

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VOLTAGE, LLC,
Petitioner,

v.

SHOALS TECHNOLOGIES GROUP, LLC,
Patent Owner.

IPR2024-00877
Patent 10,553,739 B1

Before JEFFREY W. ABRAHAM, AVELYN M. ROSS, and MICHAEL G.
MCMANUS, *Administrative Patent Judges*.

ROSS, *Administrative Patent Judge*.

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

I. INTRODUCTION

Voltage LLC (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–5, 7, 10–13, and 15–18 of U.S. Patent No. 10,553,739 B1 (Ex. 1001, “the ’739 patent”). Shoals Technologies Group, LLC (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2023). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least [one] of the claims challenged in the petition.”

For the reasons set forth below, upon considering the Petition, the Preliminary Response, and evidence of record, we determine Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to at least one challenged claim. Therefore, we do not institute an *inter partes* review.

A. *Real Parties-in-Interest*

Petitioner identifies itself and Ningbo Voltage Smart Production Co. as the real parties-in-interest. Pet. 2.

Patent Owner identifies itself as the real party-in-interest. Paper 3 (Patent Owner’s Mandatory Notices), 2.

B. *Related Proceedings*

The parties identify *In the Matter of Certain Photovoltaic Connectors and Components Thereof*, Inv. No. 337-TA-1365 (“the ITC proceeding”)

and *Shoals Technologies Group, LLC v. Voltage, LLC et al*, Docket No. 1:23-cv-00365 as related matters related to this proceeding. Pet. 2; Paper 5, 2.

C. The '739 patent

The '739 patent, titled “Photovoltaic In Line Fuse Connector Assembly Having an Integral Fuse,” issued February 4, 2020. Ex. 1001, codes (45), (54). The '739 patent relates to “a connector, and more specifically to a photovoltaic in line connector assembly having an integral fuse.” *Id.* at 1:19–21. The '739 patent explains that “[t]he assembly allows for circuit protection to be installed into the wiring harness for a photovoltaic installation” which is advantageous in “that it allows for circuit protection to be moved from the combiner box to the wire harness, thereby reducing the number of combiner boxes required in a solar field” *Id.* at 1:55–60. According to the '739 patent, “[r]educing the number of combiner boxes saves money and permits a more simplified component configuration in the solar field.” *Id.* at 1:60–62. Another advantage of the '739 patent “is that a malfunction in an individual panel will trip only the associated fuse, thereby allowing other panels in the array to function normally.” *Id.* at 2:60–63.

Figure 5, reproduced below, shows an exemplary assembly according to the '739 patent.

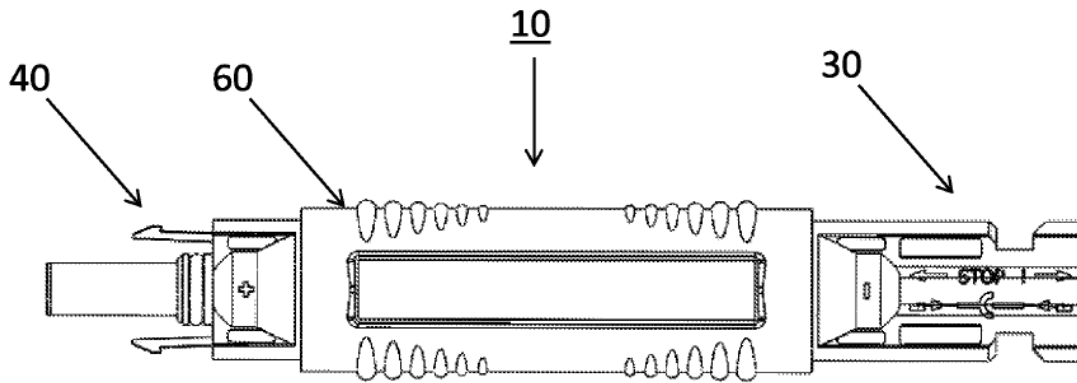


FIG. 5

Figure 5 “depicts an embodiment of the present invention having connectors at both ends.” Ex. 1001, 2:8–9. Assembly 10, “includes female connector 40 at the first end, and male connector 30 at the second end.” *Id.* at 2:64–66. Assembly 10 includes an overmold 60. *Id.* at 3:17–20.

D. Illustrative Claim

Petitioner challenges claims 1–5, 7, 10–13, and 15–18 of the ’739 patent. Claims 1, 10, and 15 are independent. Independent claim 1 is representative of the challenged claims and is reproduced below.¹

1. An in-line assembly for a solar installation including:
[1(a)] [a] photovoltaic fuse having a solid outer surface including a first end, a second end and a middle section there between, said solid outer surface defining an outline;
[1(b)(1)] [a]n undermold surrounding and sealing said fuse,
[1(b)(2)] said undermold defining an outer surface outline,
[1(b)(3)] wherein the outer surface outline of said undermold is substantially parallel relative to the outline of said solid outer surface;
[1(c)(1)] [a]n overmold defining an outline and surrounding said undermold,

¹ For convenience, we adopt Petitioner’s annotated claim format.

[1(c)(2)] said undermold and said overmold each constructed of a single unit and each constructed of dissimilar materials,

[1(c)(3)] wherein the outline of said overmold is substantially parallel relative to the outline of said undermold; and

[1(d)] [a] first photovoltaic connector engaged with said first end, wherein said assembly provides electrical insulation.

Ex. 1001, 4:28–45.

E. The Asserted Unpatentability Challenges

Petitioner asserts that claims 1–5, 7, 10–13, and 15–18 would have been unpatentable based on the following grounds:

Claim(s) Challenged	35 U.S.C. §²	Reference(s)/Basis
1–5	103	Fan ³ , Ba ⁴ , and Yen ⁵
7	103	Fan, Ba, Yen, and Darr ⁶
10–13, 15–18	103	Solon ⁷ , Fan, Ba, and Yen

² The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. § 103, effective March 16, 2013.

Because the application from which the ’739 patent claims priority and the application from which the ’739 patent issued were filed after this date, the AIA version of § 103 applies.

³ Banghong Fan., CN 25622350 Y, issued July 23, 2003 (English translation, Ex. 1009, “Fan”).

⁴ Ba et al., CN 102568970 A, published June 11, 2012 (English translation, Ex. 1011, “Ba”).

⁵ Chun-Chang Yen, US 2010/0207716 A1, published Aug. 19, 2010 (Ex. 1006, “Yen”).

⁶ Darr et al., US 2012/0309232 A1, published Dec. 6, 2012 (Ex. 1007, “Darr”).

⁷ Dean Solon, US 8,937,249 B2, issued Jan. 20, 2015 (Ex. 1008, “Solon”).

Claim(s) Challenged	35 U.S.C. § ²	Reference(s)/Basis
1–5	103	Ye ⁸ and Gilman ⁹
7	103	Ye, Gilman, and Darr
10–13, 15–18	103	Solon, Ye, and Gilman
1–5	103	Ba, Ye, and Yen
7	103	Ba, Ye, Yen, and Darr
10–13, 15–18	103	Solon, Ba, Ye, and Yen

Pet. 6–7. Petitioner also relies on declaration testimony of Thomas Kenny, Ph.D. (Ex. 1003) and Gray Joseph (Ex. 1010).

II. ANALYSIS

A. Principles of Law

In an *inter partes* review, “the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (2012) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). This burden of persuasion never shifts to the patent owner. *See Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

⁸ Ye et al., CN 201994507 U, issued Sept. 28, 2011 (English translation, Ex. 1005, “Ye”).

⁹ Gilman et al., US 2013/0257580 A1, published Oct. 3, 2013 (Ex. 1004, “Gilman”).

Obviousness is a question of law based on underlying determinations of fact. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966); *Richardson-Vicks, Inc. v. Upjohn Co.*, 122 F.3d 1476, 1479 (Fed. Cir. 1997). A claim is unpatentable as obvious, under 35 U.S.C. § 103, if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time of the invention to a person having ordinary skill in the art. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). To show obviousness, it is not enough to merely show that the prior art includes separate references covering each separate limitation in a challenged claim. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). “This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.” *KSR*, 550 U.S. at 418–419. A petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

Instead, Petitioner must articulate a reason why a person of ordinary skill in the art would have combined or modified the prior art references. *In re NuVasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016); *see also Metalcraft of Mayville, Inc. v. The Toro Co.*, 848 F.3d 1358, 1366 (Fed. Cir. 2017) (“In determining whether there would have been a motivation to combine prior art references to arrive at the claimed invention, it is insufficient to simply conclude the combination would have been obvious without identifying any reason why a person of skill in the art would have made the combination.”).

The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art;

(2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17–18.

At this preliminary stage, we determine whether the information presented shows a reasonable likelihood that Petitioner would prevail in establishing that at least one of the challenged claims is anticipated by or would have been obvious over the asserted prior art.

We analyze the challenges presented in the Petition in accordance with the above-stated principles.

B. Level of Ordinary Skill in the Art

We review the grounds of unpatentability in view of the understanding of a person of ordinary skill in the art at the time of the invention. *Graham*, 383 U.S. at 17.

Petitioner contends that a person of ordinary skill in the art “would have a B.S. degree in electrical engineering, mechanical engineering, or an equivalent, and two years of professional experience related to the design and/or manufacturing of electrical wiring and connectors. Lack of professional experience can be remedied by additional education, and vice versa.” Pet. 11 (citing Ex. 1003 ¶ 57).

Patent Owner argues that the level of skill adopted in the ITC proceeding is correct and should be applied in this proceeding. Prelim. Resp. 9–15. Specifically, Patent Owner contends that the level of ordinary skill in the art includes “someone with ‘at least a bachelor’s degree in mechanical or electrical engineering or a related scientific field and at least two years’ experience working with photovoltaic systems and electrical wiring, with recognition that more education could substitute for experience

and that experience combined with training could substitute for formal education.” *Id.* at 9 (citing Ex. 1023, 12). Patent Owner asserts “the skilled artisan cannot be accurately described in terms of generic ‘electrical wiring and connectors,’ or without regard to PV-specific [i.e., photovoltaic] education and experience.” *Id.* at 15 (citing Pet. 11; Ex. 1003 ¶ 57).

The parties dispute whether a person of ordinary skill in the art must have experience with photovoltaic (solar) systems or whether such experience may be in the broader field of electrical wiring and connectors.

In light of the record before us, and for purposes of this Decision, we adopt Petitioner’s proposal regarding the level of ordinary skill in the art. On this preliminary record, we determine that the definition offered by Petitioner comports with the qualifications a person would have needed to understand the ’739 patent and the prior art. But, for purposes of this institution decision, and on the present record, we observe that the adoption of either party’s proposal regarding requisite work experience would not change our analysis or conclusions.

C. *Claim Construction*

We construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc); 37 C.F.R. § 42.100(b) (2019). Under *Phillips*, we give claim terms “their ordinary and customary meaning.” *Phillips*, 415 F.3d at 1312. “[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* at 1313. “Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the

particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.*

Petitioner explains that some terms have been construed in the ITC proceeding and that “[f]or purposes of this IPR, Petitioner proposes that the Board adopt the ITC’s constructions listed below.” Pet. 11. Specifically, Petitioner asks that we adopt the following constructions:

“Undermold” means “‘material molded over a piece or part that seals against environmental factors and is surrounded by the overmold.’ The undermold may be—but need not be—the ‘innermost mold.’” Pet. 12 (citing Ex. 1023, 17, 20).

“Engaged with” means the “‘photovoltaic connector physically or mechanically connected to the corresponding said [first/second] end.’ The limitation is not met by simply an electrical connection via wire.” *Id.* (citing Ex. 1023, 34).

“Outline of said overmold” to mean “‘wherein the outline of said overmold is substantially parallel relative to the outline of said undermold’” *Id.* (citing Ex. 1023, 22–23).

Patent Owner takes no position on claim construction for purposes of institution on the basis that none of its arguments against institution depend on claim construction. Prelim. Resp. 15.

The Board “need only construe terms that are in controversy, and 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) (internal citation omitted). Because no claim construction is required in order to address the issues presented in this proceeding, we need not address claim construction for purposes of institution.

D. Challenges based on Fan, Ba, and Yen with or without Salom or Darr

Petitioner argues that the combination of Fan, Ba, and Yen renders claims 1–5 unpatentable as obvious. Pet. 13. Petitioner additionally asserts

that claim 7 is obvious over the combination of Fan, Ba, Ye, and Darr (*id.* at 28) and that claims 10–13 and 15–18 are obvious over the combination of Solon, Fan, Ba, and Yen (*id.* at 30).

1. *Overview of Fan (Ex. 1009)*

Fan is directed to an “overcurrent protection device disposed on [a] power supply line” making it “structurally simple, convenient to operate, and low cost.” Ex. 1009, codes (54), (57); *see also id.* at 3:30–34, 4:14–16 (attributing its advantages to the fuse that is series-connected directly on the power supply). Fan emphasizes the invention’s absence of fuses “disposed in a plug or connector” which require “many types of plugs or connectors [that] need to be specially designed in order to set” up. *Id.* at 3:15–18. Fan also explains that “if the problem of waterproofing is to be taken into account in the abovementioned overcurrent protection devices, the structure is often relatively complex, and operation is inconvenient.” *Id.* at 2:20–24. Thus, unlike the existing overcurrent protection devices, Fan’s invention “is waterproof, as well as being structurally simple, convenient to operate, and low-cost.” *Id.* at 3:30–34.

Fan characterizes the device as consisting “of a power supply line, a fuse and an insulating layer.” *Id.* at code (57). Fan further explains that the “fuse is series-connected in the power supply line directly” which keeps the structure simple, operation simple, and cost low. *Id.* at 3:31–34; *see also id.* at 4:14–16 (same). Fan explains that the power supply line includes both an inner insulating layer and an outer insulating layer. *Id.* at 4:28–29. Fan provides that insulating layers are accomplished through injection molding after being placed in a mold cavity, where “after two or more injection molding operations, the device is waterproof.” *Id.* at 3:28–34. Fan requires

“[a] plug and connector [that] are separately injection molded on two ends of the power supply line 1.” *Id.* at 5:3–5.

2. *Overview of Ba (Ex. 1011)*

Ba is directed to a “fuse holder for solar photovoltaic power generation system” to reduce the investment cost, allow adaptation to an outdoor environment, and improve contact resistance and shock resistance reliability of the fuse. Ex.1011, code (7). Ba discloses the “fuse holder being configured to be electrically connected between an input cable and an output cable in the solar photovoltaic power generation system.” *Id.* at code (57). Ba further discloses that to achieve convenient and easy assembly for a solar photovoltaic power generation system, “the input cable and output cable are each provided with a plug-in connection component . . . the plug-in connection component on the input cable is a plug, and the plug-in connection component on the output cable is a socket.” *Id.* at claims 9 and 10.

An exemplary embodiment is shown in Figure 2, reproduced below.

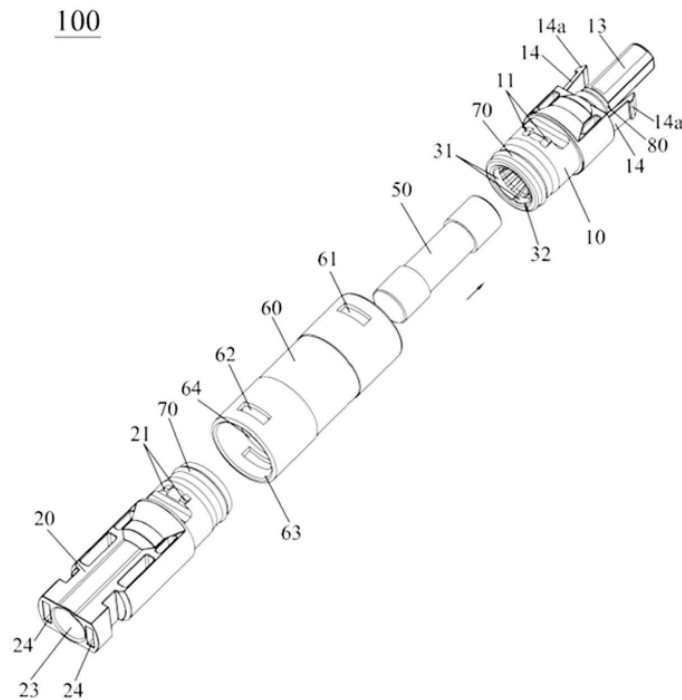


FIG. 2

Figure 2 is an exploded view of a structure of a fuse holder for a solar photovoltaic power generation system according to Ba's invention. *Id.* ¶¶ 19–20. Figure 2 shows fuse holder 100 comprising “a first housing 10, a second housing 20, a first electric terminal 30, a second electrical terminal 40, and a fuse 50.” *Id.* ¶ 29. To achieve a waterproof performance “at the connection between the first shell 10 and the second housing 20,” they are connected “in a sealing and butted manner.” *Id.* ¶ 30. To achieve the sealing and butted manner, sleeving member 60 of a hollow structure is provided and located outside fuse 50. *Id.* The sleeving member 60 connects first and second housing 10, 20 in a sealing engagement and sleeving manner. *Id.* Ba discloses the detachable connection between sleeving member 60, first housing 10 and second housing 20 which simplifies the

“assembly relationship of the fuse holder 100 for a solar photovoltaic power generation system.” *Id.*

Figure 4, shown below, depicts the connecting system between the electric terminals, input/output cables, and the housing mechanisms. *Id.*

¶ 31.

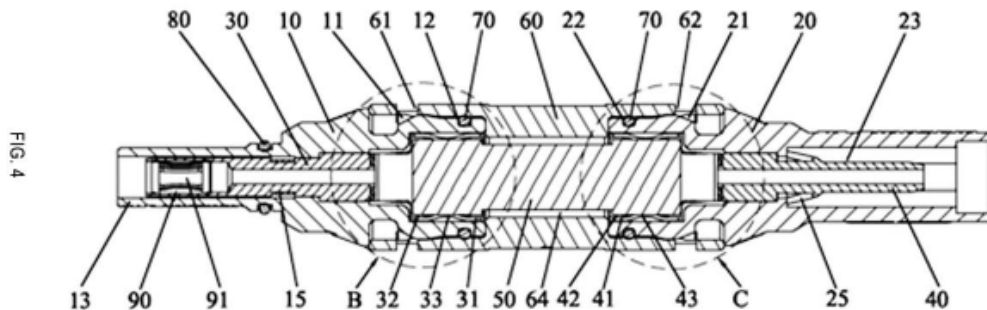


Figure 4 is a sectional view of the fuse holder according to Ba’s invention. *Id.* ¶¶ 21–22. Figure 4 shows first electric terminal 30 is disposed in first housing 10, where the right end of the first electric terminal connects to the output cable and the left end of the first electric terminal extends “in a direction in which the first housing 10 is connected to the second housing 20 in a butted manner . . . to form a first clamping sheet 31.” *Id.* ¶ 31. Similarly, the second electric terminal 40 is disposed in the second housing 20, and creates a second clamping region 42, but instead has one end electrically connected to the input cable and the other end electrically abuts against the fuse 50. *Id.*

3. Overview of Yen (Ex. 1006)

Yen is directed to an “overcurrent protection structure . . . [comprising] a fusible fuse structure unit disposed in a coating.” Ex.1006 ¶ 8. Yen states the primary objective is to “ensure the overcurrent protection structure would blow at high temperature when reaching a specific current or

a specific temperature and the protection effect against excess current.” *Id.*

¶ 7. Figure 3, illustrated below, represents an exemplary embodiment of Yen.

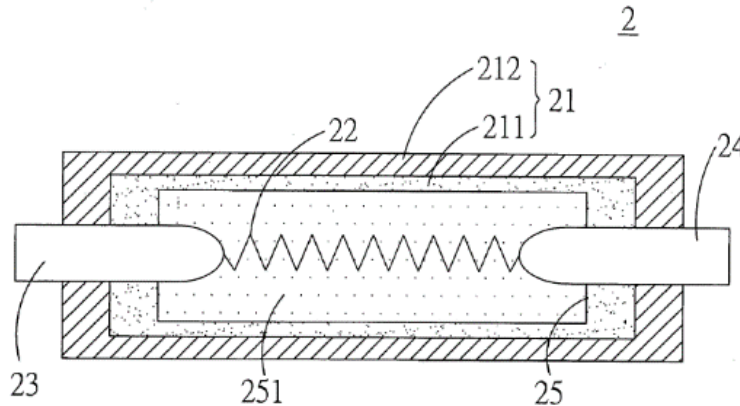


FIG. 3

Figure 3 is a “schematic view showing a structure of an overcurrent protection structure according to the present invention.” *Id.* ¶ 20. Figure 3 illustrates overcurrent protection structure 2 including fusible fuse structure unit 22 disposed in coating 21 where fusible fuse structure unit 22 extends beyond coating 21 and forms first electrode 23 and second electrode 24. *Id.* at 19–20. “[C]oating 21 can also be formed with an inner layer 211 and an outer layer 212 . . . [where] the inner layer 211 can be made of an arc resistant material and the outer layer 212 can be made of an ordinary coating material so as to decrease the use of the arc resistant material, thereby further reducing the cost.” *Id.* ¶ 20. The arc resistant material can be a thermoplastic material or a thermosetting material filled with magnesium hydroxide dihydrate. *Id.* ¶ 31. The coating 21 encapsulating the fusible fuse structure unit 22 is also formed of an arc resistant material. *Id.* ¶ 21.

4. *Analysis of Claim 1*

Petitioner asserts that each limitation of claim 1 is present in the combination of Fan, Ba, and Yen. Pet. 16–25. Petitioner alleges that each of Fan, Ba, and Yen are analogous art because each discloses “different elements and materials for in-line fuses and have different advantages.” *Id.* at 13–14.

Petitioner argues that “Fan discloses simple, low-cost in-line fuses” with “plug and connector [that] are separately molded onto two ends of the power supply line” and a person of ordinary skill in the art “would have been motivated to improve on the in-line fuse of Fan by using the plug and connector of Ba to provide a plug and connector (mentioned but not shown in Fan) that physically integrate[s] with the fuse protector of Fan, eliminating the extra wire pieces.” *Id.* at 14. According to Petitioner, “Fan provides easy-to-follow instructions for making an in-line fuse protected by two layers of injection molding layers . . . [and] Ba discloses solar power plugs and connectors that are easy to connect and provide reliability in connections,” and therefore, a person of ordinary skill in the art would have combined Fan and Ba “to provide an in-line fuse that simplifies installation in solar system power lines at convenient locations.” *Id.* at 14–15.

Petitioner further reasons that a person of ordinary skill in the art would have had reason to include Yen in the combination of Fan and Ba “to improve the electrical insulation of the protective shell by using an arc-resistant material (e.g., crystalline or amorphous thermoplastics) as an inner layer (undermold) that is encapsulated in an outer layer (overmold) as taught by Yen. *Id.* at 15. Petitioner further contends that a person of ordinary skill in the art would have had a reasonable expectation of success in the combination described

because each reference “involve[s] well-known in-line fuse configurations, use well-understood molded insulation materials, and provide easy-to-follow instructions for assembly.” *Id.*

Patent Owner, at this time, does not challenge many of Petitioner’s allegations regarding the teachings of Fan, Ba, and Yen. *See generally* Prelim. Resp. Instead, Patent Owner focuses its argument on whether Petitioner has shown a reason to modify Fan, Ba, and Yen to achieve the claimed invention with a reasonable expectation of success. *Id.* at 31–35. At this stage of the proceeding, Petitioner’s arguments and evidence are sufficient to show that each limitation of claim 1 of the ’739 patent is present in the combination of Fan, Ba, and Yen. We address Patent Owner’s argument below.

Patent Owner argues that Petitioner’s assertion that a person of ordinary skill in the art “would have been motivated to improve upon the in-line fuse of Fan by using the plug and connector of Ba to provide a plug and connector . . . that [is] physically integrated with the fuse protector of Fan, eliminating the extra wire pieces” and “simplif[y] installation in solar system power lines at convenient locations,” is conclusory and unsupported. Prelim. Resp. 32–33. Patent Owner asserts that the Petitioner fails to explain “what ‘extra wire pieces’ are ‘eliminat[ed]’ from Fan” or why a person of skill in the art would find that a motivating benefit. *Id.* at 33. Patent Owner also alleges that Petitioner does not explain what a person of ordinary skill in the art would have understood a “plug and connector” to mean and there is “no explanation of what it means to ‘simplif[y] installation in solar system power lines at convenient locations,’” or why that would have been desirable. *Id.*

Patent Owner also disagrees that Petitioner’s reasons for adding Yen, i.e., “to improve the electrical insulation of the protective shell by using an arc-resistant material (e.g., crystalline or amorphous thermoplastics) as an inner layer (undermold) that is encapsulated in an outer layer (overmold) as taught in Yen” have merit. *Id.* According to Patent Owner, there is no reason a person of ordinary skill in the art “would have seen a need for ‘using an arc-resistant material,’ nor of why a [person of ordinary skill in the art] would have perceived an arcing problem.” *Id.* at 33–34.

On this record, we are not persuaded Petitioner has adequately shown a reason to combine Fan and Ba. Petitioner argues that the ordinarily skilled artisan would have modified the in-line fuse assembly of Fan to include the plug and connector of Ba that physically integrates with the fuse in order to eliminate extra wire pieces. Pet. 14. But the details of Petitioner’s combination end there. Eliminating extra wire pieces *may* be advantageous and *might* be a reason for a person of ordinary skill in the art to modify the teachings of Fan. However neither Petitioner nor its declarant, Dr. Kenny, identify what wires are eliminated or explain why the elimination of wires in this case is advantageous. Furthermore, Petitioner does not direct our attention to any teaching in Ba that discusses the elimination of wires as a benefit to its structure. Thus, even if an ordinarily skilled artisan *could* have made the combination, Petitioner failed to sufficiently explain why an ordinary artisan *would have been motivated* to do so. *See, e.g., Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to

arrive at the claimed invention.”) (citing *InTouch Techs., Inc. v. VGO Commc’ns, Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014)).

In addition, Fan appears to teach away from the combination with Ba. Where a reference discourages one of ordinary skill in the art from following the path set out in the reference, or leads that person in a direction divergent from the path taken by the applicant, it is said to teach away. *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). Here, Fan discusses existing overcurrent protection devices, like those of Ba, that include a fuse disposed in a plug or connector and explains such devices are complicated because they need to be specially designed which increases cost. Ex. 1009, 3:13–18. Instead, Fan overcomes the problems of the prior art by including a fuse that is series connected directly to the power supply which results in a “structurally simple, convenient to operate, and low-cost” device. *Id.* at 3:28–35; *see also id.* at 4:14–16 (“Due to the fact that the fuse is series-connected on the power supply line directly, the structure is simple, operation is simple, and the cost is low.”). Therefore, following the teachings of Fan, the ordinarily skilled artisan would have been discouraged from adopting a design where the fuse is disposed within the plug or connector, like that of Ba.

Petitioner further asserts that a person of ordinary skill in the art would have had reason to combine Fan and Ba “to provide an in-line fuse that simplifies installation in solar power lines at convenient locations.” Pet. 15. According to Dr. Kenny, “it is easy to insert an inline fuse at any location where there is a plug-to-socket connection already present in the array.” Ex. 1003 ¶ 83. However, Fan describes that its device already includes “[a] *required plug and connector* [that is] separately injection molded on two ends of the power supply line 1.” Ex. 1009, 5:3–5 (emphasis

added). Petitioner similarly fails to explain how the combination, including Ba's plug and connector, is advantageous over Fan's existing plug and connectors or how it would have simplified installation at convenient locations.

On this record, Petitioner does not show sufficiently that a person of ordinary skill in the art would have had reason to combine Fan with the plug and connectors of Ba to achieve claim 1 of the '739 patent. Accordingly, we determine Petitioner has not established a reasonable likelihood that it would prevail in its assertion that claim 1 would have been obvious over the combination of Fan, Ba, and Yen.

5. *Remaining Claims 2–5, 7, 10–13, and 15–18*

Petitioner also asserts that claims 2–5, 7, 10–13, and 15–18 would have been obvious in view of Fan, Ba, and Yen, with or without one of Darr or Solon. Pet. 25–41. For these claims, Petitioner does not provide any additional argument, beyond what is argued for claim 1, in support of its reasons to combine Fan, Ba, and Yen. *Id.* Because we determine above that Petitioner failed to show a reasonable likelihood that Fan, Ba, and Yen would have rendered claim 1 obvious, we determine Petitioner has similarly failed to show a reasonable likelihood that claims 2–5, 7, 10–13, and 15–18 would have been obvious. Thus, we decline to institute on the remaining claims.

E. *Challenges based on Ye and Gilman with or without Darr or Salon*

Petitioner argues that the combination of Ye and Gilman render claims 1–5 unpatentable as obvious. Pet. 41. Petitioner additionally asserts that claim 7 is obvious over the combination of Ye, Gilman, and Darr (*id.*

at 53) and that claims 10–13 and 15–18 are obvious over the combination of Solon, Ye, and Gilman (*id.* at 55).

1. Overview of Ye (Ex. 1005)

Ye is directed to a “solar cell connecting line.” Ex. 1005, code (54). Ye discloses the objective of the present utility model “is to provide a waterproof, corrosion-resistant and well-sealed solar cell connecting line which has an overload protection function and meets the requirements for use in harsh outdoor environmental conditions.” Ex.1005 ¶ 3. Ye discloses the solar cell utility model includes a “fuse holder, two electric cables and two plug terminals.” *Id.* One end of the electric cable is connected to the plug terminal while the other forms a wiring end fixedly connected to the holder body separately. *Id.* ¶ 4. The fuse holder comprises a fuse component, a holder body, and an integrally formed insulating case where the fuse component is installed in the holder body and electrically connected at two ends to the wiring ends of the electric cables separately. *Id.* The insulating case integrally seals and covers the fuse component, the holder body, and the wiring ends of the electric cable, making the present utility model waterproof, corrosion-resistant, and well-sealed thus enduring harsh outdoor environmental conditions. *Id.* ¶ 8. Figures 1 and 2 of Ye, reproduced below, are representative of Ye’s teachings.

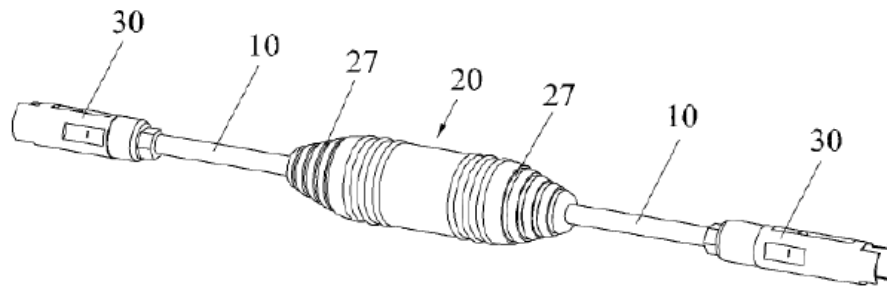


Fig. 1

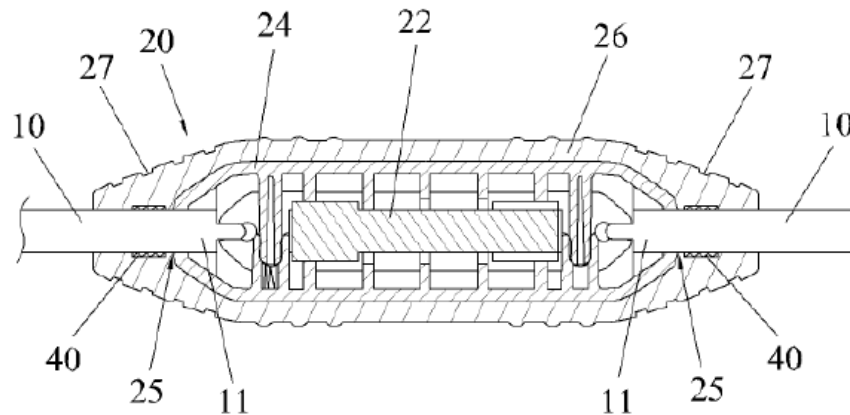


Fig. 2

Figures 1 and 2 illustrate “a solar cell connecting line . . . compris[ing] two electric cables 10, a fuse holder 20, and two plug terminals 30.” *Id.* ¶ 12. One end of electric cable 10 is connected to plug terminal 30, the other end forms wiring end 11. *Id.* While plug terminals 30 are matched for butt-connection wiring into a solar panel and other components, this is interchangeable based on actual needs. *Id.* Wiring ends 11 of two electric cables 10 are fixedly connected to holder body 24 separately. *Id.* Fuse component 22 that is installed within holder body 24 is also electrically connected at two ends to wiring ends 11 of electric cables 10. *Id.* Insulating case 26 covers holder body 24 and is in sealed connection with electric cables 10 which are inserted in holes 25 which are electrically connected to fuse component 22 by soldering or other methods. *Id.* The structure ensures

“that the operating performance of the solar cell is more stable and reliable” and is “[c]ompact with stable mechanical performance . . . UV-resistant and well-sealed.” *Id.* ¶ 8. Compared to prior art, “the solar cell connecting line of the present utility model can be connected to a solar cell and another component separately by means of the plug terminals.” *Id.* This is an advantage because when the “output current is too large, the configuration of the fuse holder can effectively cut the power and thus serve a protecting function” which is achieved because “the wiring ends of the two electric cables are fixedly connected to the holder body of the fuse holder and electrically connected to the two ends of the fuse component respectively.” *Id.*

2. *Overview of Gilman (Ex. 1004)*

Gilman is directed to “a fuse end cap having a crimpable terminal for providing a secure electrical connection between a conductor and a fuse.” Ex. 1004 ¶ 1. Gilman explains that the internal components of the fuse “disposed between a source of electrical power and a component in an electrical circuit by conductive wires” may be damaged during connection via soldering, welding, etc.” *Id.* ¶ 3. Gilman additionally offers that “prior fuse connections may have required separate components” and that there is “need for an improved fuse end cap that provides a more robust electrical connection mechanism between a fuse and wire connections without the need [for] additional components” while also “[a]voiding soldering or welding.” *Id.*

Gilman is generally directed “to a fuse end cap for providing an electrical connection between a fuse and an electrical conductor.” *Id.* ¶ 5.

Gilman illustrates in Figure 1A, shown below, an exemplary embodiment of an inline fuse assembly in accordance with the present disclosure. *Id.* ¶ 19..

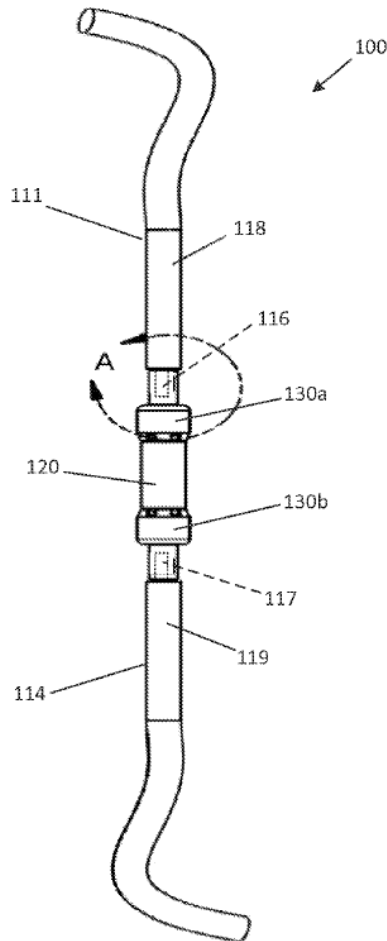


FIG. 1A

Figure 1A “is a side view illustrating an exemplary embodiment of an inline fuse assembly in accordance with the present disclosure.” *Id.* ¶ 8. Fuse assembly 100 “may include a fuse 120, a pair of wires or cables 111 and 114, and a pair of electrically conductive end caps 130a and 130b that electrically couple the wires 111 and 114 to the fuse 120.” *Id.* ¶ 20. Wires 111 and 114 may include only bare conductors 116 and 117 which may be formed of any suitable, electrically conductive material. *Id.* ¶ 20. Insulating

jackets 118 and 119 surround the conductors and may be formed of any suitable, insulating material. *Id.* Gilman further discloses a protective wrapping may provide the fuse, end caps, and wires with protection against “abrasion and other potentially damaging contact” as well as provide “a liquid-tight and/or airtight seal around the fuse assembly” providing environmental protection. *Id.* ¶ 35. Gilman discloses that the end caps disclosed in the invention “eliminate the need for traditional fuse holders and fuse blocks by providing convenient means for attaching conductive wires directly to a fuse.” *Id.* ¶ 37.

3. *Analysis of Claim 1*

Petitioner asserts that each limitation of claim 1 is present in the combination of Ye and Gilman. Pet. 43–50. Petitioner alleges that each of Ye and Gilman are analogous art because each discloses “different elements and materials of in-line fuses.” *Id.* at 41.

Petitioner argues that Ye describes solar power systems that are “waterproof, corrosion resistant and well-sealed” so that they can be used outdoors and a person of ordinary skill in the art would have “improve[d] the inline fuse assembly of Ye by replacing the holder body with the protective wrapping materials of Gilman to provide better waterproofing and by modifying the fuse connection to include fuse end cap connections as described in Gilman.” Pet. 42. Petitioner explains that the heat-shrinkable materials of Gilman “provide advantages a [person of ordinary skill in the art] would understand complement the insulating case of Ye” and to provide an overmold for the insulating case of Ye. *Id.* Petitioner alleges that “[b]ecause Ye and Gilman involve well-known in-line fuse configurations, use well-understood materials, and provide detailed descriptions of the

components,” a person of ordinary skill in the art would have had a reasonable expectation of success in the combination. *Id.* at 43.

Patent Owner, at this time, does not challenge many of Petitioner’s allegations regarding the teachings of Ye and Gilman. *See generally* Prelim. Resp. Instead, Patent Owner focuses its argument on whether Petitioner has shown a reason to modify Ye and Gilman to achieve the claimed invention with a reasonable expectation of success. *Id.* at 36–37. At this stage of the proceeding, Petitioner’s arguments and evidence are sufficient to show that each limitation of claim 1 of the ’739 patent are present in the combination of Ye and Gilman. We address Patent Owner’s argument below.

Patent Owner argues that Petitioner’s assertion that a person of ordinary skill in the art “would have been motivated to improve the in-line fuse assembly of Ye by replacing the holder body with the protective wrapping materials of Gilman to provide better waterproofing and by modifying the fuse connection to include fuse end cap connections as described in Gilman,” is conclusory and unsupported. Prelim. Resp. 36. Specifically, Patent Owner contends that the “[P]etition does not explain how a [person of ordinary skill in the art] would have envisioned doing this, and it is far from intuitive.” *Id.* Further, Patent Owner alleges that no explanation is provided to suggest why the skilled artisan “would have looked to Gilman ‘to provide better waterproofing’ when Ye states that its invention ‘is waterproof, corrosion resistant and well-sealed, and meets the requirements for use in harsh outdoor environmental conditions’ or how the “fuse end cap connections” improve Ye. *Id.* at 36–37.

We agree with Patent Owner that Petitioner’s reasons to modify Ye to include the protective wrapping and fuse end caps of Gilman lack support.

Petitioner purports to replace the holder body of Ye with the protective wrap materials described in Gilman “to provide better waterproofing.” Pet. 42. But, the purpose of Ye is to provide “a waterproof, corrosion-resistant and well-sealed connecting line.” Ex. 1005 ¶ 2. For example, Ye stresses that its solar cell connecting line

is waterproof, corrosion-resistant and well-sealed, and meets the requirements for use in harsh outdoor environmental conditions, ensuring stable and reliable operation of the solar cell. *Id.* at code (57);

is compact with stable mechanical performance, waterproof, corrosion-resistant, UV-resistant and well-sealed, and meets the requirements for use in harsh outdoor environmental conditions, so that the operating performance of the solar cell is more stable and reliable. *Id.* ¶¶ 8, 20;

enhance[s] the resistance of the solar cell connecting line to ageing, radiation and high temperatures, protect the fuse component 22 from damage by the harsh external environment, and improve the operating stability of the solar cell. *Id.* ¶ 13; and

ha[s] excellent sealing, a compact structure and a high level of practicality. *Id.*

Petitioner does not explain why Ye’s waterproofing is inadequate or how Gilman improves the existing waterproofing provided by Ye. Without an adequate explanation, Petitioner’s combination appears to be the result of hindsight bias. *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998)(“There must be a teaching or suggestion within the prior art, or the field of the invention, to look to particular sources of information, to select particular elements, and combine them in the way they are combined by the inventor.”).

Petitioner also argues that a person of ordinary skill in the art would have modified Ye “to include the fuse end cap connections as described in

Gilman.” Pet. 42. Petitioner later explains that modifying the connectors of Ye to include the end caps of Gilman would achieve “firm engagement and ease of installation . . . with a connector physically or mechanically connected to the end of the fuse.” *Id.* at 50. But, Petitioner fails to articulate a sufficient reason to include the fuse end caps of Gilman in Ye. Pet. 42, 50.

As an initial matter, Petitioner’s proposed modification is less than clear. “In an IPR, the petitioner has the burden from the onset to show *with particularity* why the patent it challenges is unpatentable.” *Harmonic Inc.*, 815 F.3d at 1363 (emphasis added). “To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner *must instead articulate specific reasoning*, based on evidence of record, to support the legal conclusion of obviousness.” *In re Magnum*, 829 F.3d at 1380 (emphasis added).

The claim language at issue is “a first photovoltaic connector engaged with said first end.” Ex. 1001, 4:44–45; *see also* Pet. 50 (referencing ’739 patent limitation (1)(d)). The ’739 patent explains the photovoltaic connector refers to female connector 40 at the first end or male connector 30 at the second end on either end of fuse assembly 10 to provide a dual connector fuse assembly that can be easily connected to a wiring harness of a photovoltaic installation. *See generally* Ex. 1001; *see also id.* Fig. 14 (illustrating one end of the photovoltaic connector installed in the wiring harness with the other end of the photovoltaic connector available to plug into the photovoltaic cells). The Specification of the ’739 patent explains that “[o]ne advantage of this is that it allows for circuit protection to be moved from the combiner box, to the wire harness, thereby reducing the number of combiner boxes required in the solar field,” which saves money

and simplifies configuration of the solar system. *Id.* at 1:56–62. But, Petitioner’s proposed to modification of Ye does not modify Ye’s plug terminals (*see* Ex. 1005, Fig. 1 (connector 30)), i.e., the connector; instead, Petitioner proposes to modify “the fuse connection to include fuse end cap connections as described in Gilman.” Pet. 42; 50. Gilman’s end caps “provid[e] an electrical connection between the fuse and the electrical conductor” (Ex. 1004 ¶ 4), and do not correspond to the photovoltaic connector in claim 1 of the ’739 patent.

But, even so, Petitioner’s reasons to include the end caps of Gilman in Ye’s connecting line are inadequate. Petitioner argues that the combination of Ye and Gilman would “achieve firm engagement and ease of installation . . . with a connector physically or mechanically connected to the ends of the fuse.” Pet. 50. But, Ye already describes a firm engagement and physical/mechanical connection between its fuse and its holder body. For example, Ye details that to achieve its waterproofing objective the solar cell connecting line includes

a fuse holder, two electric cables and two plug terminals, one end of the electric cable being connected to the plug terminal and another end forming a wiring end, the fuse holder comprising a fuse component, a holder body and an integrally formed insulating case, *the wiring ends of the two electric cables being fixedly connected to the holder body separately, the fuse component being installed in the holder body and electrically connected at two ends to the wiring ends of the electric cables.*

Ex. 1005 ¶ 4 (emphasis added). Figure 2 of Ye, reproduced above (*supra* Section II.E.1), provides further details and shows

the wiring ends 11 of the two electric cables 10 are fixedly connected to the holder body 24 of the fuse holder 20 and electrically connected to the two ends of the fuse component 22 respectively; the insulating case 26 is integrally formed outside

the holder body 24, sealing and covering the fuse component 22, the holder body 24 and the wiring ends 11 of the electric cables 10; the structure is compact, waterproof, corrosion-resistant and well-sealed, and meets the requirements for use in harsh outdoor environmental conditions, so that the operating performance of the solar cell is more stable and reliable.

Id. ¶ 20. Thus, Ye already provides for firm (or fixed) engagement with the fuse and electric cables through the use of its holder body 24. *Id.* Petitioner does not explain how Ye is deficient or how Gilman improves Ye's already firm, physical/mechanical engagement.

Therefore, on this record, Petitioner does not show sufficiently that a person of ordinary skill in the art would have had reason to combine Ye with the protective wrap and fuse end cap of Gilman to achieve claim 1 of the '877 patent. Accordingly, we determine Petitioner has not established a reasonable likelihood that it would prevail in its assertion that claim 1 would have been obvious over the combination of Ye and Gilman.

4. *Remaining Claims 2–5, 7, 10–13, and 15–18*

Petitioner also asserts that claims 2–5, 7, 10–13, and 15–18 would have been obvious in view of Ye and Gilman, with or without one of Darr or Solon. Pet. 50–60. For these claims, Petitioner does not provide any additional argument, beyond what is argued for claim 1, in support of its reasons to combine Ye and Gilman. *Id.* Because we determine above that Petitioner failed to show a reasonable likelihood that Ye and Gilman would have rendered claim 1 obvious, we determine Petitioner has similarly failed to show a reasonable likelihood that claims 2–5, 7, 10–13, and 15–18 would have been obvious. Thus, we decline to institute on the remaining claims.

F. Grounds based on Ba, Ye, and Yen with or without Darr or Solon

Petitioner argues that the combination of Ba, Ye, and Yen render claims 1–5 unpatentable as obvious. Pet. 60. Petitioner additionally asserts that claim 7 is obvious over the combination of Ba, Ye, Yen, and Darr (*id.* at 72) and that claims 10–13 and 15–18 are obvious over the combination of Solon, Ba, Ye, and Yen (*id.* at 74).

1. Analysis of Claim 1

Petitioner asserts that each limitation of claim 1 is present in the combination of Ba, Ye, and Yen. Pet. 43–71. Petitioner alleges that each of Ba, Ye, and Yen are analogous art because each discloses “different elements and materials of in-line fuses.” *Id.* at 61.

Petitioner argues that a person of ordinary skill in the art would have combined Ba’s in-line fuse assemblies “by encasing it in the insulating case of Ye to provide further waterproofing, corrosion resistance, and sealing of the in-line fuse.” Pet. 61. Petitioner acknowledges that including Ye’s waterproofing method “means the fuse assembly cannot be disassembled after installation,” but “the primary benefits identified by Ba of reduced cost, providing environmental protections, achieving firmer contact, and providing better shock resistance,” remain untouched. *Id.* And similar to the combination based on Fan, Ba, and Yen (discussed above), Petitioner alleges that a person of ordinary skill in the art would have had reason to include Yen in combination with Ba and Ye in order to “to improve the electrical insulation of the protective shell by using an arc-resistant material (e.g., crystalline or amorphous thermoplastics) as an inner layer (undermold) that is encapsulated in an outer layer (overmold) as taught by Ye.” *Id.* at 62. Petitioner also asserts that a reasonable expectation of success in the

combination exists because each reference “involve[s] well-known in-line fuse configurations, use well-understood molded insulation materials, and provide easy-to-follow instructions for assembly.” *Id.*

Patent Owner argues that Petitioner’s stated reasons to combine Ba and Ye, i.e., “to improve the in-line fuse assembly of Ba by encasing it in the insulating case of Ye to provide waterproofing, corrosion-resistance, and sealing of the in-line fuse,” are unsupported and conclusory. Prelim. Resp. 38. Specifically, Patent Owner argues that no reason exists to include Ye for waterproofing where Ba expressly teaches that its “first housing 10 is connected to the second housing 20 in a sealing and butted manner to achieve waterproof performance . . . [such that] the present invention can be adapted to work in an outdoor environment.” *Id.* (quoting Ex. 1011 ¶ 30). Furthermore, as Petitioner acknowledges, there is a “significant disincentive of the Ba + Ye combination that ‘casting an insulating case over the in-line fuse per Ye means the fuse assembly cannot be disassembled after installation.’” *Id.* at 38–39 (citing Pet. 61–62). Though the Petition argues that a person of ordinary skill in the art would have been motivated “to improve the electrical insulation of the protective shell,” Patent Owner argues that the Petition fails to explain why one of skill in the art would have viewed Ba “as needing additional electrical insulation” and lacks any explanation as to “why adding an additional layer from Yen would have been worth the added expense involved in adding materials and an extra manufacturing step.” *Id.*

As above, we are similarly unpersuaded that Petitioner has adequately shown a reason to combine Ba, Ye, and Yen. Petitioner argues that a person of ordinary skill in the art “would have been motivated to improve the in-

line assembly of Ba by encasing it in the insulating case of Ye to provide further waterproofing, corrosion resistance and sealing.” Pet. 61. But Ba already provides waterproof protection for use in outdoor environments. Ex. 1011 ¶ 30 (“The first housing 10 is connected to the second housing 20 in a sealing and butted manner to achieve waterproof performance . . . so that the fuse holder 100 . . . can be adapted to work in an outdoor environment.”); ¶ 39 (describing the use of sealing rings in the plug-in connections “for better waterproofing.”). Petitioner does not explain how Ba is deficient or how Ye’s insulating case improves upon Ba. *See generally* Pet. Without an adequate reason to combine, the factfinder risks falling prey to hindsight bias. *KSR*, 550 U.S. at 421; *ATD Corp.*, 159 F.3d at 546.

Furthermore, as Petitioner acknowledges, the combination of Ba and Ye envisioned by Petitioner “means that the fuse assembly cannot be disassembled after installation,” (Pet. 61)—an advantage attributed to Ba’s unique design (Ex. 1011 ¶ 10). This is because Petitioner proposes to “cast[] an insulating case over the in-line fuse [of Ba] per Ye.” Pet. 61. But, as illustrated above (*see supra* Section II.D.2), Ba describes a fuse holder assembly having sleeving member 60 surrounding fuse 50 where one end of sleeving member 60 is connected to first housing 10 and the second end of sleeving member 60 is connected to second housing 20. Ex. 1011 ¶ 30. Ba explains that,

the detachable connection between the sleeving member 60 and the first housing 10 and the detachable connection between the sleeving member 60 and the second housing 20 are simpler, thereby *simplifying the assembly relationship* of the fuse holder 100 for a solar photovoltaic power generation system according to the present invention.

Id. (emphasis added). Ba stresses that “that the fuse holder 100 for a solar photovoltaic power generation system according to the present invention can be *assembled and disassembled simply and conveniently.*” *Id.* ¶ 40 (emphasis added); *see also id.* ¶¶ 10 (discussing convenient assembly and disassembly), 11 (“the detachable connection between the sleeving member and the first housing . . . simplify[ies] the assembly relationship of the fuse holder for a solar photovoltaic power generation system according to the present invention.”), 13 (“the sleeving member can be assembled to or disassembled from the first housing and the second housing more easily”), 37 (describing the structure as achieving a more convenient assembly and disassembly), 40 (describing the assembly/disassembly process). Thus, the combination proposed by Petitioner would defeat the purpose of Ba, i.e., a fuse holder for a solar photovoltaic power generation system that can be “assembled and disassembled simply and conveniently” (Ex. 1011 ¶ 40). *See In re Mouttet*, 686 F.3d 1322, 1332 (Fed. Cir. 2012) (considering whether once modified, the device will operate on the same principles as before, or said another way, whether it operates in or is capable of working in the same manner).

We recognize Petitioner’s argument that a person of ordinary skill in the art would have been motivated to modify Ba in view of Ye “because the primary benefits of Ba would be retained.” Pet. 61–62. We also understand that “obviousness must be determined in light of *all the facts*, and . . . a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine.” *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (emphasis added); *see also Winner Int’l Royalty Corp. v. Wang*, 202 F.3d 1340, 1349 n.8 (Fed.

Cir. 2000) (“The fact that the motivating benefit comes at the expense of another benefit, however, should not nullify its use as a basis to modify the disclosure of one reference with the teachings of another. Instead, the benefits, both lost and gained, should be weighed against one another.”). But in this instance, the skilled artisan is not faced with favoring one advantage over another advantage; rather here, Petitioner requires the person of ordinary skill in the art select “further waterproofing” to the detriment of simple and convenient assembly and disassembly where both benefits are retained following the teachings of Ba alone. Petitioner fails to explain why a person of ordinary skill in the art would have made this supposed “trade off” and accordingly, fails to identify a reason to combine Ba and Ye.

Thus, based on the evidence and argument of record, Petitioner does not show sufficiently that a skilled artisan would have had reason to combine Ba, Ye, and Yen to achieve claim 1 of the ’739 patent. Accordingly, we determine Petitioner has not established a reasonable likelihood that it would prevail in its assertion that claim 1 would have been obvious over the combination of Ba, Ye, and Yen.

2. *Remaining Claims 2–5, 7, 10–13, and 15–18*

Petitioner also asserts that claims 2–5, 7, 10–13, and 15–18 would have been obvious in view of Ba, Ye, and Yen, with or without one of Darr or Solon. Pet. 71–79. For these claims, Petitioner does not provide any additional argument, beyond what is argued for claim 1, in support of its reasons to combine Ba, Ye, and Yen. *Id.* Because we determine above that Petitioner failed to show a reasonable likelihood that Ba, Ye, and Yen would have rendered claim 1 obvious, we determine Petitioner has similarly failed

to show a reasonable likelihood that claims 2–5, 7, 10–13, and 15–18 would have been obvious. Thus, we decline to institute on the remaining claims.

G. Matters Not Considered

Patent Owner argues that the Petition should be denied because Petitioner failed to address known evidence relating to objective indicia of nonobviousness raised during the ITC proceeding. Prelim. Resp. 39–42.

Patent Owner also asserts that Dr. Kenny does not have the requisite experience with photovoltaic systems and therefore is not qualified to testify from the perspective of a person of ordinary skill in the art. Prelim. Resp. 19–24.

Because we determine that Petitioner has not shown that the cited references would have rendered the claims of the '739 patent unpatentable, we need not address these matters at present.

H. Discretionary Denial

Petitioner argues that there is no basis for a discretionary denial based on the *Fintiv* factors. Pet. 79–82. Petitioner makes a *Sotera* stipulation that it will “not raise in the parallel District Court proceedings any ground raised or that could have been reasonably raised in the IPR.” *Id.* at 80 (citing *Sotera Wireless, Inc., v. Masimo Corp.*, IPR2020-01019, Paper 12 at 19 (PTAB Dec. 1, 2020)). Patent Owner does not address discretionary denial in its Preliminary Response.

In view of Petitioner’s *Sotera* stipulation, Patent Owner declining to seek discretionary denial, and our denial of the Petition on the merits, we determine that there is no basis for discretionary denial.

III. CONCLUSION

For the foregoing reasons, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail with respect to at least one of the claims challenged in the Petition. Accordingly, we do not institute an *inter partes* review of the '739 patent.

IV. ORDER

It is ORDERED that the Petition is denied as to all challenged claims of the '739 patent and no trial is instituted

IPR2024-00877
Patent 10,533,739 B1

For PETITIONER:

Robert M. Hansen
Matthew J. Anderson
Tony A. Gayoso
Scott B. Amankwatia
THE MARBURY LAW GROUP, PLLC
bhansen@marburylaw.com
manderson@marburylaw.com
tgayoso@marburylaw.com
samankwatia@marburylaw.com

David Okano
WHITE & CASE LLP
david.okano@whitecase.com

For PATENT OWNER:

Parrish Freeman
Eric L. Maschoff
Jacob O. Israelsen
MASCHOFF BRENNAN LLP
pfreeman@mabr.com
emaschoff@mabr.com
israelsen.jake@gmail.com