

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

B/E AEROSPACE, INC.,
Petitioner,

v.

MAG AEROSPACE INDUSTRIES, LLC,
Patent Owner.

IPR2014-01511
Patent 6,536,054 B2

Before JAMESON LEE, JOSIAH C. COCKS, and
PHILLIP J. KAUFFMAN, *Administrative Patent Judges*.

KAUFFMAN, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. PROCEDURAL OVERVIEW

Petitioner, B/E Aerospace, Inc., filed a corrected Petition (Paper 24, “Pet.”) to institute an *inter partes* review of claims 1, 4–7, 9, 10, 12–15, and 17 of U.S. Patent No. 6,536,054 B2 (Ex. 1001, “the ’054 patent”). Patent Owner, MAG Aerospace Industries, LLC, filed a timely Preliminary Response (Paper 14, “Prelim. Resp.”).

In the March 26, 2015, Decision to Institute (Paper 26, “Inst. Dec.”), we instituted trial on claims 1, 4–7, 9, 10, 12–15, and 17 on the following grounds:

A. Claims 1, 4–7, 9, 10, 12–15, and 17 under 35 U.S.C. § 103(a) over Gregory¹ and Kendall;²

B. Claims 1, 4–7, 9, 10, 12–15, and 17 under 35 U.S.C. § 103(a) over Stewart,³ Groombridge,⁴ and Gregory.

Subsequently, Patent Owner filed a corrected Patent Owner Response (Paper 46, “PO Resp.”), and Petitioner filed a Reply (Paper 67, “Pet. Reply”).⁵

Patent Owner did not file a motion to amend.

Patent Owner filed a motion for observation on cross-examination of Dr. Dershowitz and a corrected motion for observation on cross-examination

¹ Gregory, Ex. 1015, US 4,041,554 (Aug. 16, 1977).

² Kendall, Ex. 1013, US 5,231,706 (Aug. 3, 1993).

³ Stewart, Ex. 1018, US 4,710,988 (Dec. 8, 1987).

⁴ Groombridge, Ex. 1019, US 4,162,548 (July 31, 1979).

⁵ Redacted versions are at Papers 47 and 68, respectively.

of Mr. Hallmark. Papers 81, 86. Petitioner filed a response to each. Papers 91, 92. This information was factored into our Decision.

Oral hearing was held on Thursday, November 19, 2015, and a transcript of the oral hearing is included in the record.⁶ Paper 99 (“Tr.”).

For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1, 4–7, 9, 10, 12–15, and 17 of the ’054 patent are unpatentable.

B. RELATED PROCEEDINGS

Patent Owner asserted the ’054 patent against Petitioner in *MAG Aerospace Industries Inc. v. B/E Aerospace Inc.*, Case No. 2:13-cv-06089-SJO-FFM (C.D. Cal.). Pet. 1; Paper 5, 1.

The parties in the case at hand are involved in two other *inter partes* proceedings: IPR2014-01510 (challenging U.S. Patent 6,353,942 B1, “the ’942 patent”), and IPR2014-01513 (challenging U.S. Patent 6,536,055 B2, “the ’055 patent”).⁷ The ’055 patent (application No. 10/061,681) is a continuation of the application that became the ’942 patent (application No. 09/713,892). IPR2014-01513, Ex. 1001, (63). The ’054 patent contains similar subject matter, but is not in a continuity chain leading to either the ’942 patent or the ’055 patent. Ex. 1001, (63).

⁶ The hearing was held with the hearing for IPR2014-01510 and IPR2014-01513. Petitioner’s demonstrative exhibits are at Exhibit 1107 (redacted) and 1108 (unredacted). Patent Owner’s corrected demonstrative exhibits are at Exhibits 2071.

⁷ At times each party filed papers that were applicable to all three cases, and in those papers only cited to the papers and exhibits of IPR2014-01510. In this decision we attempt to cite to the papers and exhibits of the case at hand.

II. PRELIMINARY MATTERS

Before addressing claim construction and patentability we provide additional procedural details, and resolve a Motion to Exclude Evidence by each party.

A. ADDITIONAL PROCEDURAL DETAILS

On May 5, 2015, Petitioner submitted a motion to submit supplemental information (“the proffered evidence”) under 37 C.F.R. § 42.123(a), along with a motion to seal these exhibits. Papers 32, 33. Patent Owner submitted an opposition to each motion. Papers 34, 35. We denied Petitioner’s Motion to Submit Supplemental Information because Petitioner did not explain how the proffered information relates to any claim subject to a ground of unpatentability for which trial was instituted.⁸

On October 2, 2015, at Petitioner’s request, a conference call was held regarding the proffered information denied entry as supplemental information. During that call, Petitioner asserted that the proffered evidence demonstrates prior inconsistent statements by several of Patent Owner’s witnesses in the proceeding at hand, and for that reason Patent Owner must serve the proffered evidence as routine discovery. *See* Paper 61 (order), 63 (transcript). We directed the parties to attempt in good faith to determine what, if any, portion of the proffered evidence demonstrated inconsistencies as alleged. Paper 61, 4.

⁸ *See* IPR2014-01510, Paper 37, 5. This decision was entered as Paper 37 in IPR2014-01510, but was mistakenly not entered in this *inter partes* review. As stated on the cover of that order, the decision applies to this *inter partes* review.

The parties were unable to reach agreement, and the Board conducted a second call on the matter. *See* Paper 64 (order), Paper 65 (transcript). We determined that such an order is not a matter of discovery because Petitioner already had the proffered evidence from the related litigation. Paper 64, 4. For this, and a variety of other reasons, the Board denied Petitioner's request. *Id.* Petitioner did not file a timely request for reconsideration. *See* 37 C.F.R. § 42.71(d)(1).

The proffered evidence was later filed with Petitioner's Reply. Patent Owner's Motion to exclude that information is discussed below.

B. PETITIONER'S MOTION TO EXCLUDE EVIDENCE

Petitioner moves to exclude: (1) the unpatentability opinions of Patent Owner's declarant, Mr. Anderson (Ex. 2021), and (2) "certain statements" in Patent Owner's opposition papers.⁹ Paper 77, 2–3. Patent Owner filed an Opposition to the Motion (Paper 89), and Petitioner filed a Reply to the Opposition (Paper 93). For the reasons that follow, Petitioner's motion is *denied*.

1. *Anderson Declaration*

The Anderson Declaration was filed with Patent Owner's Response on July 13, 2015.

⁹ This file contains both the Anderson Declaration (Ex. 2021) and the Anderson Deposition (Ex. 1052).

*a) Objections*¹⁰

Petitioner identifies the following items or actions as including objections:

- (1) e-mail correspondence dated October 2, 2015, to October 15, 2015 (filed as Ex. 1072 on October 16, 2016);
- (2) conference calls with the Board on October 2, 2015, and October 9, 2015 (Papers 63, 65, respectively);
- (3) Mr. Anderson's Deposition (Ex. 1052, filed October 16, 2015); and
- (4) Paper 48 (Petitioner's Objections to Evidence).

Paper 77, 2.¹¹

Items (1)–(3) do not properly include objections because they were not timely filed by Petitioner.¹² See 37 C.F.R. §42.64(b)(1).

The fourth item, Paper 48, was timely served.¹³ See Paper 48, 24; PO Resp. 54. In Paper 48, Petitioner objected to Exhibits 2019–2043, 2048–2053, and 2055, and included “general objections” applicable to all of these Exhibits. Paper 48, 1–2. With regard to the Anderson Declaration (Ex. 2021) in particular, Petitioner lists the rules and Federal Rules of Evidence that are the grounds for the objection, and states:

¹⁰ After May 19, 2015, objections must be filed, not just served. See 37 C.F.R. § 42.64(b)(1), revised 80 Fed. Reg. 28561.

¹¹ Petitioner's motion references the papers and exhibits of IPR2014-01510, we have inserted the paper and reference numbers of the corresponding papers and exhibits in IPR2014-01511.

¹² After May 19, 2015, objections were filed, not served. See 37 C.F.R. § 42.64(b)(1), revised 80 Fed. Reg. 28561.

¹³ Paper 48 was filed on July 20, 2015, and Patent Owner's Response was filed on July 13, 2015.

This exhibit is irrelevant, cumulative, and/or prejudicial to the issues on which IPR is progressing. This exhibit does not present underlying facts or evidence. This exhibit reflects statements made without personal knowledge. This exhibit reflects opinions for which the factual bases for those opinions have not been disclosed, and for which the expert used unreliable analysis and methods. See also the discussion of objections based on these rules in Section II.A above [the “general objections”], incorporated herein by reference.

Id. at 4; *see also* Paper 93, 1 (repeating this assertion).

Petitioner’s “general objections” apply to the exhibits as a whole without identifying a particular portion of an exhibit, and in fact, leave it to the reader as to whether an objection applies to a particular exhibit. *See, e.g.*, Paper 48, 1–2 (“Petitioner objects to each and every exhibit that . . .”). We agree with Patent Owner’s characterization that Petitioner submitted boilerplate objections. Paper 89, 1. Further, Petitioner’s Motion is not based on an asserted objection. For example, Petitioner’s Motion argues that Mr. Anderson’s opinions are irrelevant because they are based upon an incorrect claim construction, but Petitioner did not object on that basis. *See* Paper 77, 3; Paper 48, 4. Petitioner’s objections did not identify the grounds for the objection with sufficient particularity to allow Patent Owner to correct in the form of supplemental evidence. 37 C.F.R. §42.64(b)(1); *see also* Paper 89, 1–5 (Patent Owner arguing Petitioner did not object with sufficient particularity).

Petitioner contends the objections have sufficient particularity. *See* Paper 93, 1–2 (citing *Hayward Indus., Inc. v. Pentair Water Pool and Spa, Inc.*, Case IPR2013-00287 (PTAB Dec. 17, 2013) (Paper 15) (non-precedential). This citation is not persuasive because in *Hayward* no

motions were filed and no determination was made so that the Board's comment was an observation and not a ruling. *Id.*

The lack of an effective objection is sufficient basis to deny Petitioner's Motion. *See* 37 C.F.R. §§ 42.20(c), 42.22, 42.64(c). Despite this deficiency, we consider the merits of Petitioner's Motion.

b) Relevance

Petitioner contends that Mr. Anderson's opinions are based on an incorrect claim construction, and for that reason are irrelevant under Federal Rules of Evidence (FREs) 401 and 403. Paper 77, 4–7; Paper 93, 2–4. We take this as an assertion that the evidence is inadmissible under FRE 402.

Our decision does not involve a jury. For that reason, Petitioner's citation to a jury case excluding improper claim construction is not persuasive. *See, e.g.*, Paper 77, 4 (citing *Liquid Dynamics Corp. v. Vaughan Co., Inc.*, 449 F.3d 1209, 1224 n.2 (Fed. Cir. 2006)). Further, Petitioner's citation to a district court case that excluded an improper claim construction from consideration on infringement is also unpersuasive. *See id.* (citing *Chicago Mercantile Exch., Inc. v. Tech. Research Grp., LLC*, 782 F. Supp. 2d 667, 673 (N.D. Ill. 2011)). In *Chicago Mercantile*, the court held that an expert's testimony based on an improper claim construction would not be relevant at trial. *Id.* Here, in contrast, we construe the claims as part of this final decision. *See* Paper 89, 5–7 (correctly noting both that the Board's claim construction in an institution decision is preliminary, and unlike most district court cases, the Board's final decision addresses claim construction and patentability). Consequently, evidence regarding claim construction, such as the Anderson Declaration, remains relevant.

Further, Petitioner does not explain persuasively how the probative value of the Anderson Declaration is outweighed by any of the dangers of unfair prejudice enumerated in FRE 403. *See* Paper 77, 4–7.

c) FRE 702/703

Petitioner contends that the methodology of Mr. Anderson’s analysis is fundamentally unreliable and should be excluded in support of the Board’s “gatekeeping” role. Paper 77, 7–9; Paper 93, 4. Petitioner makes several contentions in support of this argument.

First, Petitioner contends that Mr. Anderson indicated that he did not write his declaration and that he did not review the Petition prior to filing. Paper 77, 8 (quoting an unidentified portion of Mr. Anderson’s Deposition at Exhibit 1052). We agree with Patent Owner that Petitioner’s contention takes Mr. Anderson’s testimony out of context. *See* Paper 89, 10. Mr. Anderson testified that he prepared his Declaration for these proceedings by: discussions with counsel, reviewing materials, preparing notes, and several iterations of reviewing and editing those notes to produce a product, that in turn was used by another to prepare the Declaration. Ex. 1052, 17:19–19:23.

Second, Petitioner contends that Mr. Anderson indicated that he did not review the Petition prior to filing. Paper 77, 8 (quoting an unidentified portion of Ex. 1052). Indeed, Mr. Anderson stated at his deposition that he did not review the Petition for this case; however, Petitioner ignores that Mr. Anderson stated that he reviewed the Institution Decision. *See* Ex. 1052, 30:13–20. Further, Petitioner fails to explain persuasively how Mr. Anderson’s failure to review the Petition renders Mr. Anderson’s Declaration unreliable.

Third, Petitioner contends that in “concurrent litigation” Mr. Anderson offered inconsistent testimony regarding claim scope. Paper 77, 8. Even if true, Petitioner has not explained cogently how a prior inconsistency renders the Anderson Declaration inadmissible.

Petitioner’s assertions do not persuade us that the Anderson Declaration is unreliable. We note that the policy considerations for excluding expert testimony, such as those implemented by the gatekeeping framework established by the Supreme Court in *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993), are less compelling in bench proceedings such as *inter partes* reviews than in jury trials. *See, e.g., Volk v. United States*, 57 F. Supp. 2d 888, 896 n.5 (N.D. Cal. 1999); *In re Bay Area Material Handling, Inc.*, No. C 95-1163 VRW, 1995 WL 729300, at *6 (N.D. Cal. Dec. 4, 1995).

Consequently, Petitioner has not demonstrated that the Anderson Declaration (Ex. 2021) should be excluded. *See* 37 C.F.R. §§ 42.20(c), 42.22, 42.62(a), 42.64.

2. *Statement’s in Patent Owner’s Opposition Papers*¹⁴

As explained above regarding the proffered evidence, Petitioner contends that Patent Owner failed to serve that evidence as routine discovery information that is inconsistent with positions Patent Owner has taken in this proceeding. In this Motion, Petitioner argues that the allegedly inconsistent positions in the Patent Owner Response should be excluded. Paper 77, 9–11 (providing two alleged examples, and citing 37 C.F.R. § 42.51(b)(1)(iii)).

¹⁴ Although not explicit, Petitioner is apparently referring to the Patent Owner Response.

a) Objections

As discussed above, only Paper 48 was timely served. There, Petitioner presents objections by Exhibit and makes reference to “any reference to/reliance thereon.” *See, e.g.*, Paper 48, 2 (objecting to Exhibit 2019 and any reference to or reliance thereon). Such identification lacks specificity. More importantly, this Motion seeks to exclude portions of the Patent Owner Response based upon a failure to provide inconsistent information, but that basis was not identified as an objection. *See* Paper 48. Petitioner’s objections did not identify the grounds for the objection with sufficient particularity to allow Patent Owner to correct in the form of supplemental evidence. 37 C.F.R. §42.64(b)(1); *see also* Paper 89, 1–5 (Patent Owner arguing Petitioner did not object with sufficient particularity).

The lack of an effective objection is sufficient basis to deny Petitioner’s Motion. *See* 37 C.F.R. §§ 42.20(c), 42.22, 42.64(c). Despite this deficiency, we consider the merits of Petitioner’s Motion.

b) Alleged Failure to Provide Inconsistent Information

Petitioner’s request to exclude statements by Patent Owner that are inconsistent with testimony and evidence adduced during the district court litigation relates to a prior order in this case. Paper 77, 9–11. Specifically, during a conference call regarding Patent Owner’s allegedly inconsistent statements, the Board cautioned Patent Owner that, “the solution for [presenting statements without submitting known inconsistent evidence] can be that the statement that you initially relied on could be expunged or not used in your favor.” *Id.* at 9 (citing Paper 63, 32:22–33:2). Indeed, where a party advances a position in a proceeding, and that party refuses to serve on the opposition information within that Party’s knowledge that is relevant,

non-privileged, and inconsistent with that position, the Board may expunge or not consider that position. *See* 37 C.F.R. §§ 42.5, 42.51(b). However, this is not a situation where one party advances a position and withholds from the other party information that is inconsistent with that position. Rather, Petitioner had the information; it was obtained in the related litigation. The following additional circumstances also bear on our determination.

As explained above, we considered the proffered evidence both as supplemental information and as routine discovery. We denied Petitioner's Motion to Submit Supplemental Information because Petitioner, as the moving party, did not demonstrate the relevance to any claim subject to a ground of unpatentability for which trial was instituted.¹⁵ We denied Petitioner's request that we order Patent Owner to serve the documents as routine discovery because Petitioner already had the documents from the related litigation. Paper 64. Petitioner did not avail themselves of the opportunity to seek reconsideration of either determination, and nothing in this record calls those determinations into doubt.

Since submittal of Petitioner's Motion to Exclude, Petitioner submitted the proffered evidence in conjunction with Petitioner's Reply in response to Patent Owner's Response. Further details are provided in the analysis of Patent Owner's Motion to Exclude that evidence.

¹⁵ *See* IPR2014-01510, Paper 37, 5. This decision was entered as Paper 37 in IPR2014-01510, but was mistakenly not entered in this *inter partes* review. As stated on the cover of that order, the decision applies to this *inter partes* review.

The record now contains Petitioner's proffered evidence so that we may weigh it against Patent Owner's allegedly inconsistent statements. Consequently, given these circumstances, Petitioner has not demonstrated that certain statements in the Patent Owner Response should be excluded. *See* 37 C.F.R. §§ 42.20(c), 42.22, 42.62(a), 42.64.

C. PATENT OWNER'S MOTION TO EXCLUDE EVIDENCE

Patent Owner filed a Motion to Exclude (1) the Dershowitz Declaration and Reply Declaration, and (2) the Hallmark Declaration and associated exhibits. Paper 83. Petitioner filed an Opposition to the Motion (Paper 90), and Patent Owner filed a Reply to the Opposition (Paper 94). For the following reasons, Patent Owner's motion is *denied*.

1. *Declaration & Reply Declaration of Dr. Dershowitz*
a) *Entire Declarations*¹⁶

The Dershowitz Declaration (Ex. 1027) was submitted with the Petition on September 16, 2014. Patent Owner's objections were timely served on April 9, 2015, and identified the grounds for each objection with sufficient particularity.¹⁷ *See* Ex. 2066, 8–10, 20; 37 C.F.R. §42.64(b)(1).

The Dershowitz Reply Declaration (Ex. 1068¹⁸) was submitted with Petitioner's Reply. Patent Owner's objections were timely served, and

¹⁶ Here we address the objections to the Dershowitz Reply Declaration as a whole and we address paragraph 56 separately below.

¹⁷ As mentioned above, our Decision to Institute was entered on March 26, 2015. Prior to May 19, 2015, objections were served, not filed. *See* 37 C.F.R. § 42.64(b)(1), revised 80 Fed. Reg. 28561.

¹⁸ Exhibit 1073 is a redacted version of Exhibit 1068.

identified the grounds for each objection with sufficient particularity. Paper 73, 19–21, 26–27; 37 C.F.R. § 42.64(b)(1).

Patent Owner contends that Dr. Dershowitz does not qualify as a person of ordinary skill in the art, and does not qualify as an expert under FRE 702. Paper 83, 4–8. Patent Owner makes a variety of assertions regarding Dr. Dershowitz’s qualifications, including that he lacks hands-on experience with vacuum toilets, and that, contrary to his representations, his patents do not relate to vacuum toilets. *Id.* at 5–7.

Even accepting Patent Owner’s assertions as true, we are not persuaded that Dr. Dershowitz’s testimony should be excluded. To testify as an expert under FRE 702, a person need not be a person of ordinary skill in the art, but rather may be “qualified in the pertinent art.” *See* Paper 90, 7–12; *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1363–64 (Fed. Cir. 2008); *Mytee Prods., Inc. v. Harris Research, Inc.*, 439 F. App’x 882, 886–87 (Fed. Cir. 2011) (non-precedential) (upholding admission of the testimony of an expert who “had experience relevant to the field of the invention,” despite admission that he was not a person of ordinary skill in the art). Further, there need not be a perfect match between the expert’s qualifications and the patent at issue. *See SEB S.A. v. Montgomery Ward & Co. Inc.*, 594 F.3d 1360, 1373 (Fed. Cir. 2010).

As explained below, the challenged claims relate to vacuum toilets. We agree with Petitioner that Dr. Dershowitz is qualified to provide his opinions for this case. Paper 90, 2–5. For example, Dr. Dershowitz has a Bachelor’s, Master’s, and Doctorate Degree in Aeronautics and Astronautics, each from Massachusetts Institute of Technology. Ex. 1025, 1. Dr. Dershowitz has experience in aircraft and spacecraft systems, to include

teaching as a certified flight instructor and a commercial airline license. *Id.* at 1–2. Dr. Dershowitz has numerous licenses and certifications, to include: registration as a professional Mechanical Engineer and as an Aeronautical Engineer. *Id.* at 1–2. Dr. Dershowitz’s qualifications align with the challenged subject sufficiently so that his knowledge is helpful in understanding the evidence and determining facts in issue.

Consequently, Patent Owner has not demonstrated that the entire Dershowitz Declaration (Ex. 1027) or Reply Declaration (Ex. 1068) should be excluded. *See* 37 C.F.R. §§ 42.20(c), 42.22, 42.62(a), 42.64.

b) Paragraph 56 of the Dershowitz Reply Declaration

Patent Owner seeks to exclude paragraph 56 of the Dershowitz Reply Declaration (Ex. 1068).¹⁹ Paper 83, 8–9. According to Patent Owner, paragraph 56 is testimony by Dr. Dershowitz regarding “intent, motive, or state of mind, or evidence by which such state of mind may be inferred” of the inventors of the ’054 patent, and such testimony by an expert is inadmissible under the relevancy provisions of FRE 402 and 403. *Id.* at 8–9. Patent Owner also contends that this portion of the Reply Declaration should be excluded under FRE 702 because it simply recites the testimony of others and is not based on Dr. Dershowitz’s specialized knowledge. *Id.* at 9.

Patent Owner did not make an effective objection with regard to the paragraph at issue. Specifically, Patent Owner made general objections based on FREs 402, 403, 701, 702, and 703, but did not mention paragraph 56, nor testimony regarding state of mind. *See* Paper 73, 19–21, 26–27. Consequently, Patent Owner did not provide sufficient particularity to permit

¹⁹ Exhibit 1073 is a redacted version of Exhibit 1068.

Petitioner to correct in the form of supplemental evidence. *See* 37 C.F.R. §42.64(b)(1). The lack of an effective objection is sufficient basis to deny this portion of Patent Owner's Motion. *See* 37 C.F.R. §§ 42.20(c), 42.22, 42.64(c). Despite this deficiency, we consider the merits of this portion of Patent Owner's Motion.

Patent Owner contends that Dr. Dershowitz's testimony in paragraph 56 reflects the subjective intent of the inventors. Paper 83, 8–9. We disagree with this characterization.

Paragraph 56 does not contain an explicit statement regarding the state of mind of the inventors of the '054 patent, nor is such fairly implied. The only disclosure regarding the inventors is Dr. Dershowitz's statement that he reviewed the testimony of the inventors in the underlying litigation and this testimony further confirms that his opinion that the challenged claims are not limited to vehicular applications is correct. Ex. 1068 ¶ 56. We agree with Petitioner that Dr. Dershowitz may identify the basis for his opinion. *See* Paper 90, 13. Dr. Dershowitz does not identify the particular inventor testimony involved, and more importantly, Dr. Dershowitz does not explain why the inventor's testimony confirms his opinion.

Patent Owner has not persuaded us that the paragraph at issue improperly implies the state of mind of any inventor or permits Dr. Dershowitz to simply repeat the testimony of another. Consequently, we deny Patent Owner's Motion to Exclude paragraph 56 of Exhibit 1068 on this basis as well. *See* 37 C.F.R. §§ 42.20(c), 42.22, 42.64(c).

2. *Hallmark Declaration and associated Exhibits*

Patent Owner seeks to exclude paragraphs 86–102 of the Hallmark Declaration (Ex. 1069²⁰) and Exhibits 1057–1063. Paper 83, 9–10. This information is the proffered evidence discussed above.

Each of these exhibits was filed on October 16, 2015, in association with Petitioner’s Reply. Patent Owner’s timely filed objections to these Exhibits and identified the grounds for each objection with sufficient particularity. Paper 73 (filed Oct. 19, 2015), 7–16, 21–22; 37 C.F.R. § 42.64(b)(1).

In the evidence at issue, Mr. Hallmark states that he is an expert in aircraft maintenance and repair. Ex. 1069 ¶ 4. The paragraphs at issue are titled “VIII. Review of Service Documentation.” *Id.* at i, 29, ¶¶ 86–102. Mr. Hallmark explains that Service Bulletins (“SB’s”) are documents provided by a component manufacturer, such as Patent Owner, describing maintenance or a particular service task to be performed on a specific component. *Id.* ¶ 87. Mr. Hallmark discusses the content of SB’s at Exhibits 1058–1063. Exhibit 1057 is an SB index.

a) *Relevance*

As discussed above, Patent Owner acknowledges that the SB’s found at Exhibits 1057–1063 are the same documents that were denied entry as supplemental information. *See* Paper 83, 10. According to Patent Owner, these exhibits are confidential internal documents and therefore do not relate to any of the prior art at issue nor are they part of the knowledge of one of ordinary skill in the art. Thus, Patent Owner reasons, these documents are

²⁰ A redacted version is filed as Exhibit 1074.

irrelevant under FRE 402 and 403. *Id.* at 10–11. Regarding Mr. Hallmark’s Declaration, Patent Owner contends that Mr. Hallmark did not perform repairs before the priority date, but did so in 2014 for the District Court litigation. *Id.* at 12. Patent Owner also contends that Mr. Hallmark did such repairs in an office setting rather than on the aircraft. Patent Owner concludes that for these reasons Mr. Hallmark’s testimony in paragraphs 86–102 is not relevant under FRE 402 or 403. *Id.*

Petitioner counters that Exhibits 1057–1063 are relevant to Patent Owner’s secondary considerations arguments put forth in Patent Owner’s Response. Paper 90, 13–14. Patent Owner responds by repeating that the Exhibits at issue are not publications because they are confidential documents, and therefore are not prior art. Paper 94, 4–5. Patent Owner does not address Petitioner’s contention that the Exhibits are in response to and relevant considering Patent Owner’s secondary considerations argument. Patent Owner’s silence is significant, because Patent Owner, as the moving party, has the burden of proof on its motion. *See* 37 C.F.R. § 42.20(c).

In the Patent Owner’s Response, Patent Owner contends that the nonobviousness of the claimed methods is demonstrated by the secondary considerations of long-felt and unmet need, industry praise, and commercial success. PO Resp. 45–51. A key factual basis of these assertions is the contention that:

At the time of the invention of the ’054 Patent, vacuum toilets, particularly on aircraft, did not include a toilet bowl that could be replaced in the field while the toilet assembly remained installed.

PO Resp. 47 (citing Anderson Decl., Ex. 2021 ¶ 16; Jones Decl., Ex. 2022 ¶¶ 25–29).

The Hallmark Declaration and the SB's at issue contain evidence that has a tendency to make Patent Owner's contention less probable than it would be without the evidence, and that fact is of consequence in this action because we must consider the secondary consideration in our obviousness analysis. *See* FRE 401. For example, Mr. Hallmark states that Patent Owner's SB 79000XX-38-01, dated March 3, 1992 (Ex. 1061), provides guidance for replacing rinse valves on toilets "in service" (installed on the aircraft). Ex. 1069 ¶ 92. Indeed, SB 79000XX-38-01, describes a rinse valve modification for ENVIROVAC toilets used onboard Boeing 767 aircraft that involves replacing the rinse valve. Ex. 1061, 1–2. The SB instructions for removing and replacing the rinse valve include shutting off the aircraft water supply to the toilet assembly (step 1), removing and replacing the rinse valve (step 6), and turning on the aircraft water supply (step 11). *Id.* at 5–6. These steps suggest that the toilet is in the aircraft during the rinse valve replacement process.

Patent Owner does not explain cogently how the probative value of the evidence at issue is outweighed by one of the dangers of unfair prejudice enumerated in FRE 403. *See* Paper 83, 9–10; Paper 94, 4–5.

In light of this, the evidence at issue is relevant to our analysis of secondary considerations and responds to arguments raised in the Patent Owner Response. *See* FRE 401, 402; 37 C.F.R. § 42.23(a).

Patent Owner has not demonstrated that the evidence at issue should be excluded based on relevancy concerns.

b) *Qualifications as an Expert*

Paper Owner contends that paragraphs 106–115²¹ of the Hallmark Declaration (Ex. 1069) should be excluded because Mr. Hallmark lacks experience with the design of waste water systems and vacuum toilets. Paper 83, 12–13.

Even accepting Patent Owner’s assertions as true, we are not persuaded that the Hallmark Declaration should be excluded. As explained above, to testify as an expert under FRE 702, a person need not be a person of ordinary skill in the art, but rather may be “qualified in the pertinent art,” and there need not be a perfect match between the expert’s qualifications and the patent at issue. Mr. Hallmark’s qualifications align with the challenged subject sufficiently so that his knowledge would be helpful to understanding the evidence and determining a fact in issue. For example, we note that Mr. Hallmark has nearly 30 years of experience as a line maintenance technician, manager, director, and consultant. Paper 90, 5 (citing Ex. 1069 ¶¶ 3–14).

Patent Owner has not demonstrated that the evidence at issue should be excluded. *See* 37 C.F.R. §§ 42.20(c), 42.22, 42.62(a), 42.64.

D. ASSIGNOR ESTOPPEL

Patent Owner contends that the doctrine of assignor estoppel prevents Petitioner from seeking *inter partes* review of the ’054 patent because Mr. Pondelick, an inventor and assignor of the ’054 patent, is in privity with

²¹ These paragraphs are found in Section X, pp. 40–45 of Exhibit 1069.

Petitioner. PO Resp. 5, 51–54. Patent Owner acknowledges that the Board has not applied assignor estoppel to *inter partes* reviews. *Id.* at 5 n.1.

As explained in our Decision to Institute, the Board has maintained consistently that assignor estoppel is not applicable to *inter partes* reviews. Inst. Dec. 11 (citing *Athena Automation Ltd. v. Husky Injection Molding Sys. Ltd.*, Case IPR2013-00290, slip op. at 12–13 (PTAB Oct. 25, 2013) (Paper 18);²² *Redline Detection, LLC, v. Star Envirotech, Inc.*, Case IPR2013-00106, slip op. at 12–13 (PTAB June 30, 2014) (Paper 66); *Synopsys, Inc. v. Mentor Graphics Corp.*, Case IPR2012-00042, slip op. 16–17 (PTAB Feb. 19, 2014) (Paper 60)). We agree with, and adopt, the logic of these cases. Because we are not persuaded that assignor estoppel, an equitable doctrine, provides an exception to the statutory mandate that any person who is not the owner of a patent may file a petition for an *inter partes* review (see 35 U.S.C. § 311(a)), we decline to dismiss this *inter partes* review based on the doctrine of assignor estoppel.

III. CLAIM CONSTRUCTION

A. INTRODUCTION TO THE SUBJECT MATTER

The '054 patent is titled “Vacuum Toilet Bowl Assembly Having Removable Bowl.” Ex. 1001 (54). The case at hand deals with toolless replacement of toilet components, and unlike IPR2014-01510 and IPR2014-01513, the meaning of Line Replaceable Unit (LRU) is not a significant issue.

²² See also the associated Final Written Decision in related case *Athena Automation Ltd. v. Husky Injection Molding Sys. Ltd.*, IPR2013-00167, slip op. at 6 (PTAB July 23, 2014) (Paper 51).

As background, the Specification describes that repair and maintenance of conventional vacuum toilets is often overly time consuming and labor intensive. *Id.* at 2:17–18. For example, a particular tool might be required to disconnect and connect each connection. *Id.* at 1:51–55. Modular vacuum toilet 10 shown in Figure 1A is reproduced below:

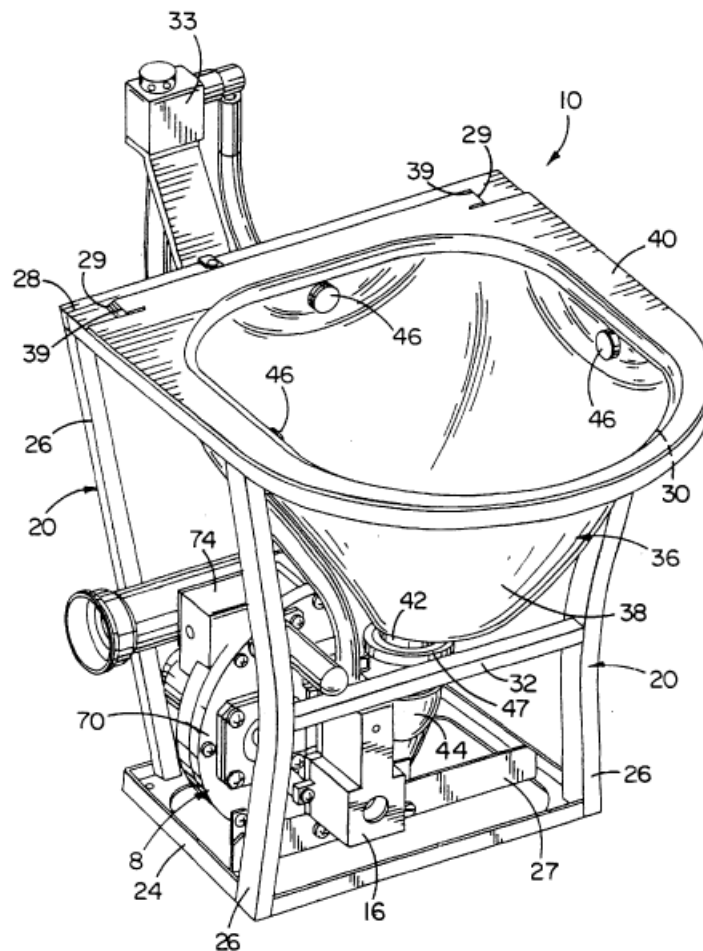


FIG. 1A

Figure 1A is a front perspective view of a modular vacuum toilet of the '054 patent. *Id.* at 2:65–67. Modular vacuum toilet 10 generally includes: frame 20, bowl 36, and valve set 8. *Id.* at 3:9–11, Figs. 1A, 1B.

Frame 20 supports the components of vacuum toilet 10. *Id.* at 3:30–31, Figs 1A, 1B. Top member 28 of frame 20 defines opening 30, and includes two slots 29 near the rear thereof. *Id.* at 3:36–37.

Bowl 36 is a receptacle for receiving waste material having a sidewall 38 sized for insertion into opening 30 of frame 20. *Id.* at 3:47, 53–55. Bowl 36 includes out-turned flange 40 about an upper edge of the sidewall. *Id.* at 3:48–49. Flange 40 includes tabs 39 sized for insertion through slots 29 in top frame member 28. *Id.* at 3:50–52, Fig. 3. Bowl 36 includes outlet 42 in fluid communication with discharge valve 70. *Id.* at 3:52–56.

Valve set 8 is comprised of four sub-components: discharge valve 70, rinse valve 72, flush control unit (FCU) 74, and actuator 76. *Id.* at 3:21–24, Fig. 1.

The Specification describes that a maintenance person can remove bowl 36, by: using quick disconnect coupling 108a to disconnect first rinse fluid pipe 35a, manipulating tabs 39 to disengage from slots 29,²³ and then pulling upward on bowl 36 to remove it from frame 20.²⁴ *Id.* at 4:26–33. A new bowl 36 is install by reversing such procedure. *Id.* at 4:33–36. This process can be accomplished quickly without removing and servicing the entire toilet and without the use of any tools. *Id.* at 4:6–9, 36–38.

²³ Tabs 39 may be manipulated manually (without tools). Ex. 1001, 4:4–9.

²⁴ Bowl 36 is attached to frame 20 by inserting it through opening 30, and aligning tabs 39 with slots 29 and outlet 42 with collar 47. Ex. 1001, 3:59–65; Figs. 1, 4. Thus, during removal, presumably, as the maintenance person lifts bowl 3, outlet 42 will disengage frictionally from collar 47.

B. ILLUSTRATIVE CLAIMS

Of the challenged claims, claims 1 and 10 are independent, and are reproduced below (emphasis added):

1. A waste receptacle assembly for use in a vacuum toilet system having an inlet coupling, the waste receptacle assembly comprising:

a frame including at least two vertical supports and a top member attached to the at least two vertical supports, the top member defining an opening and having a receptacle engaging portion; and

a receptacle sized for at least partial insertion through the frame top member opening, the receptacle having an abutting portion positioned to engage the receptacle engaging portion of the frame when the receptacle is at least partially inserted through the frame top member opening thereby to maintain the receptacle in an installed position, the receptacle further having an outlet sized and adapted for releasable sealing engagement with the inlet coupling when the receptacle is in the installed position;

wherein the receptacle is toollessly inserted into and removed from the installed position independent of the frame.

10. A method of *toollessly replacing a receptacle of a waste receptacle assembly used in a vacuum toilet system* having an inlet coupling, the waste receptacle assembly including a frame including at least two vertical supports and a top member attached to the at least two vertical supports defining an opening, the frame further having a receptacle engaging portion, the receptacle being sized for at least partial insertion through the frame top member opening and having an abutting portion positioned to engage the receptacle engaging portion of the frame to maintain the receptacle in an installed position, the receptacle further having an outlet sized and adapted for releasable sealing engagement with the inlet coupling, the method comprising:

lifting the receptacle while leaving the frame in place so that the abutting portion of the receptacle disengages from the receptacle receiving portion of the frame and the receptacle outlet disengages from the inlet coupling;

withdrawing the receptacle through the frame top member opening to remove the receptacle from the frame;

providing a new receptacle sized for at least partial insertion through the frame top member opening having an abutting portion positioned to engage the receptacle engaging portion of the frame and an outlet sized to sealingly engage the inlet coupling; and

inserting a new receptacle at least partially through the frame top member opening so that the abutting portion of the new receptacle contacts the receptacle engaging portion of the frame and the outlet of the new receptacle engages the inlet coupling.

Claims 4-7 and 9 depend, directly or indirectly, from independent claim 1. Claims 12-15 and 17, depend, directly or indirectly, from independent claim 10.

C. VACUUM TOILET (ALL CLAIMS)

Claim 1 is directed to a waste receptacle assembly for use in a vacuum toilet system, and similarly, claim 10 is directed to a method of replacing a waste receptacle assembly used in a vacuum toilet system.

Petitioner characterizes Patent Owner as attempting to limit the claims to vacuum toilets. Pet. Reply 4 (referring to Patent Owner's assertion that Kendall has nothing to do with vacuum toilets, PO Resp. 20, and to the testimony of Mr. Anderson, Ex. 1052, 77:14–78:8). According to Petitioner, only the preamble of claim 1 mentions a vacuum toilet and the body of the claim does not mention a vacuum toilet. Pet. Reply 4–5.

We need not determine if independent claim 1 and 10 are each limited to vacuum toilets because we determine that each ground of unpatentability shows a vacuum toilet that has the structure of claim 1 and can be serviced by the method of claim 10. *See Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (only those terms which are in controversy need to be construed, and only to the extent necessary to resolve the controversy).

D. RINSE FLUID DISPENSER (CLAIMS 6 AND 14)

Claim 6 depends from independent claim 1 and claim 14 depends from independent claim 10. Dependent claims 6 and 14 each recite a “rinse fluid dispenser.”

In the Decision to Institute we determined that a rinse fluid dispenser as claimed may take the form of nozzles (e.g., nozzles 46) or known substitutes such as spray rings. *See* Inst. Dec. 8–9; Pet. 8; Exhibit 1001, 5:23–25. Neither party contests this interpretation, and we adopt it here.

IV. PATENTABILITY²⁵

A. INTRODUCTION

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter 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; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

We consider Patent Owner to have admitted those aspects of these grounds of unpatentability that are uncontested by Patent Owner and are material facts. See 37 C.F.R. § 42.23(a) (in an opposition, any material fact not specifically denied may be considered admitted), § 42.120(a) (the patent owner response is an opposition).

²⁵ In this analysis, we consider the Dershowitz Declaration (Ex. 1027). Despite Dr. Dershowitz's lack of hands-on experience servicing vacuum toilets, his expertise, as discussed above in the analysis of Patent Owner's Motion to Exclude Evidence, provides for useful explanations.

B. OBVIOUSNESS OVER GREGORY AND KENDALL
CLAIMS 1, 4–7, 9, 10, 12–15, AND 17

1. *Independent claims 1 and 10*

a) *Introduction*

Independent claim 1 is directed to a waste receptacle assembly that includes a frame and a receptacle that may be toollessly inserted into and removed from the installed position independent of the frame. Independent claim 10 is similar in that it is directed to a method of toollessly replacing a receptacle of a waste receptacle assembly similar to the waste receptacle assembly of claim 1. The method includes lifting the receptacle through the frame top member opening used, providing a new receptacle size for at least partial insertion through the frame top member opening, and inserting a new receptacle at least partially through the frame top member opening.

Gregory (Ex. 1015) discloses a vacuum toilet that includes a waste receptacle (bowl 10). Pet. 32–33 (referring to earlier analysis of Gregory at 9, 22–28); Ex. 1015, 3:23–27. Gregory’s waste receptacle (bowl 10) is releasably secured in two ways: (1) by a neck that fits into bowl seat 58 in a snap type relationship, and (2) by tie rods 21 that hook into lugs 20 of bowl 10 and are secured at the opposite end to base plate 14 by a lock nut 43. Pet. 23; Ex. 1015, 3:63–4:3, 5:36–39, Figs. 2, 14; *see also* PO Resp. 24 (acknowledging that the snap type relationship implies easy reliability).

Kendall (Ex. 1013) discloses a toilet assembly that includes a waste receptacle (basin 1) having flanges 3 for securing to a frame (cradle like support means 30). Pet. 12–16; Ex. 1013, 4:21–25, 5:10–20, Fig. 1; Ex. 1027 ¶¶ 104–105. Kendall’s frame includes at least two vertical supports (spaced apart support walls 32A, 32B) and a top member (top section 33) that defines an opening and includes a receptacle engaging portion (pins 33A

or attachment bolts). Pet. 32–35; Ex. 1013, 5:10–15, 5:66–6:9, Fig. 1; Ex. 1027 ¶¶ 256–260.

Petitioner contends that it would have been obvious to modify Gregory’s vacuum toilet assembly by replacing tie rods 21 and lugs 20 with Kendall’s frame (support means 30) and abutting portion (flanges 3) so that the waste receptacle may be removed without tools. Pet. 32–33; Ex. 1027 ¶¶ 248–253. We are persuaded that when modified as proposed, the waste receptacle includes an abutting portion (Kendall’s flanges 3) that engages the receptacle engaging portion (Kendall’s pins 33A or attachment bolts). Further, the waste receptacle is sized for at least partial insertion through the frame top member (top section 33), and the waste receptacle includes an outlet (neck of Gregory’s basin 1) adapted for releasable engagement (snap type relationship) with the inlet coupling (Gregory’s bowl seat 58). Such a modified waste receptacle could be lifted while leaving the frame in place and withdrawn through the frame top member (Kendall’s top section 33) without the use of tools. A new receptacle could be at least partially inserted through the frame top member opening so that the outlet (neck of Gregory’s basin 1) sealingly engages the inlet coupling (Gregory’s bowl seat 58), and the abutting portion (Kendall’s flanges 3) contacts the receptacle engaging portion (Kendall’s pins 33A or attachment bolts of top section 33) of the frame without the use of tools.

We evaluate this ground of unpatentability further by analyzing Patent Owner’s contentions and evidence of secondary considerations.

b) Gregory

Patent Owner argues that “[r]emoving and replacing the Gregory toilet bowl would require tools and significant disassembly, and is not feasible in

the field while the Gregory toilet remains installed.” PO Resp. 14. Patent Owner asserts that Gregory’s bowl is not an LRU. *Id.* at 15. Patent Owner elaborates that Gregory’s bowl is welded and bolted to surrounding parts including the frame, and is secured by multiple means (e.g., lock nuts). *Id.* at 15–18 (citing Ex. 2021 ¶¶ 19–20).

Patent Owner’s contention that Gregory’s bowl cannot be removed toollessly is not responsive to the asserted ground of unpatentability because Petitioner proposes to modify Gregory’s waste receptacle to be supported as disclosed by Kendall. *See e.g., In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citing *In re Keller*, 642 F.2d 413, 425 (CCPA 1981) (one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references)). Further, Patent Owner’s contention that Gregory’s bowl is not an LRU is inapposite because claims 1 and 10 do not require the waste receptacle to be an LRU.

Patent Owner’s characterization that Gregory’s bowl is attached by welding and secured by multiple means is not an accurate characterization of the reference. Gregory’s bowl 10 is not welded or otherwise permanently attached to shroud 19; rather, bowl 10 is “releasably seated” in the peripheral channel formed by bracket 33 and rim wall portion 32 of bowl 10. Ex. 1015, 4:32–35; Fig. 3. Specifically, bowl 10 includes a rim 27 around the perimeter. Rim 27 includes an outer peripheral wall 31 with an inwardly folded lower end 32. Seated on lower end 32 and attached by welding or other suitable means is shroud retaining bracket 33 that extends around the inner periphery of rim 27. The peripheral channel formed by bracket 33 and rim wall portion 32 is releasably seated on shroud 19. Ex. 1015, 4:4–35, Figs 1–3; Pet. 25–28; Pet. Reply 11–12; Anderson Deposition, Ex. 1052,

34:3–36:8; Hallmark Decl., Ex. 1069 ¶ 106 (interpreting Gregory in the same way). Even if Gregory’s bowl is secured by multiple means, the claims do not specify a maximum number of securing means, rather the claims require toolless replacement.

c) *Kendall*

Patent Owner argues that a person of ordinary skill in the art would not have considered Kendall. PO Resp. 15, 20–23. Specifically, according to Patent Owner, Kendall is not analogous art, and “has absolutely nothing to do with vacuum toilets.” *Id.* at 15, 20. Further, Kendall is not used in vehicles, is not connected to a vacuum source, has a different structure, and does not have precision components or exacting weight and dimension requirements. *Id.* at 20–23.

A reference qualifies as prior art for an obviousness determination under § 103 only when it is analogous to the claimed invention. *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004); *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). A reference is considered analogous prior art: (1) if the reference is from the same field of endeavor as the claimed subjected matter, regardless of the problem addressed, or (2) if “the reference still is reasonably pertinent to the particular problem with which the inventor is involved,” even though the reference is not within the field of the inventor’s endeavor. *Bigio*, 381 F.3d at 1325.

Petitioner points out, and we agree that Kendall relates to the problem faced by Patent Owner in that Kendall discloses the ability to repair components in place, and ease of access for repairs. See Pet. Reply 15; Ex. 1013, 2:36–41, 3:53–56 (the removable shell “facilitates ease of servicing the fixture”); Ex. 1052, 70:14–71:6; 1068 ¶ 75; Ex. 1001, 1:35–53; see also

Ex. 1001, 1:10–11 (describing that vacuum toilets have both vehicle and stationary applications). Consequently, Kendall logically would have commended itself to the problem facing the inventor of the '054 patent. *See Scientific Plastic Products, Inc. v. Biotage AB*, 766 F.3d 1355 (Fed. Cir. 2014); *see also In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1379–80 (Fed. Cir. 2007) (holding that a reference may be reasonably pertinent as analogous art where the matter it deals with logically would have commended itself to the inventor's attention).

d) *Obviousness*

Patent Owner makes several contentions in support of the argument that Gregory and Kendall would not have rendered the claimed subject matter obvious. PO Resp. 23–27. In particular, Patent Owner contends that Gregory seeks to provide resistance to impact, the bowl must be removed with tools, and nothing in Gregory or elsewhere suggests substituting the Kendall frame and flanges for Gregory's flange structure. PO Resp. 23–24 (citing Ex. 2021 ¶¶ 19–20, 29–30, 32). Patent Owner contends that Gregory teaches away from easy releasability of its waste receptacle because it is welded to surrounding structures and requires tools to remove it. PO Resp. 24 (Ex. 2021 ¶¶ 19–20). Patent Owner contends that removing Kendall's waste receptacle requires tools, and highlights portions of Kendall's toilet that would have to be removed. PO Resp. 24–26 (citing Ex. 2021 ¶ 29; providing a highlighted version of Kendall's Figure 1).

To the extent that Patent Owner suggests that the reason to combine the references must be found in Gregory, we disagree. *See KSR*, 550 U.S. at 418 (2007) (Rejecting the rigid requirement of a teaching, suggestion or motivation to combine known elements in order to show obviousness).

Patent Owner's teaching away argument is based on the characterization that Gregory's waste receptacle is welded to the toilet structure. As explained above, such is not the case. Further, that some of Gregory's components require tools for removal does not criticize or discredit having a component being removable without tools. *See In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

Patent Owner's contentions regarding Kendall are also unpersuasive. Mr. Anderson states that Kendall's basin would not have been toollessly replaceable in field because a toilet designed for residential use would have no need for toolless removal of components. Ex. 2021 ¶ 29. Mr. Anderson does not provide the facts or data for this opinion. The reasons for making components of a toilet installed in a vehicle removable without tools have some application to components of a toilet installed in a residence. *See* Ex. 1013, 8:5–9 (noting that a person of ordinary skill would recognize that Kendall's invention has application to other forms of sanitary fixtures); Ex. 1001, 1:9–10, 13–14 (describing that the invention of the '054 patent relates to toilets in general and vacuum toilets in particular, and that the invention has stationary and vehicle applications).

Patent Owner's contention that many components of Kendall's toilet must be removed in order to remove the waste receptacle is not persuasive. Petitioner proposes to modify Gregory's vacuum toilet to have Kendall's support structure and waste receptacle flanges, and consequently, the majority of Kendall's elements identified by Patent Owner are not part of the proposed combination.

Patent Owner argues that a person of ordinary skill in the art would not have combined Gregory and Kendall because a person of ordinary skill

in the art would not have considered Kendall. PO Resp. 29–32. Similarly, according to Patent Owner, it would make no sense to incorporate aspects of a household water-power/gravity flush toilet such as Kendall’s into Gregory vacuum toilet that was intended to withstand shock and vibration. *Id.* at 30 (citing Anderson Decl., Ex. 2021 ¶¶ 18–21).

As explained above, Kendall relates to servicing toilet components in place, and is analogous art. Further, Patent Owner’s characterization of Gregory is too narrow in that it suggests that creating a shock proof toilet was Gregory’s sole objective. Such is not the case. For example, Gregory sought to create a toilet that is simple, compact, light in weight, and economical. Ex. 1015, 1:22–25. The Supreme Court directs us to construe the scope of analogous art broadly, stating that “familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *KSR*, 550 U.S. at 420. A person of ordinary skill in the art would recognize that aspects of Kendall’s toilet have application to a vacuum toilet system.

Patent Owner argues that the rationales proffered by Petitioner are deficient. PO Resp. 30–32. First, Patent Owner contends that the reasoning that both references “aim to have simple and compact designs” is a general goal shared by many, many references and of itself, is insufficient to motivate a person of ordinary skill to make the proposed modification, and the contention lacks support in the references. *Id.* at 30–31 (citing Dershowitz Decl., Ex. 1027 ¶ 249). Petitioner does not, however, offer such reasoning as the sole basis for combining the references. *See* Pet. 33 (explaining, with support from Dr. Dershowitz (Ex. 1027 ¶¶ 249–251), that

the references have similarities in structure, such as central support and a bowl over a discharge valve, and similar aims, of simple and compact design); *see also* Pet. Reply 15; Ex. 1013, 3:53–56 (the removable shell “facilitates ease of servicing the fixture”).

Further, Patent Owner’s assertion that this reason is not supported by the references is also unpersuasive. Dr. Dershowitz explains that Gregory and Kendall each aim for have a simple and compact design. Ex. 1027 ¶ 249 (citing Ex. 1015, 1:22–25; Ex. 1013, 2:65–67). Patent Owner does not directly address the evidence cited in support of Dr. Dershowitz’s opinion, nor does Patent Owner offer evidence to the contrary. *See* PO Resp. 30–31.

Second, according to Patent Owner, Dr. Dershowitz’s opinion that Gregory and Kendall have a similar toilet assembly structure is not a sufficient rationale because the references “relate to entirely different kinds of toilet technology.” PO Resp. 31 (referring to Dershowitz Decl., Ex 1027 ¶ 250, and citing Anderson Decl. Ex. 2021 ¶ 30 for support). The cited portion of the Anderson Declaration makes the conclusory statement that there is “no similarity between the architecture and operation of these two toilets [Gregory and Kendall].” Ex. 2021 ¶ 30. We agree with Dr. Dershowitz that there is similarity between the Gregory and Kendall toilets, such as having a bowl over a discharge valve, and a concentrated central load. *See* Ex. 1027 ¶¶ 250–251. Patent Owner is essentially repeating the contention that a person of ordinary skill in the art would find no teachings in Kendall that are applicable to Gregory. As explained above, such is not the case.

Third, Patent Owner contends that Petitioner’s reasoning that the references each disclose concentrating the load centrally and have

detachable outer shrouds which do not bear weight is deficient. PO Resp. 31–32. In particular, Patent Owner asserts that Kendall removes all load from the shell for the cosmetic reason of swapping the shell for another color or texture, while Gregory stresses the impact resistance of toilet parts. *Id.* According to Patent Owner these disclosures would have lead a person of ordinary skill not to combine the references. *Id.* Patent Owner has not considered the disclosure of Kendall as a whole in that Patent Owner does not address Kendall’s disclosure that the removable shell “facilitates ease of servicing the fixture.” See PO Resp. 31–32; Ex. 1013, 3:53–56. To the extent that Patent Owner is arguing that Gregory and/or Kendall teach away from the claimed subject matter, we disagree. Patent Owner has not identified, nor do we discern any disclosure in the references that would have lead a person of ordinary skill in a direction divergent from that proposed by Petitioner. See *In re Haruna*, 249 F.3d 1327, 1335 (Fed. Cir. 2001) (“‘A reference may be said to teach away when a person of ordinary skill, upon reading the reference, . . . would be led in a direction divergent from the path that was taken by the applicant.’” (citation omitted)).

e) Secondary Considerations

Patent Owner contends that the nonobviousness of the claimed methods is demonstrated by secondary considerations, namely, that the claimed methods: (1) satisfied a long-felt and unmet need for improved methods of servicing vacuum toilets, (2) received industry praise, and (3) were commercially successful. PO Resp. 45–51.

Patent Owner essentially uses the same extrinsic evidence used in IPR2014-01510 and IPR2014-01513 relating to LRUs and applies it here to f toolless replacement of components.

(1) *Satisfaction of Long-felt Need*

Patent Owner contends that “[a]t the time of the invention of the ’054 Patent, vacuum toilets, particularly on aircraft, did not include a toilet bowl that could be replaced in the field while the toilet assembly remained installed.” PO Resp. 47 (citing Anderson Decl., Ex. 2021 ¶ 16; Jones Decl., Ex. 2022 ¶ 25–29). Patent Owner elaborates that in the prior art, the entire toilet was treated as an LRU, meaning the entire toilet was uninstalled and removed from the aircraft, removing the aircraft from revenue service. *Id.* Patent Owner contends that the claimed methods “finally made it possible for maintenance persons and airlines to service vacuum toilets without requiring that the aircraft be removed from revenue service.” *Id.* at 47–48.

This evidence is deficient in at least two respects. First, it states only that there was a need at the time of the invention. It does not allege, let alone show, that an art recognized problem existed for a long period of time without solution. *See Newell Cos. v. Kenney Mfg. Co.*, 864 F. 2d 757, 768 (Fed. Cir. 1988).

Second, this evidence does not address the extent of the problem, or attempts by others to solve the problem. *See In re Allen*, 324 F.2d 993, 997 (CCPA 1963) (an allegation of failure by others is not evidence of nonobviousness unless it is shown that widespread efforts of skilled workers having knowledge of the prior art had failed to find a solution to the problem). We agree with Petitioner that Patent Owner “has not proven the date when that supposed need first arose, how long it was felt, that the patent met it, or that others tried but failed.” Pet. Reply 23.

Patent Owner’s argument also is unpersuasive because it lacks nexus to the claimed subject matter in that the claims do not require that aircraft

remain in revenue service during replacement of an LRU. *See Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 305 n.42 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1017 (1986). In fact, claims 1 and 10 deal with toolless replacement of components, and do not recite LRUs.

(2) *Industry Praise*

Patent Owner contends that praise specifically related to features of the patented invention is probative of the nonobviousness of an invention. PO Resp. 48–49 (citing *Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1352 (Fed. Cir. 2010)). Patent Owner identifies two sources of such praise: one, an April 2015 story on Skift, a travel and airline industry website, and two, praise from Petitioner as a competitor.

The Skift article is titled, “The Airline Toilet That is Set to Revolutionize In-Flight Relief.” Ex. 2025, 1. The article describes that traditional toilets had to be replaced as an entire unit, and had a right or left hand pipe version so that airlines had to stock both versions of the toilet. *Id.* at 2. The Revolution toilet includes a number of interchangeable sub-assembly parts, and a reversible pipe, permitting airlines to stock sub-assemblies rather than entire toilets, and to quickly replace faulty parts. *Id.* The article goes on to state that “[t]he very best part” of the Revolution toilet is that the bowl is made of a new composite that is lighter and yet has the lubricity of Teflon. *Id.* at 3.

Patent Owner states, but provides no evidence, that the Revolution toilet is the toilet of the ’054 patent.²⁶ *See* PO Resp. 46–47; *In re Pearson*,

²⁶ The lack of such evidence makes that case at hand distinguishable from *PPC Broadband, Inc. v. Corning Optical Communications RF, LLC*, No. 2015–1361, 2016 WL 692368, at *8 (Fed. Cir. Feb. 22, 2016).

494 F.2d 1399, 1405 (CCPA 1974) (attorney’s arguments do not take the place of evidence); Pet. Reply 22 (noting this absence of proof). . The article mentions quick maintenance, but does not mention that such maintenance may be accomplished without tools. Other praise is clearly not linked to claimed features, like the reversible pipe. Further, the article is explicit that bowl composition, an unclaimed feature, is the very best part of the toilet.

Patent Owner contends that Petitioner’s praise for the LRUs of the ’054 patent is further evidence that the claimed methods would not have been obvious. PO Resp. 48–49 (citing the Meyers Decl., Ex. 2024²⁷ ¶¶ 16–18). According to Patent Owner, the Meyers Declaration states that Petitioner developed a vacuum toilet that includes modular LRU’s based on the invention from Patent Owner and Patent Owner’s predecessor, Evac, and therefore the praise for Petitioner’s toilets, is actually praise for the claimed subject matter. Ex. 2024 ¶¶ 17–18 (citing Ex. 2020).

The portion of Exhibit 2020 cited by Mr. Meyers includes the following statements:

2001-Envirovac Begins Development of Advanced Technology toilet – E-max

2007-B/E [Petitioner] Enters Market; resurrects Advanced Technology

See Ex. 2020, “BE-MAG-001-00103175,” also labeled “Page 3.” In this context, Petitioner’s use of the phrase “Advanced Technology” seems to be

²⁷ Exhibit 2024 includes two versions of the Meyers Declaration: redacted and unredacted.

the name of the toilet rather than a comment that the technology of the toilet is advanced.

Mr. Meyers's citations to evidence that Petitioner praised Petitioner's toilets is unpersuasive because Patent Owner does not explain persuasively any nexus to the claimed subject matter. In particular, none of the evidence addresses toolless replacement of toilet components.

Patent Owner has not shown effectively that the praise specifically relates to features of the patented invention and for that reason this evidence has no effect on our obviousness analysis. *See Power-One*, 599 F.3d at 1352.

(3) *Commercial Success*

Patent Owner contends that the commercial success of the Revolution™ toilet is further evidence of nonobviousness of the claimed subject matter. PO Resp. 49–51 (citing *In re Glatt Air Techniques, Inc.*, 630 F.3d 1026, 1030 (Fed. Cir. 2011)). Patent Owner provides evidence that 103 units were sold in 2014. *Id.* at 49. Mr. Conrad, Vice President of Sales, Marketing and Customer support for Patent Owner, states that he has personal knowledge of the sale of the 103 units. Ex. 2055 ¶¶ 1, 5. Patent Owner also provides projections of sales, to include projections of market share. PO Resp. 49–50. According to Mr. Conrad, “[s]ales of the Revolution™ toilet are driven in large part by the very high reliability and simplicity of maintenance of the toilet which is a function of the design and how easily and quickly the modular components of the Revolution™ toilet can be replaced ‘on wing.’” Ex. 2055 ¶ 7; PO Resp. 49. Patent Owner provides evidence that Petitioner's toilets that include the claimed toollessly replaceable LRUs moved Petitioner's market share for water and waste

systems from zero percent in 2008 to a projected four percent by the year 2020, growth that Mr. Conrad contends the aircraft supplier industry would consider “astounding.” PO Resp. 50 (citing Ex. 2055 ¶ 8).

This evidence is unpersuasive for several reasons. First, Patent Owner has not provided persuasive evidence of market share. Without market share information, the 103 units sold in 2014 cannot be put in perspective. *See In re Applied Materials, Inc.*, 692 F.3d 1289, 1299 (Fed. Cir. 2012) (even the number of units sold, without market share information, is only weak evidence, if any, of commercial success). Projections of sales are only estimates of future activity and do little or nothing to show the actual commercial success of the claimed subject matter. Further, the projections regarding sales of Petitioner’s toilets speak in terms of the “water and waste systems market for commercial aircraft” and it is unclear what portion of this market is attributable to vacuum toilets. *See* Ex. 2055 ¶ 9.

Second, Patent Owner’s evidence of sales of Petitioner’s toilets is unpersuasive because Patent Owner provides no evidence that the Revolution toilet embodies all of any of the challenged claims. *See* PO Resp. 49–51.

Third, Patent Owner does not explain persuasively how the sales are tied to claimed features. *See* PO Resp. 47–49; Ex. 2055 ¶¶ 1–10 (Mr. Conrad makes no mention of replacing components without tools). Indeed, Patent Owner’s evidence attributes sales to unclaimed features (e.g., reliability, simplicity of maintenance, and the ease and speed modular components may be replaced “on wing”). Ex. 2055 ¶ 7.

(4) *Summary of Secondary Considerations*

Patent Owner provides some evidence of a need at the time of invention. However, this evidence falls short of demonstrating a long-felt need because it does not address the length of the need, the extent of the problem, or attempts by others to solve the problem. This evidence is further undermined by the absence of a nexus to the claimed subject matter. Patent Owner shows some praise for the Revolution toilet and praise by Petitioner of Petitioner's toilets, but this evidence is not persuasive because of a lack of nexus to the claimed subject matter. Similarly, Patent Owner's evidence of commercial success does not demonstrate persuasively the extent of Patent Owner's market share, and is not tied to claimed features.

f) *Conclusion for independent claims 1 and 10*

We have considered the entirety of the evidence, including the objective evidence of nonobviousness or secondary considerations. The evidence of nonobviousness is weak and the evidence of obviousness is strong. The entirety of the evidence weighs in favor of a conclusion of obviousness. We conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 1 and 10 are unpatentable for obviousness under 35 U.S.C. § 103(a) over Gregory and Kendall.

As mentioned in our analysis of Patent Owner's Motion to Exclude Evidence, a key factual basis of Patent Owner's secondary considerations is the contention that at the time of the invention of the '054 patent, vacuum toilets, particularly on aircraft, did not include a toilet bowl, rinse valve, discharge valve, and/or FCU that could be replaced in the field while the toilet assembly remained installed. *See, e.g.*, PO Resp. 44–45.

Petitioner provides copies of Patent Owner's Service Bulletins that indicate that, prior to the time of the '054 patent invention, it was possible to remove and replace components of a vacuum toilet installed in an aircraft, such as a rinse valve, without removing the toilet from the aircraft. See Ex. 1069 ¶ 92; Ex. 1061, 1–2. This evidence undermines the basis of Patent Owner's secondary considerations. We emphasize that even without Petitioner's evidence, Patent Owner's secondary considerations did not alter our conclusion of obviousness.

2. *Claims 6 and 14*

Claims 6 and 14 follow:

6. The assembly of claim 1, in which the vacuum waste system further comprises a rinse valve and a rinse fluid pipe, and in which the receptacle further comprises a rinse fluid dispenser adapted for toollessly releasable attachment to the rinse fluid pipe.

14. The method of claim 10, in which the vacuum waste system further comprises a rinse valve and a rinse fluid pipe, and in which each of the receptacle and new receptacle further comprises a rinse fluid dispenser, the method further comprising detaching the rinse fluid dispenser of the receptacle from the rinse fluid pipe prior to the lifting step and attaching the rinse fluid dispenser of the new receptacle to the rinse fluid pipe after the inserting step.

Petitioner relies on Gregory for the additional limitations of claims 6 and 14. Pet. 37, 28–30; Ex. 1027 ¶¶ 218–220.

Patent Owner argues that “Gregory does not disclose a rinse valve, rinse fluid pipe, or rinse fluid dispenser” as claimed because in Gregory these components are integrated into Gregory's spray ring. PO Resp. 18–19, 27; Ex. 2021 ¶¶ 21, 33; Ex. 1015, 2:1–7. Mr. Anderson states that Gregory's

spray ring 12 integrates the pipe and rinse fluid dispenser and therefore, these components are not toollessly replaceable.

Mr. Anderson cites a portion of Gregory describing that water valve 18 directs water to spray ring 12. *See* Ex. 2021 ¶¶ 21, 33 (citing Ex. 1015, 3:49–52). This disclosure provides no support for Mr. Anderson’s opinion that Gregory’s components are integrated, nor does Mr. Anderson provide any other underlying facts or data for this opinion.

Gregory explicitly states that spray ring 12 includes shoulder 46 that is adapted to be seated on the shoulder formed by rim wall flange 30, and may be “releasably snapped into place.” Ex. 1015, 5:54–58; *see also* 2:1–7 (describing that the toilet includes a “detachably mounted flushing water spray ring”); Pet. 28–30; Ex. 1027 ¶¶ 218–220 (citing these portions of Gregory, providing an annotated version of Gregory’s Figure 3, and explaining that spray ring 12 is toollessly releasable from hose 228).

On this record, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 6 and 14 are unpatentable for obviousness under 35 U.S.C. § 103(a) over Gregory and Kendall.

3. *Claims 7 and 15*

Claims 7 and 15 follow:

7. The assembly of claim 1, in which the receptacle is made of a plastic material.

15. The method of claim 10, in which the receptacle is made of a plastic material.

Patent Owner argues that Gregory does not disclose a plastic waste receptacle as required by claims 7 and 15; rather, according to Patent Owner, Gregory discloses a heavy metal bowl and emphasizes the need for a heavy sturdy bowl. PO Resp. 19–20. Patent Owner contends that Kendall does not

disclose a plastic bowl; rather, Kendall discloses a metal or ceramic bowl. *Id.* at 28–29.

Patent Owner’s contention regarding Gregory is not responsive to Petitioner’s position because Petitioner relies upon Kendall’s inner shell 1 as corresponding to a waste receptacle as claimed because it may be formed of any suitable material, including plastics. Pet. 38 (citing Ex. 1013, 1:11–16; Ex. 1027 ¶ 291). Patent Owner does not address persuasively this contention. We agree with Petitioner that Kendall’s inner shell 1 is preferably made of a suitable plastic material. Pet. Reply 16 (citing Ex. 1013, 5:10, 3:65–68); *see also* Anderson Depo., Ex. 1052, 45:8–12 (identifying Kendall’s “item 1” (shell 1) as the toilet bowl (waste receptacle)).

On this record, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 7 and 15 are unpatentable for obviousness under 35 U.S.C. § 103(a) over Gregory and Kendall.

4. *Claims 4, 5, 9, 12, 13, and 17*²⁸

Claims 4, 5, 9, 12, 13, and 17 follow.

4. The assembly of claim 1, in which the top member of the frame further defines the receptacle engaging portion.

5. The assembly of claim 4, in which the receptacle includes a flange defining the abutting portion of the receptacle.

9. The assembly of claim 1, in which the receptacle is formed as a toilet bowl.

12. The method of claim 10, in which the top member of the frame further defines the receptacle engaging portion.

²⁸ Patent Owner provides no additional arguments for the dependent claims and therefore has admitted the material facts of this ground unpatentability for these claims. *See* 37 C.F.R. §§ 42.23(a), 42.120(a).

13. The method of claim 12, in which the each of the receptacle and new receptacle includes a flange defining the abutting portion.

17. The method of claim 10, in which the receptacle is formed as a toilet bowl.

As analyzed above, the proposed combination includes a top member of the frame that defines the receptacle engaging portion (Kendall's pins 33A or attachment bolts of top section 33), and the receptacle (Gregory's basin 1), which is formed as a toilet bowl, includes a flange (Kendall's flange 3) defining the abutting portion of the receptacle. *See* Pet. 37.

On this record, we conclude that Petitioner has demonstrated by a preponderance of the evidence that claims 4, 5, 9, 12, 13, and 17 are unpatentable for obviousness under 35 U.S.C. § 103(a) over Gregory and Kendall.

C. STEWART, GROOMBRIDGE, AND GREGORY

Petitioner contends that Stewart discloses a toilet for use in a recreational vehicle that includes upper housing part 22 that contains a waste receptacle (toilet bowl 26) attached by adhesive to lower housing part 24. Pet. 45, 38-39. Petitioner contends that given Stewart's emphasis on easy maintenance, it would have been obvious to make the upper housing removable by replacing Stewart's adhesive with snap coupling, as taught by Groombridge. Pet. 39-40. Petitioner reasons that Stewart and Groombridge teach similar designs of similar materials (plastic). *Id.* at 40-41 (citing Ex. 1018, 4:24-25, 11:62-65; Ex. 1019, 2:46-48, 3:65-68; Ex. 1027 ¶¶ 313-317). Petitioner contends that it would have been obvious to replace Stewart's swing drop valve with a discharge valve and vacuum system as

disclosed by Gregory, to create a vacuum toilet system for use in a recreational or transport vehicle. Pet. 45–46 (citing Ex. 1015, 1:35–37; Ex. 1027 ¶ 345). Petitioner reasons that Stewart and Gregory are of similar construction, and that the modification creates a device ideal for use in recreational vehicles or other transport vehicles. *Id.* at 46 (citing Ex. 1015, 1:35–37; Ex. 1027 ¶ 345).

Petitioner contends that “given Stewart’s emphasis on easy maintenance, it would have been obvious to make the upper housing (including the bowl) removable, in light of, e.g., Groombridge.” Pet. 39–40, 45. We examine this contention with regard to each reference.

Petitioner does not cite to any portion of Stewart demonstrating an emphasis on ease of maintenance. *See* Pet. 9–10, 38–43; 37 C.F.R. § 42.104(b)(5) (the petition must identify specific portions of the evidence supporting the challenge and the Board may exclude or give no weight to evidence not so identified). Nor does Petitioner cite to other supporting evidence.

Petitioner contends that Groombridge discloses making the upper housing removable because Groombridge’s snap couplings are manually detachable fastening means. Pet. 10, 39–40, 43, 45 (citing Ex. 1019, 2:46–48, 3:65–68; Ex. 1027 ¶¶ 313–317). In order to support Petitioner’s ground of unpatentability, Groombridge’s snap couplings must be releasable without tools. Petitioner does not identify, nor does Groombridge explicitly disclose, that the upper housing is removable or that the snap couplings are toollessly detachable.

Groombridge’s water closet 10 includes cistern 14 connected to basin 12. Ex. 1019, 2:46–48, 3:65–68. Regarding this connection, Groombridge

describes that “any suitable form of attachment may be employed, such as snap couplings, adhesives, etc., which are employed with appropriate seals,” and a welded connection is preferred. *Id.* at 3:65–4:2. In this context, snap couplings are listed with adhesives, suggesting a permanent rather than releasable connection. The cited portion of the Dershowitz Declaration cites to the same portion of Groombridge and adds nothing to the analysis in the Petition. *See* Pet. 45 (citing Ex. 1027 ¶¶ 313–317, in particular ¶ 315 citing Ex. 1019, 3:65–68).

Petitioner contends that a person of ordinary skill in the art would know that connections containing fluid must be sealed and would design a product accordingly. Pet. Reply 19 (citing Ex. 1068 ¶ 109). However, the issue is not whether Groombridge’s snap coupling would provide a fluid seal, the issue is whether the couplings are toollessly releasable.

Petitioner refers to Groombridge’s snap couplings as “[t]oolless snap couplings.” Pet. 19 (citing Ex. 1019, 3:65–68; Ex. 1052, 86:7–20;²⁹ Ex. 1053, 151:20–22; Ex. 1068 ¶ 109). These citations do not support characterizing Groombridge’s snap couplings as releasable without tools. First, as explained above, Groombridge does not explicitly describe the snap couplings as toolless, and the context of the disclosure is at least equally suggestive that the couplings are not releasable. Second, Mr. Anderson testified that he does not think tools are required to snap the two components *into place*, but the issue is separating the components without tools, not connecting them. *See* Ex. 1052, 86:7–20. The testimony of Mr. Jones dealt with snap couplings in general and not Groombridge’s snap couplings. *See*

²⁹ Petitioner cites Exhibit 1050, but based on content appears to intend to refer to Exhibit 1052.

Ex. 1053, 150:9–152:11. Such testimony sheds little or no light on the issue before us. Fourth, Dr. Dershowitz opines that Groombridge’s snap couplings would provide a seal. *See* Ex. 1068 ¶ 109. The issue is not whether the couplings provide a seal, but whether the couplings may be toollessly released.

Petitioner has not demonstrated by a preponderance of the evidence that the combination of Stewart and Groombridge creates a waste receptacle that may be toollessly removed from the installed position independent of the frame as required by claim 1 and 10. The same reasons that highlight the absence of this limitation also undermine Petitioner’s proffered reason for combining the references of creating a detachable waste receptacle. *See KSR*, 550 U.S. at 418 (making clear that “rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” (citation omitted)).

On this record, we conclude that Petitioner has not demonstrated by a preponderance of the evidence that claims 1 and 10 are unpatentable for obviousness under 35 U.S.C. § 103(a) over Stewart, Groombridge and Gregory. Claims 4–7, 9, 12–15, and 17 depend from independent claims 1 and 10 and consequently the ground of unpatentability for these claims is deficient as well.

V. MOTIONS TO SEAL

Patent Owner filed two Motions to Seal (Papers 40 and 87), and Petitioner also a Motion to Seal (Paper 66). There is a strong public policy in favor of making information filed in an *inter partes* review open to the

public, especially because the proceeding determines the patentability of claims in an issued patent and, therefore, affects the rights of the public. *See Garmin International v. Garmin Speed Technologies, LLC*, Case IPR2012-00001 (PTAB Mar. 14, 2013) (Paper 34). Under 35 U.S.C. § 316(a)(1) and 37 C.F.R. § 42.14, the default rule is that all papers filed in an *inter partes* review are open and available for access by the public; a party, however, may file a concurrent motion to seal and the information at issue is sealed pending the outcome of the motion. It is, however, only “confidential information” that is protected from disclosure. 35 U.S.C. § 316(a)(7); *see* Trial Practice Guide, 77 Fed. Reg. at 48,760. The standard for granting a motion to seal is “for good cause.” 37 C.F.R. § 42.54(a). The party moving to seal bears the burden of proof in showing entitlement to the requested relief, and must explain why the information sought to be sealed constitutes confidential information. 37 C.F.R. § 42.20(c).

In reviewing the underlying documents that are sought to be sealed, we conclude that they may contain confidential information. Accordingly, we are persuaded that good cause exists to have some of the documents remain under seal. In that respect, the Motions to Seal (Papers 40, 66, 87) are granted, except for information that is discussed in or relied on by this decision. With regard to such information, pertinent to substantive patentability analysis leading to the determination that claims 1, 4–7, 9, 10, 12–15, and 17 are unpatentable, we discern no reason to shield them from the public. The parties have shown no good cause to seal such information.

The Office Patent Trial Practice Guide provides:

Expungement of Confidential Information: Confidential information that is subject to a protective order ordinarily would become public 45 days after denial of a petition to institute a trial

or 45 days after final judgment in a trial. There is an expectation that information will be made public where the existence of the information is referred to in a decision to grant or deny a request to institute a review or is identified in a final written decision following a trial. A party seeking to maintain the confidentiality of information, however, may file a motion to expunge the information from the record prior to the information becoming public. § 42.56. The rule balances the needs of the parties to submit confidential information with the public interest in maintaining a complete and understandable file history for public notice purposes. The rule encourages parties to redact sensitive information, where possible, rather than seeking to seal entire documents.

77 Fed. Reg. 48756, 48766 (Aug. 14, 2012).

Consequently, 45 days from entry of this decision, all information subject to a protective order will be made public by default. In the interim, a party seeking to maintain confidentiality of information that was not relied upon in this decision, may file a motion to expunge that information. *See* 37 C.F.R. § 42.56.

VI. ORDER

For the reasons given, it is:

ORDERED that claims 1, 4–7, 9, 10, 12–15, and 17 of U.S. Patent No. 6,536,054 B2 have been shown by a preponderance of the evidence to be unpatentable over Gregory and Kendall;

FURTHER ORDERED that Patent Owner’s Motion to Exclude is denied;

FURTHER ORDERED that Petitioner’s Motion to Exclude is denied;

FURTHER ORDER that the Motions to Seal are granted-in-part and denied-in-part as noted herein; and

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FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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