

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DECENT ESPRESSO INTERNATIONAL LTD.,
Petitioner,

v.

DUVALL ESPRESSO IP ENFORCEMENT, LLC,
Patent Owner.

IPR2025-00747
Patent 11,957,271 B2

Before LINDA E. HORNER, ERIC C. JESCHKE, and
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

MARSCHALL, *Administrative Patent Judge*.

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

Petitioner Decent Espresso International Ltd. filed a Petition requesting *inter partes* review of dependent claims 5, 6, 9, and 10¹ of U.S. Patent No. 11,957,271 B2 (Ex. 1001, “the ’271 patent”). Paper 1 (“Pet.”). Patent Owner Duvall Espresso IP Enforcement, LLC filed a Preliminary Response. Paper 10 (“Prelim. Resp.”). With our authorization, Petitioner filed a Preliminary Reply to Patent Owner’s Preliminary Response (Paper 11 (“Prelim. Reply”)) and Patent Owner filed a Preliminary Sur-reply (Paper 12 (“Prelim. Sur-reply”)).

We have jurisdiction under 35 U.S.C. § 314. Under § 314, an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

For the reasons that follow, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing with respect to any of the claims challenged in the Petition. Accordingly, we do not institute an *inter partes* review.

BACKGROUND

A. Real Parties-in-Interest and Related Matters

Petitioner identifies itself as the only real party-in-interest. Pet. 73. Patent Owner identifies itself as the only real party-in-interest and states that

¹ Petitioner also challenges claims 1–4, 7, and 8 in the Petition, but Patent Owner disclaimed those claims after Petitioner had filed the Petition. See Pet. 32–47, 54–67; Prelim. Resp. 2 n.8; Ex. 2002. In this Decision, we only note Petitioner’s challenges to claims 1–4, 7, and 8 to provide context to the challenges to dependent claims 5, 6, 9, and 10.

it “is majority owned by Duvall Espresso, Inc.” Paper 7 (Patent Owner’s Mandatory Notices), 2.

The parties indicate that the following infringement action involves the ’271 patent: *Duvall Espresso IP Enforcement, LLC v. Decent Espresso International Ltd.*, 9:23-cv-81246 (S.D. Fla.). Pet. 73; Paper 7, 2. Patent Owner also identifies IPR2024-01483 and IPR2024-01492 as related proceedings. Paper 7, 2. We denied institution in both proceedings on April 25, 2025, after Petitioner had filed the Petition in this proceeding.

B. The ’271 Patent

The ’271 patent relates to a “method of generating a desired temperature of an infused beverage within a brewing assembly” that includes heating two solvents to different temperatures and combining them upstream of a brewing chamber. Ex. 1001, code (57). The ’271 patent states that the beverage brewing system utilizes “pressure, temperature, and flow of a solvent through a solute” to produce the beverage. *Id.* at 1:8–10. The disclosed system seeks to provide “independent, dynamic variation of brewing variables” to optimize beverage flavor. *Id.* at 2:25–29.

We reproduce Figure 2 below to illustrate the key features of the inventions claimed in the ’271 patent.

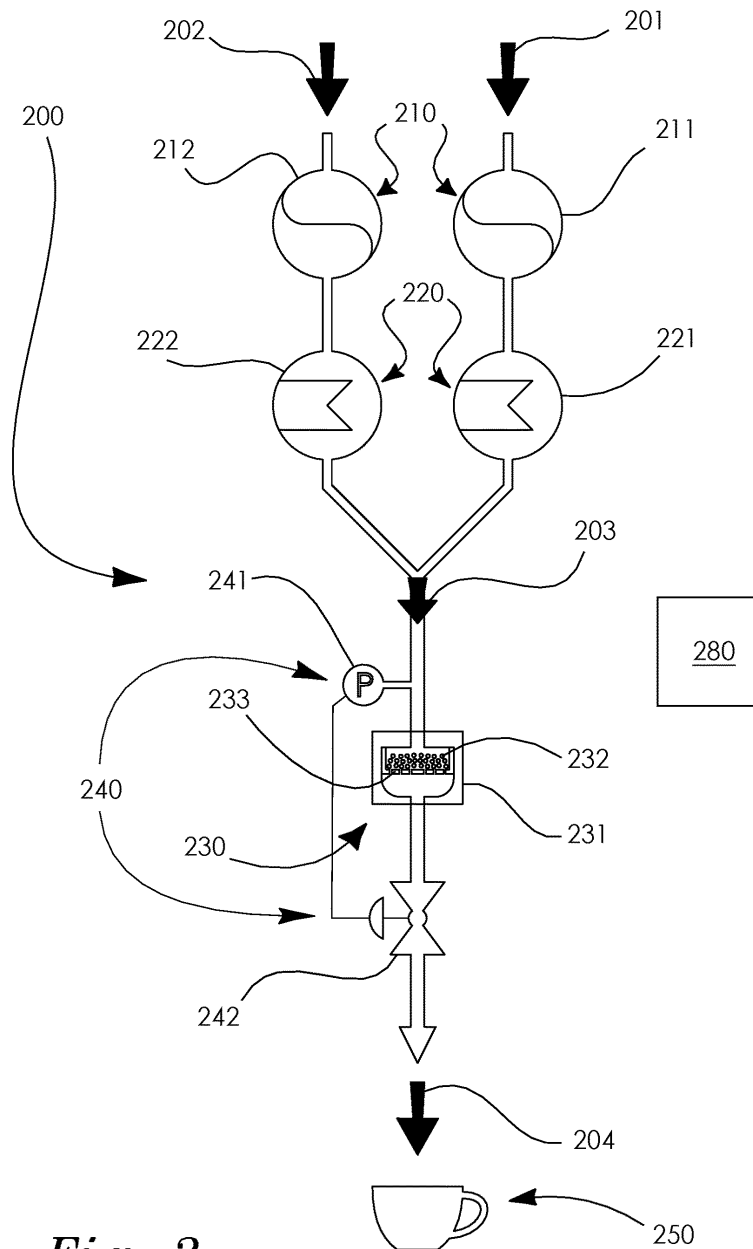


Fig. 2

Figure 2 depicts “a schematic diagram depicting an independently controlled beverage brewing system.” Ex. 1001, 5:21–22. Figure 2 shows solvents 201, 202 entering brewing system 200 via separate conduits. *Id.* at 7:15–19. The solvents pass through respective pumps 211, 212 and thermal modulators 221, 222 before combining to form resulting solvent 203. *Id.* at 7:20–22, 7:33–36, 7:47–52. “The resulting solvent 203 then passes into the

brewing/infusion chamber 230, through a resulting solvent conduit . . . where infusion of solute 232 and solvent 203 occurs.” *Id.* at 7:22–26. The infusion “generates an infused solution 204” that “passes through an infused solution conduit” and “then exits the assembly through an outlet to a receptacle 250.” *Id.* at 7:26–32.

C. The Asserted Challenges

Petitioner challenges dependent claims 5, 6, 9, and 10 on the following grounds (Pet. 9):

Claims Challenged	35 U.S.C. §	Basis ²
5, 6	103	Startz, ³ Majer, ⁴ Porzio, ⁵ Buttiker ⁶
9, 10	103	Coccia, ⁷ Giuliano, ⁸ Buttiker, Majer, Porzio

² Petitioner refers to “the knowledge of” a person of ordinary skill in the art in its challenges and includes an “and/or” prior to listing Buttiker and Porzio, respectively, in the list of references, which potentially increases the number and complexity of the challenges. *See* Pet. 9. Because these aspects of the challenges are not germane to our Decision, we omit them from the summary table.

³ US 8,973,487 B2, filed May 21, 2012, published March 10, 2015 (Ex. 1003, “Startz”). Petitioner also refers to the related U.S. Patent Appl. Pub. No. 2012/0291634 A1 (Ex. 1004). *See* Pet. 7.

⁴ WO 2011/151703 A2, published December 8, 2011 (Ex. 1008, “Majer”).

⁵ WO 2011/158131 A1, published December 22, 2011 (Ex. 1011, “Porzio”).

⁶ EP 2 612 577 A1, filed January 6, 2012, published July 10, 2013 (Ex. 1009 (in German), Ex. 1010 (English translation), “Buttiker”).

⁷ US 2011/0097454 A1, published April 28, 2011 (Ex. 1006, “Coccia”).

⁸ WO 91/07898 A1, published June 13, 1991 (Ex. 1005, “Giuliano”).

In support of these challenges, Petitioner relies on the Declaration of Ian Tinkler. *See* Ex. 1002.

D. Challenged Claims

Petitioner challenges dependent claims 5, 6, 9, and 10 of the '271 patent, with all of these claims ultimately depending from independent claim 1. Claims 5 and 6 are illustrative and are reproduced below with claims 1–4 from which they depend:

1. A method of generating a desired temperature of an infused beverage within a brewing assembly comprising the steps of:
 - inducing a flow of a first solvent within a first solvent conduit upstream of a brewing chamber in a brewing assembly, the first solvent at a first temperature;
 - inducing a flow of a second solvent within a second solvent conduit, separate from the first solvent conduit, upstream of the brewing chamber, and thermally modulating the second solvent to a second temperature higher and different than the first temperature;
 - selectively combining the first and second solvents at a resulting solvent conduit upstream of the brewing chamber to form a resulting solvent at a selectively desired temperature lower than the second temperature;
 - receiving the resulting solvent at the brewing chamber housing a solute at the selectively desired temperature to produce an infused beverage; and
 - discharging the infused through an outlet on the beverage assembly.
2. The method according to claim 1, further comprising:
 - thermally modulating the first solvent in the first solvent conduit to the first temperature.
3. The method according to claim 2, further comprising:

thermally modulating the first solvent in the first solvent conduit with a first thermal modulator and thermally modulating the second solvent in the second solvent conduit with a second thermal modulator.

4. The method according to claim 3, further comprising:

inducing the flow of the first solvent within the first solvent conduit with a first pump and inducing the flow of the second solvent within the second solvent conduit with a second pump.

5. The method according to claim 4, further comprising:

electronically controlling the first and second pumps with an electronic controller to selectively modulate the flows of the first and second solvents, respectively, to generate a desired flow rate of the resulting solvent.

6. The method according to claim 5, further comprising:

electronically controlling the first and second thermal modulators with the electronic controller to selectively modulate the temperatures of the first and second solvents, respectively, to generate the selectively desired temperature.

Ex. 1001, 16:14–57.

ANALYSIS

Petitioner argues that claims 5 and 6 would have been obvious based on Startz, Majer, Porzio, and Buttiker. Pet. 9, 47–54. In this challenge, Petitioner relies on Buttiker for its alleged disclosure of various limitations in claims 5 and 6. *Id.* at 47–54. Petitioner also contends that claims 9 and 10 would have been obvious based on Coccia, Giuliano, Buttiker, Majer, and Porzio. Pet. 9, 68–72. This challenge also relies on Buttiker for its alleged disclosure of various limitations in claims 9 and 10. *Id.* at 68–72.

Patent Owner raises several arguments against these challenges. *See* Prelim. Resp. 12–30, 32–40. We focus on Patent Owner’s argument that Buttiker is not prior art and that we should deny the Petition on this basis

alone. *See id.* at 18–20, 38. We first address the applicable statutes and then address whether Buttiker is prior art to the ’271 patent.

A. Applicability of the AIA Versions of 35 U.S.C. §§ 102 and 103

The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. §§ 102 and 103 that became effective on March 16, 2013. The ’271 patent claims priority to U.S. Pat. No. 10,772,456 B2 (“the ’456 patent”) (issuing from application number 16/383,607) as well as a number of other applications, the earliest of which was filed on August 16, 2013, and claims the benefit of priority of a provisional application filed on August 16, 2012 (application number 61/742,688, “the ’688 provisional application”). Ex. 1001, code (60).

Petitioner contends that “[d]espite claiming priority to a pre-AIA provisional application, the challenged claims are subject to” the AIA. Pet. 18. Petitioner asserts that several claims in the ’456 patent “are not entitled to the priority date” of the ’688 provisional application because they include limitations directed to new subject matter added after the filing of the ’688 provisional application. *See id.* at 19. These limitations include a “resulting solvent valve,” a “recirculation conduit,” and a “recirculation pump.” *Id.* (citing Ex. 1014, 18:29–41, 20:41–53; Ex. 2012 (generally)). According to Petitioner, these claims have an effective filing date no earlier than August 16, 2013, and therefore, “[p]ursuant to AIA §3(n)(1), all claims of the ’271 patent are subject to the first-to-file invalidity provisions of the AIA, because the ’271 patent contains a priority claim to the ’456 patent.” *Id.* at 19–20.

Patent Owner does not dispute Petitioner’s assertion that the AIA version of the statutes applies here. *See* Prelim. Resp. 8–9, 12–40. Patent

Owner also applies the AIA version of 35 U.S.C. § 102(a) in its analysis. *See id.* at 19–20.

Based on Petitioner’s undisputed contention that the AIA applies and the evidence in the record that supports Petitioner’s assertions, we apply the AIA version of the statute. The claims of the ’456 patent support Petitioner’s position because they include limitations that find support in figures and text of the ’456 patent that were not included in the ’688 provisional application. *See* Ex. 1014 (the ’456 patent), 12:47–13:16 (describing operation of valve 328 and related components), 18:29 (claiming “a resulting solvent valve” in claim 1 that corresponds to valve 328), Fig. 3 (showing resulting solvent valve 328); Ex. 1012 (’688 provisional application), Figs. 1–2 (all figures in the ’688 provisional application) (lacking any valve similar to valve 328 in the ’456 patent).

B. Whether Buttiker Is Prior Art Under 35 U.S.C. § 102(a)

1. The Parties’ Positions

Buttiker is a European Patent Office publication filed on January 6, 2012, before the filing date of the ’688 provisional patent application. Ex. 1010, 1. Buttiker published on July 10, 2013, after the filing date of the ’688 provisional patent application but before the next application in the chain of applications that led to the issuance of the ’271 patent. *See* Ex. 1001, code (60) (claiming the benefit of priority to the ’688 provisional application as well as priority to application number 14/421,362, filed on August 16, 2013).

Petitioner notes Buttiker’s filing and publication dates in the Petition, and asserts, without any further analysis, that Buttiker “is prior art under at least 35 U.S.C. § 102(a).” Pet. 7–8. Because Petitioner also argues that the

AIA version of section 102 applies to this proceeding, we interpret this as an assertion that Buttiker qualifies as prior art under the AIA version of section 102(a). *See id.* at 7–8, 18–20. Although Petitioner addresses whether the ’688 provisional application provides adequate written description support for claims in the ’456 patent as part of its analysis addressing whether the AIA applies, the Petition states that Petitioner “does not herein argue as to whether the [’]688 application adequately supports the claims of the ’271 patent, but merely that the claims of the ’271 patent are not entitled to pre-AIA treatment.” *Id.* at 19–20.

Patent Owner argues that “Petitioner admits” that the ’688 provisional application supports all claims in the ’271 patent, and, “as such, the ’271 Patent has an effective filing date of August 12, 2012.” Prelim. Resp. 18–19. Patent Owner asserts that Petitioner fails to identify which provision under section 102(a), subsection 102(a)(1) or 102(a)(2), that Petitioner relies upon. *Id.* at 19. According to Patent Owner, Buttiker is not prior art under section 102(a)(1) because that provision relies on predating the grant date of the patent, and here Buttiker’s publication date does not predate the ’688 provisional application date. *Id.* at 20 (citing MPEP⁹ § 2152.02(a)). Patent Owner also contends that section 102(a)(2) cannot apply to Buttiker because it refers to prior art based on U.S. patents and publications or international applications designating the United States, and Buttiker does not fall within the scope of those provisions. *Id.* at 20 (citing MPEP § 2152.07).

In its Preliminary Reply, Petitioner argues that (1) Patent Owner mischaracterizes its position as an admission that the ’688 provisional

⁹ Manual of Patent Examining Procedure (“MPEP”) (9th ed. rev. 01.2024).

application supports all of the claims of the '271 patent; (2) the '271 patent “contains the same new matter added” by Patent Owner to the '456 patent and therefore the '688 provisional application does not support “all of the disclosures in the '271 Patent specification;” (3) “Petitioner provided *prima facie* evidence that the '271 Patent is only entitled to a priority date of no earlier than August 16, 2013—the effective filing date of the '456 Patent;” and (4) “Buttiker predates the *prima facie* effective filing date.” Prelim. Reply 2–3. According to Petitioner, the burden was on Patent Owner to show that the '688 provisional application supported an earlier priority date, which Patent Owner failed to do. *Id.* at 3. Petitioner asserts that “even a cursory comparison of the '688 provisional application with the '271 Patent claims confirms that claim terms such as ‘resulting solvent’ are not found in the '688 provisional application.” *Id.* at 3 n.1. Petitioner also argues that “due to the inclusion of certain post-AIA disclosures in the claims of the '456 patent, [Patent Owner] is entitled only to AIA first-to-file invalidity provisions, limiting [Patent Owner] to a priority date no earlier than August 16, 2013.” *Id.* at 3–4.

In its Preliminary Sur-reply, Patent Owner argues that Petitioner belatedly realized that Buttiker is not prior art and now argues for the first time that the challenged claims are not supported by the '688 provisional application. Prelim. Sur-reply 2–3. Patent Owner asserts that “Petitioner has provided no case law or authority that the effective filing date of the '271 Patent is not the provisional application (regardless if another patent in the chain did not) provided that claims 5–6 and 9–10 have support under 35 U.S.C. § 112.” *Id.* at 3 (citing MPEP § 2152.01). Patent Owner also asserts that the claimed subject matter at issue here in the '271 patent finds support

in the '688 provisional application. *Id.* at 3–5 (citing Prelim. Resp. 16–18, 35–37; Ex. 1012, 12–15, Fig. 2).

2. Discussion

As an initial matter, we agree with Patent Owner that Buttiker can only qualify as prior art under section 102(a)(1) because section 102(a)(2) does not apply to purely foreign patent publications like Buttiker. *See* 35 U.S.C. § 102(a)(2) (describing scope of prior art as including “a patent issued under section 151” (addressing issued U.S. patents) and “an application for patent published or deemed published under section 122(b)” (addressing published U.S. applications)); MPEP § 2152 (“The documents upon which a prior art rejection under 35 U.S.C. 102(a)(2) may be based are U.S. patent documents only.”).¹⁰

Under section 102(a)(1), Buttiker may be prior art if it “was patented [or] described in a printed publication . . . before the effective filing date of the claimed invention.” 35 U.S.C. § 102(a)(1). Buttiker published after the '688 provisional application was filed, but before the other applications to which the '271 patent claims priority were filed. *See* Ex. 1010, 1; Ex. 1001, code (60). Accordingly, whether the '271 patent claims at issue here have adequate support in the '688 provisional application determines whether Buttiker is prior art to those claims because Buttiker's publication predates later applications to which the '271 patent claims priority.

When claiming the benefit of priority to a provisional application, the provisional application must provide written description support for the claims in question. *See* 35 U.S.C. § 119(e) (referring to “an invention

¹⁰ Petitioner does not dispute Patent Owner's arguments on this point in its Preliminary Reply. *See* Prelim. Reply 2–4.

disclosed in the manner provided by section 112(a)"); *see also New Railhead Mfg., L.L.C. v. Vermeer Mfg. Co.*, 298 F.3d 1290, 1294 (Fed. Cir. 2002) (“[T]o be afforded the priority date of the provisional application, . . . the written description of the provisional must adequately support the claims of the non-provisional application.”). Patent Owner argues that the ’688 provisional application supports claims 5, 6, 9, and 10 of the ’271 patent because they describe the method of controlling the pumps and thermal modulators to achieve selected temperatures upstream of the brewing chamber and creating a resulting solvent used to infuse a solute, creating an infused beverage. *See* Prelim. Sur-reply 3–4 (citing Prelim. Resp. 16–18, 35–37; Ex. 1012, 12–15). Patent Owner also refers to Figure 2 of the ’688 provisional application, which discloses the device that performs the method described in the application. *See id.* at 4–5. With one exception that we address immediately below, Petitioner does not contest these assertions or argue that the ’688 provisional application fails to disclose the subject matter claimed in claims 5, 6, 9, and 10 of the ’271 patent. *See* Pet. 18–20; Prelim. Reply 2–4. Based on our review of the record, the ’688 provisional application provides adequate written description support for the challenged claims of the ’271 patent.¹¹ *See* Ex. 1012, 11–15 (describing Figure 2 of the ’688 provisional application and related methods), Fig. 2.

¹¹ We come to the same conclusion here even if we place the burden fully on Patent Owner, as Petitioner suggests. *See* Prelim. Reply 2–3. We need not reach Patent Owner’s argument that Petitioner fails to do enough in the Petition to satisfy its burden. *See* Prelim. Sur-reply 3 (“Because the Petition did not contest the support in the provisional application for claims 5-6 and 9-10 of the ’271 Patent, the Petitioner has not satisfied its burden to show Buttiker is prior art.”).

Petitioner makes only one argument pertinent to the priority issue here, when it asserts in a footnote that the “claim terms such as ‘resulting solvent’ are not found in the ‘688 provisional application.” Prelim. Reply 3 n.1. While Petitioner is correct that the term “resulting solvent” does not appear in the ’688 provisional application, that does not show that the application does not provide written description support for that claim term. *See Eiselstein v. Frank*, 52 F.3d 1035, 1038 (Fed. Cir. 1995) (holding that exact claim terms need not be used *in haec verba* to satisfy the written description requirement of 35 U.S.C. § 112(a)); *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1565 (Fed. Cir. 1991) (“[D]rawings alone may provide a ‘written description’ of an invention as required by § 112.”); *Yeda Res. & Dev. Co. v. Abbott GmbH & Co. KG*, 837 F.3d 1341, 1345 (Fed. Cir. 2016) (“Under the doctrine of inherent disclosure, when a specification describes an invention that has certain undisclosed yet inherent properties, that specification serves as adequate written description to support a subsequent patent application that explicitly recites the invention’s inherent properties.”).

The ’271 patent claims a “resulting solvent,” which refers to the solvent created when the first and second solvents meet in the resulting conduit. *See* Ex. 1001, 7:20–21 (“[T]he thermally regulated solvents 202 and 201 combine to create a resulting solvent 203.”), Fig. 2 (showing solvents 201 and 202 combining to form resulting solvent 203). The ’688 provisional application does not use the term “resulting” before “solvent,” but it describes the same solvent 203 created in the same manner by combining solvents 201 and 202. *See* Ex. 1012, 11:163–165 (“[S]olvents 202 and 201 combine creating solvent 203.”), Fig. 2 (showing solvents 201

and 202 combining to form solvent 203). Based on these nearly identical disclosures, albeit using slightly different terminology, we are not persuaded that the '688 provisional application fails to provide written description support for “a resulting solvent” in the challenged claims, as Petitioner alleges. Patent Owner correctly points out that the '688 provisional application adequately discloses this claim limitation. *See* Prelim. Sur-reply 4–5 (arguing that '688 provisional application provides support for “a resulting solvent”).

We have considered Petitioner’s additional arguments, but find them unpersuasive because Petitioner cites no authority or reasoning to support its theories. For example, Petitioner argues that “[i]t is clear that the '688 application does not support all of the *disclosures* in [the] '271 Patent *specification*,” but the proper test does not involve comparing “disclosures” in the '271 patent specification to the '688 provisional application. *See* Prelim. Reply 2 (emphasis added). The proper test compares the challenged claims of the '271 patent to the disclosures in the '688 provisional application. *See* 35 U.S.C. §119(e) (referring to the claimed “invention” that must be “disclosed in the manner provided by section 112(a)”); *New Railhead*, 298 F.3d at 1294 (“[T]he *written description of the provisional* must adequately support the *claims* of the non-provisional application.” (emphasis added)).

Similarly, the fact that the claims of the '456 patent may rely on subject matter added after the '688 provisional application was filed, as Petitioner points out, does not have any bearing on whether the claims of the '271 patent also rely on such new matter. *See* Prelim. Reply 2–3 (referring

to the '456 patent claims).¹² Petitioner provides no support or reasoned explanation for its argument that “due to the inclusion of certain post-AIA disclosures in the claims of the '456 patent,” Patent Owner “is entitled only to AIA first-to-file invalidity provisions, limiting [Patent Owner] to a priority date no earlier than August 16, 2013.” *Id.* at 3–4. If that were the case, any time one patent within a chain of priority applications includes claims that do not have support in a provisional application, all later applications and patents in that same priority chain would be barred from obtaining priority to the provisional application, even if the claims were fully supported by that same provisional application. Such a result finds no support in the governing statutes and case law, and Petitioner fails to provide any legal authority or further reasoning for our consideration.

C. Conclusion as to Petitioner's Obviousness Challenges

Based on our review of the current record, Petitioner does not establish a reasonable likelihood of proving that any of the challenged claims would have been obvious because all of the challenges rely on Buttiker for specific limitations, and Buttiker is not prior art to the challenged claims of the '271 patent. Accordingly, Petitioner has not shown

¹² Petitioner relies on the claims of the '456 patent and new matter added after the filing of the '688 provisional application and does not argue that the disclosures in the specification of the '456 patent (or other disclosures filed after the '688 provisional application) fail to support the challenged claims of the '271 patent. *See* Prelim. Reply 2–4; *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1571 (Fed. Cir. 1997) (“In order to gain the benefit of the filing date of an earlier application under 35 U.S.C. § 120, each application in the chain leading back to the earlier application must comply with the written description requirement of 35 U.S.C. § 112.”).

a reasonable likelihood in prevailing on any of its challenges to claims 5, 6, 9, and 10.

CONCLUSION

After considering the evidence and arguments presented in the current record, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in proving the unpatentability of any claims of the '271 patent challenged in the Petition. Therefore, we do not institute *inter partes* review.

ORDER

Accordingly, it is

ORDERED that the Petition is denied and no *inter partes* review is instituted.

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