

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

OSTEOMED LLC,
Petitioner,

v.

STRYKER EUROPEAN OPERATIONS HOLDINGS LLC,
Patent Owner.

IPR2022-00488
Patent 10,993,751 B1

Before HYUN J. JUNG, SUSAN L. C. MITCHELL, and
MICHAEL A. VALEK, *Administrative Patent Judges*.

MITCHELL, *Administrative Patent Judge*.

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

I. INTRODUCTION

OsteoMed LLC (“Petitioner”) filed a Petition (Paper 1, “Pet.”), seeking *inter partes* review of claims 1–3 and 6–18 of U.S. Patent No. 10,993,751 B1 (Ex. 1001, “the ’751 patent”). Stryker European Operations Holdings LLC (“Patent Owner”) filed a Preliminary Response. Paper 6 (“Prelim. Resp.”).

In its Preliminary Response, Patent Owner requests that the Board apply discretion to deny institution under 35 U.S.C. §§ 325(d) and 314(a). *See* Prelim. Resp. 5–15. Patent Owner also raises certain challenges to the merits of the grounds in the Petition. *Id.* at 15–56.

After considering the arguments and evidence presented at this stage of the proceeding, we are persuaded that Petitioner has demonstrated a reasonable likelihood that it would prevail with respect to at least one claim challenged in the Petition. *See* 35 U.S.C. § 314(a). We also decline to exercise discretion to deny institution under 35 U.S.C. §§ 325(d) or 314(a). Accordingly, we institute *inter partes* review.

II. BACKGROUND

A. *Real Parties in Interest*

Petitioner identifies OsteoMed LLC, Acumed LLC, and Colson Medical, LLC as real parties in interest. *See* Pet. viii. Petitioner additionally identifies Marmon Holdings, Inc. and Berkshire Hathaway Inc. as “parties that may be relevant to the determinations.” *Id.* Patent Owner identifies Stryker European Operations Holding LLC, Stryker Corporation, and Howmedica Osteonics Corporation as real parties in interest. *See* Paper 5, 2.

B. Related Matters

Petitioner and Patent Owner identify *OsteoMed LLC v. Stryker Corporation.*, 1:20-cv-06821 (N.D. Ill.) as a related matter. Pet. ix, Paper 5, 2. Patent Owner additionally identifies *OsteoMed LLC v. Wright Medical Technology, Inc.*, 1:20-cv-01621 (D. Del.). Paper 5, 3.

Petitioner also identifies IPR2022-00486 and IPR2022-00487, which were filed concurrently with the Petition here and involve the same parties. Pet. ix.

C. The '751 Patent

The '751 patent issued on May 4, 2021, and is a continuation of an application that is part of a series of continuation applications, the earliest of which was filed on October 2, 2009. Ex. 1001, codes (45), (63).

The '751 patent relates to “a plate fixed between two bone parts by way of screws engaged in holes formed in the thickness of said plate” that is configured to bring “the two bone parts into a compressive position.” Ex. 1001, Abstr. Figure 3 of the '751 patent provides a perspective view of this plate and is reproduced below. *See id.* at 2:1–4.

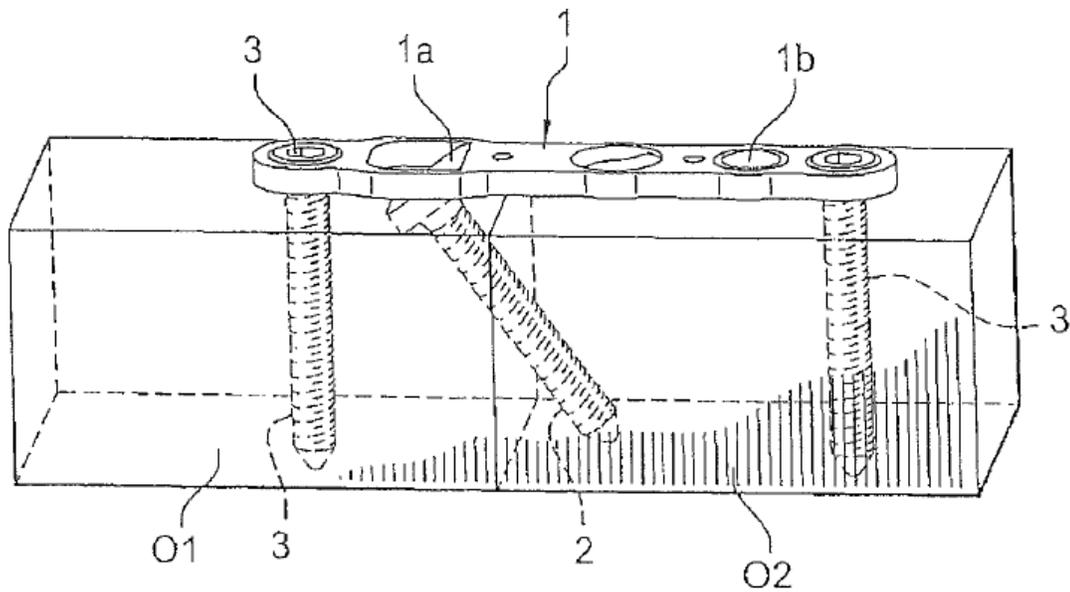


Fig. 3

Figure 3 depicts a plate 1 positioned between two bone parts O1 and O2. Ex. 1001, 2:28–29. Screws 3 are set through holes in the plate to attach it to bone parts O1 and O2. *Id.* at 2:45–47. A third screw 2 is positioned at an angle through a hole in tab 1a such that it extends through both parts O1 and O2. *Id.* at 2:8–11, 2:40–41. According to the Specification, engaging screw 2 in this manner “place[s] the fracture in compression.” *Id.* at 2:40–41.

D. Challenged Claims

The Petition challenges claims 1–3 and 6–18. *See* Pet. 5. Challenged claims 1, 11, and 17 are independent. *See* Ex. 1001, 3:7–36 (claim 1), 3:61–4:29 (claim 11), 4:42–67 (claim 17). Claim 1 is illustrative of the challenged claims. Claim 1 is reproduced below with the same bracketed annotations used in the Petition to identify particular limitations.

1. [1pre] A system for fusing a first discrete bone and a second discrete bone separated by a joint, said system comprising:
 - [1a] a bone plate having a length sufficient to span the joint, said bone plate having a first end and a second end along

said length, said length defining a longitudinal axis, said bone plate defining:

[1b] a first hole at or adjacent the first end, said first hole configured to align with the first discrete bone on a first side of the joint;

[1c] a second hole at or adjacent the second end, said second hole configured to align with the second discrete bone on a second side of the joint; and

[1d] a third hole located between said first hole and said second hole, wherein said third hole is angled relative to the longitudinal axis of said bone plate;

[1e] a first fixation member configured to be inserted through the first hole of the bone plate and into the first discrete bone of the joint;

[1f] a second fixation member configured to inserted through said second hole of said bone plate and into the second discrete bone of said joint; and

[1g] a third fixation member configured to be inserted through said third hole of said bone plate, into the first discrete bone, across said joint, and into the second discrete bone such that a free end of said third fixation member, not attached to any portion of the bone plate, resides in a second discrete bone,

[1h] wherein said third fixation member is the only fixation member extending across said joint from the first side of the joint to the second side of the joint.

Ex. 1001, 3:7–36.

E. Asserted Grounds of Unpatentability

Petitioner asserts the following grounds of unpatentability:

Claim(s) Challenged	35 U.S.C. § ¹	Reference(s)/Basis
1, 2, 7, 8	103(a)	Slater ²
1, 2, 7–18	103(a)	Slater, Zahiri ³
6	103(a)	Slater, Zahiri, Myerson ⁴
1–3, 7–18	103(a)	Arnould, ⁵ Zahiri
6	103(a)	Arnould, Zahiri, Myerson

Pet. 5.

Petitioner further relies on the declaration of Michael Sherman (Ex. 1002) submitted with the Petition.

Before turning to our analysis of these grounds, we address Patent Owner’s arguments that, notwithstanding the merits of Petitioner’s grounds, we should exercise discretion to deny institution under 35 U.S.C. §§ 325(d) and 314(a).

III. DISCRETION UNDER 35 U.S.C. § 325(d)

Patent Owner argues “[t]he Board should exercise its discretion and deny institution under 35 U.S.C. § 325(d) because . . . *three of the four* references relied upon were previously presented to the Patent Office during the prosecution of the ’751 patent.” Prelim. Resp. 1, 6–7 (stating ’751 patent lists U.S. Patent No. 7,344,538 to Myerson that issued from the Myerson

¹ The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (“AIA”), included revisions to 35 U.S.C. § 103 that became effective after the filing of the applications to which the ’751 patent claims priority. Therefore, we apply the pre-AIA version of § 103.

² WO 2007/131287 A1, published November 22, 2007 (Ex. 1004) (“Slater”).

³ US 8,187,276 B1, filed September 26, 2006 and issued May 29, 2012 (Ex. 1007) (“Zahiri”).

⁴ US2006/0241592 A1, published October 26, 2006 (Ex. 1010) (“Myerson”).

⁵ EP 1,897,509 B1, published March 12, 2008 (Ex. 1005). Exhibit 1006 is a certified translation of EP 1,897,509 B1, which we cite and refer to herein as “Arnould.”

Patent Publication relied upon by Petitioner in its challenges here along with Arnold and Slater in its references cited section). Patent Owner also contends that Petitioner “failed to address the Board’s precedential decision in *Advanced Bionics*,⁶ which requires Petitioner to demonstrate that the Examiner erred in a manner material to the patentability of the challenged claims.” *Id.* at 1.

Section 325(d) provides that the Director may elect not to institute a proceeding if the challenge to the patent is based on prior art or arguments previously presented to the Office. The statute states, in pertinent part, “[i]n determining whether to institute . . . , the Director may take into account whether, and reject the petition . . . because, the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d).

The question of whether the petition presents art or arguments that are “the same or substantially the same” as art or arguments previously presented to the Office is a factual inquiry, which may be resolved by reference to the factors set forth in *Becton, Dickinson*.⁷ The precedential section of that decision sets forth the following non-exclusive factors (“*BD* Factors”) for consideration:

- (a) the similarities and material differences between the asserted art and the prior art involved during examination;

⁶ *Advanced Bionics, LLC v. Med-El Electromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 10 (PTAB Feb. 13, 2020) (precedential) (“*Advanced Bionics*”).

⁷ *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017) (precedential as to § III.C.5, first paragraph) (“*Becton, Dickinson*”).

(b) the cumulative nature of the asserted art and the prior art evaluated during examination;

(c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;

(d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;

(e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and

(f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson, 17–18.

Advanced Bionics sets out a two-part framework for analyzing these factors. In the first part, we consider factors (a), (b), and (d) to determine whether the art and arguments presented in the petition are the same or substantially the same as those previously presented to the Office. *Advanced Bionics*, 8–10. “If, after review of factors (a), (b), and (d), it is determined that the same or substantially the same art or arguments previously were presented to the Office,” then we move on to the second part of the analysis to determine “whether the petitioner has demonstrated a material error by the Office” in view of factors (c), (e), and (f). *Id.*

A. *Advanced Bionics Part One*

Petitioner asserts that the challenged claims “have not been considered in view of the prior art relied upon in this Petition.” Pet. 6. That assertion is plainly incorrect.

Slater, the issued patent for the Myerson publication, and Arnould appear in the cited references section on the face of the ’751 patent. Ex. 1001, code (56). As Patent Owner points out, Slater, Arnould, and the

issued patent for the Myerson publication were submitted by the Applicant in an Information Disclosure Statement (IDS), and the Examiner confirmed that they were considered during examination. Prelim. Resp. 7 (citing Ex. 1003, 29, 42, 114, 127 (Examiner indicating all references considered except where lined through)).

Slater is the only reference asserted for the first ground in the Petition. Slater is also the principal reference for Petitioner's second and third ground, which is additionally combined with Zahiri in the second ground and Zahiri and Myerson in the third ground. Although Zahiri was not considered during prosecution, Petitioner relies on Zahiri for additional evidence for certain limitations in independent claims 11 and 17 and dependent claim 7 that Petitioner contends are already taught by Slater. *See* Pet. 29–58 (ground 2); Prelim. Resp. 9 (“Zahiri is merely advanced in combination with references that the Patent Office previously considered.”). Accordingly, we agree with Patent Owner that Petitioner's Slater-based grounds, which collectively reach all but claim 3 of the challenged claims, present the same or substantially the same art as that previously considered by the Office.⁸ *Advanced Bionics*, 7–8 (which states that “[p]reviously presented art includes . . . art provided to the Office, such as on an Information Disclosure Statement (IDS)”).

It is less clear whether the same art or arguments for the Petition's two Arnould-based grounds were previously considered by the Examiner. While the Petition relies on an English language translation of Arnould, the original

⁸ We need not reach the issue raised by Patent Owner that Zahiri is cumulative of art cited by the Examiner during prosecution of the '751 patent. *See* Prelim. Resp. 8–9.

reference is in French. The row of the IDS in which Arnould was identified during prosecution of the '751 patent states “English language translation of Abstract only.” Ex. 1003, 42. In contrast, the Petition primarily relies on Arnould’s figures and specification. *See generally* Pet. 62–89 (discussing the teachings in Arnould). This suggests the Examiner may not have been able to consider the portions of Arnould on which Petitioner’s challenges are based. In any event, we need not resolve this issue because our determination that the Slater-based grounds present the same or substantially the same art as that previously considered by the Office is sufficient, on the facts of this case, to proceed to the second part of the *Advanced Bionics* framework.

B. Advanced Bionics Part Two

Regarding *BD* Factor (c), we note that none of Slater, Myerson, or Arnould was the basis for any of the Examiner’s rejections during prosecution. Thus, the extent to which the Examiner considered the teachings from these references that Petitioner relies upon is not evident from the record. Instead, it appears the Examiner placed greater emphasis on different references, Haidukewych,⁹ which was cited in anticipation and obviousness rejections of the then-pending claims, and Den Hartog,¹⁰ which was cited with Haidukewych in the obviousness rejection. *See* Ex. 1003, 68–76.

⁹ US 2002/0128653 A1, published September 12, 2002 (“Haidukewych”).

¹⁰ US 2009/0210011 A1, published August 20, 2009 (“Den Hartog”).

Petitioner provides a brief overview of the prosecution history explaining that, in response to rejections over Haidukewych and Den Hartog, the challenged claims were amended as follows.

Claim 2 (allowed claim 1) was allowed for reciting, “a first discrete bone and a second discrete bone separated by a joint”; claim 12 (allowed claim 11) was allowed for reciting, “a third hole and a fourth located between the first hole and the second hole, said third and fourth hole having an axis that is configured to cross the fracture or joint during use, the third hole defining a first area and a fourth hole defining a second area, the second area being smaller than the first area”, and “the third fixation member having a fixation head defining a head are, the head are being greater than the second area and less than the first area”; and claim 18 (allowed claim 17) was allowed for reciting, “said third hole being configured to allow the entire screw head to be seated below the proximal surface of said bone plate.”

Pet. 2–3 (citing Ex. 1003, 153–156).

According to Petitioner, Application No. 17/143,709, that issued as the '751 patent “was granted following [these] amendments made after a Non-Final Office Action.” Pet. 2. The record supports Petitioner’s explanation that the challenged claims were allowed based on the amendments set forth above. *See* Ex. 1003, 132 (Examiner’s Interview Summary defining agreed upon amendments to the pending independent claims), 158 (Applicant’s Response arguing that none of the amendments to the independent claims are disclosed by Haidukewych and Den Hartog fails to cure these deficiencies), 165 (Notice of Allowance mailed following Applicant’s Response).

Patent Owner does not dispute Petitioner’s explanation of the prosecution history, but contends we should exercise discretion to deny the Petition because Petitioner “did not . . . assert material error, did not attempt

to address the *Becton, Dickinson* factors, and did not provide any analysis under *Advanced Bionics*.” Prelim. Resp. 9–10.

We disagree. Based on the current record, Petitioner has shown that both Slater and Arnould disclose the added limitations to the independent claims set forth above. *See* Pet. 13–24, 35–54, 67–86. Thus, while it is true that the Petition does not expressly refer to this as a “material error” within the context of addressing *Advanced Bionics* and the *BD* factors, Petitioner’s analysis regarding the merits of its grounds, along with its explanation of the prosecution history, is sufficient to demonstrate that the Examiner materially erred by not recognizing the relevance of Slater and Arnould’s teachings.

For these reasons, we determine that Petitioner has sufficiently demonstrated a material error, and therefore decline to exercise discretion to deny institution of *inter partes* review under 35 U.S.C. § 325(d).

IV. DISCRETION UNDER 35 U.S.C. § 314(a)

Patent Owner argues “[e]ven though the Petition is not technically a follow-on petition, the Board has the discretion to deny institution of all grounds in the Petitioner under § 314(a) due to Petitioner’s gamesmanship in filing this Petition based on Patent Owner’s earlier-filed (and recently instituted) IPRs of Petitioner’s patents.”¹¹ Prelim. Resp. 11. According to Patent Owner, “many of the rationales behind the *General Plastic*¹² factors apply to Petitioner’s actions here,” and therefore these factors “weigh in

¹¹ *See* IPR2021-01450, IPR2021-01451, IPR2021-01452, IPR2021-01453 (all instituted in March 2022).

¹² *General Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 (PTAB Sept. 6, 2017) (precedential as to § II.B.4.i) (“*General Plastic*”).

favor of the Board exercising its discretion to deny institution under § 314(a).” *Id.*

We do not agree that the *General Plastic* factors are applicable here. This is the first and only IPR petition that has been filed challenging any of the claims of the ’751 patent. *See* Pet. ix; Paper 5, 2–3 (identifying no other IPRs challenging the ’751 patent). Thus, the concern over “the potential for abuse of the review process by repeated attacks” on the same patent that fuels the *General Plastic* analysis is not implicated here. *See General Plastic*, 17. As for the *General Plastic* factors themselves, the text of those factors makes clear they are a framework for assessing whether to exercise discretion to deny a follow-on petition, i.e., a “second petition” challenging “the same claims of the same patent” that were the subject of a “first petition.” *Id.* at 16 (factors 1–5). Thus, Patent Owner’s attempt to apply those factors in this case, where the only earlier-filed petitions Patent Owner identifies are those that it filed against entirely different patents owned by Petitioner, is misplaced.

At bottom, Patent Owner’s complaint appears to be that Petitioner has taken some of the same references and arguments that Patent Owner first advanced against Petitioner’s patents in other proceedings and is now using them to challenge the patentability of some of Patent Owner’s own patent claims in this proceeding. *See* Prelim. Resp. 12 (arguing that after reviewing Patent Owner’s IPR petitions against Petitioner’s patents and Patent Owner’s contentions in a district court litigation involving Patent Owner’s patents, “Petitioner abandoned its own invalidity positions and used Patent Owner’s invalidity positions as a roadmap for drafting this Petition”). But, at least on

the facts before us here, we see nothing wrong with that approach¹³ and certainly nothing that would warrant the exercise of discretion under 35 U.S.C. § 314(a) to deny institution of an otherwise meritorious petition.

V. ANALYSIS OF THE ASSERTED GROUNDS

A. *Legal Standards*

A claim is unpatentable for obviousness if, to one of ordinary skill in the pertinent art, “the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103; *see also KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). 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) when in evidence, objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

¹³ Patent Owner also asserts “Petitioner presents arguments relating to its primary references Slater and Arnould that are inconsistent with the arguments it presented in its earlier-filed POPRs [in the IPRs challenging Petitioner’s patents] and its previous arguments to the Patent Office.” Prelim Resp. 14. To the extent Patent Owner believes Petitioner’s arguments in those proceedings undermine the evidence Petitioner presents in this proceeding, it will have the opportunity to address such issues in its subsequent papers at trial.

B. Level of Ordinary Skill in the Art

Relying on the testimony of its declarant, Mr. Sherman, Petitioner contends that a person of ordinary skill in the art (POSITA) of the '751 patent

as of October of 2009, had at least a Bachelor's Degree in mechanical engineering, biomedical engineering, biomechanics or similar discipline and approximately three years of experience with orthopedic implant design. Such a POSITA would have had knowledge of design considerations known in the industry and would have been familiar with then-existing products and solutions. A POSITA would have been familiar with orthopedic implants, bone plates, and intramedullary implants.

Pet. 4 (citing Ex. 1002 ¶¶ 50–52).

Patent Owner does not specifically dispute any aspect of Petitioner's description of a POSITA, but contends that

[i]n the recently-instituted IPRs involving Petitioner's own patents relating to the same type of bone plate technology, the parties and the Board agreed that "a POSITA at the time of the invention would be an individual having at least a bachelor's degree in engineering with at least two years of experience in the field, such as experience with the design of surgical implants, or a clinical practitioner with a medical degree and at least two years of experience as an orthopedic surgeon." For purposes of consistency, the same level of ordinary skill . . . should be used here.

Prelim. Resp. 4 (citations omitted).

At this stage in the proceeding, we find Petitioner's description of the level of ordinary skill in the art to be sufficiently supported by the record and apply it for purposes of this decision. That said, we do not perceive any meaningful difference between the parties' descriptions of the level of ordinary skill in the art. To the extent either party thinks otherwise, it would

be helpful if that party would specifically identify that difference in their subsequent papers and explain how it impacts the obviousness questions before us here.

C. Claim Construction

Neither party identifies any claim term for construction. Pet. 5; Prelim. Resp. 5. We agree that no express claim construction is necessary at this stage of the proceeding. *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (“The Board is required to construe ‘only those terms that . . . are in controversy, and only to the extent necessary to resolve the controversy.’”) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

D. References Relied Upon

i. Slater

Slater is a publication of a PCT application filed May 17, 2007, and published November 22, 2007. Ex. 1004, codes (22), (43). Petitioner asserts that Slater qualifies as prior art under 35 U.S.C. § 102(b). Pet. 7. At this stage, Patent Owner does not dispute that Slater is prior art to the challenged claims.

Slater describes “an ankle fusion plate for fusion of the anterior ankle” with “openings in the plate [that] receive fixation screws allowing compression of bones being fused.” Ex. 1004, 1:5–9.¹⁴ According to Slater, the plate may be fixed to the ankle “in a prescribed manner so that the

¹⁴ All citations to Exhibit 1004 refer to the page numbers in the original document.

orientation of the screws provide[s] optimal compression and bone fusion.”
Id. at 6:26–28.

Figure 1 of Slater, reproduced below, “shows a side elevation view”
of this plate “attached via fixation screws to an abbreviated ankle joint.” *Id.*
at 9:28–30.

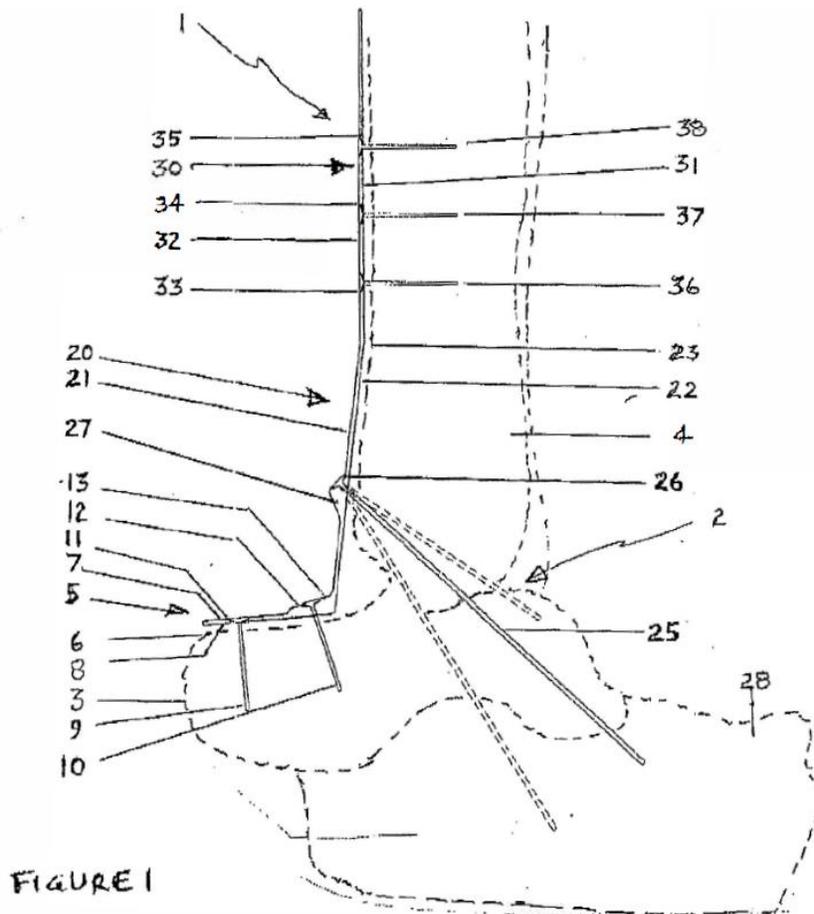


Figure 1 above depicts fusion plate 1 “attached to an ankle joint 2 opposing
the Talus bone 3 and Tibial bone 4.” Ex. 1004, 11:2–4. The plate has a
portion 5 opposing the anterior surface 6 of the talus with fixation screws 9
and 10 passing through holes in portion 5 and engaging the talus bone. *Id.* at
11:5–10. The plate has a portion 30 “preferably disposed normal or near
normal to the plane of portion 5” with openings that receive screws 36, 37,

and 38 to engage the tibia bone. *Id.* at 11:28–32. Formation 27 and opening 26 are disposed in portion 20 of the plate, which opposes the anterior surface of the tibia. *Id.* at 11:18–27. Fixation screw 25 passes through formation 27 and opening 26. *Id.* “Formation 27 is configured so that screw 25 is implanted at an angle within a predetermined allowable angular range,” preferably “within a 40 degree arc.” *Id.*

ii. Arnould

Arnould is a European patent filed September 10, 2007 and published on March 12, 2008. Ex. 1006, codes (22), (43). Petitioner asserts that Arnould qualifies as prior art under 35 U.S.C. § 102(b). Pet. 8. At this stage, Patent Owner does not dispute that Arnould is prior art to the challenged claims.

Arnould describes “an arthrodesis plate for a metatarsal-phalangeal joint, particularly for the joint between the first metatarsal and the first phalanx of the big toe” and “a surgical method for placing such an arthrodesis plate.” Ex. 1006 ¶ 1.

Figure 1 of Arnould, reproduced below, “depicts an arthrodesis plate 1 for a joint between the first metatarsal M and the first phalanx P of the big toe of a left foot.” Ex. 1006 ¶ 11.

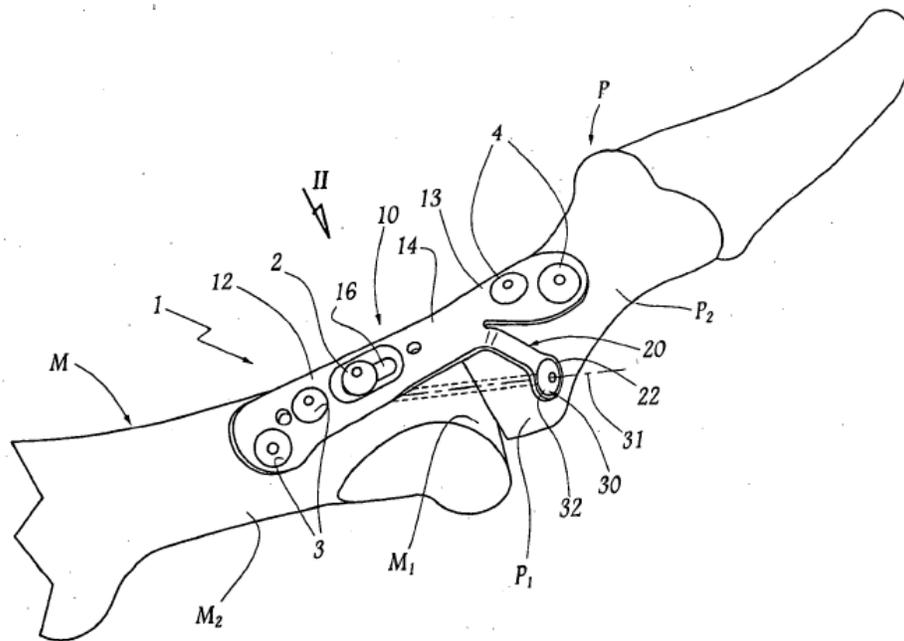
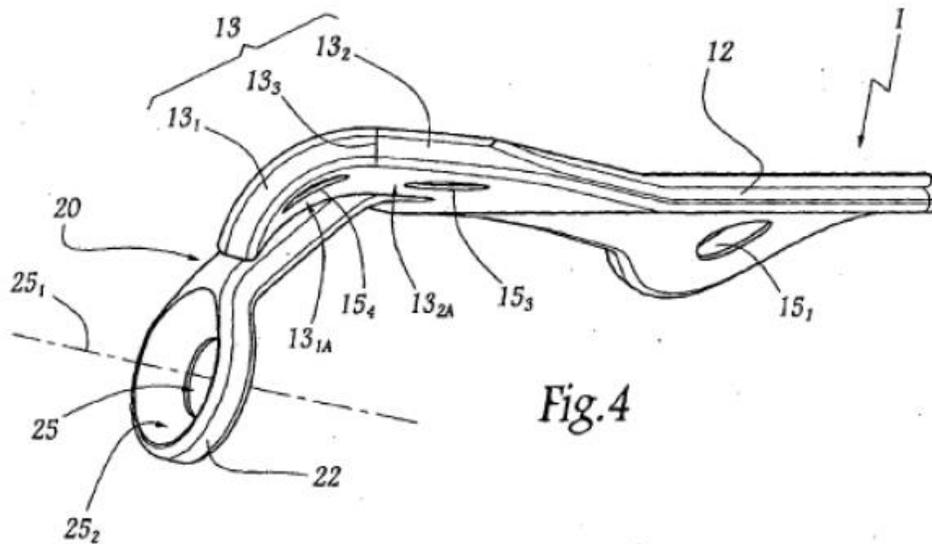


Fig. 1

Figure 1 shows screws 2 and 3 extending through holes in plate 1 to “secure the plate body 10 to the metatarsal M.” *Id.* ¶ 33. “Before or after securing the plate body 10 in relation to the metatarsal M, additional screws 4 are inserted into the holes 15₃ and 15₄ in order to secure the phalangeal portion 13 to the phalanx P.”¹⁵ *Id.* ¶ 34. Screw 30 is inserted through hole 25 “following a direction of insertion inclined in relation to the plate body 10 at an angle . . . chosen by the surgeon so that this screw, during its screwing, successively passes through the phalangeal epiphysis P₁ and the metatarsal epiphysis M₁” to join those bones. *Id.* ¶ 32; *see also id.* ¶ 6 (explaining that this screw “will extend both through the bone material of the phalanx and into the bone material of the metatarsal”).

¹⁵ The labels for holes 15₃ and 15₄ do not appear in Figure 1 of Arnould, but are shown in other figures depicting Arnould’s plate. *See, e.g.*, Ex. 1006, Figs. 2–4.

Arnould also teaches that “in order to allow the screw 30 to be screwed in and locked with its axis 31 inclined in relation to the central axis 25₁” of hole 25, that hole has “a concave surface which is substantially complementary to an associated surface delimited by this screw head.” Ex. 1006 ¶ 27. Figure 4 of Arnould is reproduced below and provides an elevation view of plate 1 from another angle.



Arnould Figure 4 shows hole 25 with a concave edge 25₂. *Id.* ¶ 27.

According to Arnould, “when the screw 31 is fully inserted into the hole 25, its head 32 comes to rest and wedge[s] against at least a portion of the edge 25₂.” *Id.*

iii. Myerson

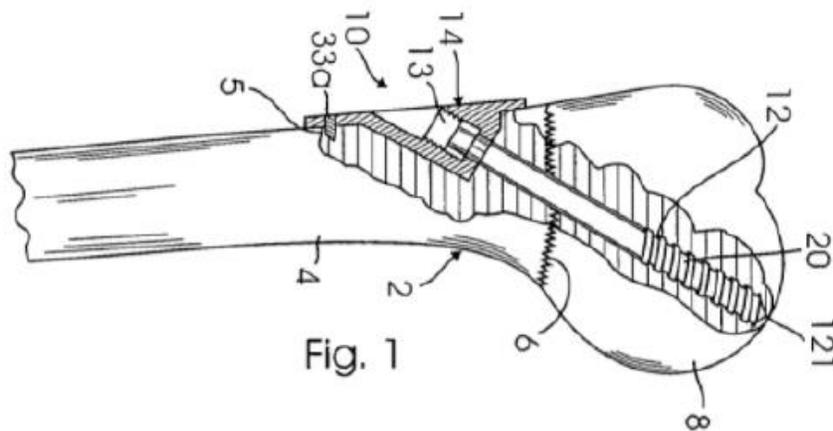
Myerson is a United States patent application published on October 26, 2006. Ex. 1010, code (43). Petitioner asserts that Myerson qualifies as prior art under 35 U.S.C. § 102(b). Pet. 10. At this stage, Patent Owner does not dispute that Myerson is prior art to the challenged claims.

Myerson describes “[a] fixation device for fixation and/or fusion of the bones and joints of the mid-foot [that] includes a plate having a plurality of screw holes for attachment of the plate around the perimeter of the fusion site.” Ex. 1010, Abstr. Myerson discloses plate 10 that “ensure[s] solid fixation of the bones and joints of the mid-foot” and can “be positioned anywhere along the mid-foot,” and can be “curved in two dimensions to follow the anatomy of the mid-foot, especially across the metatarsal joints.” *Id.* ¶¶ 21, 22, Fig. 1.

iv. Zahiri

Zahiri is a United States patent filed on September 26, 2006, and issued May 29, 2012. Ex. 1007, codes (22), (45). Petitioner asserts that Zahiri qualifies as prior art under 35 U.S.C. § 102(e). Pet. 9. At this stage, Patent Owner does not dispute that Zahiri is prior art to the challenged claims.

Zahiri describes “fixation devices for compressing bone fractures of a human being.” Ex. 1007, 1:9–11. Figure 1 of Zahiri, reproduced below from the version on page 11 of the Petition, depicts an embodiment of Zahiri’s fixation device.



Zahiri Figure 1 shows the insertion of lag screw 12 through guide plate 14 such that it extends through fracture line 6 in the bone at “an angle of 150 degrees or 170 degrees.” *See id.* at 4:58–67. According to Zahiri, the inclined angle of the “short barrel portion” of the guide plate can vary in “the range of from 90 to 170 degrees.” *Id.* at 3:59–67.

Zahiri also teaches that the plate may include holes for pins “designed to temporarily lock” the plate in position “so that it creates a user friendly condition for a surgeon to place the disclosed device at a desired location.” Ex. 1007, 3:11–18; *see also* Fig. 8 (holes 235a-d).

E. Ground 1: Obviousness over Slater

Petitioner contends claims 1, 2, 7, and 8 would have been obvious over Slater. *See* Pet. 10–29. Petitioner presents evidence and argument purporting to show that each of the limitations of these claims is taught or suggested by Slater. *Id.*

Beginning with independent claim 1, we determine that Petitioner has met its burden for institution. Based on the current record, Petitioner has shown that Slater teaches or reasonably suggests all of the elements of the recited combination, including a bone plate with first and second ends and with a length that defines a longitudinal axis and that spans a first and second bone separated by a joint (i.e., plate 1 with portions 30 and 20 that extend along the length of the tibia to the talus as depicted in Slater’s Figure 1), a first hole at or adjacent a first end of the bone plate to align with the first bone (i.e., openings 33–35 in first portion 30 to attach it to the tibia as depicted in Slater’s Figure 1), a second hole at or adjacent a second end of the bone plate to align with the second bone (i.e., openings 11–12 in third

portion 5 to attach it to the talus as depicted in Slater's Figure 1), a third hole between the first and second hole that is angled relative to the longitudinal axis of the bone plate (i.e., formation 27 for opening 26, which is between openings 33–35 and 11–12, configured so that screw 25 is implanted into the tibia at a predetermined angle as depicted in Slater's Figure 1 (and Figure 5)), a first fixation member for insertion through the first hole and into the first bone (i.e., bone screw inserted into openings 33–35 to implant into the tibia), a second fixation member for insertion through the second hole and into the second bone (i.e., screw inserted into opening 11–12 to implant in the talus), and a third fixation member for insertion through the third hole into the first bone and into the second bone such that the free end of the third fixation member is not attached to any portion of the bone plate and resides in the second bone and the third fixation member is the only fixation member extending across the joint (i.e., fixation screw 25 inserted into opening 26 to engage with the tibia and talus at a predefined angle, such as a 40 degree arc, according to formation 27 as shown in Slater's Figure 1 where fixation screw 25 is the only screw that is shown to pass through the joint between the tibia and the talus). Pet. 10–23 (citing evidence).

Moreover, Petitioner offers Mr. Sherman's testimony that a POSITA would recognize that the three specific angles and two discrete lengths of screws shown in Figure 1 would allow a surgeon options to select from that can be implanted with the range of angles to accommodate the patient's specific anatomy. *See* Ex. 1002 ¶ 109. Mr. Sherman also testifies that a POSITA would also recognize "that the screw selected to go into a single joint would have a free end not attached to any portion of the plate and that simply resides in the second bone." *Id.* Based on the current record, we

determine that this testimony when considered along with the rest of Petitioner's showing is sufficient to meet the burden for institution.

In its preliminary response, Patent Owner asserts that Petitioner fails to show that Slater teaches "a bone plate having a first end and a second end along said length, said length defining a longitudinal axis." Prelim. Resp. 16–22. Patent Owner explains that Slater's plate is "generally L-shaped," and therefore, cannot have a first end and a second end *along said length, said length defining a longitudinal axis*. Prelim. Resp. 17. Patent Owner finds fault with Petitioner's analysis that portions 20 and 30 extend along the length of the tibia to the talus "such that the bone plate is configure[d] to isolate, span and fuse the joint along the x and y axes," because Petitioner and its declarant, Mr. Sherman, are silent regarding portion 5 of the plate and do not identify a "first end" or a "second end along said length." *Id.* at 17–19 (citing Pet. 14; Ex. 1002 ¶ 87).

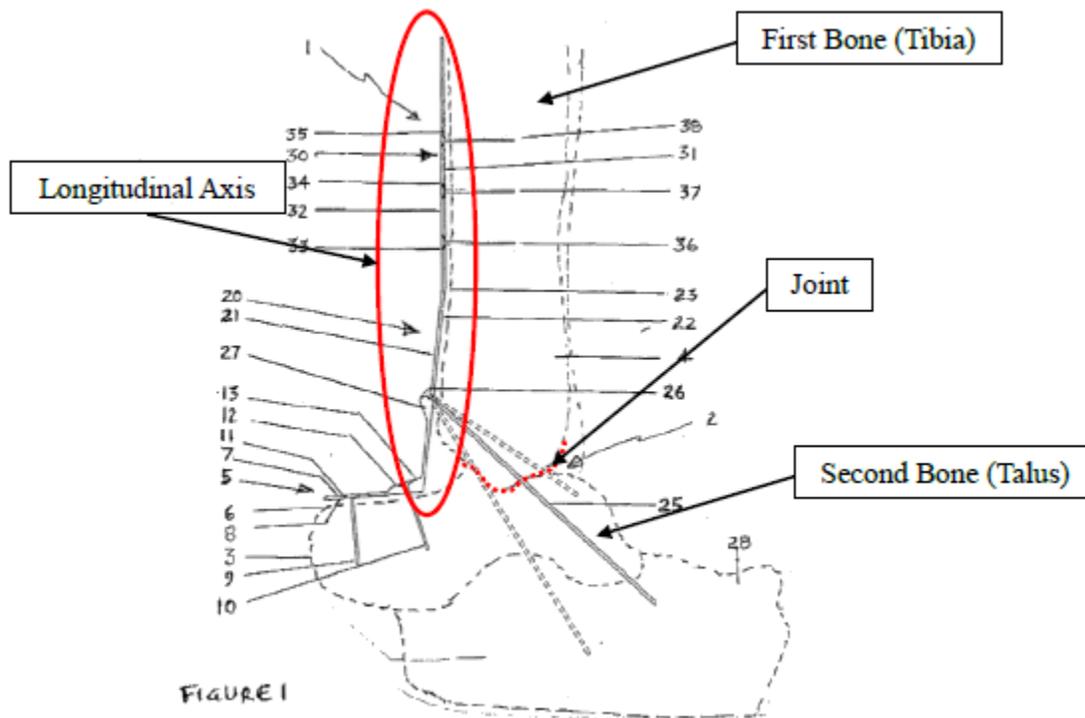
Patent Owner asserts that Petitioner's assessment of a different element of claim 1 where Petitioner asserts that third portion 5 is the second end, shows that the first and second ends along the length of the Slater's bone plate do not define a longitudinal axis. *Id.* at 20–22. Patent Owner concludes that portion 5 "'lies in a third plane at a second angle relative to the first plane and engages the talus,' not 'along the length' of the bone plate where the length defines a longitudinal axis as required by claim 1." *Id.* at 20–21 (citing to Slater's Fig. 1).

On the current record, Patent Owner's criticism of Petitioner's obviousness analysis is unavailing as the language of claim 1 accommodates Petitioner's reading of claim 1. Although we agree that Petitioner does not expressly state what comprises the first and second ends along the length of

the bone plate, a length that must be sufficient to span the joint to be fused, Petitioner's reference to its annotated Figure 1 of Slater shows these ends. See Pet. 14.

In particular, Petitioner states:

Slater's bone plate comprises regions 30 and regions 20 that extend along the length of the tibia (first bone) to the talus (second bone), such that the bone plate is configure[d] to isolate, span and fuse the joint along the x and y axes:



(Ex. 1004, FIG. 1 (annotated); 12:12-27, 13:5-18). A POSITA would understand that the bone plate comprises a longitudinal axis that spans from the first bone to the second bone with a sufficient length to encompass the joint between the first bone and second bone. (Ex. 1002, ¶¶85–86).

Pet. 14; see Ex. 1002 ¶ 87.

The language of claim 1 calling for a first and second end “along said length” of a bone plate, “said length defining a longitudinal axis,” appears to

be met by Slater as Petitioner describes above. Regions 30 and 20 as shown in Figure 1 above appear to define a length for a bone plate “sufficient to span the joint” with a first and second end along such length, i.e., the outer ends of Regions 30 and 20, where such length defines a longitudinal axis.

The fact that portion 5 that Petitioner asserts teaches openings 11–12 as “a second hole at or adjacent the second end, said second hole configured to align with the second discrete bone on a second side of the joint,” does not negate this teaching of a first and second end.¹⁶ Claim 1 recites a second hole “at or *adjacent* the second end,” which, on the current record, would seem to encompass a second hole beyond the second end as shown in Figure 1 with openings 11–12 in portion 5, which may not be strictly along the longitudinal axis. This interpretation of claim 1 appears consistent with claim 2 that requires “[t]he system of claim 1 wherein said bone plate is *contoured* to anatomically fit bones in a human foot.” *See* Pet. 24–25 (showing anatomical contour of bone plate of Slater in Figure 1 between portions 20 and 5).

Petitioner’s showing for dependent claims 2, 7, and 8 is also sufficient to meet the burden for institution. *See* Pet. 24–29 (citing evidence). At this stage, Patent Owner does not present any arguments against Petitioner’s showing for these claims beyond its arguments for claim 1, which are unavailing for the reasons explained above.

¹⁶ We recognize as Patent Owner points out that Petitioner did delineate portion 5 as a “second end,” which the parties may address further in their subsequent papers.

Accordingly, based on the current record, Petitioner has established a reasonable likelihood it will prevail in demonstrating that claims 1, 2, 7, and 8 would have been obvious over Slater.

F. Ground 2: Obviousness over Slater and Zahiri

Petitioner contends claims 1, 2, and 7–18 would have been obvious over Slater and Zahiri. *See* Pet. 29–58. Petitioner reasserts its reasoning relying on the disclosure of Slater for claims 1, 2, 7, and 8, as set forth in ground 1, and presents evidence and argument purporting to show additional elements found in independent claims 11 and 17 and the additional dependent claims. *See id.*

For instance, independent claim 11 further refines the requirements for the third hole introduced in claim 1, introduces a requirement for a fourth hole through which the third fixation member is inserted, and also introduces a requirement for a fifth hole for a temporary fixation member to be inserted therein. *See* Ex. 1001, 4:3–29. Element [11d] requires “a third hole and a fourth located between the first hole and the second hole, said third and fourth hole having an axis that is configured to cross the fracture or joint during use, the third hole defining a first area and the fourth hole defining a second area, the second area being smaller than the first area,” Ex. 1001, 4:3–8, and elements [11e] and [11i] require, respectively, “a fifth hole located adjacent either the first hole or the second hole, said fifth hole being smaller in area than said first hole or said second hole,” and “a temporary fixation member configured to be inserted through the fifth hole in the bone plate,” *id.* at 4:9–11, 28–29.

Petitioner asserts that although Slater appears to teach the required third and fourth holes, it concedes that “Slater lacks sufficient disclosure regarding the full dimensions of the opening 26 in formation 27 or hole 93.” Pet. 36 (citing Ex. 1002 ¶ 154). Petitioner looks to Zahiri for this more specific teaching stating as shown in annotated Figure 4 set forth below:

Zahiri’s bone plate comprises a barrel portion 38 with a third hole defined by an inner side wall 48 extending from an opening 46 and a third point 3 and a fourth hole that is defined by an opening side wall 43 that extends from a first point 1 to an opening 42:

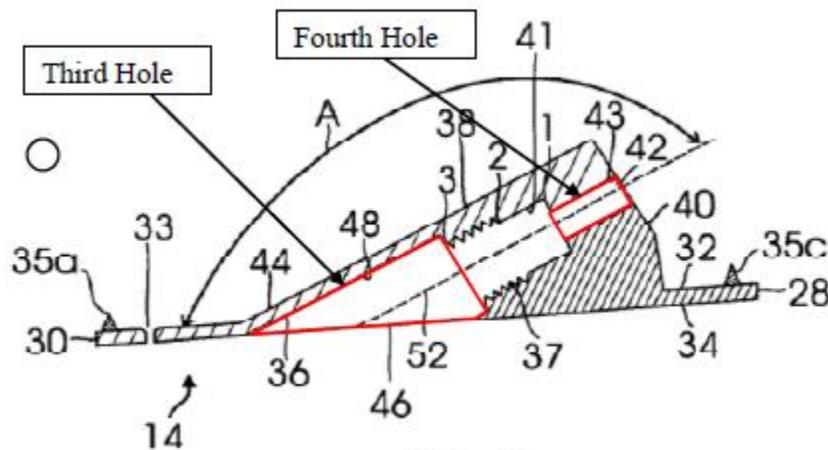


Fig. 4

(Ex. 1007, FIG 4 (annotated); 6:12-35). The inner side wall 48 of the third hole has a larger diameter than opening side wall 43 of the fourth hole. (*Id.*). A POSITA would understand that the area defined by the third hole is larger than the area defined by the fourth hole, as shown by annotated Figure 4. (Ex. 1002, ¶¶155-156). Looking to improve the integrity of the angled fixation screw of Slater, a POSITA would have readily looked to the disclosure of Zahiri. (*Id.*).

Pet. 36–37.

Petitioner also notes that Slater is silent as to temporary fixation members, and points to Zahiri’s teaching of small holes 31a–d in the corners of the bone plate for use with temporary guide pins to lock in the plate to

provide “a user friendly condition for a surgeon to place the disclosed device at a desired location.” Pet. 38–39 (citing Ex. 1007, 3:11–18, 5:47-64, Figs. 2, 8).

Petitioner also offers reasons why, in its view, a POSITA would have been motivated to combine Zahiri’s teachings regarding these elements with Slater and would have had a reasonable expectation of success in doing so. *See* Pet. 29–33.

In view of the current record, we determine that Petitioner’s showing for at least independent claims 1 and 11 in ground 2 is sufficient for institution. We address Patent Owner’s arguments to the contrary below.

First, Patent Owner asserts that ground 2 fails for the same reason as ground 1, namely Slater does not disclose “said bone plate having a first end and a second end along said length, said length defining a longitudinal axis.” Prelim Resp. 23–24. We have addressed this issue in ground 1 and find for the same reasons that this argument is unavailing. *See* Section V.E.

Next, Patent Owner asserts that the combination of Slater and Zahiri fails to satisfy the “third hole and fourth hole” limitation of claim 11 because Petitioner relies on two different embodiments to satisfy the limitation without explaining “why a POSITA would have combined different elements of different embodiments to arrive at the claimed subject matter.” Prelim. Resp. 25–28.

This argument is also unavailing on the current record. Petitioner relies on Zahiri for teaching the fourth hole of a smaller dimension than Zahiri (even though Petitioner posits that Slater appears to also teach this). *See* Pet. 36–37. Petitioner uses the embodiment shown in Figure 4 as described above for this disclosure. Although Petitioner discusses Figure 8, a

separate embodiment than shown in Figure 4, to confirm the general placement of the third and fourth holes on the bone plate, *see* Pet. 37–38; Ex. 1007, 8:32–34, Petitioner does not appear to rely on Zahiri’s Figure 8 for disclosing the first and second hole limitations of the claimed bone plate as Patent Owner asserts. *See* Pet. 34–36; Prelim. Resp. 27 (“Petitioner apparently seeks to utilize device 10 of Figure 4 to disclose the alleged ‘first area’ and ‘second area’ of the ‘third hole’ and ‘fourth hole,’ while simultaneously utilizing device 20 of Figure 8 for the ‘first hole,’ ‘second hole,’ ‘third hole,’ and ‘fourth hole.’”).

Patent Owner also attacks Petitioner’s rationale to combine Slater and Zahiri and Petitioner’s showing that a POSITA would have had a reasonable expectation of success in doing so. Prelim. Resp. 29–31. Patent Owner points out that Slater’s plate is for fusing an ankle joint while Zahiri’s is for a transverse fracture of the humerus and is positioned on only on one side of the fracture. *Id.* at 30. Patent Owner concludes that “[w]hile Petitioner alleges that ‘[a] POSITA would understand that there are no practical differences between fusing a joint through arthrodesis and fusing a bone fracture,’ this does not answer the question as to why a POSITA seeking to determine dimensions of a hole in an ankle plate would specifically look to the dimensions of a counterbore guide plate used for fractures of the proximal humerus.” *Id.*

We find this argument unavailing on the record before us. We find on the record before us that Mr. Sherman’s testimony about the interchangeability of plates to fuse a joint or a bone fracture is reasonable and supported by the record as both provide compression of the bones of the joint or the two parts of the fractured bone. *See* Ex. 1002 ¶ 134; Ex. 1004,

1:6–9 (stating Slater’s invention “relates to an ankle plate in which openings in the plate receive fixation screws allowing compression of bones being fused”); Ex. 1007, 2:45–48. On this record, we also credit Mr. Sherman’s testimony concerning the similarity between the disclosure of Slater and Zahiri of an angled fixation member to intersect a joint between two discrete bones or to compress a bone fracture, respectively, as guiding a POSITA to Zahiri. *See* Pet. 30–31; Ex. 1002 ¶¶ 131–132. Mr. Sherman provides an adequate reason for looking to Zahiri’s disclosure with a reasonable expectation of success on this record as “Zahiri further discloses an improved system that allows a sufficient amount of force to be applied between two bone parts while dissipating the force so it does not damage the bone parts.” Ex. 1002 ¶ 133 (citing Ex. 1007, 5:65–6:11).

Patent Owner also asserts that Petitioner fails to show that the combination of Slater and Zahiri discloses the “fifth hole” and “temporary fixation members” of claim 11 because Petitioner does not explain why a POSITA *would* have combined the temporary alignment techniques of Zahiri with Slater’s ankle plate. Prelim. Resp. 31–33. Patent Owner also faults Mr. Sherman for merely parroting the Petitioner without further explanation. *Id.* at 33.

We also find this argument unavailing on the record before us. We find on this record that Petitioner provides sufficient rationale to combine the temporary alignment techniques of Zahiri with Slater’s plate. Mr. Sherman notes that Slater expressly states that “[i]f an arthrodesis or ankle replacement is not properly aligned, significant gait abnormalities may result.” Ex. 1002 ¶ 135 (quoting Ex. 1004, 4:23–25). Mr. Sherman looks to Zahiri’s teaching of a plate with four small holes that are used with

temporary guide pins to hold the bone plate in place while the lag screw of Zahiri is inserted ensuring proper alignment during implantation and prevention of discomfort and abnormalities. *Id.* ¶ 137 (citing Ex. 1007, 3:10–18).

We credit Mr. Sherman’s testimony on this record and his conclusion that Zahiri discloses a known technique for improving plate alignment during implantation that when combined with Slater’s bone plate “would support Slater’s goal of reducing the risk of complications and improving the likelihood of painless, normal walking by the patient.” Ex. 1002 ¶ 138; *see* Pet. 33.

Finally, Patent Owner takes issue with Petitioner’s discussion of how the limitations of claim 17 are taught or suggested by the combination of Slater and Zahiri. Prelim. Resp. 34–40. Patent Owner asserts that the claim element abbreviations in Petitioner’s analysis do not match the abbreviations in the Petitioner’s claims appendix and inappropriately internally cross reference to previous portions of the Petition analyzing different claim elements that do not necessarily coincide in scope with the limitations at issue in claim 17. *Id.* at 34–41. We need not resolve this issue here to determine whether to institute and invite the parties to address this issue in further briefings.

Accordingly, based on the current record, Petitioner has established a reasonable likelihood it will prevail in demonstrating that at least independent claims 1 and 11 would have been obvious over Slater and Zahiri.

G. Ground 3: Obviousness over Slater, Zahiri, and Myerson

Petitioner contends claim 6 would have been obvious over Slater, Zahiri, and Myerson. *See* Pet. 58–61. In addition to its showing for claim 1 in ground 2, Petitioner presents evidence and argument purporting to show that the additional element—wherein said joint is a tarso-metatarsal joint—recited in claim 6 is taught by Myerson. *Id.* at 59–61. Petitioner also offers reasons why, in its view, a POSITA would have been motivated to combine Myerson’s teachings regarding this element with Slater and would have had a reasonable expectation of success in doing so. *See id.* at 58–60.

In view of the current record, we determine that Petitioner’s showing for claim 6 in ground 2 is sufficient to meet its burden for institution. Petitioner contends that Myerson teaches a bone plate configured to fuse the tarso-metatarsal joint. Pet. 60–61. According to Petitioner, it would have been obvious “to extend and contour Slater’s bone plate to the bones in the mid-foot by modifying the length or shape of the plate, and would obtain a predictable result.” Pet. 61 (citing Ex. 1002 ¶ 242).

Patent Owner does not make any additional argument than what it offered for grounds 1 and 2 that we have addressed above. *See* Prelim. Resp. 43. On the current record, we determine that Petitioner’s argument, which is supported by the testimony of Mr. Sherman, is sufficient for institution.

H. Ground 4: Obviousness over Arnould and Zahiri

Petitioner contends claims 1–3 and 7–18 would have been obvious over Arnould and Zahiri. *See* Pet. 62–89. Petitioner presents evidence and argument purporting to show that the limitations of these claims are taught or suggested by the cited references. *Id.* at 67–89. Petitioner also offers

reasons why, in its view, a POSITA would have been motivated to combine Zahiri's teachings with Arnould and would have had a reasonable expectation of success in doing so. *See id.* at 62–66.

Beginning with independent claim 1, we determine that Petitioner has met its burden for institution. Based on the current record, Petitioner has shown that Arnould teaches or reasonably suggests the elements of the recited combination, including a bone plate with first and second ends and with a length that defines a longitudinal axis and that spans a first and second bone separated by a joint (i.e., plate body 10 that includes metatarsal portion 12 and phalangeal portion 13 along its longitudinal direction 11), a first hole at or adjacent a first end of the bone plate to align with the first bone (i.e., plate 1 having holes 15₃ and 15₄ aligned with the phalanx), a second hole at or adjacent a second end of the bone plate to align with the second bone (i.e., plate 1 having holes 15₁ and 15₂ aligned with the metatarsal), a third hole between the first and second hole that is angled relative to the longitudinal axis of the bone plate (i.e., hole 26 into which screw 30 is configured to be inserted at an angle δ selected by the surgeon), a first fixation member for insertion through the first hole and into the first bone (i.e., screws 4 that are inserted in holes 15₃ and 15₄), a second fixation member for insertion through the second hole and into the second bone (i.e., screws 3 that are inserted in holes 15₁ and 15₂), and a third fixation member for insertion through the third hole into the first bone and into the second bone such that the free end of the third fixation member is not attached to any portion of the bone plate and resides in the second bone and the third fixation member is the only fixation member extending across the joint (i.e., screw 30 that is configured to pass through the phalangeal epiphysis and

anchor to the metatarsal epiphysis). Pet. 67–77 (citing evidence). Petitioner relies on Zahiri as additional evidence for elements [1d] and [1h] and, based on the current record, has articulated a sufficient rationale for combining Zahiri’s teachings regarding those limitations with Arnould to the extent they are not already taught in Arnould itself. Pet. 62–66, 70–72, 76–77 (citing evidence).

Patent Owner asserts that Petitioner fails to show that Arnould teaches “a third hole located between said first hole and said second hole, wherein said third hole is angled relative to the longitudinal axis of said bone plate” from element [1d]. Prelim. Resp. 44–45. From Petitioner’s annotated Figure 2 and discussion concerning screw 30 and hole 25, it appears that hole 25 is between the first and second holes as required. *See* Pet. 70. It also appears that Petitioner has explained sufficiently using annotated Figure 2 and paragraph 27 of Arnould that “[t]he trajectory of screw 30, and therefore the hole itself, is angled relative to the longitudinal axis of the plate (δ).” Pet. 70 (citing Ex. 1006, Fig. 2, ¶ 27; Ex. 1002 ¶ 263). Mr. Sherman testifies that “[b]ased on Figure 2, Arnould clearly discloses a third hole located between said first hole and said second hole, wherein said third hole is angled relative to the longitudinal axis of said bone plate.” Ex. 1002 ¶ 264. We credit Mr. Sherman’s testimony on the record before us. Petitioner’s statement of equivocation that “it may be argued” that Arnould does not expressly disclose the angle of the third hole positioned relative to the longitudinal axis of the bone plate does not undermine this testimony. Prelim. Resp. 35–36. We need not reach Patent Owner’s assertions concerning the teachings of Zahiri here because we determine that the

showing in the Petition based on Arnould is sufficient to meet the burden for institution. *Id.* at 46–48.

Patent Owner repeats many of the same arguments it made for the grounds based on Slater for independent claims 11 and 17, which we have previously addressed and at least as to claim 11 found unavailing. *See* Prelim. Resp. 49–52; *see supra* Section V.E. Also, because we find on the record before us that Arnould teaches the limitations of at least claim 1, we need not address Patent Owner’s assertions regarding the appropriateness of the combination of Arnould and Zahiri. Prelim. Resp. 52–55.

Accordingly, based on the current record, Petitioner has established a reasonable likelihood it will prevail in demonstrating that at least independent claim 1 would have been obvious over Slater and Zahiri.

I. Ground 5: Obviousness over Arnould, Zahiri, and Myerson

Petitioner contends claim 6 would have been obvious over Arnould, Zahiri, and Myerson. *See* Pet. 90–91. In addition to its showing for claim 1 in ground 4, Petitioner presents evidence and argument purporting to show that the additional element—wherein said joint is a tarso-metatarsal joint—recited in claim 6 is taught by Myerson. *Id.* at 90–91. Petitioner also offers reasons why, in its view, a POSITA would have been motivated to combine Myerson’s teachings regarding this element with Arnould and would have had a reasonable expectation of success in doing so. *See id.* at 90.

In view of the current record, we determine that Petitioner’s showing for claim 6 in ground 5 is sufficient to meet its burden for institution. Petitioner contends that Myerson teaches a bone plate with contours configured to secure the bone plate to various bones “anywhere along the

mid-foot,” “especially across the metatarsal joints.” Pet. 90. According to Petitioner, it would have been obvious “to contour Arnould’s bone plate to the bones in the mid-foot [to fuse the tarsometatarsal joint] through a simple substitution to obtain a predictable result.” Pet. 91 (citing Ex. 1002 ¶ 374).

Patent Owner does not make any additional argument than what it offered for ground 4 that we have addressed above. *See* Prelim. Resp. 56. On the current record, we determine that Petitioner’s argument, which is supported by the testimony of Mr. Sherman, is sufficient for institution.

VI. CONCLUSION

Based on the current record, we determine Petitioner has shown a reasonable likelihood that it will prevail in establishing that at least one claim of the ’751 patent is unpatentable. Accordingly, we institute review of all claims challenged on all of the grounds in the Petition. *See* Consolidated Trial Practice Guide (Nov. 2019), 64, available at <https://www.uspto.gov/sites/default/files/documents/tpgnov.pdf>.

At this stage of the proceeding, the Board has not made a final determination as to the patentability of any challenged claim. Our view with regard to any conclusion reached in the foregoing analysis could change upon completion of the record.

VII. ORDER

Accordingly, it is:

ORDERED that pursuant to 35 U.S.C. § 314, an *inter partes* review is hereby instituted as to claims 1–3 and 6–18 of the ’751 patent based on the unpatentability challenges presented in the Petition; and

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FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this decision.

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