

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LIBERTY ENERGY, INC. AND LIBERTY OILFIELD SERVICES LLC,
Petitioners,

v.

U.S. WELL SERVICES HOLDINGS, LLC,
Patent Owner.

IPR2025-00661
U.S. Patent No. 11,459,863

PATENT OWNER'S PRELIMINARY RESPONSE

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I. INTRODUCTION

The Petition attempts to relitigate the same references that were both substantively considered by the Examiner and meritoriously overcome during prosecution. Specifically, the Petition contends that those same references—Fischer (EX-1008) and Morris (EX-1010)—now somehow anticipate the challenged independent claim 1 (and render obvious independent claim 11) in Grounds 1 through 20. The prosecution history, however, confirms why these references are deficient and thus do not render the challenged claims unpatentable.

As explained below, the Examiner made no mistake in allowing the challenged patent over this prior art. Both were substantively considered during prosecution, especially given that Fischer was the primary reference used in a rejection. The Petition's Grounds attempt to remap the prior art to the challenged claims, but that remapping has the same deficiencies as the Examiner's original mapping. Thus, the Petition's Grounds are flawed for the same reasons that Patent Owner correctly argued during prosecution and that ultimately resulted in allowance of the challenged patent.

II. CHALLENGED U.S. PATENT NO. 11,459,863

A. Overview of 863 Patent

The effective filing date for the 863 Patent is October 3, 2019, which Petitioners do not dispute. Pet. at 4.

The 863 Patent is directed to an electric-powered hydraulic fracturing (fracking) system that includes compact modular trailer arrangements for electrically powering multi-plunger pump systems. EX-1001, Abstract, 1:21–24, Fig. 3. The 863 Patent explains that fracturing operations typically involve fracturing equipment that runs on diesel-generated mechanical power or other internal combustion engines. *Id.*, 1:42–44. The 863 Patent recognizes that these conventional diesel systems have multiple disadvantages—they are expensive, less environmentally friendly, less safe, and heavier to transport than systems that run on natural gas. *Id.*, 1:44–47.

“Space is at a premium at a fracturing site.” *Id.* 2:13–14. To overcome these problems of conventional systems along with space constraints, the 863 Patent teaches a novel electric hydraulic fracturing system that includes a support structure with a first area at a first height and a second area at a second height that is adjacent to the first area. *Id.*, Abstract, 2:26–29. These two areas help “provide improved mobility and smaller footprints.” *Id.* 3:14–18.

The system of the 863 Patent includes an electric powered, multi-plunger pump 212 in the first area that is coupled to an oil well, where the multi-plunger pump is powered by at least one electric motor 214 located in the first area as shown in Figure 2 and reproduced below. *Id.*, 2:29–33, Fig. 2. The system further includes a variable frequency drive (VFD) 220 for controlling the speed of the

electric motor(s) and a transformer 222 connected to the VFD for distributing power to the electric pump, where both the VFD and transformer are in the same enclosure 216 in the second area. *Id.*, 2:33–40, 11:15–18, Fig. 2.

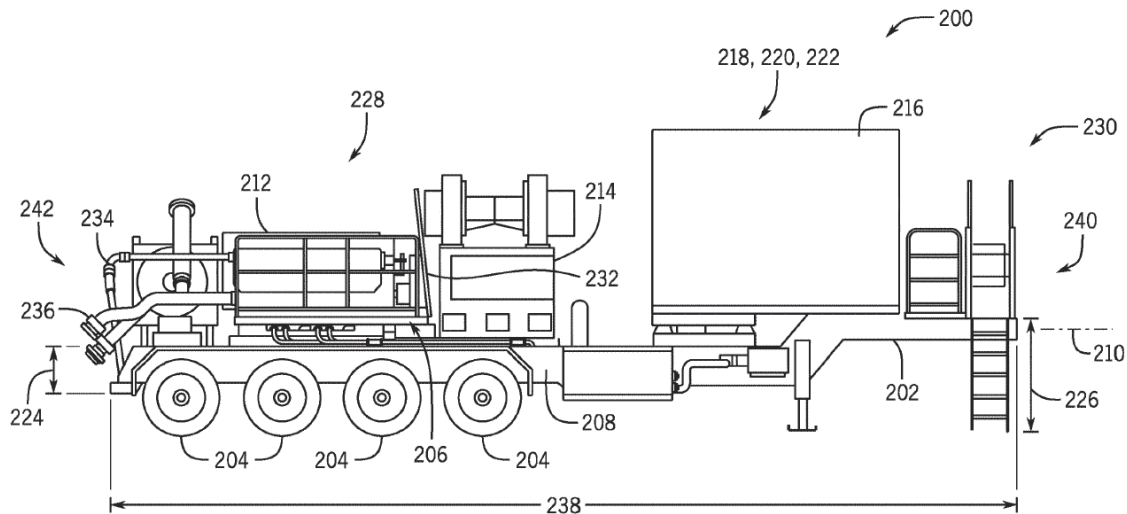


FIG. 2

EX-1001, Fig. 2. Arranging a transformer and VFD in the same enclosure helps “minimize space requirements.” *Id.*, 3:18–20.

III. ASSERTED PRIOR ART

Below is the pertinent prior art that the Petition contends renders independent claims 1 and 11 unpatentable.

A. Fischer (EX-1008)

U.S. Patent No. 10,988,998 to Fischer et al. (“Fischer”) was filed on February 14, 2020. Fischer claims priority to a provisional application (EX-

1009)—Provisional Application No. 62/805,521—that was filed on February 14, 2019.

Fischer is directed to a hydraulic fracking system in which hydraulic pumps are used to pump a fracking fluid into a well to extract fluid. EX-1008, 4:16–20.

Fischer includes a VFD cabin 200 for a pump configuration that additionally includes a medium-voltage VFD 132 and a ventilation system mounted on a single pump trailer 131, as shown in Fig. 3 and reproduced below. EX-1008, Abstract, 2:7–11, 12:3–7, Fig. 3. Fischer explains that its ventilation system is configured to generate an overpressure condition within the cabin to keep dust and debris from entering the cabin where the VFD is located. *Id.*, 2:11–14. Fischer also includes a single, single-shaft electric motor 134 and a single hydraulic pump 136 mounted on the pump trailer. *Id.*, 12:3–7.

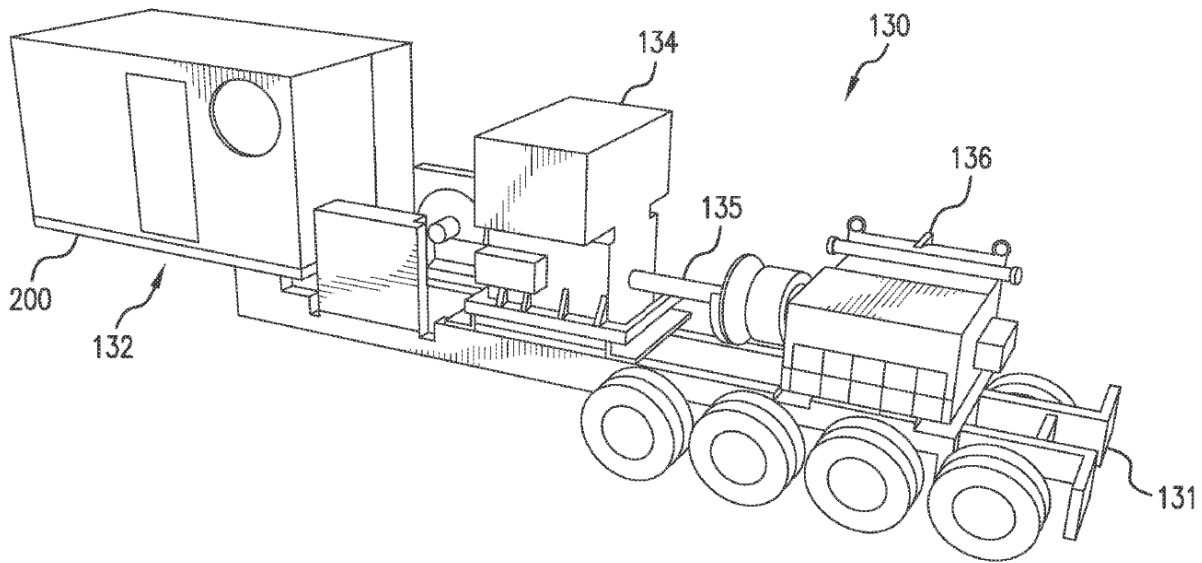


FIG. 3

EX-1008, Fig. 3.

Fischer was considered by the Examiner and was the basis of a rejection during examination of the 863 Patent. EX-1002, 221–228. But the Examiner ultimately determined that Fischer did not anticipate or render obvious the 863 Patent, including limitations such as “*a transformer, arranged in the support structure, ... the transformer positioned within [an] enclosure [with the VFD]”, the transformer “configured to distribute power for operation of the electric powered, multi-plunger pump.” Id., 19.*

B. Morris (EX-1010)

U.S. Patent Application Publication No. 2020/0040878 to Jeffrey Morris (“Morris”) was filed on July 29, 2019. Morris claims priority to two provisional

applications: Provisional application Nos. 62/715,165 (filed August 6, 2018) and 62/786,174 (filed December 28, 2018).

Morris is directed to a system and method for producing fracturing fluid using a fracturing transport 100 that includes external gearbox style pumps 120a–b for generating high pressure fracturing fluid as shown in Fig. 2 and reproduced below. EX-1010, ¶ 44, Fig. 2. Morris recognizes the drawbacks of conventional fracturing systems, which include large operational manpower requirements and the need for large amounts of fuel. *Id.*, ¶ 3. Morris further recognizes the need for improved fracturing systems to minimize the on-site area (i.e., footprint) of the fracturing operations, facilitate the delivery of adequate power and/or fuel to fracturing equipment, increase the efficiency of hydraulic fracturing equipment, and reduce the environmental impact resulting from fracturing operations. *Id.* Morris purports to address these performance and efficiency problems by providing a system that includes an external gear box 126 that connects to a power end assembly 124 of the pump, which generates torque to drive a fluid end assembly to pressurize fracturing fluid for hydraulic fracturing. *Id.* Morris explains that its gear box gears are separated from the power end assemblies and moved to the external gear boxes to improve pump performance and efficiency. *Id.*, ¶ 53.

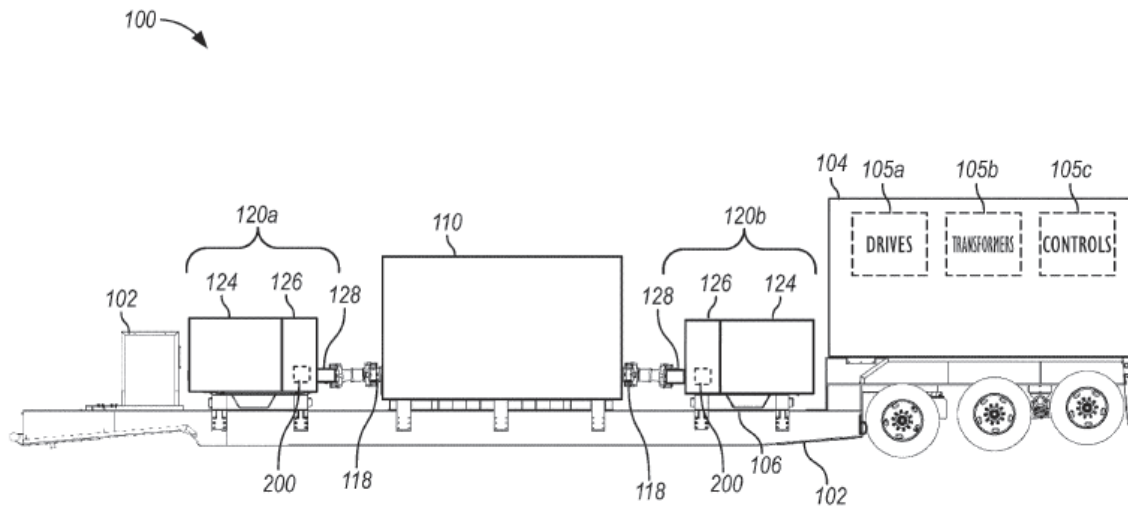


FIG. 2

EX-1010, Fig. 2.

Morris was also considered by the Examiner during examination of the 863 Patent but was “not relied upon” for any anticipation or obviousness rejections for any limitations, including “a transformer, arranged in the second area, the transformer positioned within an enclosure with the VFD, the transformer configured to distribute power for operation of the electric pump.” EX-1002, 228.

C. Karassik (EX-1013)

Karassik is a book titled “Pump Handbook” and authored by Igor Karassik et al. (“Karassik”). Karassik describes pump theory and operation. EX1013, 3.11. Karassik does not disclose—nor does the Petition contend—the claimed “a transformer, arranged in the second area, the transformer positioned within an

enclosure with the VFD, the transformer configured to distribute power for operation of the electric pump.” *See* Pet. at 24–27, 55–56, 69–70, 80.

IV. SKILL LEVEL OF A POSITA

For purposes of this preliminary response only, Patent Owner applies the same skill level proposed by Petitioners. *See* Pet. at 10–11.

V. CLAIM CONSTRUCTION

Petitioners have not proposed any construction for the terms of the 863 Patent. Pet. at 11. Patent Owner reserves the right to propose constructions for any claim terms if the Board institutes trial.

VI. THE EXAMINER PROPERLY ALLOWED THE CHALLENGED PATENT OVER FISCHER AND MORRIS

During prosecution, Patent Owner meritoriously overcame the same prior art involved in this Petition. The Examiner substantively considered and determined that Fischer and Morris do not disclose or render obvious the challenged claims, including limitations 1[d] and 11[c]. As explained in the first section below, the Examiner was correct.

The Petition's Grounds contend that passages different from those the Examiner used in his rejection satisfy the claims. As explained in the second section below, those different passages in Fischer have the same flaw as the passages that were overcome during prosecution—that is, those passages are

unsupported by Fischer's provisional, so Fischer does not antedate the challenged patent. The third section below explains that Petitioner's Grounds using Morris fail to show how Morris discloses the same features that the Examiner mentioned in the notice of allowance. Thus, the Petition's Grounds are deficient for the same reasons that the Examiner found that the same prior art did not disclose or render the challenged claims obvious.

1. The Examiner considered both Fischer and Morris during prosecution and made no mistake in allowing the challenged patent over the prior art.

The Examiner allowed the patent because the prior art—namely, Fischer and Morris—did not anticipate or render obvious several claim limitations, including limitation 1[d]—that is, “*a transformer, arranged in the second area, the transformer positioned with an enclosure with the VFD, the transformer configured to distribute power for operations of the electric pump.*” Patent Owner's arguments correctly show why Fischer was not entitled to its prior art date.

The Examiner's analysis applying Fischer against the pending claims included alternative mappings that used Fischer's transformer 232 and the

functionality described in Figures 3–6 to satisfy limitation 1[d].¹ Addressing independent claim 1, in both mappings, the Examiner found that Fischer's transformer 232 along with its functionality described in Figures 3–6 read against the claimed “transformer” in limitation 1[d]:

6. As concerns claim 1, Fischer shows a hydraulic fracturing system (100), comprising: a support structure (130) having a first area at a first height and a second area at a second height, the first and second areas adjacent one another (Fig. 3); an electric powered, multi-plunger pump (136) with an odd number of plungers (appears to be a quintiplex pump), arranged in the first area, the electric powered pump coupled to a well (109), via outlet piping (Fig. 2), and powered by at least one electric motor (134), also arranged in the first area (Fig. 3); a variable frequency drive (VFD) (132), arranged in the second area, connected to the at least one electric motor, the VFD configured to control at least a speed of the at least one electric motor (Fig. 3-6); and a transformer (232), arranged in the second area, the transformer positioned within an enclosure (200) with the VPD, the transformer configured to distribute power for operation of the electric pump (Fig. 3-6).

EX-1002, 222, first mapping (highlighting added).

¹ Pending claim 1 included as limitation 1[d] “a transformer, arranged in the second area, the transformer positioned within an enclosure with the VFD, the transformer configured to distribute power for operation of the electric pump.” *See* EX-1002, 361. This same limitation is in issued claim 1. EX-1001, cl. 1.

In the alternative, as concerns claim 1, Fischer shows a hydraulic fracturing system (100), comprising: a support structure (130) having a first area at a first height and a second area at a second height, the first and second areas adjacent one another (Fig. 3); an electric powered, multi-plunger pump (136) with a number of plungers, arranged in the first area, the electric powered pump coupled to a well (109), via outlet piping (Fig. 2), and powered by at least one electric motor (134), also arranged in the first area (Fig. 3); a variable frequency drive (VFD) (132), arranged in the second area, connected to the at least one electric motor, the VFD configured to control at least a speed of the at least one electric motor (Fig. 3-6); and a transformer (232), arranged in the second area, the transformer positioned within an enclosure (200) with the VPD, the transformer configured to distribute power for operation of the electric pump (Fig. 3-6).

EX-1002, 222–223 (alternative mapping) (highlighting added). Both the Examiner's alternative mappings, shown above, rely on Fischer's transformer 232 and its functionality as described in Figures 3–6 to satisfy limitation 1[d].

The Examiner's analysis as to independent claim 11 was materially the same. The Examiner again provided alternative mappings that used Fischer's transformer 232 and the functionality described in Figures 3–6 to satisfy limitation 11[c].² For both mappings, the Examiner found that Fischer's transformer 232

² Pending claim 11 included as limitation 11[c] “a transformer, arranged on the support structure, configured to distribute power for operation of the electric powered, multi-plunger pump, the power being received from the at least one

along with its functionality described in Figures 3–6 read against the claimed “transformer” in limitation 11 [c]:

12. As concerns claim 11, Fischer shows a hydraulic fracturing system (100), comprising: an electric powered, multi-plunger pump (136), arranged on a support structure (130), the electric powered multi-plunger pump powered by at least one electric motor (134); a variable frequency drive (VFD) (132), arranged on the support structure, connected to the at least one electric motor to control a speed of the at least one electric motor (Fig. 3-6), the VFD positioned separate from the electric powered, multi-plunger pump and within an enclosure (200); and a transformer (232), arranged on the support structure, configured to distribute power for operation of the electric powered, multi-plunger pump, the power being received from at least one generator (110) at a voltage higher than an operating voltage of the electric powered pump, the transformer positioned within the enclosure (Fig. 3-6); wherein the electric powered, multi-plunger pump includes an odd number of plungers (appears to be a quintiplex pump) configured to reduce kinematic flow ripple (Fig. 3).

EX-1002, 225–226, first mapping (highlighting added);

generator at a voltage higher than an operating voltage of the electric powered pump, the transformer positioned with the enclosure.” *See* EX-1002, 362–363.

This same limitation is in issued claim 11. EX-1001, cl. 11.

In the alternative, as concerns claim 11, Fischer shows a hydraulic fracturing system (100), comprising: an electric powered, multi-plunger pump (136), arranged on a support structure (130), the electric powered multi-plunger pump powered by at least one electric motor (134); a variable frequency drive (VFD) (132), arranged on the support structure, connected to the at least one electric motor to control a speed of the at least one electric motor (Fig. 3-6), the VFD positioned separate from the electric powered, multi-plunger pump and within an enclosure (200); and a transformer (232), arranged on the support structure, configured to distribute power for operation of the electric powered, multi-plunger pump, the power being received from at least one generator (110) at a voltage higher than an operating voltage of the electric powered pump, the transformer positioned within the enclosure (Fig. 3-6); wherein the electric powered, multi-plunger pump includes a number of plungers (Fig. 3). It would have

EX-1002, 226 (alternative mapping) (highlighting added).

Patent Owner, in response to the above rejections, correctly argued that Fischer was not entitled to its priority date for these disclosures about Figures 3–6. Specifically, Patent Owner argued that Fischer did not have sufficient support in its Provisional for the disclosures that the Examiner cited in the Office Action, *see* EX-1002, 188. *See also id.*, 186 (“Fischer, as published, includes 23 figures, 49 columns of description, and 26 claims. In sharp contrast, the [Fischer] provisional is 5 figures, 91 paragraphs, and 20 claims, which appear to be significantly

different than the issued claims.”).³ Without being entitled to an earlier priority date, Fischer does not qualify as prior art. Specifically addressing the Examiner's

³ The 863 Patent claims priority to a provisional application filed on October 3, 2019. *See* EX-1001, cover. Petitioners do not contest for purposes of their Petition that the effective filing date of the 863 Patent is October 3, 2019. Pet. at 4. Fischer's application was filed on February 14, 2020, and as such on its face does not qualify as prior art. EX-1008, cover. Fischer claims priority to a provisional application filed on February 14, 2019, *see id.*, and therefore the provisional application must contain written description support for the portions of Fischer relied on by the Examiner. *See Penumbra, Inc. v. RapidPulse, Inc.*, IPR2021-01466, Paper No. 34 at 32 (PTAB Mar. 10, 2023) (precedential) (“[U]nder the AIA, ... the provisional or other application(s) to which the reference patent document claims a right of priority must ‘describe [] the subject matter’ relied upon in the reference patent document as prior art.”) (citing 35 U.S.C. § 102(d)); *see also Forescout Tech., Inc. v. Fortinet, Inc.*, IPR2021-01328, Paper 12 at 9–10 (PTAB Jan. 27, 2022) (holding that “subject matter disclosed in [the asserted reference] is only available as prior art to the [challenged] patent to the extent it also is described in [the Provisional].”).

analysis of limitation 1[d], Patent Owner explained why Fischer was not entitled to the provisional filing date for Figures 3–6:

As discussed above, Applicant respectfully submits that Fischer is not entitled to its provisional filing date of February 14, 2019 at least because the Provisional fails to support the claims of Fischer, and moreover, the cited portions of Fischer are directed toward subject matter not found in the Provisional. Applicant respectfully submits that any subsequent Office Actions, if necessary, should cite to the Provisional rather than to Fischer.

By way of example, the Office Action cites to FIGS. 3-6 as allegedly disclosing the claimed “transformer, arranged in the second area, the transformer positioned within an

enclosure with the VFD, the transformer configured to distribute power for operation of the electric pump.” *See* Office Action, 3. However, the disclosure of FIGS. 4-6 is not present in the Provisional, and therefore, is not entitled to the provisional filing data and is not prior art. In contrast, the Provisional references a “single VFD 240.” *See, e.g.*, Provisional, ¶ [0031]. Moreover, the “switchgear transformer 335” of the Provisional in FIG. 3 is illustrated as being part of a power distribution system 320 and does not appear to be associated with the VFD 340n. *See id.* at ¶ [0059]; FIG. 3. Accordingly, Applicant respectfully requests withdrawal of the rejection of claim 1.

EX-1002, 187–188. Patent Owner therefore made two arguments⁴ as to why Fischer did not have sufficient written description in its Provisional: first, that the

⁴ Patent Owner argued that claim 11 was “allowable for at least the reasons including some of those discussed above in connection with claim 1.” EX-1002, 188. In addition, Patent Owner argued that independent claim 11 was allowable for an additional reason—that is, the prior art “failed to describe the ‘odd number of plungers configured to reduce kinematic flow ripple.’” *Id.* This limitation does not

provisional application did not provide written description support for the disclosure in Fischer concerning the transformer that the Examiner relied on to reject the claims; and second, the disclosure of a “switchgear transformer” in the provisional did not meet the language in limitations 1[d] and 11[c] in the pending claims.

Both of Patent Owner's arguments are correct. First, a plain reading of Fischer's patent and provisional shows that Figures 4–6 are missing from the provisional. *Compare* EX-1008, Figs. 4–6, *with* EX-1009. Second, the transformer 335 in Figure 3 of the Fischer Provisional is (1) different than the transformer 232—that is, the transformer in Fischer that the Examiner mapped to the claimed “transformer”—and (2) part of the power distribution system 320 and not associated with the VFD, contrary to the claim requirement that the “*VFD and transformer be in the same enclosure.*” The Petition acknowledges these arguments but provides no explanation as to why these arguments are not correct. Pet. at 13 (“Patent Owner also argued that various cited portions of Fischer are directed to

appear in claim 1. EX-1001, cl. 1. As discussed herein, the Examiner allowed claims 1 and 11 for the same reasons, *see* EX-1002, 19, and did not address the separate argument regarding claim 11.

subject matter not found in Fischer Provisional, such as ‘the disclosure of FIGS 4–6’ in Fischer.”). During prosecution, Patent Owner correctly argued that Fischer’s teachings relied on by the Examiner were unsupported by its provisional application—which is unrebutted by Petitioners—and thus were not prior art.

The Examiner also considered Morris (EX-1010) during examination. *See* EX-1002 at 228. Indeed, in a September 20, 2021 Office Action, the Examiner rejected claims 1–20 as anticipated and/or obvious over Fischer (EX-1008) (*id.* at 222), while concluding Morris to be “prior art made of record and not relied upon” for any claim rejections. *Id.* at 228. The prosecution history shows that the Examiner both substantively considered and correctly⁵ determined that Morris does not disclose or render obvious the challenged claims, including limitation 1[d].

The Examiner, as reflected in the Notice of Allowance, appears to have found Patent Owner’s arguments persuasive. *See* EX-1002, 15–20. In the reasons for allowance, the Examiner stated that “the prior art of record,” including Fischer and Morris—the primary references for every one of the Petition’s Grounds—“does not appear to anticipate and/or render obvious” the claims, including

⁵ The Examiner was correct in the analysis of Morris, as further explained in section § VI.3 below.

limitation 1[d].⁶ As shown below, *see* § VI.2, the Examiner correctly concluded that Fischer's teachings relied on in the Petition do not have sufficient support and thus do not antedate the challenged patent. The Examiner likewise correctly allowed the challenged claims over Morris, which was deficient as described in section VI.3 below. Thus, the Examiner made no mistake by being persuaded by Patent Owner's arguments in allowing the challenged claims, and the prior art in Grounds 1–20 do not render the challenged claims unpatentable.

Petitioners also contend that the Examiner was persuaded by Patent Owner's *Dynamic Drinkware* argument. *See* Pet. at 12 (stating that the Examiner "materially erred by withdrawing Fischer as prior art for allegedly failing to meet the *Dynamic Drinkware* requirement . . ."). Not so. Notably, nothing in the Examiner's reasons for allowance mentions *Dynamic Drinkware, LLC v. National Graphics, Inc.*, 800 F.3d 1375, 1381 (Fed. Cir. 2015). Without doing so, Petitioner's alleged material error is seriously undermined. Even if that was a

⁶ Limitation 11[c] has no meaningful difference to limitation 1[c]. For independent claim 11, Grounds 6 and 16 also contend that Fischer and Morris render obvious limitation 11[c] without any additional references and are thus deficient for the same reasons. Pet. at 55–56, 80.

reason, the Examiner had other valid reasons to be persuaded by Patent Owner's correct arguments, described above, that the Examiner's mapping of Fischer was unsupported by the provisional.

2. The Examiner did not err by allegedly failing to consider Petitioner's remapping of Fischer.

The Petition alleges that the claimed "transformer" being "configured to distribute power for operation of the electric pump" in limitation 1[d] is taught by several disclosures in Fischer. *See* Pet. at 26–27. But none of these are supported by Fischer's provisional application. Without this necessary support, Fischer does not antedate the challenged patent. Grounds 1–11 predicated on Fischer are thus flawed.

(i) The First Disclosure relied on by the Petition is unsupported by the Fischer's provisional

The Petition relies on the following disclosure to show Fischer's transformer is "configured to distribute power for operation of the electric pump":

In certain embodiments, block **532** involves converting, by the transformer **232**, the electric power at the initial voltage level to electric power at a transformer voltage level, and converting, by the plurality of power cells **242**, the electric power at the transformer voltage level to electric power at the VFD voltage level.

EX-1008, 35:32–57; *see* Pet. at 27. The above disclosure is unsupported by Fischer's provisional for three reasons.

First, neither block 532⁷ of Fischer nor Figure 16 that includes block 532 appear in Fischer's provisional, *see* EX-1009 *generally*. Second, transformer 232 involved in block 532 is part of the same transformer assembly 230 from Figures 4–6 that the Examiner previously found to be unsupported during prosecution. *See* § VI.1; EX-1008, 22:30–33 (“With additional reference to FIG. 7, the transformer assembly 230 generally includes a transformer 232, . . .”); *id.*, 20:62–66 (“***With***

⁷ Moreover, the power conversion technique in block 532 appears to be described in a related application filed ***after*** the effective filing date of challenged patent. *See* EX-1008, 35:58–62 (“In certain embodiments, block 532 may involve converting electric power from the initial voltage level to the VFD voltage level ***in the manner along the lines of that described in the above-referenced U.S. application Ser. No. 16/790,581.***” (emphasis added)); *see also id.*, 6:8–11 (“Additional details regarding an exemplary form of the medium-voltage VFD 132 are provided ***in U.S. patent application Ser. No. 16/790,581, filed on Feb. 13, 2020,*** the contents of which are incorporated by reference in their entirety.”) (emphasis added).

additional reference to FIGS. 4-6, the VFD cabin 200 generally includes a cabin housing 202 including a floor 210 and a cap 220, *and the medium-voltage VFD 132 generally includes a transformer assembly 230* and a power cell assembly 240.” (emphasis added)).

For these reasons, Fischer's provisional does not provide sufficient support for the first disclosure in Fischer that allegedly teaches limitations 1[d] and 11[c]. Without such support, Fischer does not antedate the challenged patent and thus cannot render the challenged claims unpatentable.

- (ii) The remaining disclosures relied on by the Petition are unsupported by the Fischer provisional

The Petition's remaining disclosures from Fischer are additionally flawed for two reasons: (1) they do not show how Fischer's transformer satisfies limitation 1[d] and 11[c]; and (2) they are unsupported by Fischer's provisional. Both disclosures are cited to support the Petitioners' contention that “Fischer's transformer is used to convert electric power that is generated at an ‘initial voltage level’ to electric power at a lower voltage level that is useable by the VFD.” Pet. at 26–27. For one disclosure, the Petition relies on the following passage from Fischer to “describ[e] that the ‘initial voltage level’ may be 13.8 kV,” Pet. at 27:

The power generation system **110** may generate electric power at an initial power level in the megawatt (MW) range and an initial voltage level in the medium-voltage

range. In certain embodiments, the initial power level is about 24 megawatts (MW) or greater. In certain embodiments, the initial voltage level is about 10 kilovolts (kV) to about 15 kV. While certain embodiments and examples provided herein are described with reference to an initial voltage level of about 13.8 kV, or about 13.8 kV or greater, it is to be understood that in other embodiments, the initial voltage level may be a different voltage level in the medium-voltage range. In certain embodiments, the initial voltage level may be between 1 kV and 16 kV. In certain embodiments, the initial voltage level may be between about 6 kV and about 15 kV. In certain embodiments, the initial voltage level may be in the range of 12.5 kV $\pm$ about 20%, 12.5 kV $\pm$ about 15%, or 12.5 kV $\pm$ about 10%. In certain embodiments, the initial voltage level may be in a range of about 11.8 kV to about 14.5 kV. In certain embodiments, the initial voltage level may be in the standard 15 kV voltage class, the most common forms of which are 12.47 kV, 13.2 kV, 13.8 kV, and 14.4 kV. Accordingly, the examples provided herein are not to be construed as limiting the scope of the disclosed subject matter to initial voltages of 13.8 kV.

EX-1008, 7:51–8:7. For another disclosure, the Petition also cites the following paragraph about block 534 in Fischer's Figure 16:

The pumping procedure **530** may include block **534**, which generally involves generating motive power using the electric power at the VFD voltage level (e.g., the electric power converted to the VFD voltage level in block **532**). Block **534** may, for example, be performed by or using the single-shaft electric motor **134**. More particularly, block **534** may involve causing the single-shaft electric motor **134** to rotate at an RPM level in response to receiving the electric power at the VFD voltage level. In certain embodiments, the RPM level at which the motor **134** rotates in response to receiving the electric power at the VFD voltage level is about 750 RPM, or about 750 RPM or greater. In certain embodiments, the RPM level at which the motor **134** rotates in response to receiving the electric power at the VFD voltage level is in a range of about 500 RPM to about 1000 RPM. In certain embodiments, the RPM level at which the motor **134** rotates in response to receiving the electric power at the VFD voltage level is in a range of about 750 RPM to about 1500 RPM. It is also contemplated that other RPM levels and/or ranges may be utilized in block **534**.

As shown above, these disclosures do not mention any transformer. The first disclosure instead describes Fischer's power generation system 110. The second disclosure does not mention anything that might convert electric power or voltage,

let alone a transformer. Even if the above passages were supported (which they are not), the above passage from Fischer cannot show that Fischer's transformer is "configured to distribute power for operation of the electric pump," as required by limitation 1[d].

The first passage is unsupported by Fischer's provisional application. Although Fischer's provisional mentions a power generation system, paragraphs [0032]–[0033] of Fischer's provisional do not mention any "initial voltage level"—that is, the teaching that is relied on by the Petition. *See* Pet. at 27; EX-1009, [0032]–[0033]. The remaining paragraphs of Fischer's provisional cited by the Petition likewise do not mention an "initial voltage level," nor a power generation unit. *See* EX-1009, [0035], [0084]. Without doing so, the Fischer provisional does not provide the necessary support for the first passage cited in the Petition.

The second disclosure is likewise unsupported by Fischer's provisional. Neither block 534 nor Fischer's Figure 16 appear in Fischer's provisional. *See generally* EX-1009. None of the cited paragraphs in Fischer's provisional cited by the Petition—that is, paragraphs [0032]–[0033], [0035], [0084]—support the second disclosure. Moreover, the closest paragraph in Fischer's provisional describes that the power distribution system—not the transformer—distributes "the electric power to the VFD." EX-1009, [0036]. As Patent Owner successfully argued during prosecution, the power distribution system uses a switchgear

transformer 335, *see* EX-1009, [0062], which is different than any transformer associated with the VFD. EX-1002, 187–188. Thus, the second disclosure relied on by the Petition is unsupported by Fischer's provisional.

At bottom, the remaining disclosures in Fischer cited by the Petition for limitation 1[d] have two flaws: (1) none of the disclosures discuss a transformer converting electric power, and (2) the disclosures in Fischer are unsupported by the Fischer provisional. As a result, the remaining disclosures from Fischer are not entitled to an earlier priority date which antedates the challenged patent, nor show that Fischer's transformer satisfies limitation 1[d].

3. Morris does not disclose limitations 1[d] and 11[c], so the Examiner did not err in allowing the challenged claims over Morris

The Petition is flawed in its reliance on Morris disclosing limitations 1[d] and 11[c]. Nowhere does Morris teach or suggest that its transformers are in the same enclosure—much less any enclosure—as the VFD. Morris is silent as to its electrical drive and transformers being in any enclosure. *See* EX-1010, [0047] (“fracturing pump transport 100 ... upper section ... ***may hold or have mounted*** the power and control systems 104,” where power and control systems 104 is merely a convenient grouping of systems that may include “electric drives 105a (e.g., variable frequency drives (VFD) (emphasis added)), transformers 105b, controls 105c ..., and cable connections ... to other transports[.]”); *see id.*, [0046]–

[0048]. Without such a disclosure, Morris cannot disclose or render obvious “the transformer positioned within an enclosure with the VFD,” as required by limitation 1[d].

Petitioner argues that Figure 2 of Morris depicts an enclosed room 104 where the drives 105a and transformer 105b are located. *See* Pet. at 70. Not so. Morris's Figure 2 includes “power and control system 104,” EX-1010, [0046]–[0048], and nothing in those disclosures mentions that such a system has an enclosure. *See id.* Petitioner's expert, Dr. Robert A. Durham, appears to confirm as much. *See* EX-1003, ¶ 279. Dr. Durham's testimony does not contend that Morris's power and control system 104 includes an enclosure, but rather his testimony is that such an enclosure would have been “obvious” for power and control system 104 to be located inside:

It would have been obvious to [a POSITA] that power and control system 104 comprises an enclosure, such as to protect the electric and electronic components from the weather. Further, Morris teaches that “the fracturing pump transport 100 has an upper section above the trailer axles that may hold or have mounted the power and control systems 104.” Further, Morris discloses that “[t]he transformers 105 b within the power and control systems 104 can step one or more input voltages (e.g., 13.8 kilovolts (kV)) to one or more lower voltages (e.g.,

4.2 kV, 2.1 kV, 600 and 480 volts (V)).” ***Power and control systems 104 is discussed as, and shown in Fig. 2 as a single structure, and Morris teaches that transformers 105b are within the power and control systems 104, which a POSITA would have understood to be, or at least it would have been obvious to be, an enclosure which is mounted to the upper section (second area), for example.***

EX-1003, ¶ 279 (emphasis added) (internal footnotes omitted). As shown above, Dr. Durham’s conclusory testimony provides no reason to modify Morris’s power and control system 104 to include an enclosure. *Id.* Even if Dr. Durham’s testimony was sufficient to show that such a modification was obvious, the Petition advances no obviousness rationale: “Further, a POSITA would have understood that Morris’s transformer is “positioned within an enclosure with the VFD ... Thus, Morris discloses Limitation 1[d].” Pet. at 70. Petitioner’s expert thus provides no supporting testimony that Morris discloses that “the transformer [is] positioned within an enclosure with the VFD” and instead supports only that such a feature is obvious—that is, an argument not advanced by the Petition.

Given the above inconsistency with the Petition and its accompanying expert declaration, along with what Morris actually discloses, the Examiner did not make a mistake in concluding that Morris does not teach, disclose, or render obvious a

transformer “positioned within an enclosure with the VFD” in limitations 1[d] and 11[c].

VII. CONCLUSION

For the above reasons, the Board should decline to institute *inter partes* review.

Dated: July 16, 2025

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

The undersigned certifies that this response complies with the word-count limitations of 37 C.F.R. § 42.24(b)(1). This response contains 4,841 words as calculated by the word-count feature of Microsoft Word, the word-processing program used to create it.

The undersigned further certifies that this Petition complies with the typeface requirements of 37 C.F.R. § 42.6(a)(2)(ii) and typestyle requirements of 37 C.F.R. § 42.6(a)(2)(iii). This petition has been prepared in a proportionally spaced typeface using Microsoft Word in Times New Roman 14-point font.

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CERTIFICATE OF SERVICE

I hereby certify that on this 16th day of July, 2025, I caused to be served a true and correct copy of the foregoing "Patent Owner's Preliminary Response" and accompanying exhibits by electronic mail on the following:

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