. 1016, 66–67). Patent Owner replies that the asserted lack of knowledge is not relevant. PO Reply to Opp. 14–15 (citing Paper 40, 15; Ex. 2040, 96:15–18).

We agree with Petitioner that Exhibit 1016 aids in determining what weight we should give to Prof. Stauffer's testimony in this proceeding. Even if the lack of knowledge pertains to a book available after the relevant time period, as argued by Patent Owner, Exhibit 1016 informs us about Prof. Stauffer's personal knowledge of the relevant art which, in turn with all other record evidence, may or may not affect the credence we give to Prof. Stauffer's opinion of the knowledge of one of ordinary skill in the relevant art at the time of the '225 patent's invention. Thus, we deny Patent Owner's motion with respect to Exhibit 1016.

6. Determination

For the reasons above, we deny Patent Owner's Motion to Exclude certain portions of Exhibits 1002, 1012, and 1014–1016.

C. Petitioner's Motion to Exclude

Petitioner moves to exclude paragraphs 2–4 of Exhibit 2042, the Declaration of Max Stasse. Pet. Mot. 1. Petitioner indicates that it timely objected to these paragraphs and the reliance on these paragraphs in Patent Owner's Sur-reply. *Id.* (citing Paper 34). Patent Owner provides a response, to which Petitioner replied. Papers 38, 42.

Paragraphs 2–4 of Exhibit 2042 support Patent Owner’s position regarding objective indicia of nonobviousness in its Sur-Reply. *See* PO Sur-reply. 18–19 (asserting long-felt need) (citing Ex. 2042 ¶¶ 2–4). Because we do not reach the issue of objective indicia of nonobviousness and do not consider the evidence thereof, we deny Petitioner’s motion as moot.

D. Level of Ordinary Skill in the Art

Petitioner relies on the testimony of Mr. Medsker in contending that a person of skill in the art would have “a bachelor’s degree in mechanical engineering or with equivalent work experience.” Pet. 11; *see also* Ex. 1003 ¶ 46. In our Institution Decision, we preliminarily adopted Petitioner’s unopposed proposal. Inst. Dec. 11.

Patent Owner does not dispute Petitioner’s asserted level of ordinary skill in the art and does not provide its own definition of a level of ordinary skill in the art. *See generally* PO Resp.; *see also* Ex. 2011 ¶ 15 (stating that “I understand that the parties agree that the skill of a person having ordinary skill in the art of the ’225 patent would be the skill of a person having a bachelor’s degree in mechanical engineering or equivalent industry work experience as of 2005, the time of the invention of the ’225 patent”).

In determining the level of ordinary 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) (citation and internal quotation marks omitted).

Based on the full record before us, we see no reason to disturb our preliminary finding regarding the level of ordinary skill in the art. Accordingly, we maintain and reaffirm that one of ordinary skill in the art

would have “a bachelor’s degree in mechanical engineering or with equivalent work experience.” Inst. Dec. 10–11 (citing Pet. 11; Ex. 1003 ¶ 46). This level of skill in the art is consistent with the disclosure of the ’225 patent and the prior art of record.

E. Claim Construction

On October 11, 2018, the Office revised its rules to harmonize the Board’s claim construction standard with that used in civil actions under 35 U.S.C. § 282(b) in federal district court. Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)). The rule change applies to this proceeding. *See* Pet. 12 (stating “[f]or an IPR filed on or after November 13, 2018, claim terms are defined under the claim construction standard applied in a civil action in federal district court”); Paper 3, 1 (according filing date of November 19, 2018 to the Petition).

Petitioner indicates that, in the related litigation, the district court issued a *Markman* Opinion and Order construing several terms “in the manner advocated by the Patent Owner.” Pet. 12 (citing Ex. 1011). Among the several claim terms interpreted by the district court are:

(1) “female receiving space” to mean “a space within the female coupling member that is designed to receive a male counter-coupling member *during use of the brush element*” (emphasis added);

(2) “narrowed entrance channel” and “narrowed entrance” to mean “a space that (1) connects the outside of the female coupling member with the female receiving space and (2) when viewed in a cross-section with the

female receiving space, has a smallest dimension that is narrower than the greatest dimension of the female receiving space;”

(3) “the receiving space being substantially larger than the narrowed entrance channel along the longitudinal axis of the whip” to mean “the dimension of the female receiving space as measured along the longitudinal axis of the whip is sufficiently larger than the smallest dimension of the narrowed entrance channel that, *during use of the brush element*, the male counter-coupling member for which the female receiving space is designed is able to stay reliably attached to the female coupling member” (emphasis added); and

(4) “the narrowed entrance channel is directed facing away from the profiled side of the whip” to mean “the exterior opening of the narrowed entrance channel is located on one side of the brush element and the profiled side of the whip is located on the opposite side of the brush element.”

Ex. 1011, 16; *see also* Pet. 12–14 (proposing the same interpretations in this proceeding).

In our Institution Decision, based on the record as then developed, we adopted the interpretations quoted above for “female receiving end,” “narrowed entrance,” “the receiving space being substantially larger than the narrowed entrance channel along the longitudinal axis of the whip,” and “the narrowed entrance channel is directed facing away from the profiled side of the whip.” Inst. Dec. 12. Patent Owner agrees with Petitioner that the terms listed in the Petition should have the same interpretations as determined by the district court. PO Resp. 5 (citing Pet. 12).

As shown above in emphases, some interpretations include “during use of the brush element.” Petitioner argues that “[n]owhere does the Court require, nor did the Board adopt a definition that requires, that the ‘use’ be

the specific cleaning of animal carcasses shown in the '225 patent.” Pet. Reply 10. We do not need to decide whether the use is specific to cleaning animal carcasses because, even if the use were not so specific, for the reasons set forth below in Section G., we would still determine that Machacek, Breitschmid, and Plamper are not in the same field of endeavor as the '225 patent, are not reasonably pertinent to the problem facing the inventor of the '225 patent, and would not have logically commended themselves to the inventor’s attention in considering the problem of the '225 patent.

The full record before us, thus, provides no reason to modify our preliminary decision to adopt the district court’s interpretations for the terms listed and discussed above. We, therefore, continue to apply the above-identified district court’s interpretations for (1) “female receiving space,” (2) “narrowed entrance channel” and “narrowed entrance,” (3) “the receiving space being substantially larger than the narrowed entrance channel along the longitudinal axis of the whip,” and (4) “the narrowed entrance channel is directed facing away from the profiled side of the whip” to resolve the parties’ dispute. Pet. 12–14; Ex. 1011, 16.

We do not need to provide express claim interpretations for any other term. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’”) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

F. Scope and Content of the Asserted Prior Art

1. Debaere (Ex. 1005)

U.S. Patent No. 3,523,324 to Debaere issued on August 11, 1970.

Ex. 1005. Debaere is directed to an installation for cleaning the outside of slaughtered animals. *Id.* at 1:28–30.

Debaere's installation operates by rotating a plurality of shafts, with each shaft 41 having a plurality of discs 42 mounted thereto that support a plurality of rods 43 about their circumference. *Id.* at 3:27–30; Fig. 5. A plurality of elastic rubber strips 45 are fastened to freely rotate upon rods 43. *Id.* at 3:30–32. Elastic strips 45 include cylindrical part 44 having an opening for mounting strips 45 upon rods 43, as seen in Figure 5, reproduced below. *Id.* at 3:33–36; Fig. 5.

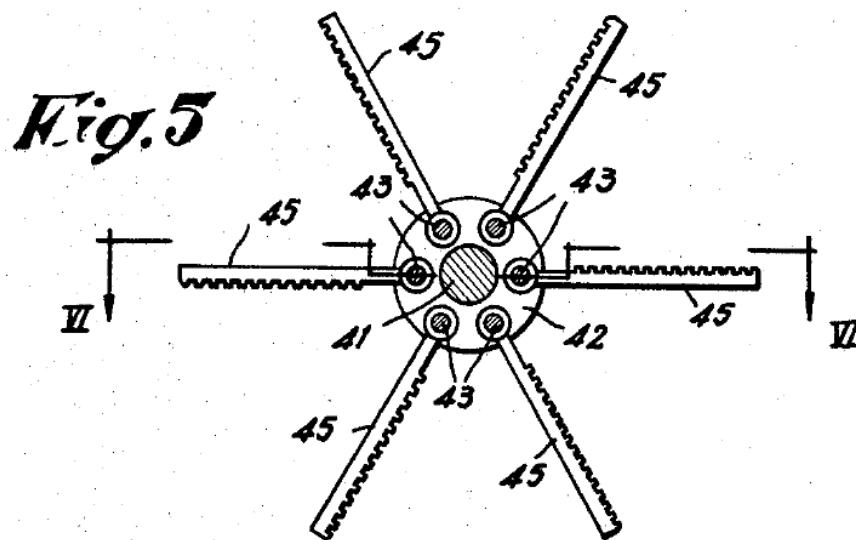


Figure 5 is a diagrammatic cross-section of a cleaning device. *Id.* at 2:33–34. Rubber strip 45 may be provided with various shaped projections, including rectangular or square projections 46, as seen in Figure 7, reproduced below. *Id.* at 3:45–46.

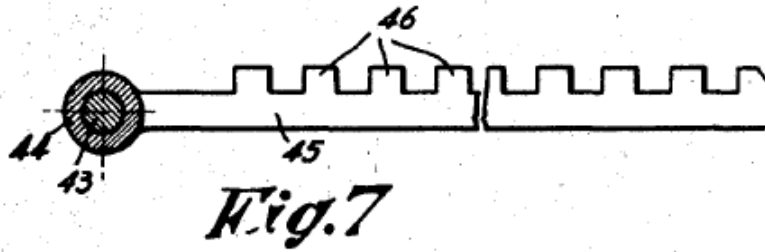


Figure 7 is an enlarged cross-sectional view of a strip. “[T]he rubber strips 45 are mounted in such way upon their corresponding rods 43 that the projections 46 . . . are the parts which actually strike the pig (animal).” *Id.* at 4:19–23; Fig. 1. Specifically, rotation of the plurality of shafts in a predetermined direction initiates motion of rubber strips 45 to clean the hide. *Id.* at 4:6:28.

2. *Machacek (Ex. 1006)*

U.S. Patent No. 5,445,163 to Machacek issued on August 29, 1995. Ex. 1006, codes (11), (45), (76). Under “Field of the Invention,” Machacek states that it “relates to devices for testing a patient’s body for sensitivity and pain” and specifically, “a pinwheel type device” and “the rolling of such a device having a rotatable pinwheel on an area of a patient’s body to test it for pain and sensitivity.” *Id.* at 1:8–14; *see also id.* Abstract (describing pinwheel testing device).

In known devices, “[t]he points on the rotating pinwheel offer the risk of puncturing the skin and drawing blood” and thus, risk “the transference of any blood borne disease by this mechanism.” *Id.* at 1:20–25. “[T]he pinwheel device available has been made of stainless steel,” “generally used on a daily basis,” and “require sterilization after each use to completely remove the possibility of transmitting a blood borne disease.” *Id.* at 1:26–30. Figures 4 and 11 of Machacek are reproduced below.

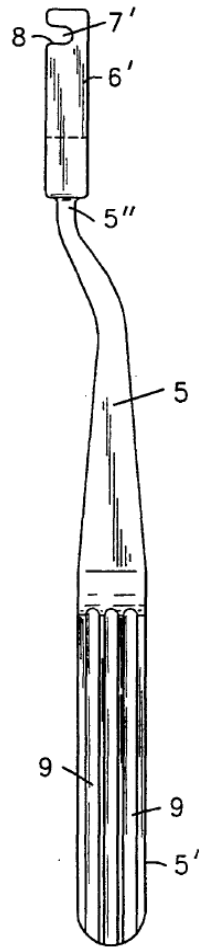


Fig. 4

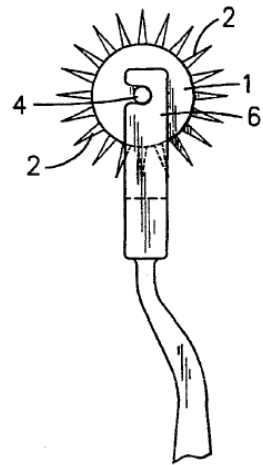


Fig. 11

Figure 4 is “a side plan view of the handle,” and Figure 11 is a plan view showing the assembly of the pin wheel on the upper portion of the handle. *Id.* at 3:46–47, 3:61–63. Machacek’s device includes handle 5, and disk 1 rotatably mounted to handle 5. *Id.* at 1:65–68, Fig. 11. Disk 1 includes a plurality of projections or pins extending outwardly therefrom. *Id.* at 3:66–67, Figs. 1, 2. Handle 5 includes lower end 5', and upper end 5'' having a pair of arms 6, 6' each having a slot 7, 7' for receiving rod 4 of disk 1 therein, as shown in Figure 11. *Id.* at 4:8–17, Figs. 3, 4, 11.

Machacek describes how an initial part or bulge 8 of slot 7 is narrower than the remaining width of slot 7, as seen in Figure 4, to create a restriction,

enabling rod 4 to be “pressed into the slot by exerting an inward pressure on the disk 1 to force it past bulge 8 or the narrower section of the slot 7,” in order to prevent rod 4 “from slipping out from the slot” when the disk is freely rotating with rod 4 in the inner portion of slot 7. *Id.* at 4:17–25, Fig. 4.

3. *Breitschmid (Ex. 1007)*

U.S. Patent No. 5,394,584 to Breitschmid issued on March 7, 1995. Ex. 1007, codes (11), (45), (75). Under “Field of Art,” Breitschmid states that it “relates to a retaining member on a handle for the exchangeable attachment of an interdental brush exhibiting a fastening element with crosspiece by inserting the fastening element in a recess of the retaining member” and “concerns a dental brush for the exchangeable mounting to a holder, comprising a bristle-studded frontal section and a rear end provided with a fastening means.” *Id.* at 1:7–15.

An object of Breitschmid is “to provide a retaining member of the above-mentioned type to which an interdental brush can be attached in a simple, quick and reliable fashion.” *Id.* at 1:52–55. Figures 5a and 9 of Breitschmid are reproduced below.

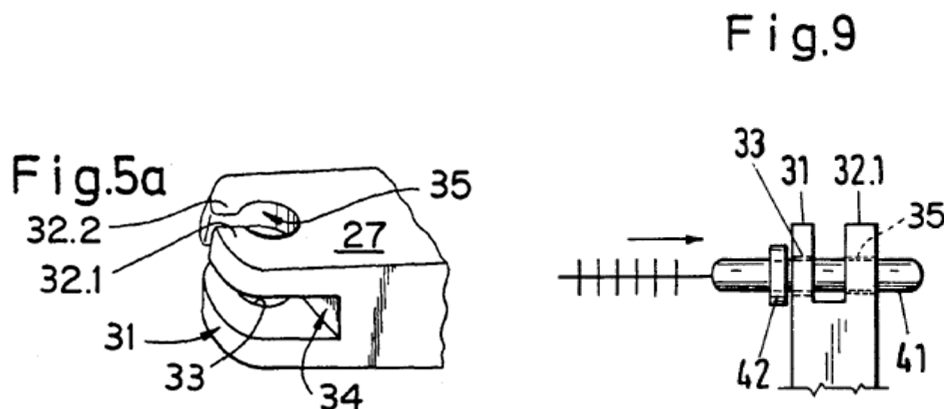


Figure 5a is a schematic top view of a retaining member, and Figure 9 shows an interdental brush retained in the retaining member by force-

locking connection. *Id.* at 4:14–16, 4:21–22. One end 27 of Breitschmid’s handle 26 includes retaining member 28 for exchangeably retaining interdental brush 29. *Id.* at 6:62–7:1, Fig. 4. Retaining member 28 includes annular part 31 having hole 33 and two fingers 32.1, 32.2 protruding or cantilevered in the longitudinal direction of handle 26 from end 27 of handle 26. *Id.* at 7:3–10. Transverse slot 34 is formed between annular part 31 and two fingers 32.1, 32.2, and fingers 32.1, 32.2 constitute a pincer-like member with longitudinal slot 35, as shown in Figure 5a.

Because the two fingers 32.1, 32.2 form a pincer-like structure, longitudinal element 36 of an interdental brush 29 can be locked in place in the retaining member 28, as shown in Figure 9. Breitschmid contemplates that the size of hole 33 “is adapted to the longitudinal element 41” to provide a “force-locking connection.” *Id.* at 8:11–14.

4. *Plamper (Ex. 1008)*

U.S. Patent No. 5,447,021 to Plamper issued on September 5, 1995. Ex. 1008, codes (11), (45), (75). Plamper states that it “relates to a way of mounting a trail shield to a lawn and garden mower and, more particularly, to rear discharge walk behind lawn mowers” and “to an improved trail shield 20” that “includes an attachment section 30, an intermediate flex section 50, and a trailing portion 60.” *Id.* at 1:5–7, 2:29–32.

Plamper lists several objects of its invention, which include “a stronger trail shield” and “strengthen[ing] the interconnection between the trail shield and the mower deck.” *Id.* at 1:33–52. Figure 1 of Plamper is reproduced below.

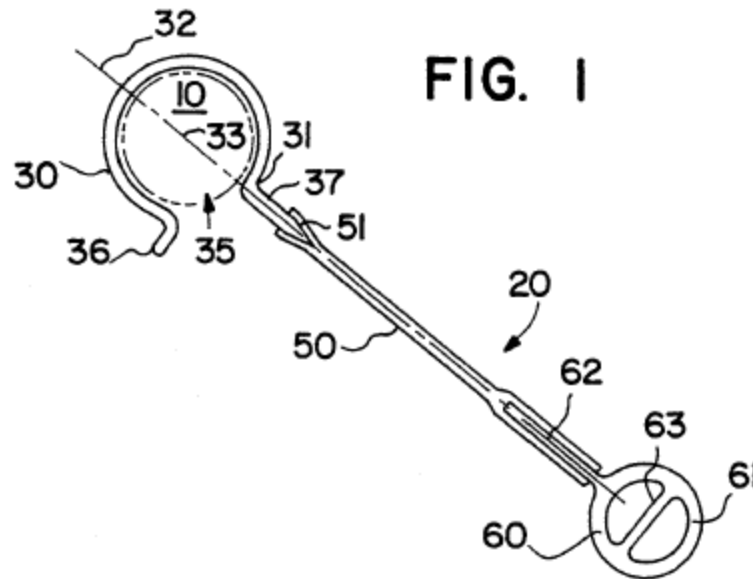


Figure 1 is “a side view, in cross section, of the trail shield.” *Id.* at 1:61–63. Plamper’s trail shield 20 includes, “attachment section 30 [that is] designed for snap over interconnection with a rod, axle, or tube member” of a mower “with the added provision that any forces on the trail shield is passed to approximately the middle point the attachment section 30.” *Id.* at 2:30–37. Forces on the trail shield are passed “by having the intersection 31 between the head section 37 (for connection to the intermediate flex section 50) and the attachment section 30 occurring substantially congruent with a line 32.” *Id.* at 2:37–41. “With this design, any pulling separation force on the trail shield 20 will be passed to the attachment section 30 directly in line with the central axis of the attachment section 30,” and the design “optimizes the retention strength for the attachment section 30 in respect to the axle rod or tube, in this instance the axle 10.” *Id.* at 2:43–49.

Attachment section 30 has opening 35 with a width designed to be less than the diameter of the rod, axle, or tube so as to provide a snap over interconnection with the rod or tubing to be utilized therewith, as seen in Figure 1. *Id.* at 2:51–56; Fig. 1. Although opening 35 is located “to

optimize the amount of force that the attachment section 30 can withstand before ultimate separation from the rod, axle, or tube . . . the inside diameter of the attachment section 30 is sized so as to allow this section, once installed, to pivot freely about the tube.” *Id.* at 2:56–63. Intermediate flex section 50 is connected to attachment section 30 and trailing section 60. *Id.* at 3:31–36.

G. Analogous Art

In our Decision instituting review, based on the record as then developed, we preliminarily determined that Machacek, Breitschmid, and Plamper are analogous art. Inst. Dec. 18–25.

Patent Owner argues that Petitioner and its declarant impermissibly use hindsight in their selection and use of references. PO Resp. 8. According to Patent Owner, Petitioner “selected a medical device for testing nerve sensitivity (Machacek), an interdental brush (Breitschmid), and a lawnmower shield (Plamper) to combine with a carcass cleaning system (Debaere),” and “[s]uch a selection of random non-analogous prior art references is clearly based on impermissible hindsight and on an improper use of the ’225 patent as a roadmap.” *Id.* at 8–9. Also, according to Patent Owner, Petitioner reasons that these references relate to “snap connectors,” but “that reasoning improperly assumes the ’225 patent’s answer to the problem it solved, again using improper hindsight.” *Id.* at 9.

With the full record now before us, we revisit our preliminary determination that Machacek, Breitschmid, and Plamper are analogous art in view of the parties’ additional arguments and evidence. “Whether a prior art reference is ‘analogous’ is a question of fact.” *Innovation Toys, LLC v. MGS Entertainment, Inc.*, 637 F.3d 1314, 1321 (Fed. Cir. 2011).

The analogous-art test requires that the Board show that a reference is either in the field of the applicant's endeavor or is reasonably pertinent to the problem with which the inventor was concerned in order to rely on that reference as a basis for rejection. *In re Oetiker*, 977 F.2d 1443, 1447 (Fed. Cir. 1992). References are selected as being reasonably pertinent to the problem based on the judgment of a person having ordinary skill in the art. *Id.* (“[I]t is necessary to consider ‘the reality of the circumstances,’—in other words, common sense—in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the inventor.” (quoting *In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979))).

In re Kahn, 441 F.3d 977, 986–87 (Fed. Cir. 2006). “A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, *logically would have commended itself to an inventor's attention* in considering his problem.” *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992) (emphasis added).

After reviewing the complete record, we conclude that Petitioner has not shown by a preponderance of the evidence that Machacek, Breitschmid, and Plamper are analogous art.

1. Field of Endeavor

a) The '225 Patent

In our Decision instituting review, based on the record as then developed, “we identif[ied] the field of invention of the '225 patent as a detachable brush element for processing carcasses of slaughtered animals.” Inst. Dec. 19. Patent Owner indicates that it does not dispute our Decision's finding for the field of endeavor of the '225 patent because “it is consistent with the teachings of the [S]pecification and with the claims of the '225 patent.” PO Resp. 10 (quoting Inst. Dec. 19) (citing Ex. 2011 ¶¶ 25–28).

Petitioner does not provide a reply argument regarding the '225 patent's field of endeavor. *See* Pet. Reply 2–9; Tr. 9:15–17 (Petitioner's counsel stating that field of endeavor arguments are not conceded but agreeing that reply arguments were not provided). Patent Owner does not further address the '225 patent's field of endeavor.

Turning to the '225 patent, the Abstract and “Field” state that the disclosure relates to “brush element (1) for processing carcasses of slaughtered animals,” “an assembly of a rotatable body and such a brush element,” “a brushing device comprising such an assembly,” and “a method for coupling a rotatable body and such a brush element” or “a method for coupling and decoupling a rotatable body and such a brush element.” Ex. 1001, Abstract, 1:15–21; *see also id.* at 1:25–35 (describing, in “Background,” “[b]rush elements for processing carcasses of slaughtered animals”). We credit the testimony of Patent Owner's declarant Prof. Stauffer regarding the '225 patent's field of endeavor because the '225 patent supports it. Ex. 2011 ¶¶ 24–27 (citing Ex. 1001, Abstract, 1:15–21, 1:27–30, 6:15–21).

The full record does not present a reason to modify our preliminary determination regarding the '225 patent's field of endeavor. Thus, we maintain and affirm our preliminary determination that the field of endeavor is “detachable brush element for processing carcasses of slaughtered animals.”

b) Machacek

According to Patent Owner, the field of endeavor of Machacek is “a handheld, rotatable pinwheel medical device for testing a patient's reaction to pain and touch” based on Machacek's disclosure. PO Resp. 16–18 (citing Ex. 1006, Abstract, 1:8–14, 2:39–48, 4:8–26, Figs. 3, 4, 11, claims 1, 2, 6, 9;

Ex. 2011 ¶ 45). Patent Owner contends that Petitioner's declarant Mr. Medsker confirmed that he did not address whether Machacek is in the same field of endeavor as the '225 patent. PO Resp. 18–19 (citing Ex. 2010, 69:15–17, 158:6–161:23). Patent Owner further argues that, to the extent that the Institution Decision analyzed the field of endeavor, the Institution Decision should have asked whether the reference is in the same field of endeavor, not a related field of endeavor. *Id.* at 19 (citing Inst. Dec. 20).

Petitioner does not provide a reply argument regarding Machacek's field of endeavor. *See* Pet. Reply 2–9; Tr. 9:15–17 (Petitioner's counsel stating that field of endeavor arguments are not conceded, but agreeing that reply arguments were not provided). Patent Owner argues that "Petitioner has not responded to any of these arguments, and therefore concedes that these references are in a different field of endeavor." PO Sur-reply 3.

We find that, under "Field of the Invention," Machacek states that it "relates to devices for testing a patient's body for sensitivity and pain" and specifically, "a pinwheel type device" and "the rolling of such a device having a rotatable pinwheel on an area of a patient's body to test it for pain and sensitivity." Ex. 1006, 1:8–14; *see also id.* Abstract (describing pinwheel testing device). We also credit the testimony of Patent Owner's declarant Prof. Stauffer regarding Machacek's field of endeavor because the record supports it. Ex. 2011 ¶¶ 42–45 (citing Ex. 1006, Abstract, 1:8–14, claims 1, 2, 6, 9).

Based on the full record before us, we find that Machacek's field of endeavor is "a handheld, rotatable pinwheel medical device for testing a patient's reaction to pain and touch," as argued by Patent Owner. *See* PO Resp. 16–18. Because we determine above that the '225 patent's field of endeavor is "detachable brush element for processing carcasses of

slaughtered animals,” we find that Machacek is not in the same field of endeavor as the ’225 patent.

c) Breitschmid

Patent Owner argues that “the field of endeavor of Breitschmid is a handheld device for exchangeably attaching an interdental brush.” PO Resp. 27 (citing Ex. 2011 ¶¶ 62–65); *see also id.* at 25–26 (citing Ex. 1007, 1:7–15, 4:31–49, 7:26–31, Figs. 4, 5a, 6, 8a, 8b, 9). Patent Owner also argues that Mr. Medsker’s testimony is based on hindsight, and reliance on that testimony would be mistaken. *Id.* at 27–28 (citing Inst. Dec. 22; Ex. 1003 ¶ 43; Ex. 2010, 69:8–14; Ex. 2011 ¶¶ 63–67).

Petitioner does not provide a reply argument regarding Breitschmid’s field of endeavor. *See* Pet. Reply 2–9; Tr. 9:15–17; PO Sur-reply 3 (arguing that “Petitioner has not responded to any of these arguments, and therefore concedes that these references are in a different field of endeavor”).

We find that, under “Field of Art,” Breitschmid states that it “relates to a retaining member on a handle for the exchangeable attachment of an interdental brush exhibiting a fastening element with crosspiece by inserting the fastening element in a recess of the retaining member” and “concerns a dental brush for the exchangeable mounting to a holder, comprising a bristle-studded frontal section and a rear end provided with a fastening means.” Ex. 1007, 1:7–15. We also credit the testimony of Patent Owner’s declarant Prof. Stauffer regarding Breitschmid’s field of endeavor because the record supports it. Ex. 2011 ¶¶ 62–65 (citing Ex. 1007, 1:7–15, 4:31–49, claims 1, 5, 6).

Based on the full record before us, we find that Breitschmid’s field of endeavor is “a handheld device for exchangeably attaching an interdental brush,” as argued by Patent Owner. *See* PO Resp. 25–27. Because we

determine above that the '225 patent's field of endeavor is "detachable brush element for processing carcasses of slaughtered animals," we find that Breitschmid is not in the same field of endeavor as the '225 patent.

d) Plamper

According to Patent Owner, Plamper is not in the same field of endeavor as the '225 patent because "the field of endeavor of Plamper is trail shields for rear-discharge lawn or garden mowers." PO Resp. 35–37 (citing Ex. 1008, 1:5–7, 2:29–37, Fig. 1; Ex. 2011 ¶¶ 84–87). Patent Owner also contends that Petitioner's declarant "did not provide any testimony concerning whether Plamper is in the same field of endeavor as the '225 patent." *Id.* at 36 (citing Ex. 2010, 158:6–161:23). Petitioner does not provide a reply argument regarding Plamper's field of endeavor. *See* Pet. Reply 2–9; Tr. 9:15–17; PO Sur-reply 3.

We find that, under "Field of the Invention," Plamper states that it "relates to a way of mounting a trail shield to a lawn and garden mower and, more particularly, to rear discharge walk behind lawn mowers." Ex. 1008, 1:5–7. We also find that, under "Detailed Description of the Invention," Plamper states that it "relates to an improved trail shield 20" that "includes an attachment section 30, an intermediate flex section 50, and a trailing portion 60." *Id.* at 2:29–32. We further credit the testimony of Patent Owner's declarant (Prof. Stauffer) regarding Plamper's field of endeavor because the record supports it. Ex. 2011 ¶¶ 84–87.

Based on the full record before us, we find that Plamper's field of endeavor is "trail shields for rear-discharge lawn or garden mowers," as argued by Patent Owner. *See* PO Resp. 35–37. Because above we find that the '225 patent's field of endeavor is "detachable brush element for

processing carcasses of slaughtered animals,” we determine that Plamper is not in the same field of endeavor as the ’225 patent.

2. *Problem with which the Inventor was Concerned*

a) *The ’225 Patent*

The Petition does not address specifically the problem with which the inventor of the ’225 patent was concerned. *See e.g.*, Pet. 3–7 (describing the ’225 patent’s disclosure, claims, and prosecution history), 17–19 (arguing why one of ordinary skill in the art would have combined Debaere, Machacek, and Breitschmid), 38–39 (arguing why one of ordinary skill in the art would have combined Debaere, Machacek, and Plamper). In our Decision instituting review, based on the record as then developed, “we identif[ied] the particular problem addressed by the ’225 patent . . . as relating to the replacement of brush elements attached to a rotatable body.” Inst. Dec. 19.

(1) *Patent Owner’s Response*

Patent Owner contends that the Institution Decision’s statement of the particular problem facing the inventor of the ’225 patent is “consistent with the statement of the problem in the ’225 patent’s Background,” if “rotatable body” has the same meaning as the term used in the Specification, in particular “a structure that *imparts* rotation to brushes attached to it.” PO Resp. 10–13 (quoting Inst. Dec. 19) (citing Ex. 1001, 1:27–35, 1:64–65, 4:46–47, 6:15–21, 6:33–37, 9:14–15, Figs. 2A, 2B; Ex. 2011 ¶¶ 29–31). Patent Owner argues that the particular problem addressed by the ’225 patent should further include “the carcass-processing function that the brushes must perform and the resulting forces placed on the connection of the brushes to the rotatable body” because “the brushes would need to ‘stay reliably attached’ to the rotatable body (as the agreed-upon claim

interpretation requires) when subjected to these forces during use.” PO Resp. 13 (citing Ex. 1001, 1:15–35; Ex. 2011 ¶ 32).

Patent Owner also contends that the problem addressed by the ’225 patent “is exemplified in Debaere and the commercial products replaced by the invention of the ’225 patent.” *Id.* at 14 (citing Pet. 17; Ex. 1003 ¶ 58; Ex. 2003; Ex. 2011 ¶¶ 33, 34; Ex. 2012, 45:13–18; Ex. 2030; Ex. 2037). Patent Owner further contends that one of ordinary skill in the art would have understood that “the rotary action and the striking of the carcasses subject the connections of the brushes to the drums to significant forces that, if not properly accounted for, will cause the brushes to detach.” *Id.* at 14–15 (citing Ex. 2003, 10; Ex. 2011 ¶ 36; Ex. 2012, 95:11–18; Ex. 2038).

According to Patent Owner, one of ordinary skill in the art “would have understood that the problem of reducing the time and effort needed to replace brushes facing the inventor of the ’225 patent involved more than merely attaching brushes to a rotating body” and “would take into account the types, magnitudes, and directions of forces that the brushes and their connections would be subjected to during use to be certain that the connection, while facilitating efficient replacement of the brush elements, would ‘stay reliably attached,’” as admitted by Petitioner’s declarant. *Id.* at 15–16 (citing Ex. 2010, 154:25–155:14; Ex. 2011 ¶ 37). Patent Owner, thus, asserts that “the particular problem facing the inventor of the ’225 patent was how to more easily replace brush elements connected to a rotatable body (i.e., a structure that imparts rotation to the brush elements) in an environment in which the rotating brush elements are subject to the type of dynamic forces required to process animal carcasses.” *Id.* at 16 (citing Ex. 2011 ¶ 38).

(2) Petitioner's Reply

Petitioner replies that, in Debaere, “the ‘rotatable body’ does itself rotate, but there is another, further rotation in that the brush elements are attached to the rods of the ‘rotatable body’ so that the brush elements themselves can rotate around the rod to which they are attached.” Pet. Reply 2–3 (citing Ex. 1005, 3:34–35). Regarding the brush element having a female snap-fit member and the asserted references showing a replaceable element with a male snap-fit member, Petitioner contends that declarant testimony supports that one of ordinary skill in the art “would focus on the rod-coupling interface between the brush elements and the rotatable body,” “it is immaterial whether it is the male or the female member that is part of the replaceable (or wear) component in the design,” and “the relevant concern would be that the interface be rotatable.” *Id.* at 3–4 (citing Ex. 1012 ¶¶ 16, 17; Ex. 2010, 59:8–9, 95:1–5, 99:2–3, 103:6–18). Petitioner also contends that one of ordinary skill in the art “would not have distinguished between a force being imparted from a component with a male member onto a component with a female member and a force being imparted from a component with a female member onto a component with a male member.” *Id.* at 4.

Regarding the magnitude of forces, Petitioner argues that declarant testimony shows that “the relevant consideration is not one of absolute magnitude but the magnitude of the force relative to the physical size of the components” and that one of ordinary skill in the art would have recognized that the asserted references show connections “usable across a wide range of forces and sizes.” *Id.* at 4–6 (citing Ex. 1012 ¶ 19; Ex. 2010, 103:6–18). Petitioner, thus, argues that one of ordinary skill in the art “would not have been concerned with the magnitude of forces exerted in Machacek,

Breitschmid and/or Plamper, but would understand that the constructions shown would be suitable in the environment of Debaere as the fundamental rules for their usage and arrangement still apply.” Pet. Reply 6.

(3) Patent Owner’s Sur-Reply

Patent Owner replies that it has shown what the problem facing the ’225 patent’s inventor was and Petitioner has failed to carry its burden of identifying the ’225 patent’s problem by relying only on Debaere. PO Sur-reply 4 (citing PO Resp. 10–16; Pet. Reply 2). Patent Owner also argues that Petitioner effectively rewrites the problem identified at institution and relies on declarant testimony influenced by improper hindsight and an assumed problem. *Id.* at 4–6 (citing Inst. Dec. 19; Pet. Reply 2–4; Ex. 1012 ¶ 16). Patent Owner further argues that Mr. Bonenberger’s testimony is based on what he would have done, not what one of ordinary skill in the art would have done, and the testimony does not establish that the asserted references are analogous art. *Id.* at 6 (citing Ex. 2040, 68:24–69:7, 75:2–77:19, 80:20–81:13, 82:6–25, 83:24–85:9, 89:11–14). Patent Owner additionally argues that Petitioner presented insufficient evidence to show where and for what one of ordinary skill in the art would have looked to address the problem of the ’225 patent. *Id.* at 6–7 (citing Pet. Reply 6).

(4) Analysis

The parties do not generally dispute our preliminary determination that the particular problem addressed by the ’225 patent “relat[es] to the replacement of brush elements attached to a rotatable body” but dispute what happens when the “rotatable body” rotates. *See* Inst. Dec. 19; PO Resp. 10–13; Pet. Reply 2–3.

We find that the portions of the ’225 patent cited by Patent Owner state that “[known] brush elements are driven by a rotating shaft which is

mounted in a brushing device and is used to remove hair from, clean and/or beat carcasses dry,” an embodiment of the ’225 patent provides “drive means for causing rotation of the rotatable body of the assembly,” “[r]otatable body 13 and brush elements 11 together form a rotatable brush which is rotatable about a rotation shaft A,” and “brush element 16 [is] provided with a coupling member 14 and two whips 15 can be mounted on a rod 12 of a rotatable body 13 so as to form the rotatable brush 10.” Ex. 1001, 1:27–35, 1:64–65, 4:46–47, 6:15–21, 6:33–37; *see also* Figs. 2A, 2B (showing brush elements 11 and rotatable body 13). The portions of the ’225 patent’s Specification cited by Patent Owner supports Patent Owner’s argument that “rotatable body” refers to “a structure that imparts rotation to brushes attached to it.”

Petitioner does not explicitly provide any argument that the Specification of the ’225 patent fails to support that “rotatable body” refers to “a structure that imparts rotation to brushes attached to it.” *See* Pet. Reply 3–6. Petitioner, instead, provides arguments regarding the rotatable body of Debaere and how one of ordinary skill in the art would have considered the forces in Debaere when applying the connections of Machacek, Breitschmid, and Plamper. *See id.* We agree with Petitioner’s implied argument that, like the ’225 patent, the brush elements can rotate around the rod to which they are attached. *Id.* at 2–3; *see also* Tr. 42:12–19 (Patent Owner’s counsel confirming that the brush elements of the ’225 patent rotate around the rod to which they are attached). The argument, however, does not show why “rotatable body” would not refer to “a structure that imparts rotation to brushes attached to it.”

Thus, the full record before us confirms our preliminary determination that the particular problem addressed by the ’225 patent relates to “the

replacement of brush elements attached to a rotatable body.” Inst. Dec. 19; PO Resp. 12, 13; *see also* Ex. 2010, 99:20–25 (Petitioner’s declarant testifying that “the core problem to be solved is to create an easily -- easy installation, easy removal of the brush.”). The full record also persuades us that the rotatable body imparts rotation to the brush elements that are themselves rotatably attached to the rotatable body.

b) Machacek

Patent Owner argues that Machacek is not reasonably pertinent to the problem facing the inventor of the ’225 patent because “Machacek addresses how to reduce the risk of transferring blood borne disease to the practitioner and to other patients without having to sterilize the device between each use.” PO Resp. 19–20 (citing Ex. 1006, 1:20–30; Ex. 2011 ¶ 49). Patent Owner further argues that “Machacek would not have logically commended itself” because “Machacek does not involve a brush element that is connected to a ‘rotatable body’ (i.e., a structure that imparts rotation)” and “the attachments of Machacek are not subjected to same type of rotational or striking forces as those experienced by the brushes in the ’225 patent.” *Id.* at 20–21 (citing Ex. 2011 ¶ 50), 22–23 (citing Ex. 1006, 1:20–22; Ex. 2011 ¶¶ 36, 51, 52; Ex. 2038).

Patent Owner contends that “Machacek’s use of ‘snap-fit connection onto a rotatabl[e] body’ is the *solution* of Machacek, not the problem” and “the rod in Machacek is not a ‘rotatable body,’” which “is not ‘in the same vein’ as coupling a brush element to a ‘rotatable body’” like in the ’225 patent. *Id.* at 21 (citing Ex. 2011 ¶ 56). According to Patent Owner, Petitioner’s declarant used “rotatable body” in a manner different than the ’225 patent, “admitted that the pinwheel and axle of Machacek do not impart rotation to / cause the handle to rotate,” and incorrectly speculated that the

load on the connection of Machacek may be high. PO Resp. 21–22 (citing Ex. 2010, 91:16–21, 92:12–13; Ex. 2011 ¶¶ 55–57), 23–24 (citing Ex. 2010, 87:12–16; Ex. 2011 ¶ 54).

In Patent Owner’s view, one of ordinary skill in the art would have understood that, “[b]ecause the pinwheel and axle of Machacek do not cause the handle (or any other part) to rotate, it is not a ‘rotatable body,’” “the connection in Machacek is not subjected to high rotational or impact forces,” the connection of Machacek would not stay reliably attached under the larger dynamic forces of a carcass processing system, and “the magnitude of force sufficient to create a high stress on the snap connection in Machacek would cause an even higher stress on the contact points of the pins on the patient’s skin, and would therefore puncture the patient’s skin.” *Id.* at 22 (citing Ex. 2011 ¶¶ 52, 57), 23 (citing Ex. 2011 ¶ 52), 24 (citing Ex. 2011 ¶ 54).

Regarding prosecution, Patent Owner contends that, “[a]lthough the Examiner of the ’225 patent cited Machacek during prosecution of the ’225 patent, the Examiner did not perform any analysis of whether Machacek was analogous prior art.” *Id.* at 24 (citing Ex. 1002, 363–366). Patent Owner also contends that, if the Examiner considered Machacek to be analogous art, the Examiner was mistaken. *Id.* at 24–25 (citing Ex. 2011 ¶ 58). Patent Owner, thus, asserts that Machacek is not analogous art. *Id.* at 25 (citing Ex. 2011 ¶ 59).

(1) Petitioner’s Reply

Relying on Mr. Bonenberger’s declaration and Mr. Medsker’s deposition testimony, Petitioner replies that one of ordinary skill in the art would have considered Machacek reasonably pertinent to the problem of removing and replacing brushes attached to a rotatable body. Pet. Reply 7–8

(citing Ex. 1012 ¶ 19; Ex. 2010, 99:20–25). Petitioner also argues that one of ordinary skill in the art would have understood that Machacek could be applied to Debaere to solve the problem. *Id.* at 7 (citing Ex. 2010, 100:7–15).

(2) Patent Owner’s Sur-Reply

Patent Owner replies that Petitioner does not present any evidence showing that Machacek addresses how to replace brush elements to a rotatable body and does not establish that Machacek “addresses the problem of replacing a brush element that is subject to the type of dynamic forces required to process animal carcasses.” PO Sur-reply 7. Patent Owner argues that Petitioner “presents no evidence that modifying the connections of any reference to withstand the dynamic forces required to process carcasses was within the ‘ordinary creativity’ of a [person having ordinary skill in the art]” and ordinary creativity was not asserted in the Petition. *Id.* at 8 (citing Pet. Reply 3). Patent Owner also argues that Petitioner improperly attempts to fill the gap with declarant testimony that is deficient, does not discuss ordinary creativity, and improperly uses hindsight. *Id.* at 8–9 (citing Pet. Reply 4–5; Ex. 1012 ¶ 18).

Patent Owner further argues that Mr. Bonenberger “did not understand the level of skill imputed to a [person having ordinary skill in the art],” has not been shown to be qualified to testify as to the understanding of such a person, admitted no testing was done, and did not consider all the claim elements. *Id.* at 9–10 (citing Ex. 1012 ¶ 22; Ex. 2040, 7:21–15:1, 15:11–15, 32:25–33:23, 34:13–35:3, 36:8–47:22, 39:15–19, 40:7–15, 74:14–75:1, 89:24–91:9). Patent Owner additionally asserts that Mr. Bonenberger’s book has not been presented as evidence, was published after

the '225 patent's priority date, and is thus irrelevant. PO Sur-reply 2 (citing Pet. Reply 19; Ex. 2040, 95:23–96:14, 99:5–10).

(3) Analysis

Machacek states that it “relates to devices for testing a patient's body for sensitivity and pain,” specifically, “a pinwheel type device” and “the rolling of such a device having a rotatable pinwheel on an area of a patient's body to test it for pain and sensitivity.” Ex. 1006, 1:9–14. We also find that the portions of Machacek cited by Patent Owner state that, in known devices, “[t]he points on the rotating pinwheel offer the risk of puncturing the skin and drawing blood” and thus, risk “the transference of any blood borne disease by this mechanism.” *Id.* at 1:20–25. “[T]he pinwheel device available has been made of stainless steel,” “generally used on a daily basis,” and “require sterilization after each use to completely remove the possibility of transmitting a blood borne disease.” *Id.* at 1:26–30. We also credit Prof. Stauffer's testimony that “problem addressed in Machacek is how to reduce the risk of transferring blood borne disease to the practitioner and to other patients without having to sterilize the device between each use” because the above-quoted portions of Machacek support the testimony. Ex. 2011 ¶ 49.

Thus, we agree with Patent Owner that “Machacek addresses how to reduce the risk of transferring blood borne disease to the practitioner and to other patients without having to sterilize the device between each use.” PO Resp. 19–20 (citing Ex. 1006, 1:20–30; Ex. 2011 ¶ 49). As determined above, the particular problem addressed by the '225 patent relates to the replacement of brush elements attached to a rotatable body that imparts rotation to the brush elements rotatably attached to it. Based on the full record, we determine that Petitioner has not sufficiently shown why one of

ordinary skill in the art would reasonably have been expected to look to Machacek for a solution to the problem addressed by the '225 patent.

In the Petition, Petitioner argues that “both Debaere and Machacek are directed to devices that rotatably contact and engage with skin,” “Breitschmid and Machacek are both directed to handheld medical devices,” and “both disclose a handle having a snap-fit connector for receiving a device with a rod.” Pet. 18 (citing Ex. 1003 ¶ 59; Ex. 1006; Ex. 1007). According to Petitioner, one of ordinary skill in the art “once recognizing the combinability of the snap-fit connection of Machacek to the whip of Debaere – a combination whose obviousness was explained by the Examiner and accepted by the Patent Owner – would also have known about other snap-fit connections, certainly at least from the same field of endeavor as Machacek.” *Id.* at 18–19 (citing Ex. 1003 ¶ 60).

These arguments address similarities in structure and combinability once recognized, but they do not explain sufficiently why one of ordinary skill in the art would have looked to Machacek in the first instance for a solution to the problem addressed by the '225 patent—replacing brush elements attached to a rotatable body that imparts rotation to the brush elements rotatably attached to it. They also do not address why Machacek logically would have commended itself when considering that problem. The cited paragraph 60 of Mr. Medsker’s declaration substantially repeats the arguments in the Petition and does not point to any evidence in the record. *See* Ex. 1003 ¶ 60.

In its Reply, Petitioner points us to Mr. Bonenberger’s declaration and Mr. Medsker’s deposition testimony. Pet. Reply 7–8 (citing Ex. 1012 ¶ 19; Ex. 2010, 99:20–25). Paragraph 19 of Mr. Bonenberger’s declaration states that “[w]hen faced with the ease of removal and replacement of brushes

attached to a rotatable body, the snap-fit shown in Machacek would be reasonably pertinent, as it discloses a snap-fit female member that can be snapped onto a male rod member” and that one of ordinary skill in the art “would have easily understood that the snap-fit configuration of Machacek could be incorporated into the cylindrical slide on configuration of Debaere to provide a snap-fit construction.” Ex. 1012 ¶ 19. Mr. Medsker indicated during deposition that “the core problem to be solved is to create an easily -- easy installation, easy removal of the brush” and Machacek’s rod or female accepting member would prompt the ordinary skilled artisan to “use that to apply that to Debaere to create a brush that's easily removable and installable.” Ex. 2010, 99:20–25.

The testimony cited by Petitioner indicates that, once Machacek has been brought to the attention of the ordinary skilled artisan, the application of Machacek to Debaere, despite the differences in male and female connections and the forces involved, would have been a matter of ordinary skill to a “person of ordinary creativity.” *See* Pet. 17–19; Pet. Reply 2–8; *see also* Tr. 45:6–47:2 (Patent Owner’s counsel addressing ordinary skill). However, Petitioner does not argue sufficiently or present sufficient evidence that Machacek logically would have commended itself to the inventor’s attention in considering the problem of the ’225 patent. *See* Pet. 17–19; Pet. Reply 2–8; Ex. 1003 ¶ 60.

Specifically, Petitioner does not present sufficient argument and evidence why one of ordinary skill in the art would have looked to Machacek for a solution to the problem addressed by the ’225 patent or why Machacek’s pinwheel testing device that reduces the risk of transferring blood borne disease logically would have commended itself to an inventor’s attention when considering the problem of replacing brush elements attached

to a rotatable body that imparts rotation to the brushes rotatably attached to it. *Clay*, 966 F.2d at 659.

Even considering the structural similarities of Debaere and Machacek, which is Petitioner's basis for combining the references, the full record does not explain why or how one of ordinary skill in the art would have considered Machacek at all so that the asserted structural similarities would have been perceived or Machacek would have prompted applying a particular connection to Debaere. *Scientific Plastic Prods., Inc. v. Biotage AB*, 766 F.3d 1355, 1359 (Fed. Cir. 2014) ("The pertinence of the reference as a source of solution to the inventor's problem must be recognizable with the foresight of a person of ordinary skill, not with the hindsight of the inventor's successful achievement.").

Regarding prosecution history, the full record does not persuade us that Applicant's failure to challenge the Examiner's underlying determination that Debaere and Machacek could be combined is a clear admission that Machacek is analogous art. *See* Ex. 1002, 320–331 (rejecting in a final Office Action the then-pending claims as unpatentable over Debaere and Machacek), 339 (discussing the combination of Debaere and Machacek). Prosecution history indicates that the Applicant argued structural differences instead of whether Machacek is analogous art.

The Examiner stated that the "Applicant argued that the device of Machacek is fundamentally different than the device of Debaere since Machacek does not have the rotation as disclosed by Debaere" and "discussed amending the claims" that the Examiner indicated "would overcome the prior art references listed above, however a further search and consideration would be required to determine the patentability of these proposed claim amendments." *Id.* at 339 (continuation sheet describing the

substance of an interview). The Applicant, thereafter, did not present an analogous art argument but amended the then-pending claims to recite further features because “[b]ased on conversations with the Examiner, the claim amendments introduced in this Amendment and Response After Final overcome the rejections raised in the final Office Action.” *See* Ex. 1002 at 346–352 (amendments to the claims), 353 (arguments responding to final Office Action); *see also* Pet. 17 (arguing that “[t]o overcome the rejections, the claims were amended to identify particular geometric configurations of the female part of the snap fit coupling”).

Our review of the prosecution history of the ’225 patent does not persuade us that the Applicant clearly acquiesced to the Examiner’s underlying determination that, at least, Machacek is analogous art, as argued by Petitioner. Pet. 7; Pet. Reply 7 n.1; *see also* Tr. 11:4–12:23 (Petitioner’s counsel addressing prosecution history). In particular, the prosecution history indicates that the Examiner preliminarily determined that amendments proposed during an interview would overcome the pending rejection and the Applicant subsequently decided to pursue amendment over any other argument, such as analogous art. *See* Ex. 1002, 339, 353. Without further evidence, we are not persuaded that those events in prosecution history clearly indicate that the Applicant agreed that Machacek is analogous art.

For the reasons above, based on the full record before us, Petitioner does not show by a preponderance of the evidence that Machacek is in the same field of endeavor as the ’225 patent, is reasonably pertinent to the problem with which the inventor of the ’225 patent was concerned, or would have logically commended itself to the inventor’s attention in considering

the problem of the '225 patent. Accordingly, we find that Machacek is not analogous art.

c) Breitschmid

Patent Owner argues that Breitschmid is not reasonably pertinent to the problem facing the inventor of the '225 patent because “the problem addressed in Breitschmid is how to attach an interdental brush head to a hand-held handle in a simple, quick and reliable fashion” and

is not reasonably pertinent to solving a problem of how to more easily replace brush elements connected to a rotatable body (i.e., a structure that imparts rotation to the brush elements) in an environment in which the rotating brush elements are subject to the type of dynamic forces required to process animal carcasses.

PO Resp. 28–29 (citing Ex. 1007, 1:18–49, 1:52–55; Ex. 2011 ¶¶ 68–69).

Patent Owner further argues that Breitschmid is not reasonably pertinent to the problem facing the inventor of the '225 patent because “Breitschmid does not involve a connection to a rotatable body,” “Breitschmid provides several different methods of attaching the brush head to the handle,” “the brush of Breitschmid is not driven to rotate,” and “the attachments of Breitschmid are not designed to withstand the same type of violent rotational and violent striking forces as those experienced by the brushes in the '225 patent.” *Id.* at 29–31 (citing Ex. 1007, 1:22–25, 1:62–65, Figs. 5a–5d, 8b; Ex. 2010, 74:5–76:8; Ex. 2011 ¶¶ 70–75). Patent Owner, thus, contends that one of ordinary skill in the art “would understand that the strength of that connection would be relatively low in the vertical direction perpendicular to the axis of the rod to make it easy for the practitioner to replace the brush” and “[a]ny additional retention force in that direction would be unnecessary, serve no useful purpose, and have the undesirable

effect of making the brush more difficult to replace.” PO Resp. 31–32 (citing Ex. 2011 ¶¶ 74–75).

Patent Owner asserts that, in the ’225 patent, the forces acting on the connection include a centripetal force and are higher than those in Breitschmid. *Id.* at 32 (citing Ex. 2011 ¶¶ 72, 76). Patent Owner also asserts that one of ordinary skill in the art “would recognize that the axial force in Breitschmid is different in direction, magnitude, and type compared to the forces at play in a carcass processing system” and “would not expect that the connection type taught in Breitschmid would stay reliably attached or be successful under the dynamic forces of a carcass processing system.” *Id.* (citing Ex. 2011 ¶ 76).

According to Patent Owner, Breitschmid is not concerned with replacement of brush elements connected to a rod. *Id.* at 32–33 (citing Inst. Dec. 23, 24; Ex. 2011 ¶ 80). Patent Owner argues that, in Breitschmid, “the brush *is* the ‘rod’” and “there is no teaching in Breitschmid about connecting a brush to a rod.” *Id.* at 33 (citing Ex. 1007, 7:26–31, 7:33–35, Figs. 6–9; Ex. 2011 ¶ 81).

Patent Owner contends that Petitioner’s declarant conceded “there is no ‘rotatable body’ in Breitschmid.” *Id.* (citing Ex. 2010, 74:5–76:8). Patent Owner also contends that the reasons given by Petitioner’s declarant for combining Machacek and Debaere are inapplicable to Breitschmid and the relevant problem is coupling a brush element to a rotatable body that Breitschmid does not have. *Id.* at 34 (citing Ex. 1003 ¶ 59; Ex. 2011 ¶¶ 29–38, 70, 78). In Patent Owner’s view, Breitschmid is not analogous to Machacek, Debaere, or the ’225 patent because of the “differences in the type and nature of contacting and engaging,” specifically “Breitschmid is designed to clean between teeth and therefore does not ‘rotatably contact and

engage with skin’ at all.” PO Resp. 34–35 (citing Ex. 1003 ¶ 59; Ex. 2011 ¶¶ 51–52, 79). Patent Owner concludes that no challenged claim would have been obvious because Breitschmid is not analogous art. *Id.* at 35 (citing Ex. 2011 ¶ 81).

(1) Petitioner’s Reply

Relying on testimony, Petitioner replies that “from a core problem-solving standpoint, a [person having ordinary skill in the art] would look to Breitschmid to further modify the combination of Debaere and Machacek,” Machacek and Breitschmid are very similar with respect to a snap fit, and “Breitschmid would be equally pertinent to Machacek as providing a snap-fit construction which a [person having ordinary skill in the art] would see as a replacement for the slide-on configuration shown in Debaere.” Pet. Reply 8 (citing Ex. 1012 ¶ 20; Ex. 2010, 69:2–7, 70:12–20).

(2) Patent Owner’s Sur-Reply

Patent Owner replies that Petitioner does not present any evidence showing that Breitschmid addresses how to replace brush elements on a rotatable body and does not establish that Breitschmid “addresses the problem of replacing a brush element that is subject to the type of dynamic forces required to process animal carcasses.” PO Sur-reply 7. Patent Owner argues that Petitioner “presents no evidence that modifying the connections of any reference to withstand the dynamic forces required to process carcasses was within the ‘ordinary creativity’ of a [person having ordinary skill in the art]” and ordinary creativity was not asserted in the Petition. *Id.* at 8 (citing Pet. Reply 3). Patent Owner also argues that Petitioner improperly attempts to fill the gap with declarant testimony that is deficient, does not discuss ordinary creativity, and improperly uses hindsight. *Id.* at 8–9 (citing Pet. Reply 4–5; Ex. 1012 ¶ 18).

As discussed above, Patent Owner further alleges defects in the testimony of Mr. Bonenberger. PO Sur-reply 9–10 (citing Ex. 1012 ¶ 22; Ex. 2040, 7:21–15:1, 15:11–15, 32:25–33:23, 34:13–35:3, 36:8–47:22, 39:15–19, 40:7–15, 74:14–75:1, 89:24–91:9). Patent Owner additionally asserts that Mr. Bonenberger’s book has not been presented as evidence, was published after the ’225 patent’s priority date, and is thus irrelevant. *Id.* at 2 (citing Pet. Reply 19; Ex. 2040, 95:23–96:14, 99:5–10).

(3) *Analysis*

Breitschmid states that it “relates to a retaining member on a handle for the exchangeable attachment of an interdental brush exhibiting a fastening element with crosspiece by inserting the fastening element in a recess of the retaining member” and “concerns a dental brush for the exchangeable mounting to a holder, comprising a bristle-studded frontal section and a rear end provided with a fastening means.” Ex. 1007, 1:7–14. We also find that the portions of Breitschmidt cited by Patent Owner describe known tooth cleaning devices with an exchangeably attached interdental brush with a clamping plug or threaded fastening. *Id.* at 1:18–49. An object of Breitschmid is “to provide a retaining member of the above-mentioned type to which an interdental brush can be attached in a simple, quick and reliable fashion.” *Id.* at 1:52–55. We also credit Prof. Stauffer’s testimony that “the problem addressed in Breitschmid is how to attach an interdental brush head to a hand-held handle in a simple, quick and reliable fashion” because Breitschmid supports it. Ex. 2011 ¶ 69.

Thus, we agree with Patent Owner that “the problem addressed in Breitschmid is how to attach an interdental brush head to a hand-held handle in a simple, quick and reliable fashion.” PO Resp. 28–29 (citing Ex. 1007, 1:18–49, 1:52–55; Ex. 2011 ¶¶ 68–69); *see also* Pet. 17 (arguing that

“Breitschmid is a brush that discloses a snap fit coupling for the brush element” that “has the same geometric configurations of the female part of the snap fit (in other words, the same channel shape) as claimed in the claims of the ’225 patent”). As determined above, the particular problem addressed by the ’225 patent relates to the replacement of brush elements attached to a rotatable body that imparts rotation to the brush elements rotatably attached to it. Based on the full record, we determine that Petitioner has not sufficiently shown why one of ordinary skill in the art would reasonably have been expected to look to Machacek for a solution to the problem addressed by the ’225 patent.

In the Petition, Petitioner argues that “Breitschmid and Machacek are both directed to handheld medical devices and both disclose a handle having a snap-fit connector for receiving a device with a rod.” Pet. 18 (citing Ex. 1003 ¶ 59; Ex. 1006; Ex. 1007). According to Petitioner, one of ordinary skill in the art “once recognizing the combinability of the snap-fit connection of Machacek to the whip of Debaere . . . would also have known about other snap-fit connections, certainly at least from the same field of endeavor as Machacek” and “would have understood that the snap fit connection of Breitschmid achieves the same known results as the snap-fit connection of Machacek, namely the same easy attachability and detachability.” *Id.* at 18–19 (citing Ex. 1003 ¶ 60). Petitioner also argues that one of ordinary skill in the art “would have tried either, or combinations of both, to achieve the benefits identified by the Examiner in combining the snap-fit connection of Machacek to the whip of Debaere.” *Id.* at 19 (citing Ex. 1003 ¶ 60).

These arguments do not address why one of ordinary skill in the art would have looked to Breitschmid’s “attach[ing] an interdental brush head to a hand-held handle in a simple, quick and reliable fashion” for a solution

to the '225 patent's problem relating to the replacement of brush elements attached to a rotatable body that imparts rotation to the brush elements rotatably attached to it. They also do not address why Breitschmid logically would have commended itself when considering the problem of replacing brush elements attached to a rotatable body that imparts rotation to the brush elements rotatably attached to it. The cited paragraph 60 of Mr. Medsker's declaration substantially repeats the arguments in the Petition and does not point to any further evidence in the record. *See* Ex. 1003 ¶ 60.

In its Reply, Petitioner points us to Mr. Bonenberger's declaration and Mr. Medsker's deposition testimony. Pet. Reply 8 (citing Ex. 1012 ¶ 20; Ex. 2010, 69:2–7, 70:12–20). Paragraph 20 of Mr. Bonenberger's declaration states that “[w]hen faced with the ease of removal and replacement of brushes attached to a rotatable body, the snap-fit shown in Breitschmid would be reasonably pertinent, as it discloses a snap-fit female member that can be snapped onto a male rod member” and that one of ordinary skill in the art “would have easily understood that the snap-fit configuration of Breitschmid could be incorporated into the cylindrical slide on configuration of Debaere to provide a snap-fit construction.” Ex. 1012 ¶ 20. The relied-upon portion of Mr. Bonenberger's testimony asserts that Breitschmid's disclosure is reasonably pertinent without explaining how Breitschmid would have been brought to the attention of the one of ordinary skill in the art in the first place. *See id.*

Mr. Medsker indicated during deposition that “in my opinion, a person of ordinary skill in the art may not look at Breitschmid from the analogous standpoint, but from the core problem-solving standpoint, they would” and would choose the snap-fit connection Machacek or Breitschmid based on “best design choice” because “they're very, very similar.”

Ex. 2010, 69:2–7, 70:12–20. The relied-upon portions of Mr. Medsker’s testimony indicate that Breitschmid may not be analogous, and that only after Breitschmid has been brought to the attention of the ordinary skilled artisan, the connection of Breitschmid would have been one of the choices in modifying Debaere. *See id.*

Thus, for the reasons above, based on the full record before us, Petitioner does not argue sufficiently or present sufficient evidence that Breitschmid logically would have commended itself to the inventor’s attention in considering the problem of the ’225 patent or is reasonably pertinent to the problem with which the inventor of the ’225 patent was concerned. *See* Pet. 17–19; Pet. Reply 2–8; Ex. 1003 ¶ 60.

Also, as discussed above, Petitioner does not show by a preponderance of the evidence that Breitschmid is in the same field of endeavor as the ’225 patent. Accordingly, we find that Breitschmid is not analogous art.

d) Plamper

Patent Owner argues that Plamper is not reasonably pertinent to the problem facing the inventor of the ’225 patent because the problems addressed by Plamper are “how to securely attach a trail shield to a mower deck using a simple construction” and “strengthening the trail shield.” PO Resp. 37–38 (citing Ex. 1008, 1:33–52, 2:33–50, 3:31–36; Ex. 2011 ¶¶ 89–90). Patent Owner contends that one of ordinary skill in the art “would not have looked to Plamper in solving the problem of the ’225 patent for several reasons.” *Id.* at 38.

Patent Owner argues that “Plamper does not involve a ‘brush element’ connected to a ‘rotatable body’ (i.e., a structure that imparts rotation)” and Petitioner’s declarant agreed. *Id.* (citing Ex. 2010, 77:15–16; Ex. 2011

¶ 91). According to Patent Owner, Petitioner’s declarant also testified that “the rod in Plamper is stationary and does not cause the shield to rotate,” and Petitioner’s declarant “erroneously again focuses his analysis exclusively on the ability of the trail shield to pivot about the rod.” PO Resp. 38 (citing Ex. 2010, 85:13–20; Ex. 2011 ¶¶ 91, 92).

Patent Owner also points us to declarant testimony and portions of Plamper to support its position that Plamper’s rod does not rotate, Plamper’s rod does not cause rotation, and Plamper’s shield is not designed to withstand the forces of the ’225 patent. *Id.* at 39 (citing Ex. 1008, 2:43–49, 3:52–67; Ex. 2011 ¶¶ 93, 94).

Patent Owner asserts that “[b]ecause Plamper lacks a ‘rotatable body’ that imparts rotation to the shield, it solves a substantially different problem than the problem solved by the ’225 patent, and it is not reasonably pertinent to the problem / purpose of the ’225 patent.” *Id.* at 38–39 (citing Ex. 2011 ¶¶ 91–92). Patent Owner provides its understanding of Plamper and contends that “[t]here is no discussion that the shield is designed to withstand the type of constant rotational impact forces present in the context of the problem facing the inventors of the ’225 patent.” *Id.* at 39 (citing Ex. 1008, 2:43–49, 3:52–67; Ex. 2011 ¶¶ 93–94).

Patent Owner further argues that Petitioner “does not identify any teaching in Plamper that the trail shields wear out, need to be replaced, or otherwise need to be routinely detached from the mower deck.” *Id.* (citing Ex. 2011 ¶ 93). Patent Owner additionally argues that Petitioner’s supporting declarant testimony is incorrect because “Plamper does not teach a connection that ‘allows for rotation of the rod within the element’ because the rod of Plamper does not rotate” and “the brush in Debaere *slides onto* the

rod from the end, it does not ‘*snap[] onto* a rod.’” PO Resp. 40 (citing Ex. 1003 ¶ 44; Ex. 2010, 85:13–20, 185:25–183:13; Ex. 2011 ¶¶ 91, 95).

(1) Petitioner’s Reply

Petitioner replies that its declarant “testified that the rotatable nature of the connection is consistent through all three of the cited references.” Pet. Reply 8 (citing Ex. 2010, 59:8–18). Petitioner also relies on additional declarant testimony to argue that Plamper is reasonably pertinent and “discloses a rotatable snap-fit coupling.” *Id.* at 9 (citing Ex. 1012 ¶ 12). Petitioner further argues that the rotating body of Plamper “experiences impact loads that may be higher than those that would be experienced by a hog dehairing whip.” *Id.* (citing Ex. 1012 ¶ 22; Ex. 2010, 80:20–81:22).

(2) Patent Owner’s Sur-Reply

Patent Owner replies that Petitioner does not present any evidence showing that Plamper addresses how to replace brush elements to a rotatable body and does not establish that Plamper “addresses the problem of replacing a brush element that is subject to the type of dynamic forces required to process animal carcasses.” PO Sur-reply 7. Patent Owner argues that Petitioner “presents no evidence that modifying the connections of any reference to withstand the dynamic forces required to process carcasses was within the ‘ordinary creativity’ of a [person having ordinary skill in the art]” and ordinary creativity was not asserted in the Petition. *Id.* at 8 (citing Pet. Reply 3). Patent Owner also argues that Petitioner improperly attempts to fill the gap with declarant testimony that is deficient, does not discuss ordinary creativity, and improperly uses hindsight. *Id.* at 8–9 (citing Pet. Reply 4–5; Ex. 1012 ¶ 18).

As discussed above, Patent Owner further alleges defects in the testimony of Mr. Bonenberger. *Id.* at 9–10 (citing Ex. 1012 ¶ 22; Ex. 2040,

7:21–15:1, 15:11–15, 32:25–33:23, 34:13–35:3, 36:8–47:22, 39:15–19, 40:7–15, 74:14–75:1, 89:24–91:9). Patent Owner additionally asserts that Mr. Bonenberger’s book has not been presented as evidence, was published after the ’225 patent’s priority date, and is thus irrelevant. PO Sur-reply 2 (citing Pet. Reply 19; Ex. 2040, 95:23–96:14, 99:5–10).

(3) *Analysis*

Plamper states that it “relates to a way of mounting a trail shield to a lawn and garden mower and, more particularly, to rear discharge walk behind lawn mowers.” Ex. 1008, 1:5–7. We also find that the portions of Plamper cited by Patent Owner list several objects, which include “a stronger trail shield” and “strengthen[ing] the interconnection between the trail shield and the mower deck.” *Id.* at 1:33–52. Plamper describes attachment section 30, how attachment section 30 handles separating forces, and intermediate flex section 50 that is connected to attachment section 30 and trailing section 60. *Id.* at 2:33–49, 3:31–36.

We also credit Prof. Stauffer’s testimony that “one problem addressed by Plamper is how to securely attach a trail shield to a mower deck using a simple construction, and that problem is solved by using a snap-over connection” and “[a]nother problem in Plamper is how to strengthen the trail shield, which Plamper solves by including a flexible intermediate flex section to absorb forces placed on the trail shield so that they are not transmitted to the connection of the trail shield.” Ex. 2011 ¶ 90; *see also id.* ¶ 89 (discussing Ex. 1008, 1:33–52, 2:33–50). Plamper supports the testimony. Ex. 1008, 1:33–52, 2:33–49.

We, thus, agree with Patent Owner that the problems addressed by Plamper are “how to securely attach a trail shield to a mower deck using a simple construction” and “strengthening the trail shield.” PO Resp. 37–38;

see also Pet. 38 (stating that “Plamper discloses a snap-fit coupling that snap-fits a shield over a rod”). As determined above, the particular problem addressed by the ’225 patent relates to the replacement of brush elements attached to a rotatable body that imparts rotation to the brush elements rotatably attached to it. Based on the full record, we determine that Petitioner has not sufficiently shown why one of ordinary skill in the art would reasonably have been expected to look to Machacek for a solution to the problem addressed by the ’225 patent.

In the Petition, Petitioner argues that “Plamper is likewise combinable with the combination of Debaere and Machacek” and “discloses yet another snap-fit construction of an elongated member that is rotatably coupled to a rod.” Pet. 39 (citing Ex. 1003 ¶ 82). These arguments do not address why one of ordinary skill in the art would have looked to Plamper for a solution to the ’225 patent’s problem relating to the replacement of brush elements attached to a rotatable body that imparts rotation to the brush elements rotatably attached to it. They also do not address why Plamper logically would have commended itself when considering the ’225 patent’s problem. The cited paragraph 82 of Mr. Medsker’s declaration substantially repeats the arguments in the Petition and does not point to any further evidence in the record. *See* Ex. 1003 ¶ 82.

In its Reply, Petitioner points us to Mr. Bonenberger’s declaration and Mr. Medsker’s deposition testimony. Pet. Reply 8 (citing Ex. 1012 ¶¶ 21, 22; Ex. 2010, 59:8–18, 80:20–81:22, 185:1–14). Paragraph 21 of Mr. Bonenberger’s declaration states that “[w]hen faced with the ease of removal and replacement of brushes attached to a rotatable body, the snap-fit shown in Plamper would be reasonably pertinent, as it discloses a snap-fit female member that can be snapped onto a male rod member” and that one of

ordinary skill in the art “would have easily understood that the snap-fit configuration of Plamper could be incorporated into the cylindrical slide on configuration of Debaere to provide a snap-fit construction.” Ex. 1012 ¶ 21. The relied-upon portions of Mr. Bonenberger’s testimony assert that Plamper’s disclosure is reasonably pertinent without explaining how Plamper would have been brought to the attention of the one of ordinary skill in the art. *See id.*

Paragraph 22 of Mr. Bonenberger’s declaration opines how one of ordinary skill in the art would have understood that expected forces would require scaling of components. *Id.* ¶ 22. The cited portions of Mr. Medsker’s deposition testimony relate to rotation in the couplings of the ’225 patent and the asserted references, the expected forces in Debaere when applying the trail shield of Plamper, and the asserted ratio of the opening in Plamper. *See* Ex. 2010, 59:8–18, 80:20–81:22, 185:1–14. These portions of Mr. Bonenberger’s declaration and Mr. Medsker’s deposition testimony do not address adequately why Plamper is analogous art.

Thus, for the reasons above, based on the full record before us, Petitioner does not present sufficient argument and evidence that Plamper logically would have commended itself to the inventor’s attention in considering the problem of the ’225 patent or is reasonably pertinent to the problem with which the inventor of the ’225 patent was concerned. *See* Pet. 38–39; Pet. Reply 2–9; Ex. 1003 ¶ 82.

Also, as discussed above, Petitioner does not show by a preponderance of the evidence that Plamper is in the same field of endeavor as the ’225 patent. Accordingly, we find that Plamper is not analogous art.

3. *Other Arguments and Evidence*

Patent Owner also argues that the asserted references fail to teach or suggest certain limitations of the independent claims and that one of ordinary skill in the art would not have had a reason to combine the asserted references in the manner proposed by Petitioner with a reasonable expectation of success. *See* PO Resp. 40–54. The parties provide reply arguments regarding the teachings of the asserted references and the reason to combine those references. Pet. Reply 9–12; PO Sur-reply 11–16. Patent Owner also presents objective indicia of nonobviousness (PO Resp. 55–62), and the parties present reply arguments regarding objective indicia of nonobviousness (Pet. Reply 12–19; PO Sur-reply 16–24).

Because of our determinations above that the Machacek, Breitschmid, and Plamper references are not in the same field of endeavor or reasonably pertinent to the problem with which the inventor of the '225 patent was concerned, which remove the Machacek, Breitschmid, and Plamper references from consideration as prior art in combination with Debaere when analyzing obviousness, we do not reach the parties' other arguments and evidence.

4. *Weighing the Graham Factors*

“Once all relevant facts are found, the ultimate legal determination [of obviousness] involves weighing of the fact findings to conclude whether the claimed combination would have been obvious to an ordinary artisan.”

Arctic Cat Inc. v. Bombardier Recreational Prods. Inc., 876 F.3d 1350, 1361 (Fed. Cir. 2017) (quoting *In re Cyclobenzaprine Hydrochloride Extended-*

Release Capsule Patent Litig., 676 F.3d 1063, 1068–69 (Fed. Cir. 2012)).

Above, based on full record before us, we provide our factual findings.

In particular, we determined that Petitioner’s proposed level of ordinary skill in the art is consistent with the prior art of record, but Petitioner does not persuade us by a preponderance of the evidence that Machacek, Breitschmid, and Plamper are analogous art. Because Machacek, Breitschmid, and Plamper have not been shown to be analogous art, Petitioner does not persuade us that one of ordinary skill in the art would have combined (1) Debaere, Machacek, and Breitschmid or (2) Debaere, Machacek, and Plamper. Petitioner does not assert that Debaere, individually, renders any claim of the ’225 patent obvious. *See* Pet. 14–43.

Accordingly, Petitioner does not show by a preponderance of the evidence that claims 1–5 and 7–22 of the ’225 patent are unpatentable over (1) Debaere, Machacek, and Breitschmid or (2) Debaere, Machacek, and Plamper.

H. Motions to Seal

Patent Owner filed Motions to Seal confidential versions of the Patent Owner Response, Patent Owner’s Sur-Reply, and Exhibits 2011–2028, 2031–2035, 2039, 2040, and 2042–2045. 1st Mot.; 3d Mot. Petitioner also filed a Motion to Seal confidential versions of the Reply to Patent Owner’s Response and Exhibits 1015–1017. 2d Mot. No oppositions to any of these motions were filed. For the reasons discussed below, the motions are *granted*.

We granted the parties’ Joint Motion for Entry of a Stipulated Protective Order (Paper 11) and entered a Modified Protective Order that governs the conduct of this proceeding (*id.* Addendum B). Paper 14.

As provided under Rule 42.54(a), “[t]he Board may, for good cause, issue an order to protect a party from disclosing confidential information,” including forbidding the disclosure of protected information or specifying the terms under which such information may be disclosed. 37 C.F.R.

§ 42.54(a). The Board also observes a strong policy in favor of making all information filed in *inter partes* review proceedings open to the public. See *Argentum Pharms. LLC v. Alcon Research, Ltd.*, IPR2017-01053, Paper 27 at 3–4 (PTAB Jan. 19, 2018) (informative).

Under 37 C.F.R. § 42.14, the default rule is that all papers filed in such proceedings are available to the public. Only “confidential information” is subject to protection against public disclosure. 35 U.S.C. § 326(a)(7); 37 C.F.R. § 42.55. In that regard, as noted in the Office’s Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,760 (Aug. 14, 2012):

The rules aim to strike a balance between the public’s interest in maintaining a complete and understandable file history and the parties’ interest in protecting truly sensitive information

Confidential Information: The rules identify confidential information in a manner consistent with the Federal Rules of Civil Procedure 26(c)(1)(G), which provides for protective orders for trade secret or other confidential research, development, or commercial information. § 42.54.

The moving party bears the burden of showing that the relief requested should be granted. 37 C.F.R. § 42.20(c). And the standard for granting Patent Owner’s requested relief is “good cause.” 37 C.F.R. § 42.54(a); *Argentum*, Paper 27 at 3–4. To demonstrate “good cause,” the moving party must make a sufficient showing that:

(1) the information sought to be sealed is truly confidential, (2) a concrete harm would result upon public disclosure, (3) there exists a genuine need to rely in the trial on the specific information sought to be sealed, and (4), on balance, an interest in maintaining confidentiality outweighs the strong public interest in having an open record.

Argentum, Paper 27 at 3–4; *see also Corning Optical Communications RF, LLC, v. PPC Broadband, Inc.*, IPR2014-00440, Paper 46 at 2 (PTAB April 6, 2015) (requiring a showing that information has not been “excessively redacted”).

Regarding Exhibits 2011–2028 and 2031–2035, Patent Owner states that these exhibits were produced or designated as “HIGHLY CONFIDENTIAL—ATTORNEY’S EYES ONLY” or “CONFIDENTIAL” in accordance with a protective order issued in related litigation and making the document or information in the document available to the public would violate the protective order. 1st Mot. 1–3. Patent Owner also states that the Patent Owner’s Response contains information from these exhibits that is subject to the protective order. *Id.* at 3. Patent Owner provides the same reasons for the Patent Owner’s Sur-Reply and Exhibits 2039, 2040, and 2042–2045. 3d Mot. 1–3.

Petitioner also provides similar statements for the Reply to Patent Owner’s Response and Exhibits 1015–1017. 2d Mot. 2. The parties further represent that non-confidential redacted versions are filed concurrently with the motions or the party who produced or designated the confidential information intends to file non-confidential redacted versions of the Patent Owner’s Response, Petitioner’s Reply, Patent Owner’s Sur-Reply, and Exhibits 1015, 1016, 2011, and 2032–2034. 1st Mot. 1–4; 2d Mot. 2; 3d Mot. 3.

Upon reviewing Exhibits 1015–1017, 2011–2028, 2031–2035, 2039, 2040, and 2042–2045, which appear to contain confidential information, and the parties’ arguments regarding their confidential nature, we are persuaded that good cause exists to seal these exhibits. The parties filed a public, redacted versions of Exhibits 1015, 1016, 2011–2028, 2031–2035, 2039, 2040, and 2042–2045, which appear to be tailored to redact only confidential information.

We are also persuaded that good cause exists to seal the confidential versions of the Patent Owner’s Response (Paper 16), Reply to Patent Owner’s Response (Paper 20), and Patent Owner’s Sur-Reply (Paper 30). The parties filed a public, redacted versions of these papers, which appear to be tailored to redact only confidential information. Papers 17, 33, 47.

III. CONCLUSION

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1–5, 7– 22	103(a)	Debaere, Machacek, Breitschmid		1–5, 7–22
1–5, 7– 22	103(a)	Debaere, Machacek, Plamper		1–5, 7–22
Overall Outcome				1–5, 7–22

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–5 and 7–22 of U.S. Patent No. 9,433,225 B2 have not been shown, by a preponderance of the evidence, to be unpatentable;

FURTHER ORDERED that Patent Owner’s Motion to Exclude (Paper 36) is denied;

FURTHER ORDERED that Petitioner’s Motion to Exclude (Paper 37) is denied;

FURTHER ORDERED that Patent Owner’s Motions to Seal (Papers 15, 29) are granted;

FURTHER ORDERED that Petitioner’s Motion to Seal (Papers 19) is granted;

FURTHER ORDERED that the parties are authorized to file a motion to expunge within 90 days after the date of entry of this Final Written Decision;

FURTHER ORDERED that, if an appeal is taken, the time period for filing a motion to expunge is extended to 45 days after the mandate is issued; and

FURTHER ORDERED that, because this is a Final Written Decision, the 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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