

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HARBOR FREIGHT TOOLS USA, INC.,
GENERAC POWER SYSTEMS, INC., and
MWE INVESTMENTS, LLC,
Petitioner,

v.

CHAMPION POWER EQUIPMENT, INC.,
Patent Owner.

IPR2025-00951
Patent 10,598,101 B2

Before JON M. JURGOVAN, SCOTT C. MOORE, and
ERIC C. JESCHKE, *Administrative Patent Judges*.

JESCHKE, *Administrative Patent Judge*.

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

I. BACKGROUND

Harbor Freight Tools USA, Inc., Generac Power Systems, Inc., and MWE Investments, LLC (collectively, “Petitioner”) filed a Petition to institute *inter partes* review of claims 1–19 of U.S. Patent No. 10,598,101 B2 (Ex. 1001, “the challenged patent”). Paper 4 (“Pet.”). Champion Power Equipment, Inc. (“Patent Owner”) timely filed a Preliminary Response. Paper 13 (“Prelim. Resp.”). With our authorization (Ex. 3002), Petitioner filed a Preliminary Reply (Paper 19, “Prelim. Reply”) and Patent Owner filed a Preliminary Sur-reply (Paper 20, “Prelim. Sur-reply”).

Under the process at the filing of the Petition, decisions on whether to institute post-grant review were bifurcated between (1) discretionary considerations and (2) merits and other non-discretionary considerations. *See* Memorandum from Coke Morgan Stewart to All PTAB Judges (Mar. 26, 2025), *available at* <https://www.uspto.gov/sites/default/files/documents/InterimProcesses-PTABWorkloadMgmt-20250326.pdf> (“Interim Process Memo”) at 1. Patent Owner argued for discretionary denial (Paper 8), and Petitioner opposed (Paper 12). After review, the Acting Director declined to deny *inter partes* review based on discretionary considerations and referred the proceeding to this panel. Paper 18.

The Board has authority to determine whether to institute *inter partes* review. *See* 35 U.S.C. § 314; 37 C.F.R. § 42.4(a) (2024) (“The Board institutes the trial on behalf of the Director.”). *Inter partes* review may not be instituted “unless . . . 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. Upon consideration of the evidence and arguments in the record, for

the reasons below, we determine that the information presented shows a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims. We thus institute *inter partes* review on all challenged claims on all asserted grounds. *See SAS Inst. Inc. v. Iancu*, 584 U.S. 357, 362–63, 369–70 (2018); 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.”).

A. Related Proceedings

The parties identify numerous district court litigations and Board proceedings involving the challenged patent and/or several allegedly related patents. *See* Pet. 82–83; Paper 5 (Patent Owner’s Mandatory Notices) at 2; Paper 16 (Patent Owner’s Updated Mandatory Notices) at 2–3; Paper 21 (Patent Owner’s Updated Mandatory Notices) at 2–3. The table below summarizes the related proceedings (and includes this proceeding).

	US 10,221,780	US 10,393,034	Challenged Patent	US 10,697,398	US 11,143,120	US 11,143,145	US 11,306,667	US 11,492,985	US 11,530,654	US 11,761,390	US 11,840,970	US 11,905,895	US 11,905,896
<i>Champion Power Equip. Inc. v. Firman Power Equip. Inc.</i> , No. 23-cv-02371-DWL (D. Ariz.), filed Nov. 10, 2023	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Champion Power Equip. Inc. v. Generac Power Sys. Inc.</i> , No. 24-cv-01281-LA (E.D. Wis.), filed Oct. 9, 2024	X		X	X	X	X	X	X	X		X	X	X

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<i>Harbor Freight Tools USA, Inc. v. Champion Power Equip., Inc.</i> , No. 24-cv-08722-SVW (C.D. Cal.), filed Oct. 9, 2024 ¹	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Champion Power Equip. Inc. v. Harbor Freight Tools USA Inc.</i> , No. 24-cv-01302-PP (E.D. Wis.), dismissed April 29, 2025	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Champion Power Equip., Inc. v. Westinghouse Elec. Corp.</i> , No. 25-cv-00239-ART-CLB (D. Nev.), filed May 14, 2025	X	X	X	X	X	X	X	X				X	X
IPR2025-00805 (PTAB)		X											
IPR2025-00951 (PTAB)			X										
IPR2025-01099 (PTAB)							X						
IPR2025-01121 (PTAB)					X								
IPR2025-01185 (PTAB)	X												
IPR2025-01228 (PTAB)													X
IPR2025-01271 (PTAB)				X									
IPR2025-01272 (PTAB)								X					
IPR2025-01384 (PTAB)												X	
IPR2025-01423 (PTAB)									X				
IPR2025-01438 (PTAB)										X			
IPR2025-01457 (PTAB)						X							
IPR2025-01463 (PTAB)											X		

B. The Challenged Patent

The challenged patent relates to “a selector switch for use on a dual fuel generator that is configured to ensure that only one type of fuel may be in use at a given time in the generator.” Ex. 1001, 1:14–17. According to the challenged patent, in the then-available systems, it was “possible for both [fuel] valves to be in the ‘on’ position, which can lead to a potentially unsafe condition resulting from the mixture of the fuels.” *Id.* at 1:47–50.

¹ We will refer to this as the “California Litigation.”

Figure 1 is reproduced below:

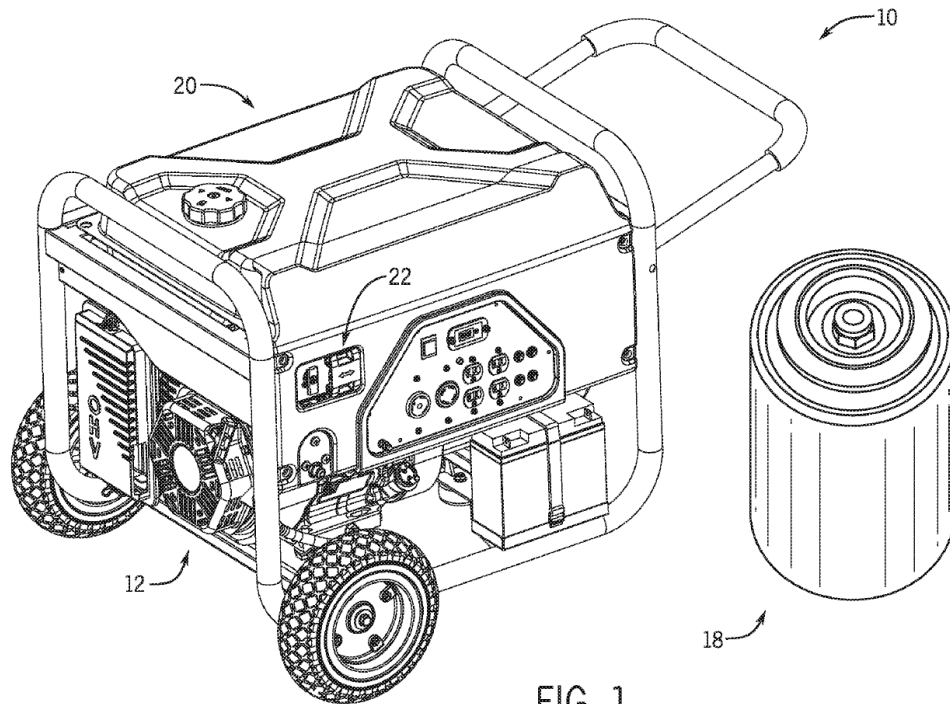


FIG. 1

Figure 1 depicts a perspective view of a dual-fuel generator. *See* Ex. 1001, 3:2–3. Depicted dual-fuel generator 10 (which includes dual-fuel internal combustion engine 12) is coupled to two fuel sources, 18 and 20. *See id.* at 3:27–29, 3:43–45. As shown, “first fuel source 18 supplies a liquified petroleum gas (LPG) to the engine 12 and a second fuel source 20 supplies gasoline to the engine 12, with the generator 10 selectively operating on LPG or gasoline as desired and controlled by an operator.”² *Id.* at 3:46–53. This embodiment also includes fuel selector 22, which “not only provides for selection of a desired fuel source 18, 20 for supplying fuel to engine 12, but also selectively restricts the selection of a fuel source so as to enable the use of only one fuel at a time.” *Id.* at 3:60–67.

² In this Decision, we omit emphasis on reference numerals and claim numbers in quotations from the challenged patent and prior art references.

Figures 3 and 4 are reproduced below:

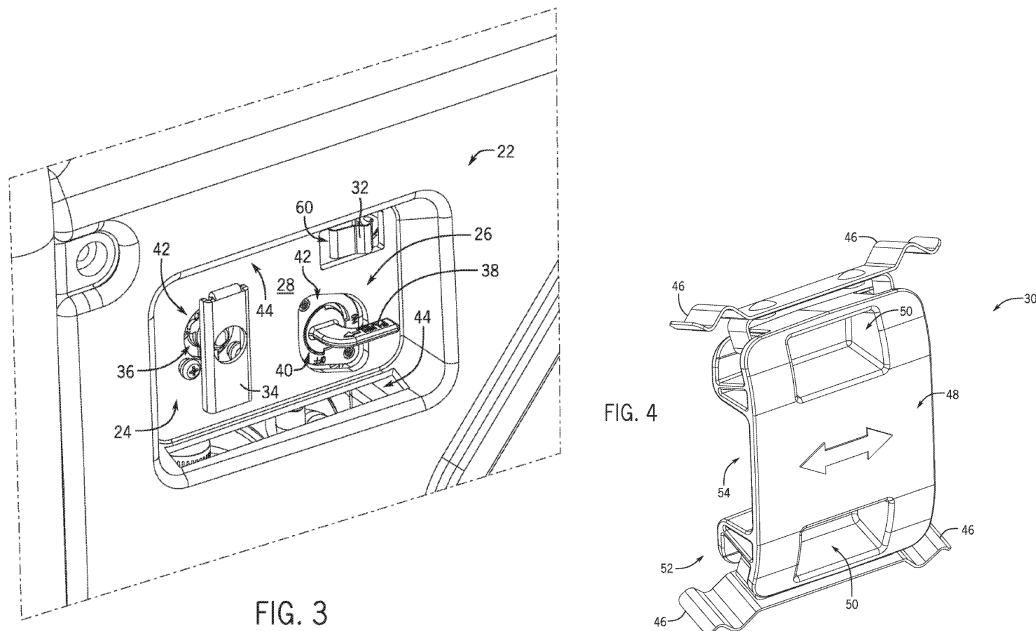
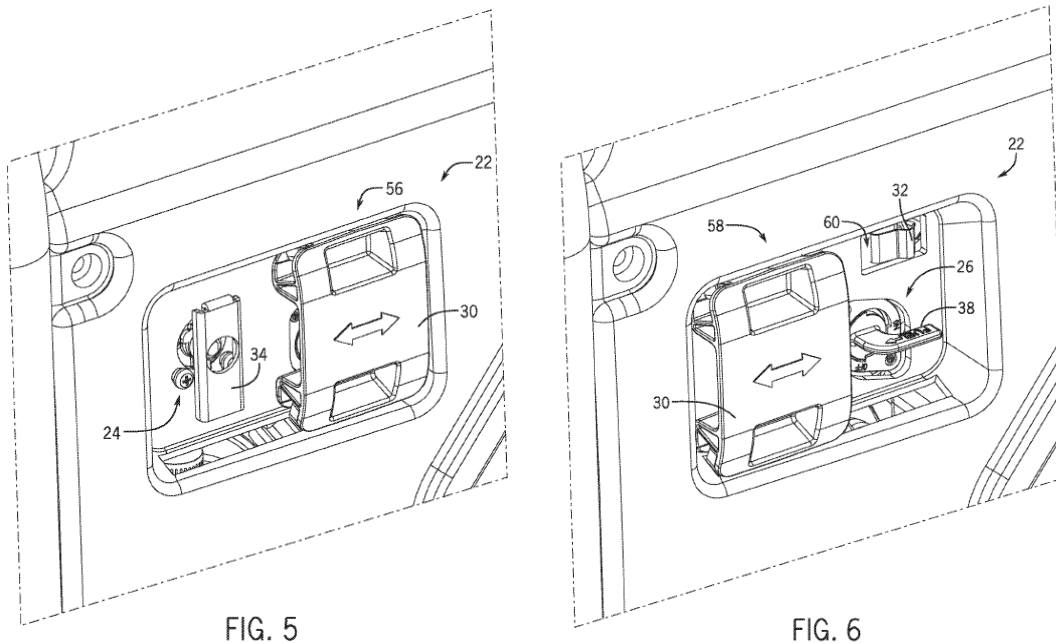


Figure 3 is a front perspective view of a fuel selector for use with the dual-fuel generator in Figure 1, and Figure 4 is a front perspective view of a selector switch for use in the fuel selector in Figure 3. Ex. 1001, 3:6–11. Depicted fuel selector 22 includes first valve assembly 24 (left, Fig. 3), second valve assembly 26 (right, Fig. 3), selector plate 28 (Fig. 3), selector switch 30 (Fig. 4), and carburetor solenoid switch 32 (Fig. 3). *See id.* at 4:6–9. First valve assembly 24 includes first fuel valve handle 34, operatively connected to a first fuel valve 36 whereas second valve assembly 26 includes second fuel valve handle 38, operatively connected to second fuel valve 40. *Id.* at 4:24–30. In Figure 3, first fuel valve handle 34 is in the “ON” position, thereby allowing the first fuel to flow to the engine, whereas second fuel valve handle 38 is in the “OFF” position, not allowing the second fuel to flow to the engine. *Id.* at 4:31–67. When assembled (as shown below), protrusions 46 in selector switch 30 (Fig. 4) mate with corresponding slots 44 in selector plate 28. *See id.* at 5:25–28.

Figures 5 and 6 are reproduced below:



These two figures are front perspective views of the fuel selector with the selector switch in a first position (Fig. 5) and a second position (Fig. 6). Ex. 1001, 3:13–18. Selector switch 30 is translatable in horizontal motion—by sliding in slots 44—from the first position to the second position to selectively restrict actuation of second valve handle 38 (covered by selector switch 30 in Fig. 5) or first valve handle 34 (covered by selector switch 30 in Fig. 6). *See id.* at 5:51–55. When selector switch 30 is in the first position (Fig. 5), second valve handle 38 must be in the OFF position (based on the configuration of groove 54 on selector switch 30), but first valve handle 34 may be in either the ON position (shown) or the OFF position. *See id.* at 5:63–6:18.

To move selector switch 30 from the first position (Fig. 5) to the second position (Fig. 6), both first valve handle 34 and second valve handle 38 must be in the OFF position. Ex. 1001, 5:56–62. When selector switch 30 is in the second position (Fig. 6), first valve handle 34 must be in

the OFF position, but second valve handle 38 may be in either the OFF position (shown) or the ON position. *See id.* at 5:63–6:18. The challenged patent discloses that the design of the fuel selector and selector switch “prevents differing fuels from two separate fuel sources from flowing to the engine . . . at the same time.” *Id.* at 6:63–66.

C. The Challenged Claims

Petitioner challenges claims 1–19, of which claims 1, 10, 17, and 18 are independent. Claims 2–9 depend from claim 1, claims 11–16 depend from claim 10, and claim 19 depends from claim 18. Independent claim 1 is reproduced below, reformatted from the version provided in the challenged patent and with bracketed labels added to identify each clause:

1. [1.0] A fuel selector for use with a dual fuel generator, the fuel selector comprising:

[1.1] a valve assembly fluidly connected to each of a first fuel source and a second fuel source, the valve assembly being operable to selectively control a first fuel flow and a second fuel flow from the first fuel source and the second fuel source, respectively, to an engine of the dual fuel generator; and

[1.2] a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow;

[1.3] wherein the valve assembly comprises:

a first fuel valve having open and closed positions to selectively control the first fuel flow to the engine; and

a second fuel valve having open and closed positions to selectively control the second fuel flow to the engine; and

[1.4] wherein the first fuel valve and the second fuel valve are mechanical valves.

Ex. 1001, 8:24–43.³

D. Asserted Grounds of Unpatentability

Petitioner challenges claims 1–19 on the following grounds:

Claim(s) Challenged	35 U.S.C. §⁴	Reference(s)/Basis
1–5, 8–16, 18, 19	103	DuroMax, ⁵ De Vries ⁶
1–19	103	DuroMax, De Vries, Nakafushi, ⁷ Olmr ⁸
1–4, 9–14, 18, 19	102(a)	Fujisawa ⁹
1–4, 8–14, 16, 18, 19	103	Fujisawa, DuroMax

³ We adopt and apply below Petitioner’s labels for the elements of the challenged claims. *See* Pet. xii–xvi (showing labels for the language in the challenged claims).

⁴ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102, 103 that became effective on March 16, 2013. Pub. L. No. 112-29, §§ 3(b)–3(c), 3(n)(1), 125 Stat. 284, 285–87, 293 (2011). Because there is no dispute that the challenged claims have effective filing dates after March 16, 2013, we apply the AIA versions of the statutes. We would reach the same outcome, however, under the pre-AIA versions.

⁵ DuroMax Power Equipment, *Dual-Fuel Hybrid Elite XP4400EH* (Ex. 1006, “DuroMax”).

⁶ United States Patent US 7,481,087 B2, issued January 27, 2009 (Ex. 1011, “De Vries”).

⁷ Japan Patent Office Publication S61-283734, published December 13, 1986 (Ex. 1008 (Japanese version) and Ex. 1009 (translation with certification), “Nakafushi”).

⁸ United States Patent US 5,301,644, issued April 12, 1994 (Ex. 1007, “Olmr”).

⁹ Japan Patent Office Publication 2005-330867, published December 2, 2005 (Ex. 1004 (Japanese version) and Ex. 1005 (translation with certification), “Fujisawa”).

Claim(s) Challenged	35 U.S.C. § ⁴	Reference(s)/Basis
1–4, 6–14, 16–19	103	Fujisawa, DuroMax, Nakafushi, Olmr

Petitioner supports its challenges with a declaration from Dr. Eric S. Winkel. Ex. 1003 (“Winkel Decl.”).

II. DISCUSSION

A. The Level of Ordinary Skill in the Art

The level of ordinary 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 person of ordinary skill in the art is a hypothetical person presumed to have known the relevant prior art. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In determining the level of ordinary skill in the art, we may consider certain factors, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *Id.* (internal quotation marks and citation omitted).

Petitioner contends, with accompanying declaration testimony, that a person of ordinary skill in the art at the time of the invention would have had “a college degree in mechanical engineering, physics, or related fields, and three years of work experience in combustion engines operating on various fuel sources.” Pet. 14; Winkel Decl. ¶¶ 105–106. According to Petitioner, “[a]dditional higher graduate education could substitute for work experience, and additional work experience/training could substitute for formal education.” *Id.*

Patent Owner responds (without accompanying declaration testimony) that one of ordinary skill in the art would have had “a four-year degree in mechanical engineering or a closely related field and at least one year of experience designing, developing, servicing, or operating fuel-powered machinery” and that “[a]dditional education could substitute for professional experience and significant work experience—such as working with, servicing, or operating such machinery in the field—could substitute for formal education.” Prelim. Resp. 10. According to Patent Owner, Petitioner’s definition is “deficient” in that “Petitioner has failed to support its contention that an undergraduate physics degree is pertinent to the Challenged Claims, or that three years of work experience in combustion engines operating on various fuel sources is necessary, particularly where the Challenged Claims recite fuel selectors, *not* combustion engines.” *Id.*

For purposes of this Decision, we adopt the definition of the level of ordinary skill in the art proposed by Petitioner. As to the inclusion of physics in Petitioner’s definition, Patent Owner acknowledges that an undergraduate mechanical engineering degree holder would have the requisite knowledge here but does not adequately explain why an undergraduate physics degree holder would not. In addition, Patent Owner requires “a four-year degree in mechanical engineering *or a closely related field*,” but fails to identify what fields are “closely related.” *See* Prelim. Resp. 10 (emphasis added). Based on the Winkel Declaration, we are persuaded at this stage that a hypothetical undergraduate physics degree holder would have had adequate knowledge for one of ordinary skill in the art of the invention here. *See* Winkel Decl. ¶ 106.

As to the requisite years of experience proposed in the definitions—three for Petitioner versus “at least one” for Patent Owner—we note that Patent Owner’s definition is broader than, but includes, Petitioner’s definition. Moreover, for both the inclusion of physics and the years of experience issues, Patent Owner acknowledges that the arguments in the Preliminary Response “are not impacted based on which definition is applied.” Prelim. Resp. 10. Further, Patent Owner does not argue at this stage that Petitioner’s proposal for the level of ordinary skill leads to an improper understanding of how a skilled artisan would have understood either the challenged patent or the prior art.

B. Claim Construction

In *inter partes* reviews, the Board interprets claim language using the same claim construction standard that would be used in a civil action under 35 U.S.C. § 282(b), as described in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See* 37 C.F.R. § 42.100(b). Under that standard, we generally give claim terms their ordinary and customary meaning, as would be understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1313–14. Although extrinsic evidence, when available, may also be useful when construing claim terms under this standard, extrinsic evidence should be considered in the context of the intrinsic evidence. *See id.* at 1317–19.

Petitioner (1) proposes a construction for “selector switch” (recited in at least independent claims 1, 17, and 18), (2) proposes a construction for “valve assembly” (recited in at least independent claims 1, 10, 17, and 18), and (3) argues that Patent Owner has construed “selector switch” and “valve

assembly” incorrectly in the related district court litigations (*see* § I.A). *See* Pet. 21–33; Prelim. Reply 1–5. Patent Owner responds and raises another claim construction issue as to arguments allegedly made by Petitioner in the related litigations. *See* Prelim. Resp. 11–13; Prelim. Sur-reply 1–5. We discuss each issue below.

1. “selector switch” (claims 1, 17, and 18)

Petitioner contends that “selector switch” should be construed as “a movable component whose positioning enables subsequent user selection of only one fuel source.” Pet. 22–25 (citing Winkel Decl. ¶¶ 80–86).

According to Petitioner, the phrase “selector switch” does not use the ordinary and customary meaning of “switch,” but rather, the challenged patent describes a device that is selectively positioned to physically enable the subsequent actuation of only one fuel valve at a time. *See* Pet. 23 (citing Ex. 1001, 6:11–41). Petitioner argues that one of ordinary skill in the art would have known that the intrinsic evidence “provides a special definition of “selector switch.”” Pet. 24–25 (citing Ex. 1001, 3:63–67, 5:22–42, 5:51–55, 6:66–7:4, Fig. 4; Winkel Decl. ¶¶ 83–86).

Patent Owner states it “applies the plain and ordinary meaning of each claim limitation which is addressed,” but Patent Owner does not allege error in Petitioner’s construction of “selector switch.” Prelim. Resp. 11–12. Instead, as will be discussed in detail below (*see infra* § II.C.3.b), Patent Owner disputes Petitioner’s *application of its proposed construction*, asserting that the proposed construction requires “a single component” (Prelim. Resp. 25). Patent Owner notes that Petitioner’s proposed construction “mirrors the constructions applied by Petitioner in district

court.” *Id.* at 11 (citing Ex. 2095 (Petitioner’s preliminary proposed constructions in the California Litigation) at 4).

At this stage of the proceeding and on the current record, we need not and do not explicitly construe the phrase “selector switch.” *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

Although we do not expressly adopt Petitioner’s proposed construction at this stage of the proceeding, we note that it at least generally aligns with the *tentative* claim construction issued by the United States District Court in the California Litigation: “**Mechanical device whose positioning precludes simultaneous access to two fuels.**” Ex. 3003¹⁰ at 2; *see also* 37 C.F.R.

§ 42.100(b) (“Any prior claim construction determination concerning a term of the claim in a civil action, or a proceeding before the International Trade Commission, that is timely made of record in the *inter partes* review proceeding will be considered.”); Memorandum from Acting Director Coke Morgan Stewart to Members of the Patent Trial and Appeal Board (Sept. 15, 2025), *available at* https://www.uspto.gov/sites/default/files/documents/Memo_re_prior_findings_of_fact_and_conclusions_of_law_9_16_25.pdf (“Prior Determinations Memo”) (discussing PTAB consideration of prior findings of fact and conclusions of law). We also note that Patent Owner

¹⁰ *See* Civil Minutes – General (Order Giving Leave for Parties to File Supplemental Briefing on Tentative Claim Constructions), *Harbor Freight Tools USA, Inc. v. Champion Power Equip., Inc.*, No. 24-cv-08722-SVW (C.D. Cal. Oct. 15, 2025), ECF No. 98.

does not directly address or contest the intrinsic evidence and declarant testimony provided by Petitioner (Pet. 22–25; Winkel Decl. ¶¶ 79–86) in support of Petitioner’s proposed construction of “selector switch.”

2. “valve assembly” (claims 1, 10, 17, and 18)

Petitioner proposes to construe “valve assembly” as “having at least one fuel valve and corresponding valve handle” and “being separate from the selector switch.” Pet. 31; *see* Pet. 25–31 (citing Winkel Decl. ¶¶ 88–97).

Patent Owner again states it “applies the plain and ordinary meaning of each claim limitation which is addressed,” and Patent Owner notes that Petitioner’s proposed construction “mirrors the constructions applied by Petitioner in district court.” Prelim. Resp. 11 (citing Ex. 2095 at 4). At this stage of the proceeding and on the current record, we need not explicitly construe “valve assembly” to determine whether to institute. *See Realtime Data*, 912 F.3d at 1375.

3. *Patent Owner’s Alleged Incorrect Constructions in the Related Litigations*

Petitioner asserts that Patent Owner has construed “selector switch” and “valve assembly” incorrectly in the related litigations. *See* Pet. 32–33. Petitioner adds that, although “Patent Owner’s apparent constructions are wrong,” Petitioner applies those “apparent constructions” in the Fujisawa-based grounds in the Petition here. Pet. 33.

Patent Owner does not respond to these arguments. As discussed below, because we determine that the Petition shows a reasonable likelihood that Petitioner would prevail in demonstrating that claim 1 would have been obvious based on DuroMax and De Vries, we do not address Petitioner’s grounds allegedly applying Patent Owner’s constructions from the related litigations. *See* §§ II.C.3.c; II.C.4.

4. *Petitioner's Alleged Indefiniteness Arguments in the California Litigation*

Patent Owner argues that the Petition should be denied because Petitioner allegedly identified “selector switch” as indefinite under 35 U.S.C. § 112(b) in the California Litigation, but Petitioner has not taken that position here. *See* Prelim. Resp. 12–13. According to Patent Owner, the Board’s informative decision in *Cambridge Mobile Telematics, Inc. v. Sfara, Inc.*, IPR2024-00952, Paper 12 (PTAB Dec. 13, 2024), supports denial. *See* Prelim. Resp. 12–13.

We disagree with Patent Owner. As a first independent basis to reject this argument, Patent Owner fails to provide any citations to Petitioner’s alleged indefiniteness arguments in the California Litigation. *See* Prelim. Resp. 12–13. As a second independent basis, the decision in *Cambridge Mobile* does not support denial even assuming as true the facts alleged by Patent Owner. As an initial matter, an informative decision (such as *Cambridge Mobile*) is not binding authority. *See* Standard Operating Procedure 2 (Revision 11) (Designation or De-Designation of Decisions as Precedential or Informative)¹¹ at 7 (“Informative decisions set forth Board norms that should be followed in most cases, absent justification, although *an informative decision is not binding authority on the Board.*”). Further, the facts in *Cambridge Mobile* differ from even those alleged here. There, the panel determined that the petitioner did not satisfy 37 C.F.R. § 42.104(b)(3) when the petitioner failed to provide a construction at the Board for claim phrases argued in district court litigation to be (1) means-

¹¹ Available at https://www.uspto.gov/sites/default/files/documents/20230724_ptab_sop2_rev11_.pdf.

plus-function limitations under 35 U.S.C. § 112(f) and (2) indefinite for failure to identify corresponding structure to perform the recited functions. *See Cambridge Mobile*, Paper 12 at 6–9. In the analysis, the panel noted the *express* requirement in Rule 104(b)(3) to construe means-plus-function limitations and highlighted how the petitioner characterized the construction of those limitations as a “dispositive issue” in the district court but failed to even address the issue at the Board. *See id.* at 5–8 (quoting 37 C.F.R. § 42.104(b)(3)); 37 C.F.R. § 42.104(b)(3) (“How the challenged claim is to be construed. Where the claim to be construed contains a means-plus-function or step-plus-function limitation as permitted under 35 U.S.C. [§] 112(f), 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”). In contrast, here, neither party has raised the issue of means-plus-function limitations. For these reasons, we do not deny institution based on this argument.

C. Asserted Obviousness of Claims 1–5, 8–16, 18, and 19 Based on DuroMax and De Vries

Petitioner asserts that claims 1–5, 8–16, 18, and 19 of the challenged patent would have been obvious based on DuroMax and De Vries. Pet. 3, 33–47. Patent Owner provides arguments addressing this asserted ground. Prelim. Resp. 20–28. We first summarize aspects of the prior art.

1. Overview of DuroMax

DuroMax discloses a dual-fuel generator that can alternatively run on either gasoline or LPG. *See Ex. 1006* at 8–13. DuroMax provides instructions for starting the generator with gasoline (*id.* at 11) and instructions for starting the generator with LPG (*id.* at 12). Under a

“CAUTION” marking, Duromax states, **“When using gasoline, LPG must be shut off! When using LPG, gasoline must be shut off!”** *Id.* at 11.

2. Overview of De Vries

De Vries discloses an interlock system applied to “two closing valves in liquid and/or gas pipelines of a petrochemical plant.” Ex. 1011, 5:25–27.

Figures 1A through 1C of De Vries are reproduced below:

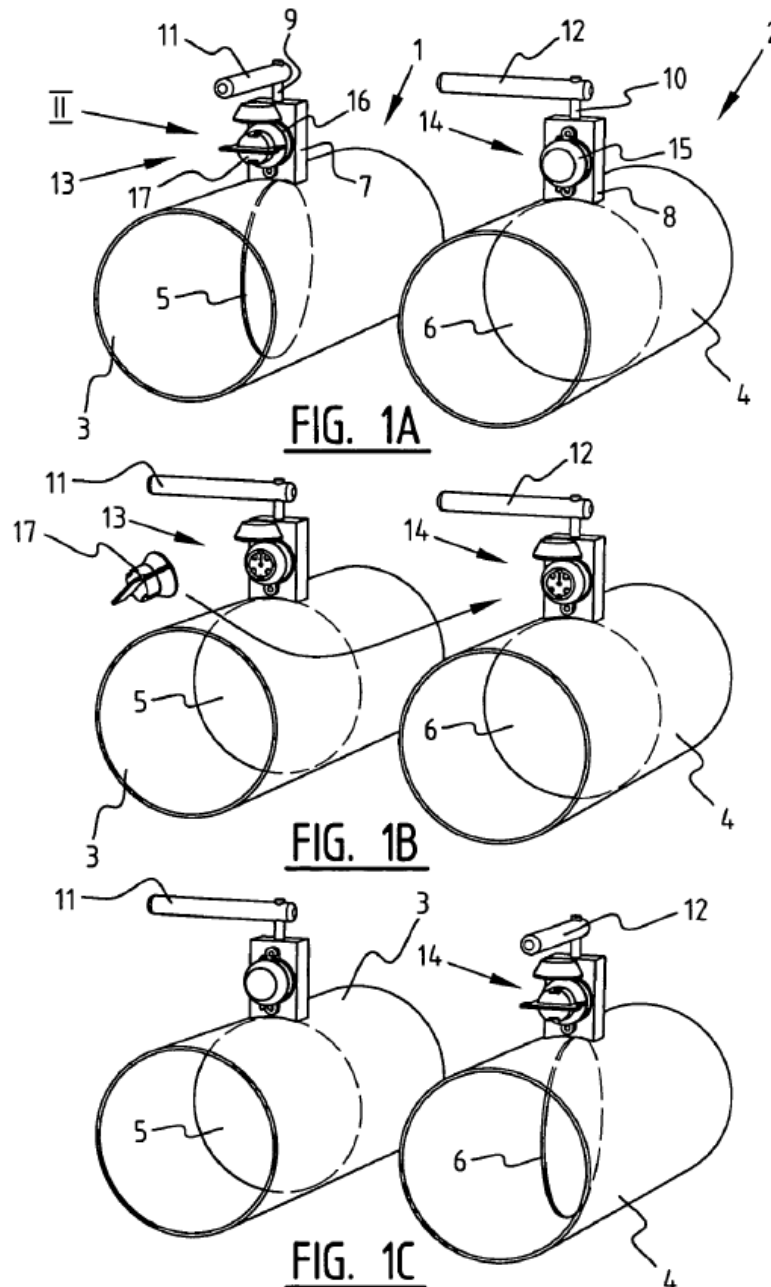


Figure 1 depicts “an example of application of the invention on two closing valves.” Ex. 1011, 5:12–13. As shown primarily in Figure 1A, left-hand part 1 includes pipeline 3, which can carry liquid or gas, and which can be closed by valve 5. *See id.* at 5:27–30. Similarly, right-hand part 2 includes pipeline 4, which can be closed by valve 6. *See id.* at 5:35–36. Valves 5/6 are each arranged on respective supports 7/8, through which respectively protrudes rotation shafts 9/10 connected to handles 11/12. *See id.* at 5:31–39. On support 7 is first safety system 13, and on support 8 is second safety system 14. *See id.* at 5:33–35, 5:37–38.

In Figure 1A, valve 5 is shown locked in the open position and valve 6 is shown locked in the closed position. *See* Ex. 1011, 5:40–45. When key 17 is not available, valves 5/6 both remain locked. *See id.* at 5:45–47. When key 17 is available, valve 5 can be unlocked and (using handle 11) closed, as shown in Figure 1B. *See id.* at 5:49–54. Key 17 can then be used to unlock and (using handle 12) open valve 6, as shown in Figure 1C. *See id.* at 5:54–57. De Vries discloses that “[u]nauthorized persons who do not have key 17 at their disposal are thus prevented from being able to operate valves 5, 6 incorrectly, for instance by opening valve 6 before valve 5 is closed, whereby undesired or even dangerous situations could result.” *Id.* at 5:58–62.

3. Independent Claim 1

For independent claim 1, Petitioner contends that the proposed combination of DuroMax and De Vries discloses each limitation. Pet. 33–41. To support its arguments, Petitioner identifies certain passages in the cited references and explains the significance of each passage with respect to the corresponding claim limitation. *Id.* Petitioner also articulates reasons to

combine the relied-upon aspects of DuroMax and De Vries and why one of ordinary skill in the art would have had a reasonable expectation of success in the combination. Pet. 33–38. Patent Owner (1) challenges the articulated reasons to combine DuroMax and De Vries and (2) argues that De Vries does not satisfy the “selector switch” limitation in element 1.2. *See* Prelim. Resp. 18–26; Prelim. Sur-reply 3–5.

We have reviewed Petitioner’s contentions with respect to claim 1, and for the reasons below, we determine that the Petition shows a reasonable likelihood that Petitioner would prevail in demonstrating that claim 1 would have been obvious based on DuroMax and De Vries. We address in turn each of Patent Owner’s arguments.

a. The Reasons to Combine DuroMax and De Vries

Petitioner presents reasons to combine DuroMax and De Vries. *See* Pet. 33–38. After summarizing aspects of the dual-fuel generator in DuroMax, Petitioner states that “De Vries discloses a valve assembly comprising a pair of fluid valves, with each valve coupled to a separate valve handle” and that, “[l]ike DuroMax and the [challenged patent], De Vries recognizes that many appliances and industrial processes require specific operation sequences to ensure safe operation.” Pet. 33–36. Petitioner then summarizes aspects of the key interlock system in De Vries, including how it is “configured such that only one of the valves in the valve assembly can be positioned in the on position at a given time.” Pet. 37 (citing Ex. 1011, 5:41–63).

According to Petitioner, one of ordinary skill in the art “would have been motivated to implement the valve assembly with the safety interlock of De Vries into the dual fuel generator of DuroMax to prevent both the LPG

and gasoline fuel sources from simultaneously supplying fuel while the generator is operating to make the generator safer.” Pet. 37 (citing Winkel Decl. ¶ 154). Petitioner adds that, “[b]y substituting the gasoline fuel valve shutoff valve of DuroMax with a first valve of De Vries and adding a second fuel valve of De Vries onto the LPG intake of DuroMax, an operator would be prevented from running the generator with both gasoline and LPG fuels on simultaneously.” Pet. 37–38. Specifically, argues Petitioner, “De Vries’ lock and key interlock system would prevent this unsafe condition from occurring because the lock and key system would only allow for one of the LPG or gasoline valves to be opened at a given time.” Pet. 38 (citing Winkel Decl. ¶ 154).

Patent Owner presents three arguments asserting error in the proposed combination. *See* Prelim. Resp. 20–23. First, Patent Owner argues that the challenged patent and De Vries are nonanalogous. *See id.* at 21–22. Specifically, Patent Owner contends that the challenged patent “is classified as controlling and supplying fuel to combustion engines” whereas De Vries “deals with locks used in industrial applications and discloses a locking mechanism that requires complex key codes.” *Id.* at 21–22 (citing Ex. 1011, claim 1, 7:36–39, 9:9–16; *In re Ellis*, 476 F.2d 1370, 1372 (CCPA 1973)).

Like the Federal Circuit in *In re Ellis*, although the patent classification of the reference is “*some* evidence of ‘non-analogy, . . . we consider the similarities and differences in structure and function of the inventions . . . to carry far greater weight.’” *In re Ellis*, 476 F.2d at 1372 (affirming the Board and rejecting the applicant’s nonanalogous art argument). Here, the challenged patent discusses in the Background of the Invention the need for a way to “prevent both valves from being ‘on’ at the

same time.” *See* Ex. 1001, 1:44–57. Patent Owner acknowledges this as the problem addressed by the challenged patent. *See* Prelim. Resp. 3–4 (citing, *inter alia*, Ex. 1001, 1:41–53).

Similarly, De Vries discloses safety interlock systems for use “in locking and unlocking closing valves in a chemical plant” including the specific application of “using the locking mechanism on a number of different closing valves, to ensure a correct, predetermined sequence of closing or opening of the closing valves, for instance so as to prevent hazardous situations.” Ex. 1011, 1:51–60. We find the problem or purposes between the challenged patent and the relevant aspects of De Vries to be sufficiently similar to view De Vries as analogous. *See Donner Tech., LLC v. Pro Stage Gear, LLC*, 979 F.3d 1353, 1359 (Fed. Cir. 2020) (discussing how whether a reference is reasonably pertinent “rests on the extent to which the reference of interest and the claimed invention relate to a similar problem or purpose”); *Graham v. John Deere Co.*, 383 U.S. 1, 35 (1966) (rejecting the argument that the cited references were not “pertinent prior art” and stating that “[t]he problems confronting [the patentee] and the insecticide industry were not insecticide problems; they were mechanical closure problems”).

Second, Patent Owner argues that there is “no reason one skilled in the art of generator design would have been motivated to combine De Vries with DuroMax” because “De Vries does not disclose that its two pipelines go to the same destination.” Prelim. Resp. 22, 23. Patent Owner adds that, whereas “DuroMax discloses LPG and gasoline systems that both fuel the same engine, De Vries has two independent pipelines and lacks any teaching

that they supply the same destination, much less that said destination is an engine of a generator.” *Id.* at 22–23.

“A finding of obviousness . . . cannot be overcome ‘by attacking references individually where the rejection is based upon the teachings of a combination of references.’” *Bradium Techs. LLC v. Iancu*, 923 F.3d 1032, 1050 (Fed. Cir. 2019) (quoting *In re Merck & Co.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986)). Petitioner does not rely on De Vries—but rather DuroMax—for providing the “first fuel flow” and the “second fuel flow” to the engine (as claimed, for example, in limitation 1.3). Instead, Petitioner relies on DuroMax for those features (Pet. 33–34) and relies on De Vries for its safety interlock feature and fuel valves (Pet. 37–38).

Third, Patent Owner asserts that the combination would not result in the claimed invention. Prelim. Resp. 23. According to Patent Owner, because “DuroMax only teaches a single fuel valve used to turn gasoline ON and OFF, combining it with De Vries would only add a keyed lock to the disclosed ON/OFF valve.” *Id.* Thus, Patent Owner asserts, “[e]ven if one were to further modify the alleged LPG source of DuroMax, the result would be to merely add a similarly keyed lock to the LPG tank.” *Id.*

With this argument, Patent Owner again argues against the proposed combination by individually attacking De Vries. As noted above and contrary to Patent Owner’s argument, Petitioner expressly identifies *two* fuel valves from De Vries as features of the proposed combination. *See* Pet. 37–38 (“By substituting the gasoline fuel valve shutoff valve of DuroMax *with a first valve of De Vries and adding a second fuel valve of De Vries* onto the LPG intake of DuroMax, an operator would be prevented from running the

generator with both gasoline and LPG fuels on simultaneously.” (emphasis added)).

On the current record, we determine that Petitioner has made a sufficient showing for institution that a person of ordinary skill in the art would have had reason to modify DuroMax and De Vries as proposed and that the articulated reasoning is supported by rational underpinning.

b. The “Selector Switch” Limitation

Limitation 1.2 recites “a selector switch positioned on the valve assembly to allow a user to manually select one of the first fuel flow and the second fuel flow.” Ex. 1001, 8:32–34. As the “selector switch” in the proposed combination, Petitioner identifies “safety systems 13 and 14 and key 17” in De Vries. Pet. 40.

Patent Owner presents two arguments challenging Petitioner’s position as to the “selector switch” limitation. *See* Prelim. Resp. 23–26; Prelim. Sur-reply 3–5. First, Patent Owner argues that Petitioner’s identified “selector switch” in De Vries “runs afoul of its own construction” (i.e., “a movable component whose positioning enables subsequent user selection of only one fuel source”) because the construction allegedly “contemplates that the selector switch is in fact a single component.” Prelim. Resp. 25.

Although Petitioner’s proposed construction of “selector switch” begins with “a moveable component,” as discussed above, we need not expressly construe “selector switch” to decide whether to institute trial here. *See* § II.B.1. At this stage of the proceeding, we will not limit the “selector switch” to a “single component,” as argued by Patent Owner. Prelim. Resp. 25. Notably, Patent Owner does not provide any evidence—intrinsic or extrinsic—supporting this proposal; instead, Patent Owner requests that we

limit the scope of *Petitioner's proposed construction* such that it does not read on even the features of the prior art expressly identified by Petitioner.

Moreover, Patent Owner's proposal (at least as presented initially) would exclude even the preferred embodiment of the "selector switch"—shown in Figure 4—comprising multiple separate components assembled together. *See* Ex. 1001, 5:22–42; *PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC*, 815 F.3d 747, 755 (Fed. Cir. 2016) ("We have often remarked that a construction which excludes the preferred embodiment is rarely, if ever correct. A construction which reads the preferred embodiment out of the scope of the claims would generally seem at odds with the intention of the patentee as expressed in the specification." (internal quotations and citations omitted)).

In the additional briefing, Petitioner argues that "'a selector switch' means 'a movable component' which may comprise multiple discrete subcomponents functioning together" and Petitioner states that "safety systems 13 and 14 and key 17 are subcomponents that combine to form a single 'selector switch.'" Prelim. Reply 4, 5. Patent Owner clarifies its prior position, stating that it "*does not dispute* that the term 'a selector switch' reasonably encompasses 'one or more' selector switches, or that a 'selector switch' may include subcomponents" but argues that the challenged patent "envisions and claims a 'selector switch' with multiple features, *not* a variety of disparate locks and keys, which each (allegedly) disclose *some* of the claimed features." Prelim. Sur-reply 4–5. At this stage of the proceeding, the parties seem to agree that a "selector switch" may include multiple subcomponents. *See* Prelim. Reply 4, 5; Prelim. Sur-reply 4–5. The disagreement focuses on whether the multiple subcomponents must be

(in Patent Owner’s words) “mechanically coupled to each other” (Prelim. Sur-reply 4); Patent Owner contends they must and Petitioner contends they need not.

In support, Petitioner provides testimony from Dr. Winkel that one of ordinary skill in the art would have understood safety systems 13 and 14 and key 17 in De Vries, collectively, as a “selector switch.” *See* Winkel Decl.

¶ 160. Patent Owner does not provide evidence supporting the view that any multiple subcomponents comprising the “selector switch” *must be* mechanically coupled together and instead relies solely on Patent Owner’s understanding of Petitioner’s initially proposed construction. At trial, the parties should develop this issue as necessary to support their positions as to the “selector switch” limitations.¹²

As the second argument on this issue, Patent Owner posits that, “[u]nder Petitioner’s theory that a key/lock mechanism constitutes a switch, De Vries discloses two separate switches”—“(1) the combination of safety system 13 and key 17, and (2) the combination of safety system 14 and key 17.” Prelim. Resp. 25–26 (footnote omitted). According to Patent Owner, institution should be denied because “two separate key/lock mechanisms are not a ‘selector switch.’” *Id.* at 26.

¹² If the district court in the California Litigation reaches a final claim construction on “selector switch” during this proceeding, the parties should address that in briefing or contact the panel to request additional briefing on the issue, as appropriate. *See* Prior Determinations Memo at 1 (discussing how, “if the Board reaches an initial or final decision on a finding of fact or conclusion of law that is different than the prior finding or conclusion of the Office, district court, or the ITC, the Board shall explain in the institution or final written decision why a different outcome is warranted”).

This argument does not identify a deficiency because it does not address in Petitioner's position as to the "selector switch" limitation. As summarized and clarified by Petitioner in the additional briefing, Petitioner take two alternative positions as to the "selector switch" limitations:

Either the safety systems 13 and 14 and key 17 are subcomponents that combine to form a single "selector switch," or safety systems 13 and 14 and key 17 each constitute a "selector switch" and invalidate the claims of the [challenged p]atent.

Prelim. Reply 5. Petitioner does not take the position presented (and quickly refuted) by Patent Owner in this argument—i.e., that De Vries discloses *two separate switches*: (1) the combination of safety system 13 and key 17, and (2) the combination of safety system 14 and key 17. On the current record, we determine that Petitioner has made a sufficient showing that De Vries discloses the "selector switch" limitation.

c. Remaining Limitations and Conclusion

Patent Owner does not offer any arguments addressing the remaining limitations of claim 1. *See generally* Prelim. Resp.; Prelim. Sur-reply. We have reviewed Petitioner's contentions with respect to the remaining limitations, and we determine that the Petition provides a sufficient showing, at this stage of the proceeding, that the combination of DuroMax and De Vries teaches or suggests each limitation and that one of ordinary skill in the art would have had reason to combine the references.

For the reasons above, we determine, based on the current record, that the Petition shows a reasonable likelihood that Petitioner would prevail in demonstrating that claim 1 would have been obvious based on DuroMax and De Vries.

4. *Claims 2–5, 8–16, 18, and 19*

For claims 2–5, 8–16, 18, and 19, Petitioner contends that the proposed combination of DuroMax and De Vries teaches or suggests each limitation. Pet. 41–47. We include claims 2–4, 8–16, 18, and 19 in the context of this asserted ground in the instituted *inter partes* review. See *SAS*, 584 U.S. at 362–63, 369–70; 37 C.F.R. § 42.108(a).

D. Remaining Asserted Grounds

Petitioner asserts that (1) claims 1–19 would have been obvious based on DuroMax, De Vries, Nakafushi, and Olmr, (2) claims 1–4, 9–14, 18, and 19 are anticipated by Fujisawa, (3) claims 1–4, 8–14, 16, 18, and 19 would have been obvious based on Fujisawa and DuroMax, and (4) claims 1–4, 6–14, and 16–19 would have been obvious based on Fujisawa, DuroMax, Nakafushi, and Olmr. Pet. 3, 47–81. Patent Owner presents arguments addressing these grounds. See Prelim. Resp. 18–39. We include these grounds in the instituted *inter partes* review. See *SAS*, 584 U.S. at 362–63, 369–70; 37 C.F.R. § 42.108(a).

III. CONCLUSION

For the reasons above, we determine that the Petition shows a reasonable likelihood that Petitioner would prevail with respect to at least one of challenged claims 1–19 of the challenged patent. At this stage of the proceeding, no final determination has yet been made with regard to the patentability of any of the challenged claims or any underlying factual or legal issues, including the construction of claim terms. The final determination will be based on the record as developed during the *inter partes* review.

IV. ORDER

Accordingly, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), *inter partes* review is hereby instituted as to claims 1–19 of the challenged patent on all asserted grounds and

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

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