

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

KOKI HOLDINGS AMERICA LTD.,
Petitioner,

v.

KYOCERA SENCO INDUSTRIAL TOOLS, INC.,
Patent Owner.

IPR2025-00264
Patent 11,845,167 B2

Before BARRY L. GROSSMAN, MITCHELL G. WEATHERLY, and
SCOTT C. MOORE, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. *Background and Summary*

Koki Holdings America Ltd. filed a Petition requesting an *inter partes* review of claims 1–15 of U.S. Patent No. 11,845,167 B2 (Ex. 1001, “the ’167 Patent”). Paper 1 (“Pet.”). Kyocera Senco Industrial Tools, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). We authorized additional briefing to address Patent Owner’s arguments regarding the construction of certain claim terms. Accordingly, Petitioner filed a Reply to Patent Owner’s Preliminary Response. Paper 8 (“Reply”). Patent Owner filed a surreply to Petitioner’s Reply. Paper 9 (“Surreply”).

We may institute an *inter partes* review when “the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). If we institute an *inter partes* review, the trial must encompass all claims and grounds identified in the Petition. 37 C.F.R. § 42.108(a) (“When instituting *inter partes* review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.”).

For the reasons set forth below, we conclude that there is a reasonable likelihood that Petitioner will prevail in establishing the unpatentability of all challenged claims. We, therefore, institute *inter partes* review of claims 1–15 on the grounds asserted in the Petition.

B. *Real Parties in Interest*

Petitioner identifies the real parties in interest as Koki Holdings America Ltd. and Koki Holdings Co., Ltd. Pet. 1. Patent Owner identifies Kyocera Senco Industrial Tools, Inc. as the real party in interest. Paper 6, 1.

C. Related Matters

Petitioner identifies as related proceedings the following matters involving related patents from the same patent family: *Senco Brands, Inc. v. Hitachi Koki USA Ltd.*, S.D.OH. No. 1:17-cv-00061 which was refiled as D.DE. No. 1:17-cv-00598; *Certain Gas Spring Nailers and Components Thereof*, ITC Inv. No. 337-TA-1082; *Kyocera Senco Indus. Tools Inc. v. ITC*, C.A.F.C. No. 20-1046; and *Koki Holdings America Ltd. v. ITC*, C.A.F.C. No. 20-2050. Pet. 2. Petitioner also indicates that the following requests for *inter partes* review involve related patents and are thus related proceedings: IPR2025-00261 (U.S. Patent No. 11,034,007), IPR2025-00262 (U.S. Patent No. U.S. 10,478,954), IPR2025-00263 (U.S. Patent No. 11,241,776), and IPR2025-00264 (U.S. Patent No. 11,845,167). Paper 6, 1–2.

Patent Owner indicates that the '167 Patent is involved in the following litigation: *Kyocera Senco Industrial Tools, Inc. v. Koki Holdings America, LTD.*, Case No. 1:24-cv-01383 (D. Del.). Paper 6, 1.

D. The '167 Patent

The '167 Patent, titled “Fastener Driving Tool Using a Gas Spring,” is “directed to portable tools that drive staples, nails, or other linearly driven fasteners” such as “a gas spring linear fastener driving tool, in which a cylinder filled with compressed gas is used to quickly force a piston through a driving stroke movement, while also driving a fastener into a workpiece.” Ex. 1001, 1:34–41.

Figure 16 of the '167 Patent, reproduced below, illustrates one embodiment of a fastener driving tool. Ex. 1001, 6:11–13.

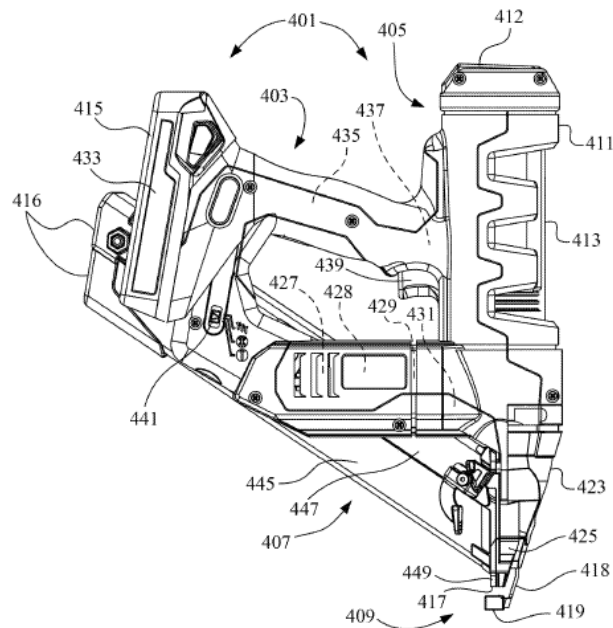


Fig. 16

Figure 16 depicts driving tool 401 that is designed to drive fasteners, such as nails and staples. *Id.* at 20:40–45. Driving tool 401 includes handle portion 403, fastener driver portion 405, fastener magazine portion 407, and fastener exit portion 409. *Id.* Fasteners are released from bottom 407 of fastener exit portion 409. *Id.* at 20:57–64. Before the tool is actuated, extension 419 of safety contact element 418 extends beyond bottom 417 of the fastener exit. *Id.* Driving tool 401 will not operate unless extension 419 of safety contact element 418 is pressed against a solid surface. *See id.* at 27:4–21.

Figures 20 and 21 of the '167 Patent are partial cross-sectional perspective views of the gas spring cylinder mechanism of this fastener

driving tool. Ex. 1001, 6:23–34. Petitioner has provided annotated versions of these two figures, which we reproduce below. *See* Pet. 5.

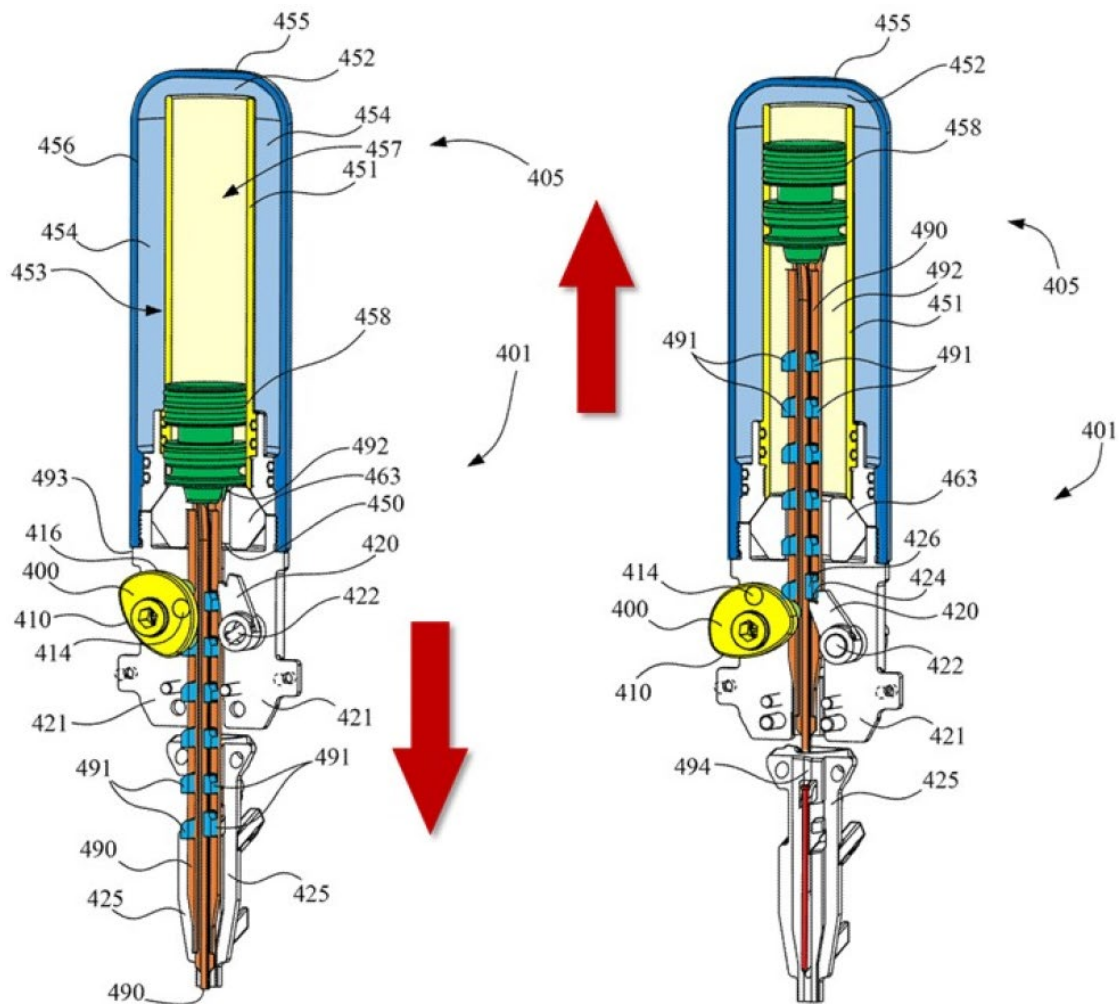


Fig. 20

Fig. 21

In the annotated version of Figure 20, above left, piston 458 (green) and driver member 490 (orange) are shown in the “lowest ‘driven’ position.” *Id.* at 6:23–27. The downward-pointing red arrow next to Fig. 20 indicates the direction of travel for piston 458 (green) and driver member 490 (orange) when tool 401 drives a nail into a workpiece. *See* Pet. 5–6.

In the annotated version of Figure 21, above right, piston 458 (green) and driver member 490 (orange) are shown in their “top-most position.”

Id. at 6:29–34. In this position, driver member 490 is ready to drive a nail (red) into a workpiece. *See id.* at 26:43–50. The red arrow illustrates the direction in which piston 458 (green) and driver member 490 (orange) travel to reach this position.

In both annotated figures, driver member 490 (orange) is attached to piston 458 (green) and lifted by lifter member 400 (bright yellow) against compressed gas in a hollow cylinder 492 (light yellow) and storage chamber 454 (blue). Ex. 1001, Figs. 20–21, 21:57–22:23. Driver member 490 (orange) is then released and the compressed gas pushes on piston 458 (green), and driver member 490 (orange) to drive a nail (red) into a workpiece. *Id.*

E. Challenged Claims

Petitioner challenges claims 1–15 of the '167 Patent. Of these, claims 1, 6, and 10 are independent. Claims 2–5 depend from claim 1, claims 7–9 depend from claim 6, and claims 11–15 depend from claim 10.

Claim 1, reproduced below with Petitioner's bracketed identifiers and formatting added (*see* Pet. vii), is representative.

- [1.P] 1. A portable fastener driving tool, comprising:
 - [1.1] a housing with a storage chamber that contains a pressurized gas that is always above atmospheric pressure;
 - [1.2] a hollow cylinder that includes a movable piston;
 - [1.3] a movable driver that is in communication with said piston at least during a drive stroke;
 - [1.4] a lifter that is in communication with said driver at least during a return stroke;
 - [1.5] a prime mover; and
 - [1.6] a source of electrical energy that is removably attached to

- said housing;
- [1.7] said storage chamber being in fluidic communication with a first end of said hollow cylinder; and
- [1.8] said storage chamber including a removable top cap at a location proximal to said first end of said hollow cylinder;
- [1.9] wherein: said piston travels through said hollow cylinder between a higher pressure position and a lower pressure position; said piston has a rest position between operational cycles; and a location of said rest position is proximal to said higher pressure position; and
- [1.10] said pressurized gas is not vented to atmosphere after said drive stroke.

Ex. 1001, 39:2–26.

F. Asserted Grounds

Petitioner asserts the following grounds of unpatentability for the challenged claims:

Ground	Claims Challenged	35 U.S.C. § ¹	Reference(s)/Basis
1	1–15	103(a)	Haley, ² Lai ³
2	1–15	103(a)	Saari, ⁴ Enstrom, ⁵ Lai
3	1–15	103(a)	Kondo ⁶
4	1–15	103(a)	Pedicini ⁷

¹ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. Because the applications from which the ’167 Patent claims priority were filed before this date, the pre-AIA version of § 103 applies. *See* Ex. 1001, code (60).

² U.S. Pat. No. 3,150,488, issued Sept. 29, 1964 (Ex. 1004, “Haley”).

³ U.S. Pat. No. 5,503,319, issued Apr. 2, 1996 (Ex. 1005, “Lai”).

⁴ U.S. Pat. No. 3,924,692, issued Dec. 9, 1975 (Ex. 1006, “Saari”).

⁵ U.S. Pat. No. 3,913,685, issued Oct. 21, 1975 (Ex. 1007, “Enstrom”).

⁶ U.S. Pat. No. 5,720,423, issued Feb. 24, 1998 (Ex. 1008, “Kondo”).

⁷ U.S. Pat. App. Pub. No. 2006/0180631 A1, published Aug. 17, 2006 (Ex. 1009, “Pedicini”).

Pet. 4. Petitioner also relies on the Declaration of Dr. Glenn E. Vallee. Ex. 1003. Patent Owner has not submitted declaration testimony at this stage of the proceeding.

II. ANALYSIS

A. *Level of Ordinary Skill in the Art*

The level of skill in the art is “a prism or lens” through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The parties’ briefs do not propose any specific definition of a level of ordinary skill in the art. *See generally*, Pet., Prelim. Resp. Dr. Vallee, however, testifies in his declaration that one of ordinary skill in the art relevant to the ’167 Patent:

would have either (i) a Master’s degree in mechanical engineering with at least two years of experience in power nailer design; (ii) a Bachelor’s degree in mechanical engineering with at least five years of experience in powered nailer design; or (iii) ten (or more) years of experience in powered nailer design. This experience in powered nailer design would include mechanical design, tool design, manufacturing, mechanics of materials, stress analysis, ergonomics, and human factors.

Ex. 1003, ¶ 49. For purposes of this Decision, we adopt and apply Dr. Vallee’s formulation regarding the level of ordinary skill in the art.

B. *Claim Construction*

We interpret claims in the same manner used “in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b). When applying that standard, we interpret the claim language as it would have been understood by one of ordinary skill in the art in light of the specification. *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*,

853 F.3d 1272, 1279–80 (Fed. Cir. 2017). Thus, we give claim terms their ordinary and customary meaning as understood by an ordinarily skilled artisan. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

Our rules require that a petition set forth “[h]ow the challenged claim is to be construed.” 37 C.F.R. § 42.104(b)(3). For means-plus-function limitations, “the construction of the claim must identify the specific portions of the specification that describe the structure, material or acts corresponding to each claimed function.” *Id.*

Patent Owner presents a number of issues relating to claim interpretation that we address below.

1. Lifter

The Petition explicitly states that the “lifter” limitation is a means-plus-function limitation—a contention Patent Owner does not dispute. *See* Pet. 6; Prelim. Resp. 9–11. Patent Owner argues, however, that Petitioner has “fail[ed] to identify *any* structure in the ’007 [sic] Patent to perform the claimed function.” Prelim. Resp. 10. We disagree.

The Petition identifies the following corresponding structures from the Specification of the ’167 Patent:

The “lifter” of the ’167 patent includes a rotatable cam lifter 100 (yellow, below left), with pin 104, 106, and 108 (green) on its face surface that engage protrusions 92 (blue) on the driver member 90 (orange). ’167 patent, 9:36-52, 16:39-53, Fig. 12. The ’167 patent also discloses two-pin variants: lifter members 465 and 480 in Figs. 31 and 33. ’167 patent, 32:21-36, 32:54-33:2.

Pet. 12–13. This identification of corresponding structure is sufficient to satisfy 37 C.F.R. § 42.104(b)(3). We also note that at this stage of the proceeding, Patent Owner does not dispute that Petitioner has identified the correct corresponding structure. To the extent the parties wish to further address the construction of this claim limitation, they may do so during trial.

2. *Removable Top Cap*

Patent Owner argues that Petitioner has implicitly adopted two contradictory constructions of the “removable top cap” limitation of claims 1–5 by contending that this claim limitation reads on two completely different structures. *See* Prelim. Resp. 21–25. Specifically, Patent Owner argues that in Ground 1, Petitioner has identified “an entire exterior structure of a chamber” of Haley as being a removable top cap, and that in Ground 2, Petitioner has identified a “columnar insert into the exterior wall structure” of Saari/Enstrom as being a removable top cap. *Id.* at 22. According to Patent Owner, Petitioner’s reading of Haley renders the “storage chamber” claim limitation superfluous, and Petitioner’s contentions regarding Haley and Saari/Enstrom are inconsistent with one-another. *See id.* at 23–24. We disagree.

Petitioner has identified the storage chamber of Haley as being chamber 85, a volume of space bounded by housing 40, extension cylinder 76, and elongate accumulator shell 80. *See* Pet. 9–10; Ex. 1004 Fig. 1. Haley’s elongate accumulator shell 80 (which Petitioner identifies as the removal top cap) is not the same as chamber 85; it is merely one component of the structure that encloses chamber 85. *See id.* And, though the Petitioner-identified removable top caps of Haley (a cylinder-shaped component, *see id.*) and Saari/Enstrom (a removable sleeve that extends into the interior of Saari/Enstrom’s cylinder, *see id.* at 48–49) have different

structures, both are removable components of the outer enclosures of the Petitioner-identified storage chambers. We, therefore, are not persuaded that Petitioner's contentions necessarily rely on implicit and inconsistent claim constructions.

Patent Owner also cites two non-precedential Patent Trial and Appeal Board institution decisions to argue that Petitioner was required to set forth an explicit construction of "removable top cap" (*see* Prelim. Resp. 7–8), but those decisions do not support its arguments. The first such decision, *Willis Elec. Co. v. Polygroup Macau Ltd.*, No. IPR2017-00330, Paper 11, 2017 WL 2304440 (PTAB May 25, 2017) involved a means-plus-function limitation, and the petitioner in that case was thus required by our rules to set forth a construction in the petition. *See id.* at *6, 37 C.F.R. § 42.104(b)(3). Patent Owner does not contend that "removable top cap" is a means-plus-function limitation. In the second decision, *ams AG v. 511 Innovations, Inc.*, No. IPR2016-01792, Paper 15, 2017 WL 1052498 (PTAB Mar. 16, 2017) the Board determined that the Petitioner should have construed a claim limitation because different portions of the specification contained contradictory teachings regarding the meaning of that limitation, and there existed a genuine dispute regarding whether the prior art taught or suggested that limitation. *See id.* at *5. No such contradictory teachings are present here. Moreover, Patent Owner has not proposed any construction of "removable top cap" that would exclude the Petitioner-identified structures of Haley and Saari/Enstrom. Thus, at this stage of the proceeding, we are not persuaded that any substantive dispute currently exists that would require an explicit construction of "removable top cap." *See Nidec*, 868 F.3d at 1017. Of course, Patent Owner is free to further address the construction of this limitation during trial, should it wish to do so.

3. *Not Exhausted to Atmosphere*

Patent Owner also argues that Petitioner adopted and relied upon an unstated and incorrect construction of “not exhausted to atmosphere” when it argued that the pressurized gas within Kondo’s air chamber 14 is “not exhausted to atmosphere” as required by claims 6–9, despite the fact that air chamber 14 may have “minor leaks.” Prelim. Resp. 26. We need not resolve this dispute to determine whether to institute review. We nevertheless offer the following observations as guidance to the parties.

As Petitioner points out, (*see* Reply 2–3), the ’167 Patent Specification appears to teach an embodiment in which a gas piston is “not vented to [the] atmosphere” so long as the gas does “not significantly leak.” *See Spec.* 22:59 (Figs. 16–29 depict a “second embodiment”), 27:67–28:3 (in this embodiment, “[t]he gas above the piston is not vented to atmosphere”), 31:8–11 (the “charge gas,” i.e., the gas above the piston, “should not significantly leak.”). The Specification does not use the term “exhausted,” and we agree, at least preliminarily, with Petitioner’s assertion that these portions of the Specification describing a piston that is “not vented to the atmosphere” provide written description support for the “not exhausted to atmosphere” claim limitation. *See* Reply 2 n.2. Therefore, reading the claims in a manner that is consistent with the Specification, we preliminarily determine that the limitation “not exhausted to atmosphere” does not strictly require that the storage chamber exhibit absolutely no pressure loss as the tool is cycled over time. If either party disagrees with this interpretation or contends that “not exhausted to atmosphere” requires further construction, that party may develop its arguments during trial.

4. *Safety Contact Element*

Patent Owner additionally contends that the Petition is deficient because Petitioner has failed to define the “safety contact element” limitation of claims 10–15. Prelim. Resp. 27–28. In particular, Patent Owner contends that Petitioner has identified “element 22 of Haley” as satisfying both the “guide body” and “safety contact element” claim limitations, which “necessitates some claim construction to avoid rendering one of the claim limitations superfluous.” *Id.*

We agree that there is substantial overlap between the structures of Haley that Petitioner identifies as satisfying these claim limitations. In particular, Petitioner identifies guide barrel 22 as corresponding to the “guide body” limitation (Pet. 26, 35–36), and “‘guide barrel 22’ with a ‘lug 36’ that engages ‘operator arm 37’” as corresponding to the “safety contact element” limitation (*id.* at 36–37).⁸ But we are not persuaded that Petitioner’s contentions would necessarily vitiate a claim limitation because “it is well established that a single structure . . . may satisfy two different claim limitations” in the absence of evidence that the claims require two different structures. *Becton, Dickinson and Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1264 (Fed. Cir. 2010).

Patent Owner has offered no persuasive evidence that the challenged claims should be construed to require that the “guide body” and “safety contact element” be physically separate structures, and the case law that Patent Owner cites does not support such an argument. *See Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1361–62 (Fed. Cir. 2008)

⁸ Petitioner alternatively argues that “it would have been obvious to have the safety contact element be a separate element above the guide body.” Pet. 37.

(dealing with the meaning of the limitation “and” in claims directed to chemical compounds, and not addressing the issue of whether a single physical structure may satisfy two claim limitations); *ams AG*, 2017 WL 1052498, at *5 (P.T.A.B. Mar. 16, 2017) (determining that the Petitioner should have construed a limitation where the specification contained contradictory teachings regarding that limitation’s meaning, and not addressing the issue of whether a single physical structure may satisfy two claim limitation.) To the extent they wish to do so, either party is free to further brief this issue during trial.

5. *Storage Chamber*

The parties dispute the construction of the “storage chamber” claim limitation, but this dispute relates only to Grounds 2 and 4, and we need not resolve it to determine whether to institute review. The parties are welcome to develop their arguments regarding this claim limitation during trial.

C. *Patent Owner’s Argument that Alleged Deficiencies in the Petition Merit Denial of Institution*

Patent Owner argues that the Board should deny institution based on alleged deficiencies in the Petition. Specifically, Patent Owner argues that, “even if arguments as to a few claims might have been properly presented in the Petition, a decision to institute here would require the Board to address—for the first time and with no Petitioner input—critical claim construction issues affecting nearly every claim” in contravention of the requirements of 37 C.F.R. § 42.104(b)(3). Prelim. Resp. 38–39.

For the reasons discussed above, we are not persuaded on the current record that Petitioner has violated 37 C.F.R. § 42.104(b)(3), or that there exist critical and unresolved claim construction issues sufficient to justify a discretionary denial of institution. We, therefore, decline to deny institution

on this basis. We now turn to the merits of the grounds set forth in the Petition.

D. Obviousness under 35 U.S.C. § 103

An invention is not patentable under 35 U.S.C. § 103 “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.” The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and, (4) where in evidence, so-called secondary considerations, including commercial success, long-felt but unsolved needs, and failure of others.⁹ *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

When evaluating a combination of teachings, we must also “determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

1. Ground 1: Obviousness of Claims 1–15 Over Haley and Lai

a) Independent Claim 1

Preamble

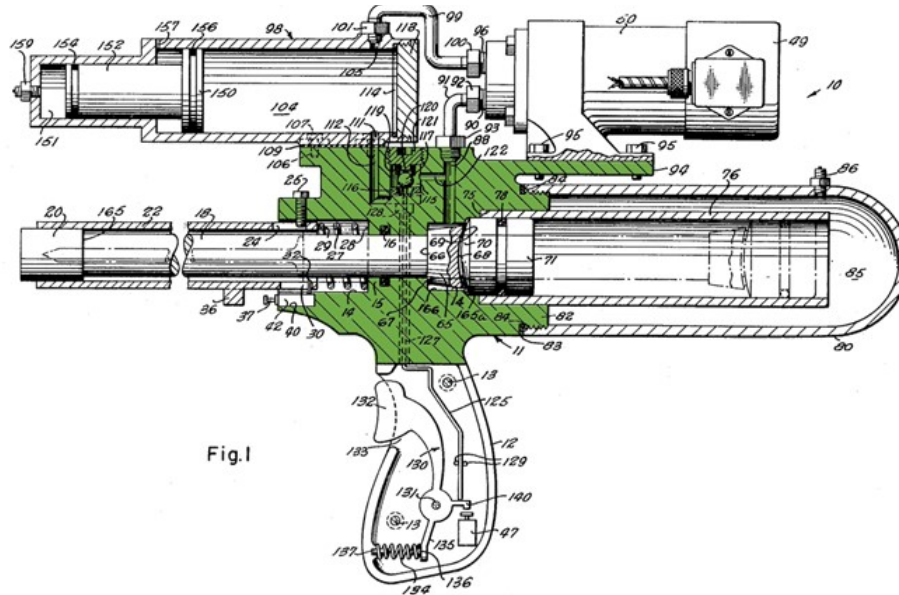
The preamble of claim 1 recites: “A portable fastener driving tool, comprising.” Ex. 1001, 39:2. Petitioner contends that Haley discloses a

⁹ At this stage of the proceeding, neither party has directed us to evidence of such secondary considerations.

portable fastener driving tool. Pet. 8 (citing Ex. 1004, 1:7–9). Patent Owner does not contest this contention. We find that Petitioner has made a sufficient showing that Haley discloses the subject matter of the preamble.

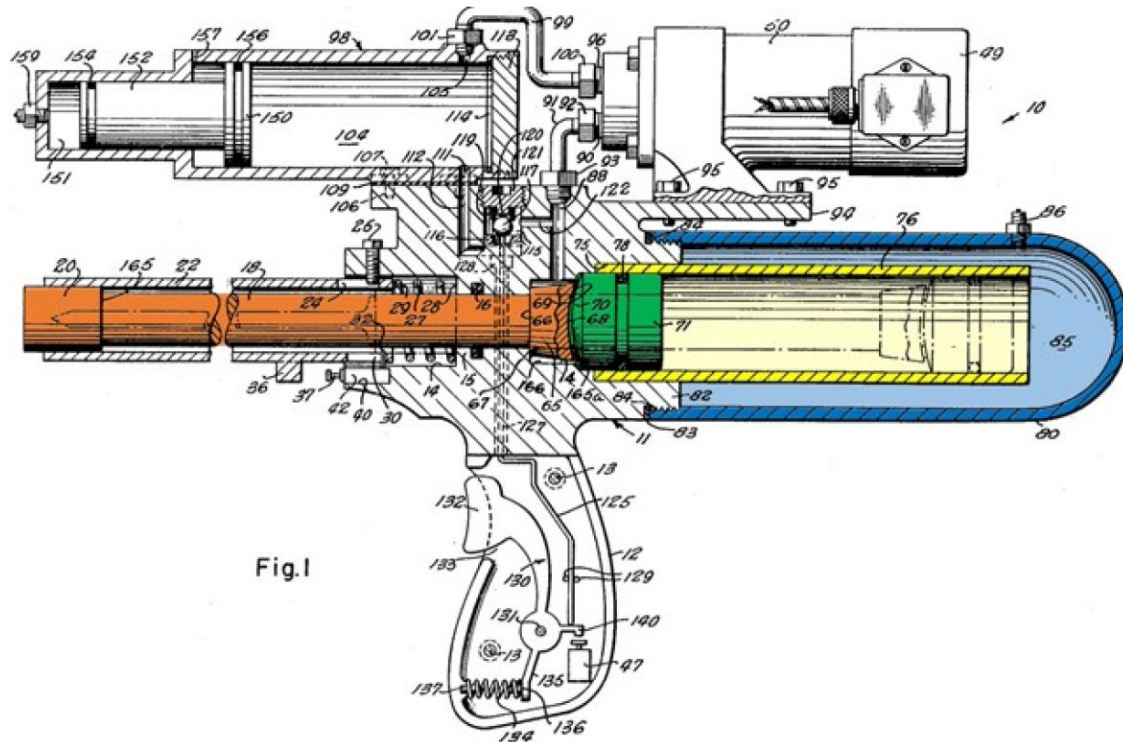
Limitation 1.1

Limitation 1.1 recites “a housing with a storage chamber that contains a pressurized gas that is always above atmospheric pressure.” Ex. 1001, 39:3–4. Petitioner contends that Haley’s housing 40 corresponds to the recited housing. Pet. 8 (citing Ex. 1004, 2:47, Fig. 1). Petitioner also provides a colorized version of Haley’s Figure 1, reproduced below, to illustrate the location of housing 40. *Id.* at 9.



In the above version of Figure 1, housing 40 is identified in green.

Petitioner provides a second colorized version of Haley’s Figure 1, which is reproduced below, to illustrate the portions of Haley that it contends form a storage chamber. *See* Pet. 10.



The above version of Figure 1 depicts Haley’s elongate accumulator shell 80 (dark blue), extension cylinder 76 (yellow), accumulator piston 71 (green), drive piston 18 (orange) and hammerhead 20 (orange.) Pet. 9–11 (citing Ex. 1004, 2:20–23, 3:33–54, 5:51–70, 5:74–6:7, Fig. 1). Petitioner contends that chamber 85 (the light blue area enclosed by accumulator shell 80 (dark blue), extension cylinder 76 (yellow), and housing 40), is a storage chamber containing a pressurized gas that is always above atmospheric pressure. Pet. 9 (citing Ex. 1004, 3:40–54, 7:1–13; Ex. 1003 ¶ 52).

Patent Owner does not dispute Petitioner’s contention that Haley describes the subject matter of limitation 1.1, and we find that Petitioner has made a sufficient showing regarding this limitation.

Limitation 1.2

Limitation 1.2 recites “a hollow cylinder that includes a movable piston.” Ex. 1001, 39:5. Petitioner contends that Haley’s extension cylinder 76 and accumulator piston 71 (yellow and green, respectively, in the

colorized figure above) satisfy this limitation. Pet. 10 (citing Ex. 1004, 3:33–39, Figs. 1, 3, 4).

Patent Owner does not dispute Petitioner’s contention that Haley describes the subject matter of limitation 1.2, and we find that Petitioner has made a sufficient showing regarding this limitation.

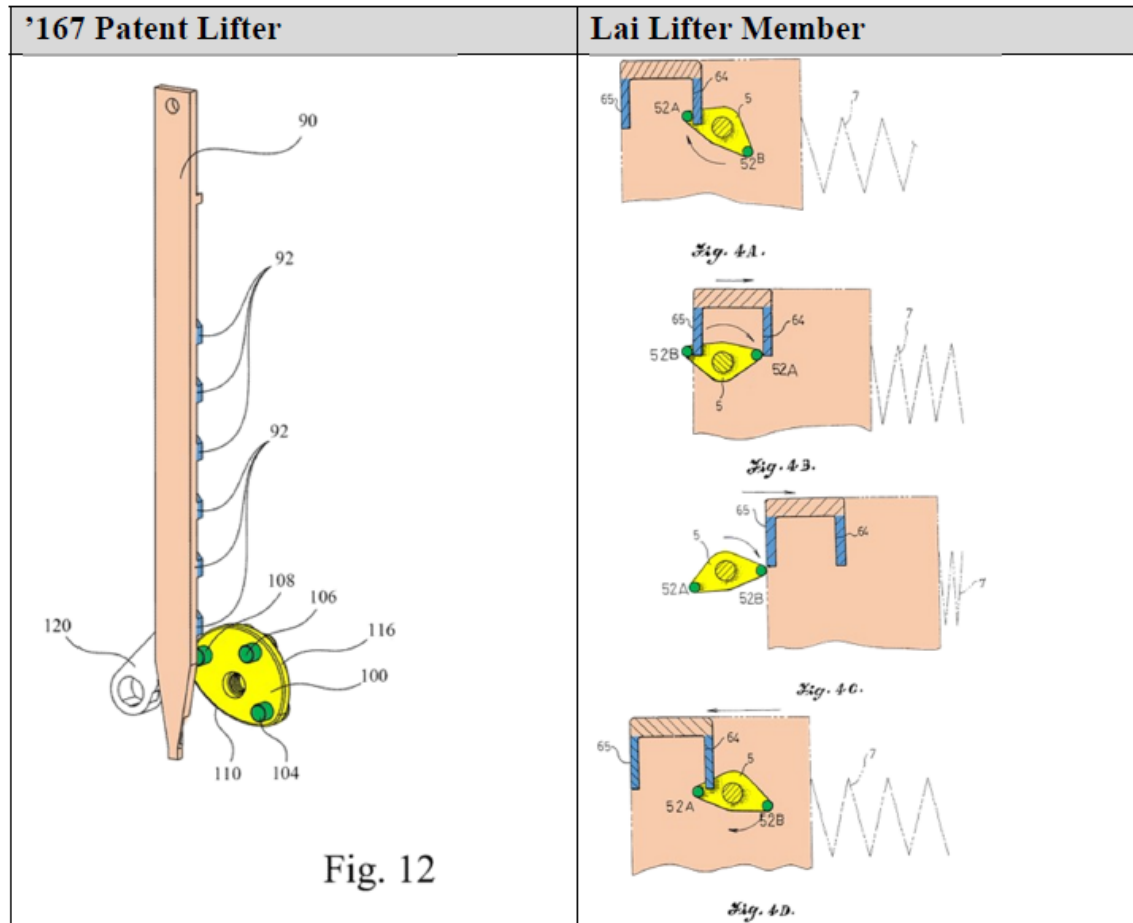
Limitation 1.3

Limitation 1.3 recites “a movable driver that is in communication with said piston at least during a drive stroke.” Ex. 1001, 39:6–7. Petitioner contends that Haley’s drive piston 18 and hammerhead 20 (orange in the colorized figure above), are in communication with Haley’s accumulator piston 71 (green in the colorized figure above) and satisfy this limitation. Pet. 11 (citing Ex. 1004, 2:20–23, 5:51–70, 5:74–6:7, Figs. 1, 3, 4).

Patent Owner does not dispute Petitioner’s showing that Haley describes the subject matter of limitation 1.3, and we find that Petitioner has made a sufficient showing regarding this limitation.

Limitations 1.4, 1.5, and 1.6

Limitation 1.4 recites “a lifter that is in communication with said driver at least during a return stroke.” Ex. 1001, 39:8–9. Limitations 1.5 and 1.6 recite a “prime mover” and “a source of electrical energy that is removably attached to said housing. *Id.* at 39:10–12. Petitioner argues that Lai discloses a lifter, prime mover, and power source that satisfy these claim limitations, and that one of ordinary skill in the art would have had reason to replace Haley’s hydraulic lifter with Lai’s lifter, prime mover, and power source. Pet. 12, 19. Petitioner relies on side-by-side, colorized versions of Figure 12 of the ’167 Patent, and Figures 4A–D of Lai to illustrate these contentions. *See* Pet. 13. These side-by-side figures are reproduced below.



Colorized Figure 12 of the '167 Patent, above left, is a perspective view of a rotary-to-linear lifter (i.e., the Petitioner-identified corresponding structure for the “lifter” means-plus-function claim element). *See* Ex. 1001, 6:1–3; Pet. 12–13. The depicted lifter includes rotatable cam lifter 100 (yellow), with pins 104, 106, and 108 (green) on its face surface that engage protrusions 92 (blue) on driver member 90 (orange.) Pet. 12–13 (citing Ex. 1001, 9:36–52, 16:39–53, Fig. 12.)

Colorized Figures 4A–D of Lai, above right, are schematic side views illustrating the operation of Lai’s transmission mechanism. Ex. 1005, 1:53–54. These figures depict Lai’s rotatable cam 5 (yellow), with pins 52A and 52B (green) on its face surface that engage two protrusions 64 and 65 (blue) from a U-shaped member 61 on hammer 6 (orange). Pet. 13 (citing

Ex. 1005, 1:62–63, 2:14–25, Figs. 4A–D). Petitioner contends that these structures constitute a “lifter” of the type recited in limitation 1.4, and are “essentially identical” to the structure of the lifter described in the ’167 Patent. Pet. 12–13. Petitioner also contends that Lai’s motor 3, which moves Lai’s rotatable cam, is a prime mover of the type recited in limitation 1.4. *Id.* at 19 (citing Ex. 1005, 2:14–16, Fig. 2). Petitioner further contends that Lai’s battery 2 is a “source of electrical energy” of the type recited in limitation 1.6. *Id.* (citing Ex. 1005, Figs. 1–2, 1:25–35, 1:44–54, 1:60–62, 2:2; Ex. 1003 ¶ 66).

Patent Owner argues that Lai’s transmission mechanism is “decidedly *not* identical” to the structure that Petitioner identifies as corresponding to the “lifter” claim limitation. Prelim. Resp. 19. We agree that these structures are not identical. But on this record, they appear, at least preliminarily, to be equivalent. As Petitioner explains, both structures utilize a rotatable cam with pins to translate a driver (driver member 90 of the ’167 Patent and hammer 6 of Lai) into a position where the driver is ready for use. *See* Pet. 12–15. Patent Owner does not otherwise contest Petitioner’s showing that Lai teaches or suggests the subject matter set forth in limitations 1.4, 1.5, and 1.6, and we find Petitioner has made a sufficient showing that Lai does so.

Petitioner also cites testimony from Dr. Vallee providing a detailed explanation for why one of ordinary skill in the art would have had reason to incorporate Lai’s transmission mechanism, motor, and power source into Haley’s portable fastener driving tool. In the cited testimony, Dr. Vallee details the way in which driving tools evolved from Haley’s relatively cumbersome hydraulic nail gun to Lai’s portable electric stapler. *See* Ex. 1003 ¶¶ 57–63. He also explains why developments like Lai’s

electrically driven cam drive appeared first in low-power staple guns, and would later be applied to higher-power nail guns. *Id.* ¶ 58 (citing Ex. 1006, 4:1–3; Ex. 1011 ¶ 48). According to Dr. Vallee, an ordinarily skilled artisan “would look to Lai’s portable stapler design for improvements to incorporate into nailers such as Haley’s nail gun.” *Id.*

Dr. Vallee further opines that an ordinarily skilled artisan would have had reason to replace Haley’s hydraulic lifting mechanism with Lai’s lifter member because:

Haley’s hydraulic lifting mechanism is bulky and subject to the risk of hydraulic fluid leaking into the compressed gas chambers. This problem was explicitly discussed less than a decade later in U.S. Patent No. 3,636,707 (Ex. 1012), which explained that “[t]he Haley devices are cumbersome, too heavy for prolonged use by an operator and subject to comingling of the noncompressible fluid with the compressible fluid or gas resulting in malfunctioning of the devices as well as having too long a time cycle between operative strokes thereof.” Ex. 1012, 1:12–16.

Ex. 1003 ¶ 59.

Dr. Vallee additionally describes market trends that predate the filing of the ’167 Patent away from bulky pneumatic and hydraulic lifting mechanisms, and toward electrically powered mechanical lifting mechanisms. *Id.* ¶ 60 (citing Ex. 1006; Ex. 1012, 5:20–28, Ex. 1010, 1:27–30, 1:56–58). He next explains how Lai further refined prior art electrically driven mechanical lifting mechanisms. *Id.* ¶ 61 (citing Ex. 1005, cover page, 1:9–10, 2:26–45). Dr. Vallee then opines that one of ordinary skill in the art

would have solved Haley’s problem by incorporating Lai’s lifter member. Lai was a known solution to Haley’s identified problem of being bulky (solved by Lai’s use of a compact mechanical lifter member rather than a bulky hydraulic lifting mechanism, as

well as due to Lai's improved design for its specific mechanical lifter member) and Haley's identified problem of being subject to the risk of hydraulic fluid leaking (solved by Lai's use of a mechanical lifter member rather than a hydraulic lifting mechanism).

Ex. 1003 ¶ 62. He goes on to explain that one skilled in the art would have had a reasonable expectation of success in making such a modification. *Id.* Dr. Vallee additionally testifies that one of ordinary skill would have been motivated by market forces and design needs "to replace Haley's hydraulic lifting mechanism with Lai's lifter." *Id.* ¶ 6 (citing Ex. 1010, 1:6–31, 1:21–26; Ex. 1008, 1:9–44; Ex. 1009 ¶¶ 3–19).

Patent Owner does not dispute Dr. Vallee's testimony regarding the motivation for replacing Haley's hydraulic lifting mechanism with Lai's electric mechanism, or that one of ordinary skill in the art would have had a reasonable expectation of success in so doing. *See generally* Prelim. Resp.

On this record, we find that Petitioner has made a sufficient showing with respect to limitations 1.4, 1.5, and 1.6.

Limitation 1.7

Limitation 1.7 recites "said storage chamber being in fluidic communication with a first end of said hollow cylinder." Ex. 1001, 39:13–15. Petitioner contends that Haley's chamber 85 (the recited "storage chamber") is in fluidic communication with the first end of Haley's extension cylinder 76 (the "hollow cylinder"). Pet. 20.

Patent Owner does not dispute Petitioner's contention that Haley describes the subject matter of this limitation, and we find that Petitioner has made a sufficient showing regarding this limitation.

Limitation 1.8

Limitation 1.8 recites “said storage chamber including a removable top cap at a location proximal to said first end of said hollow cylinder.” Ex. 1001, 39:16–18. Petitioner contends that Haley’s elongate accumulator shell 83 satisfies this limitation. Pet. 21 (citing Ex. 1004, 3:40–45, Fig. 1; Ex. 1003 ¶ 68).

Other than arguing that Petitioner is somehow relying on an inconsistent implicit claim construction of this term (an argument we reject for reasons stated above), Patent Owner does not dispute Petitioner’s showing that Haley describes the subject matter of this limitation. We find that Petitioner has made a sufficient showing with respect to this limitation.

Limitation 1.9

Limitation 1.9 recites “wherein: said piston travels through said hollow cylinder between a higher pressure position and a lower pressure position; said piston has a rest position between operational cycles; and a location of said rest position is proximal to said higher pressure position.” Ex. 1001, 39:19–24. Petitioner contends that Haley’s accumulator piston 71 travels through extension cylinder 76 (the hollow cylinder) between higher and lower pressure positions. Pet. 21–22 (citing Ex. 1004, Figs. 1, 3, 5:22–23, 5:70–6:7, 6:13–14, 7:4–10; Ex. 1003 ¶¶ 70–71).

Patent Owner does not dispute Petitioner’s contention that Haley describes the subject matter of this limitation, and we find that Petitioner has made a sufficient showing with respect to this limitation.

Limitation 1.10

Limitation 1.10 recites “said pressurized gas is not vented to atmosphere after said drive stroke.” Ex. 1001, 39:25–26. Petitioner contends that the pressurized gas within Haley’s chamber 85 is reused, and

is not vented to the atmosphere after a drive stroke. Pet. 23 (citing Ex. 1004, Fig. 1, 3:40–47; Ex. 1003 ¶ 72).

Patent Owner does not dispute Petitioner’s contention that Haley describes the subject matter of this limitation, and we find that Petitioner has made a sufficient showing with respect to this limitation.

Conclusion Regarding Claim 1

For the reasons set forth above, we find that Petitioner has demonstrated a reasonable likelihood of proving that claim 1 is unpatentable as obvious over Haley and Lai.

b) Independent Claims 6 and 10

Independent claim 6 is similar to claim 1, but also recites “a removable magazine that holds a plurality of fasteners” and that “said removable magazine is attached proximal to an exit end of said guide body, wherein said magazine extends past said removable battery pack.” Ex. 1001, 39:46–40:3. Petitioner contends that one of ordinary skill in the art would have combined Haley and Lai in a manner that would have satisfied these additional limitations, and supports its contentions with testimony from Dr. Vallee. *See* Pet. 32–34 (citing Ex. 1003 ¶¶ 87–91).

Patent Owner does not contest Petitioner’s showings that Haley and Lai teach or suggest the subject matter recited in claim 6, or that an ordinarily skilled artisan would have had reason to combine Haley and Lai in the manner described in the Petition. We find Petitioner has demonstrated a reasonable likelihood of proving that claim 6 is unpatentable as obvious over Haley and Lai.

Independent claim 10 is similar to claim 1, but also recites “a guide body that is located proximal to said hollow cylinder, and having a linear passageway for said driver, and having an exit end that is located distal from

said hollow cylinder” and “a safety contact element proximal to said exit end, said safety contact element being disposed at a front portion of the tool, above said guide body.” *Id.* at 40:22–42. Petitioner contends that one of ordinary skill in the art would have combined Haley and Lai in a manner that would have satisfied these additional limitations, and supports its contentions with testimony from Dr. Vallee. *See* Pet. 35–37 (citing Ex. 1003 ¶¶ 100–101).

Patent Owner argues that Petitioner’s contentions improperly identify the same structure in Haley as satisfying both the “guide body” and “safety contact element” claim limitations. *See* Prelim. Resp. 27–28. This argument is not persuasive because, as discussed above, “it is well established that a single structure . . . may satisfy two different claim limitations” in the absence of evidence that the claims require two different structures. *Becton, Dickinson*, 616 F.3d at 1264. Patent Owner also argues that Petitioner has impermissibly relied on prior art that is not part of its stated grounds with respect to the “safety contact element” limitation. *See* Prelim. Resp. 34–35. In Ground 1, however, Petitioner explicitly contends that Haley discloses this limitation of claim 10. *See* Pet. 36–37. Thus, this argument is not persuasive, at least not with respect to Ground 1.

Patent Owner does not otherwise contest Petitioner’s showings that Haley and Lai teach or suggest the subject matter recited in claim 10, or that an ordinarily skilled artisan would have had reason to combine Haley and Lai in the manner described in the Petition. We find Petitioner has also demonstrated a reasonable likelihood of proving that claim 10 is unpatentable as obvious over Haley and Lai.

c) Dependent Claims 2–5, 7–9, and 11–15

Petitioner contends that dependent claims 2–5, 7–9, and 11–15 would have been obvious over Haley and Lai and supports its contentions with testimony from Dr. Vallee. Pet. 24–31, 35, 38–40 (citing Ex. 1003 ¶¶ 74, 77, 87, 88, 94, 95, 103, 106). Patent Owner does not raise any additional arguments concerning these dependent claims.

We find Petitioner has demonstrated a reasonable likelihood of proving that claims 2–5, 7–9, and 11–15 are unpatentable as obvious over Haley and Lai.

2. Grounds 2–4

Petitioner sets forth three other challenges that claims 1–15 are unpatentable as obvious over other prior art. We need not fully address these challenges to determine whether to institute review. Other than our preliminary thoughts on the meaning of “not exhausted to atmosphere” expressed above, which are relevant to Petitioner’s challenge based on Kondo, we express no opinion on the strength or weakness of those challenges at this stage of the proceeding.

III. CONCLUSION

For the reasons discussed above, Petitioner has shown a reasonable likelihood it will succeed in demonstrating that claims 1–15 of the ’167 Patent are unpatentable under 35 U.S.C. § 103(a). We, therefore, institute an *inter partes* review as to claims 1–15 on all grounds set forth in the Petition. 35 U.S.C. § 314(a); 37 C.F.R. § 42.108(a).

This Decision does not reflect a final determination on the patentability of any claim. We further note that the burden remains on Petitioner to prove unpatentability of each challenged claim. *Dynamic*

Drinkware, LLC v. Nat'l Graphics, Inc., 800 F.3d 1375, 1378 (Fed. Cir. 2015).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED, pursuant to 35 U.S.C. § 314(a), that an *inter partes* review of claims 1–15 of U.S. Patent No. 11,845,167 B2 is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), that this *inter partes* review shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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FOR PETITIONER:

Amol A. Parikh
Alexander P. Ott
MCDERMOTT WILL & EMERY LLP
amparikh@mwe.com
aott@mwe.com

FOR PATENT OWNER:

Robert S. Rigg
Daniel H. Shulman
VEDDER PRICE
rrigg@vedderprice.com
dshulman@vedderprice.com

Russell F. Gribbell
GRIBBELL LAW FIRM, LLC
russell@gribbelllaw.com