NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

STRYKER EUROPEAN OPERATIONS HOLDINGS LLC,
Appellant

v.

OSTEOMED LLC,
Appellee

2023-2397, 2023-2398

Appeals from the United States Patent and Trademark Office, Patent Trial and Appeal Board in Nos. IPR2022-00487, IPR2022-00488.

Decided: August 7, 2025

SHARON HWANG, McAndrews, Held & Malloy, Ltd., Chicago, IL, argued for appellant. Also represented by SCOTT P. MCBRIDE, SEAN SPARROW, I, ROBERT ANTHONY SURRETTE.

DEVON C. BEANE, K&L Gates LLP, Chicago, IL, argued for appellee. Also represented by JASON ALEXANDER ENGEL.

Before HUGHES, BRYSON, and STARK, *Circuit Judges*.

STARK, *Circuit Judge*.

Patent owner Stryker European Operations Holdings LLC ("Stryker") appeals from two final written decisions ("FWD") of the Patent Trial and Appeal Board ("Board"). The Board held that several claims of two of Stryker's patents, which are directed to surgical devices used to fix bone fractures and fuse joints, are unpatentable as obvious. We affirm.

I

Stryker owns U.S. Patent Nos. 9,078,713 (the "'713 patent") and 10,993,751 (the "'751 patent") (together, the "Challenged Patents"). The Challenged Patents are directed to bone plates used for arthrodesis, which is the surgical fusing of two or more bones over a joint, and osteosynthesis, which is the surgical fusing of two or more bone fragments together to form a single mechanically stabilized bone. '751 patent 1:27-35; *see also id.* 3:7-36 (independent claim 1 describing system for arthrodesis); *id.* 3:61-4:29 (independent claim 11 describing system for osteosynthesis). The plates are designed to fuse bones in the human foot across one of several joints, including the metatarsophalangeal joint in the big toe. '751 patent 3:37-46 (dependent claims 2-6 specifying use across multiple joints in human foot). The '751 patent is a great-grandchild of the application that issued as the '713 patent.

Due to body weight, muscle pull, or both, bones are eccentrically loaded, meaning that one side of a bone is in compression while the other is in tension. On the compression side, the longitudinal forces along the bone point towards its center, while on the tension side these forces point outward from the center towards the terminal ends of the bone. The placement of a plate on the tension (as opposed to compression) side of a bone is critical because

this orientation prevents the tension side from opening up, leading to separation of the bones or bone fragments, which would impede fusion and bone growth ("osteogenesis"). But placement at the tension side is not always practicable. For example, the bones in the hands and feet are in tension at the bottom side, where a plate would cause several issues, including discomfort and pain. J.A. 2172-73 ¶ 30 (Declaration of Dr. George B. Holmes, Jr., M.D.). In addition, the bones on the top of the foot are covered with only a thin layer of subcutaneous tissue and skin, so any bone plate designed for use in that location must have a low profile. *Id.*

The Challenged Patents address these problems by utilizing a plate fixed at the top of the foot in joint fusion procedures, thereby transferring the tensile load from the bottom of the foot onto the plate, preventing spatial separation of the target bones or bone fragments. '713 patent 1:47-49, 2:16-32. Like many surgical devices, those disclosed in Stryker's patents contain a screw that passes through two or more bones (or bone fragments), placing them in compression using the "lag effect," which is created when the screw head presses against the first bone (or fragment) while the threads engage with the second bone, pulling the two together in space, stabilizing the structure, and facilitating osteogenesis. *See id.* 3:4-17, 4:13-23, 5:11-19, *see also* '751 patent 3:28-36, 3:47-50, 4:18-29.

Independent claim 32 of the '713 patent is reproduced below:

> A method of fusing a joint, the method comprising:
>
> spanning first and second bones separated by a joint with a bone plate, such that a first hole of the bone plate is aligned with a first bone of the joint and a second hole of the bone plate is aligned with a second bone of the joint;

> inserting a first fixation member through the first hole of the plate and into the first bone of the joint;
>
> inserting a second fixation member through the second hole of the plate and into the second bone of the joint; and
>
> inserting a third fixation member through a third hole in the plate, into the first bone, across the joint, and into the second bone so that a free end of the third fixation member, not attached to any portion of the plate, resides in the second bone and a head of the third fixation member is seated in the third hole, the third hole being angled relative to a longitudinal axis of the plate through a thickness of the plate, wherein the third fixation member is the only fixation member extending across the joint.

'713 patent 5:1-19.

An embodiment of a plate used in the method of this claim is depicted in Figure 2, shown below. The method uses "a bone plate" alongside "fixation members," e.g., screws and pins, for fusion. '713 patent 5:1-5, 6:20-22. The bone plate contains a first hole "aligned with a first bone of the joint" and a second hole "aligned with the second bone of the joint." '713 patent 5:2-5. One screw is inserted in each of these holes, largely perpendicular to the plate.

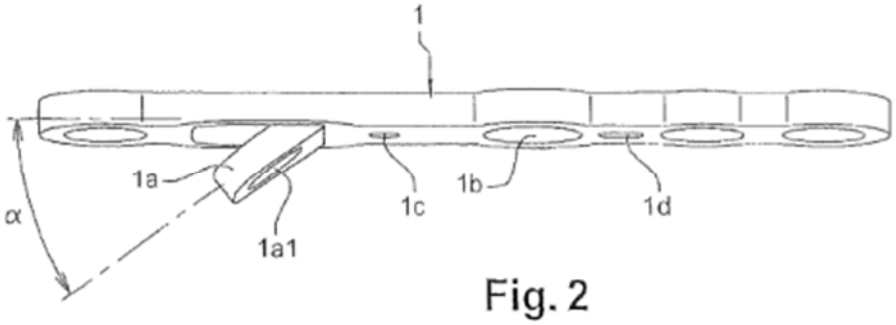

Fig. 2

A third screw is placed through a third hole [marked 1a1 in Figure 2] and then further inserted "into the first bone, across the joint, and into the second bone." '713 patent 5:11-13. "[T]he third hole must be angled relative to a longitudinal axis of the plate through a thickness of the plate," allowing it to transgress both bones and the joint. '713 patent 5:11-19.

In both Challenged Patents, "temporary fixation members" are used in addition to the three screws to help stabilize the device and factilitate proper placement of the plate during surgery. '713 patent 6:16-18; '751 patent 4:9-11, 4:28-29. The '751 patent also specifies, in each of its independent claims, that the third hole is "located between" the first hole and the second hole. '751 patent 3:19-20 (claim 1), 4:3-4 (claim 11), 4:54-55 (claim 17).

Petitioner-Appellee OsteoMed, Inc. ("OsteoMed") filed two petitions for *inter partes* reviews ("IPRs"), both of which were instituted. In its first petition (IPR 2022-487), OsteoMed contended independent claim 32 and dependent claims 33-39 of the '713 patent were unpatentable as obvious based on five grounds. The Board found all of the challenged claims obvious over the prior art asserted by OsteoMed. J.A. 42-44, 46.

In a second petition (IPR 2022-488), OsteoMed challenged independent claims 1, 11, and 17 of the '751 patent and claims depending from these. The Board found claims 1-3 and 6-18 obvious over the same prior art asserted by OsteoMed. J.A. 95, 98.

Four prior art references are pertinent to this appeal. Arnould (EP Pat. 1897509) discloses a plate to fuse the metatarsophalangeal joint in the big toe. In Arnould, a screw passes through both bones of the joint and is inserted into a hole that sits in a leg or "tab" (20) extending from the plate and wraps around the side of the phalanx bone. J.A. 1149 (Arnould Fig. 1, reproduced below). The tab is angled relative to the body of the plate so that the screw

"will extend both through the bone material of the phalanx [first bone] and [across the joint] into the bone material of the metatarsal [second bone]." J.A. 1156 ¶ 6. This orien-

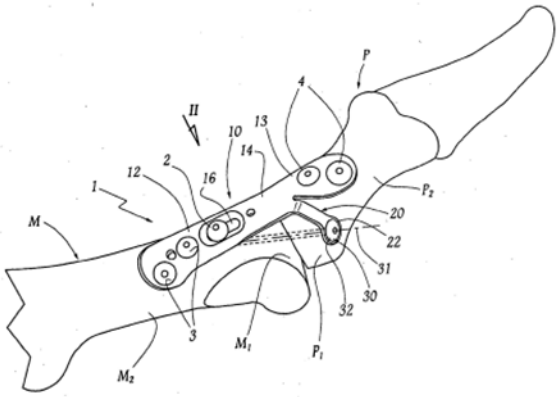

Fig.1

tation allows the third screw to "take[] up the bending stresses generated during the patient's walking." *Id.*

Zahiri (U.S. Pat. No. 8,187,276) discloses a bone fixation device to resolve fractures, such as a transverse fracture of the humerus (a long bone in the upper arm), which frequently splinters when one breaks an arm due to a fall. As Figures 1, 2, and 3, reproduced below, show, the device secures the ball of the shoulder joint using a rectangular

Zahiri

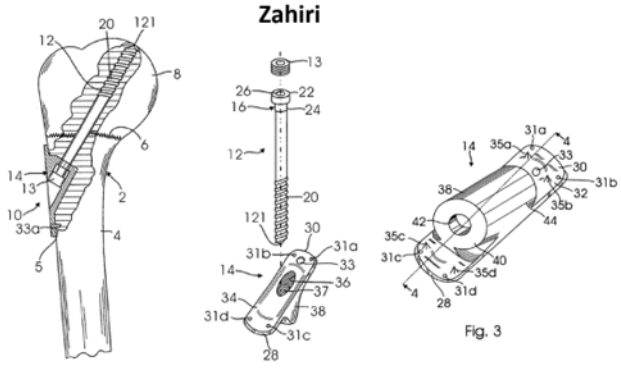

Fig. 1 Fig. 2 Fig. 3

guide plate with a short barrel portion at the center and four smaller holes at each corner. A lag screw is inserted into the barrel portion through an angled hole; the lag screw spins freely within the inner wall of that section and is then threaded into the bone at a fixed angle. When inserting the device, a surgeon temporarily secures it by placing pins into the holes at each corner of the plate. Once in the correct orientation, a locking screw is placed on top of the lag screw, which stabilizes the plate but dissipates force in order to prevent bone damage.

Myerson '608 (U.S. Pat. Pub. No. 2006/0241608), like Arnould, discloses a plate for fusion of the metatarsophalangeal joint in the big toe. It purports to result in "greater flexibility in positioning the bone fasteners fixing the plate to the associated bones," which "presents a lower profile," thereby "minimiz[ing] tissue irritation," which is important because the skin on top of the foot is thin and fragile. J.A. 1190 ¶ 7. Figure 1 of Myerson '608 is reproduced below. J.A. 1188.

Myerson '608

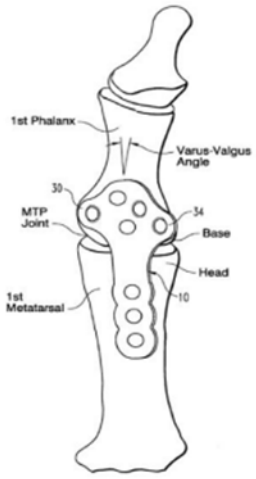

Fig. 1

Myerson '592 (U.S. Pat. Pub. No. 2006/0241592) is a plate for fixing bones "anywhere along the mid-foot,"

"especially across the metatarsal joints." J.A. 4022 ¶¶ 21-22. Figure 1 of Myerson '592 is reproduced below. J.A. 4018.

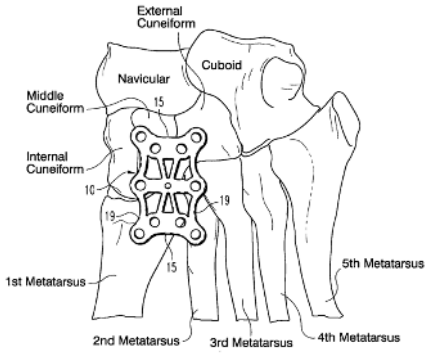

Fig. 1

Based on these references, the Board found in its first FWD that claims 32, 33, and 36-39 of the '713 patent were obvious over Arnould in view of Zahiri (ground 4) and Arnould alone, and that claims 34-35 were unpatentable as obvious over Arnould in view of Zahiri and Myerson '608 (ground 5). J.A. 46. As to the '751 patent, which the Board assessed in its second FWD, the Board determined that claims 1-3 and 7-18 were obvious over either Arnould in combination with Zahiri (ground 4) or Arnould alone, J.A. 95, and that claim 6 is obvious over Arnould in view of both Zahiri and Myerson '592 (ground 5), J.A. 98.

Stryker timely appealed the Board's FWDs and we consolidated the appeals. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

II

Claim construction presents a question of law we review de novo, with any underlying factual findings based on extrinsic evidence reviewed for substantial evidence. *See Perfect Surgical Techs., Inc. v. Olympus Am., Inc.*, 841 F.3d 1004, 1012 (Fed. Cir. 2016). Similarly, "[t]he ultimate question of obviousness is a legal question that we

review de novo with underlying factual findings that we review for substantial evidence." *Roku, Inc. v. Universal Elecs., Inc.*, 63 F.4th 1319, 1324 (Fed. Cir. 2023). "What the prior art discloses and whether a person of ordinary skill in the art would have been motivated to combine prior-art references are both fact questions that we review for substantial evidence." *Bot M8 LLC v. Sony Interactive Ent. LLC*, 66 F.4th 1380, 1384 (Fed. Cir. 2023). Substantial evidence is "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. of New York v. NLRB*, 305 U.S. 197, 229 (1938).

III

Stryker presses numerous challenges to the Board's decisions. We address Stryker's issues in the following order: (a) whether the "angled hole" claims of both Challenged Patents were proven obvious based on the combination of Arnould and Zahiri; (b) whether the "temporary fixation" claims of both patents were proven obvious based on the combination of Arnould and Zahiri; (c) whether the Board properly construed "between," as used in the '751 patent; and (d) whether other purported errors should prevent us from affirming the Board.

A

The Board found that OsteoMed proved that the "angled hole" claims – claims 32-33 and 36-39 of the '713 patent and claims 1-3, 7-10, and 17-18 of the '751 patent – were unpatentable as obvious over the combination of Arnould and Zahiri. While there are aspects of the Board's analysis with which we disagree, we affirm its ultimate legal conclusion of obviousness.

1

We begin by discussing two legal errors committed by the Board, although each is harmless and does not affect our disposition. First, the Board found that Arnould alone teaches each limitation of the "angled hole" claims.

But OsteoMed's petition does not challenge the patentability of the claims on the basis of Arnould alone. *See* J.A. 123-224 (not contending Arnould alone renders claims obvious or anticipated), 3116-223 (same). Because the petition controls an IPR, *see Koninklijke Philips N.V. v. Google LLC*, 948 F.3d 1330, 1337 (Fed. Cir. 2020) (holding Board lacked "discretion to institute an inter partes review on a ground of unpatentability not raised in the petitioner's petition"), the Board erred by analyzing the patentability of Stryker's claims on a ground not raised in the petition.

Second, the Board erred by implicitly construing the "angled hole" claims as requiring only that the *axis* of the third hole, and not the *hole* itself, needs to be angled relative to the longitudinal axis of the plate. The pertinent limitation (from, for example, claim 32 of the '713 patent) is "a head of the third fixation member is seated in a third hole, *the third hole being angled relative to a longitudinal axis of the plate through a thickness of the plate*, wherein the third fixation member is the only fixation member extending across the joint." '713 patent 5:15-19 (emphasis added). Although the parties did not present "angled hole" to the Board as a term requiring construction, the Board in its analysis made clear that it understood the limitation as being satisfied as long as the *axis of the third hole* is angled relative to the longitudinal axis of the plate, even if *the hole itself* is not bored at an angle relative to that axis. This was implicit claim construction. *See Sigray, Inc. v. Carl Zeiss X-Ray Microscopy, Inc.*, 137 F.4th 1372, 1377 (Fed. Cir. 2025) ("If the outcome of the Board's analysis establishes the scope and meaning of the claim, then the Board has implicitly construed the claim.") (internal citations omitted).

While the Board is permitted to implicitly construe a claim term, *see Google LLC v. EcoFactor, Inc.*, 92 F.4th 1049, 1057 (Fed. Cir. 2024), the construction it implicitly

adopted is incorrect.[1] The specifications of the Challenged Patents repeatedly distinguish between "angled hole" embodiments and "angled tab" embodiments. '713 patent 1:35-46, 2:1-2, 2:10-15, 2:21-25 (describing "tab" embodiments); *id.* 1:45-46, 2:8-10 (describing "angled hole" embodiments). In the "angled hole" embodiments, the hole itself is drilled at an angle. In the "angled tab" embodiments, by contrast, the hole is drilled straight through a portion of the plate, such that the inner surface of the hole is perpendicular to the surface along the opening of the hole, and then the plate surface itself is bent, to allow the third screw to transgress the joint while the top portion of the plate lays flat along the top of the bones or bone fragments to be fused. *See* J.A. 106 (Fig. 2 structure 1(a)); *see also* '713 patent 1:42-44 (explaining that "angled tab," unlike "angled hole," "results from a cut out and a deformation of a portion of the plate"). The Board's construction fails to accord meaning to this distinction and, in this way, is inconsistent with the claim language and the specification.

"We have previously made clear that the harmless error rule applies to appeals from the Board just as it does in cases originating from district courts. Thus, to prevail the appellant must not only show the existence of error, but also show that the error was in fact harmful because it affected the decision below." *In re Watts*, 354 F.3d 1362, 1369 (Fed. Cir. 2004) (internal citations omitted). While Stryker has shown error, it has failed to show that these errors affected the outcome of the final written decisions. Thus,

---

[1] We do not agree with OsteoMed that Styker waived the claim construction argument it makes on appeal. A party may appeal a Board construction where, as here, neither party requested construction yet the Board, nevertheless, implicitly construed claim terms. *See HTC Corp. v. Cellular Commc'ns Equip., LLC*, 877 F.3d 1361, 1367 (Fed. Cir. 2017).

these errors are harmless and do not affect the disposition of Stryker's appeal.

2

Our review of the Board's obviousness analysis begins with the undisputed fact that all of the limitations of Stryker's "angled hole" claims are disclosed in Arnould or Zahiri. Specifically, the parties agree that (i) the only limitation of the "angled hole" claims missing from Arnould is the angled hole, and (ii) Zahiri discloses an angled hole. *See* Reply Br. at 3 ("Stryker does not dispute that Zahiri discloses an angled hole."). Stryker's challenge to the Board's obviousness determination rests, instead, on the adequacy of the Board's analysis of whether a person of ordinary skill in the art would have been motivated to combine Arnould and Zahiri and would have had a reasonable expectation of success in doing so. *See generally Dome Pat. L.P. v. Lee*, 799 F.3d 1372, 1380 (Fed. Cir. 2015) ("If all elements of a claim are found in the prior art, as is the case here, the factfinder must further consider the factual questions of whether a person of ordinary skill in the art would be motivated to combine those references, and whether in making that combination, a person of ordinary skill would have had a reasonable expectation of success."). While the Board's analysis was, indeed, sparse, we can reasonably discern the Board's reasoning.

The Board found that a person of ordinary skill in the art ("POSA") would have been motivated to combine Arnould and Zahiri. In doing so, it relied, in part, on testimony from OsteoMed's expert, Mr. Sherman, an engineer, that a POSA would look to Zahiri when seeking to improve Arnould because "bone plates configured for arthrodesis [like in Arnould] and bone plates configured to fuse bone fractures [like in Zahiri] have been used interchangeably for decades." J.A. 21-22 (citing, among other evidence, J.A. 818-19 ¶ 193).

Stryker contends that "unrebutted evidence of record demonstrates that a POS[]A would not be motivated to combine Arnould and Zahiri because doing so would abolish Arnould's flexible plate." Open. Br. at 39. Stryker cites cases in which we have found no motivation to combine "where the proposed substitution would destroy the basic objective of [the prior art feature]." *Id.* (citing *Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016)).[2] Stryker further alleges that the Board ignored pertinent testimony from its own expert, Dr. Holmes, a surgeon. We are not persuaded and instead conclude that the Board's findings are supported by substantial evidence.

The Board found persuasive OsteoMed's contention that a POSA "would have readily looked to Zahiri for a way to improve the placement and integrity of the angled fixation screw [in Arnould] by using the seated head of the lag screw from Zahiri" because such a person would know of the interchangeability of bone plates for arthrodesis (like Arnould) and bone plates to fuse bone fractures (like Zahiri). J.A. 21-22 (internal quotation marks omitted); *see also* J.A. 26, 79-80, 85-86. The combination of Arnould's plate with Zahiri's reinforced and angled screw hole would "allow[] a sufficient amount of force to be applied between bone parts while dissipating the force so that it does not damage the bone parts." J.A. 21. In essence, the Board

---

[2] We reject OsteoMed's contention that Stryker waived its "immobilization" or "inoperability" argument at the Board. Stryker opposed OsteoMed's motivation to combine evidence based on the purported physical incompatibility of Arnould and Zahiri, which was sufficient to preserve the argument it now makes to us. *See, e.g.*, J.A. 413 ("[T]he rigid geometry of the barrel and guide plate of Zahiri would be incompatible with the bendable leg of the Arnould plate and would certainly not allow the Arnould leg to wrap around the [relevant bone] as contemplated.").

agreed that a POSA would have been motivated to enhance Arnould by importing Zahiri's screw-hole in order to prevent bone damage.

In support of its contentions, OsteoMed submitted the expert declaration of Mr. Sherman, and the Board repeatedly credited his testimony. *See* J.A. 21-22, 39-40, 79-81. Mr. Sherman opined that Arnould and Zahiri are "in analogous fields of invention" and both "disclose bone plates with diagonal fixation members configured to compress the intersection of a first and second bone or across a fracture." J.A. 818; *see also* J.A. 191-96, 3177-92 (OsteoMed addressing motivation to combine in its petitions). A POSA looking to improve Arnould's bone plate would have, hence, looked to Zahiri as a potentially helpful source. J.A. 820. A POSA would also have been aware that increased stabilization of the lag screw has benefits, including preventing bone damage. J.A. 831. "Thus, in order to achieve the stated goal from Arnould of locking [the lag] screw . . . it would [have been] obvious to a POS[]A to use the seated head of the lag screw from Zahiri to ensure the third fixation member is seated in the third hole." J.A. 831. Crediting this testimony, the Board agreed that Zahiri's stabilized transfixation screw "is desirable because it dissipates compression forces, which avoids 'failure by loosening of the device' and keeps the bone cortex 'healthy and intact.'" J.A. 22 (quoting J.A. 1181 (Zahiri) at 5:65-6:7; internal citations omitted).

This case does not resemble *InTouch Technologies, Inc. v. VGO Communications, Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014), cited by Stryker, in which we held certain expert testimony could not support a finding of motivation to combine because it "consisted of conclusory references to [the expert's] belief that one of ordinary skill in the art *could* combine these references, not that they *would* have been motivated to do so." *Id.* (emphasis in original). Mr. Sherman's testimony is not conclusory and did not merely rely on the Challenged Patents as "roadmap[s] for putting . . .

pieces of a 'jigsaw puzzle'" together. *Id.* at 1351. Instead, as we have explained, Mr. Sherman identified specific problems and demonstrated how and why a POSA would have been motivated to combine the two prior art references to solve them. *See* J.A. 21-22 (Board relying on Mr. Sherman's statement that "a POS[]A *would have been* motivated to make this combination because Zahiri teaches that this arrangement allows a sufficient amount of force to be applied between bone parts while dissipating the force so that it does not damage the bone parts") (emphasis added).

Nor did the Board "ignore[]" the testimony of Stryker's expert, Dr. Holmes. The Board repeatedly referenced Dr. Holmes' opinions. *See* J.A. 10, 20, 23-24, 33, 39, 41, 60, 63-65, 77, 82, 92, 98. The Board's multiple statements that it was crediting Mr. Sherman over Dr. Holmes reveal that the Board did not "ignore" Dr. Holmes; it just was not persuaded by him. *See, e.g.*, J.A. 41 (finding "Mr. Sherman's testimony to be more credible th[a]n the competing testimony [Stryker] cites from . . . Dr. Holmes").

Stryker also argues that the Board fell short of its obligation to assess "evidence suggesting reasons not to combine," citing *Arctic Cat Inc. v. Bombardier Recreational Products Inc.*, 876 F.3d 1350, 1363 (Fed. Cir. 2017), including Dr. Holmes' opinion that "combining the barrel portion and guide plate of Zahiri to the leg [] of Arnould would prevent the leg from bending, rendering it essentially nonfunctional [and] that including Zahiri's locking screw on top of the lag screw would require that leg [] of Arnould be even larger and more prominently protruding from the surface of the bone plate." Open. Br. at 38 (citing J.A. 2131 ¶ 177; J.A. 2125-27 ¶¶ 168-70). Given the Board's numerous references to Dr. Holmes' testimony and its decision to credit Mr. Sherman instead, there is no reason to believe the Board did not consider this aspect of Dr. Holmes' opinion. Moreover, as OsteoMed points out, a motivation to combine can exist "to secure some benefits at the expense

of others, even when a bodily incorporation would be impossible or inadvisable." *Axonics, Inc. v. Medtronic, Inc.*, 73 F.4th 950, 957 (Fed. Cir. 2023). Thus, again, substantial evidence supports the Board's finding of a motivation to combine.

While "a finding of a motivation to combine does not necessarily establish a finding of reasonable expectation of success," the same evidence may demonstrate that each requirement is satisfied. *Elekta Ltd. v. ZAP Surgical Sys., Inc.*, 81 F.4th 1368, 1377 (Fed. Cir. 2023). That is the case here. Reasonable expectation of success turns on whether a POSA would have "a reasonable expectation of achieving what is claimed in the patent-at-issue." *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016). While the Board's analysis is sparse – consisting of only a single sentence: "Thus, even if Arnould did not itself teach [the 'angled hole' limitations], Petitioner has shown that its proposed combination of Arnould and Zahiri does and [has] articulated reasoning . . . demonstrating that a POS[]A would have been motivated to make that combination with a reasonable expectation of success," J.A. 22 – it is sufficient. Coming at the end of its motivation to combine analysis, we are able to "reasonably discern that the Board considered and implicitly addressed reasonable expectation of success based on the arguments and evidence presented to the Board on motivation to combine." *Elekta Ltd.*, 81 F.4th at 1376.

Thus, we affirm the Board's conclusion that OsteoMed met its burden to prove that the challenged "angled hole" claims are unpatentable as obvious over the combination of Arnould and Zahiri.

B

We turn next to the Board's analysis of the "temporary fixation claims:" claim 38 of the '713 patent and claims 11 and 17 of the '751 patent. For example, claim 11 of the '751 patent recites "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." '751 patent 4:9-11, 4:28-29.

The Board found that Arnould teaches a partially immobilized plate and a POSA would have been motivated to combine this plate with Zahiri's temporary fixation pins in order to "further immobilize the [Arnould] plate, either before or after insertion of [a] screw." J.A. 90-92. Substantial evidence supports this finding. Once again, the Board credited the testimony of OsteoMed's expert, Mr. Sherman, over Stryker's expert, Dr. Holmes, and we have no basis to overturn this credibility determination. *See Shoes by Firebug LLC v. Stride Rite Children's Grp., LLC*, 962 F.3d 1362, 1372 (Fed. Cir. 2020). In particular, the Board credited "Mr. Sherman's testimony that a POS[]A would utilize the known technique of Zahiri for improving Arnould's plate 'to guide the plate alignment during implantation.'" J.A. 89-90. This testimony is consistent with Figure 2 of Arnould, which shows temporary guide holes to temporarily secure the plate; thus, as the Board explained, "it would have been obvious to incorporate Zahiri's temporary fixation pins for use with Arnould's plate." J.A. 90.

Stryker challenges this finding because "Arnould's depiction in Figure 2 of temporary guide holes that may be used to temporarily secure the plate" would leave a skilled artisan with no motivation to combine Arnould with Zahiri, as there is no need to add Zahiri's temporary fixation pins to Arnould. Open. Br. at 64. According to Stryker, the combination also would prevent the Arnould plate from shifting longitudinally, depriving a surgeon of the ability to make "alignment adjustments" to the plate during surgery.

Open. Br. at 67-68.[3] The Board had substantial evidence for rejecting these contentions. It found that a POSA would understand certain holes in Arnould Figures 1 and 2 to be pin holes for temporary fixation members, like those used in Zahiri, and that just because Arnould and Zahiri met the same need for temporary fixation in different ways would not mean that a POSA would reject the idea of modifying Arnould's way of doing so by adding Zahiri's solution. J.A. 90-91. The Board also expressly addressed Stryker's contention about the disadvantages of incorporating Zahiri's additional temporary fixation in Arnould's plate and found they were outweighed by the benefits that would result. J.A. 91-92.

As with the angled hole claims, Stryker additionally argues that the Board's analysis of reasonable expectation of success is deficient. We again disagree, for essentially the same reasons given above. In the course of explaining how it was finding a motivation to combine, the Board stated that introducing Zahiri's temporary fixation mechanism into Arnould's system would be easily achieved because Arnould already has holes that could receive Zahiri's pins. J.A. 90-91. "[W]e can reasonably discern that the Board considered and implicitly addressed reasonable expectation of success based on the arguments and evidence presented to the Board on motivation to combine." *Elekta Ltd.*, 81 F.4th at 1376.

Thus, we affirm the Board's conclusion that OsteoMed met its burden to prove that the challenged "temporary

---

[3] OsteoMed argues that it "put forth undisputed evidence that Arnould alone disclosed the Temporary Fixation Limitations." Resp. Br. at 34 (citing J.A. 193-94). But, as with the angled hole claims, we do not see anywhere in the petition where OsteoMed petitioned to prove that any of the claims are unpatentable based on Arnould alone.

fixation" claims are unpatentable as obvious over the combination of Arnould and Zahiri.

C

Stryker presents another challenge to the Board's conclusion with respect to one of the temporary fixation claims, claim 11 of the '751 patent, which also implicates the Board's conclusion concerning claims 1 and 17 of the '751 patent. Stryker argues that the Board's construction of "between" as used in these claims is erroneous. We disagree.

These three claims recite a bone plate having a "third hole located between said first hole and said second hole." '751 patent 3:19-20, 4:3-4, 5:54-55. Stryker proposed that "between" here means "a 'third hole' located in the space separating the first hole and the second hole." J.A. 61. To Stryker, a third hole is not "between" a first hole and a second hole if the third hole is in a different plane than the first and second holes. J.A. 63. The Board rejected Stryker's position, instead construing "between" in the context of these claims as extending to third holes that lie between, even though in a different plane than, the other two holes. J.A. 63-64.

The Board's construction is correct. It is supported, as the Board explained, by Figure 2 of the '751 patent, which shows "a third hole 1a1 between the other holes even though it is 'offset' and in a different plane from the longitudinal axis of the bone plate." J.A. 64, 111-15. Stryker's alternative construction would exclude from the claims the expressly disclosed ("angled hole") embodiment, which is

not typically the right outcome. *See Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1276-77 (Fed. Cir. 2008).[4]

Nor did the Board err in its application of this construction by finding that Arnould teaches the "third hole." Substantial evidence supports the Board's reading of Figure 2 of Arnould, which shows a third hole between a first and second hole that is "in a different plane," just like the "angled tab" embodiment of the '751 patent. J.A. 63; *see also* J.A. 3335 (Board recognizing in its institution decision that "[f]rom Petitioner's annotated Figure 2 and discussion concerning [Arnould], it appears that hole 25 [in Arnould Figure 2] is between the first and second holes as required by [claim 11 of the '751 patent]").

Stryker also argues that the Board abused its discretion by relying on an annotated version of Arnould Figure 2 that OsteoMed submitted for the first time in its reply. We disagree. OsteoMed's initial petition contained figures identifying the first, second, and third holes in Arnould (although no single figure in the petition showed the relative position of all three holes). J.A. 3195-96. After Stryker then raised the claim construction dispute over "between," the Board was required to give OsteoMed an opportunity to be heard on this dispute, and OsteoMed's response properly included its annotated figure. *See Parkervision, Inc. v. Vidal*, 88 F.4th 969, 980 (Fed. Cir. 2023) ("Once [the patent owner] introduce[s] a claim construction argument into the proceeding through its patent owner response, [the petitioner] is entitled in its reply to respond to that argument and explain why that construction should not be

---

[4] Because we are able to construe this term based on the intrinsic evidence, we do not consider the parties' expert testimony relating to the proper construction.

adopted."); *see also* J.A. 75 n.7 (Board explaining OsteoMed was making proper rebuttal argument).

In sum, the Board's conclusion that the prior art teaches the "between" limitations, under the correct construction of "between," is not the product of any error.

D

Stryker presents several additional arguments, each challenging the Board's conclusions with respect to only one or two challenged claims. We briefly address each below.

1

The Board found that Arnould in view of Zahiri and Myerson '608 rendered dependent claims 34 and 35 of the '713 patent obvious. J.A. 42-44. Claim 34 depends from claim 32 and recites that "the first and second holes are locking holes," while claim 35 depends from claim 34 and further recites that these "holes are threaded." '713 patent 5:23-24 (claim 34), 6:1-2 (claim 35). Ground 5 of OsteoMed's petition asserted that a combination of Arnould, Zahiri, and Myerson '608 rendered these claims obvious. The Board agreed and, as relevant to this appeal, concluded that a skilled artisan would have been motivated to combine all three references, specifically to combine "both Zahiri's angled hole configuration and Myerson's threaded locking holes with Arnould's plate," in order to "prevent the screws from backing out" or loosening over time. J.A. 42, 44.

In a largely undeveloped argument, Stryker asserts that the Board's finding is not supported by substantial evidence. It insists OsteoMed failed to provide any evidence that a POSA would have been motivated to combine all three references. In fact, however, the Board cited substantial record evidence in support of its conclusion. It observed that Myerson '608, like Arnould, was designed for fusion across the metatarsophalangeal joint, making it

reasonable for a POSA to believe she could use the screws from the plate of one reference in the plate of the other reference. J.A. 42. Having already discussed the benefits of combining Arnould's plate with Zahiri's angled hole, the Board proceeded to credit the testimony of Mr. Sherman that "the use of locking screws with locking thread holes was a predictable solution to the known problem of screw loosening and backing over time." J.A. 43 (citing Sherman Decl. ¶¶ 251-52). The Board's cited evidence and analysis are sufficient.

2

Stryker next asks us to vacate the Board's judgment regarding the unpatentability of claim 6 of the '751 patent based on the Board's purported confusion over two prior art references. Claim 6 depends from claim 1 and recites "the system of claim 1 wherein said joint is a tarsometatarsal joint." '751 patent 3:45-46. Ground 5 of OsteoMed's petition contends that a combination of Arnould, Zahiri, and *Myerson '592* renders claim 6 obvious. Stryker argues that the Board instead found claim 6 obvious based on the non-petitioned combination of Arnould, Zahiri, and *Myerson '608* (this latter Myerson reference having been relied on in other grounds of the petition directed to different claims).

It is true that in a portion of its analysis, the Board mistakenly cited parts of Mr. Sherman's expert declaration that were directed to the Myerson '608 reference, which is not relevant to OsteoMed's ground 5 challenge to claim 6 of the '751 patent. *See* J.A. 97. Elsewhere in its analysis of claim 6, however, the Board correctly identified the reference on which it was relying as *Myerson '592*. *See* J.A. 96-97. The Board also discussed expert testimony concerning the correct reference, J.A. 96-97 (quoting J.A. 3761 ¶¶ 345-47), and included a picture of Figure 1 from (the correct) Myerson '592 in its FWD. *See* J.A. 96. Unlike the situation we confronted in *Corephotonics, Ltd. v. Apple Inc.*, 84 F.4th

990 (Fed. Cir. 2023), on which Stryker relies, the Board's reference to Myerson '608 is clearly a typographical – and harmless – error.

3

Finally, Stryker insists that OsteoMed's petition failed to comply with 35 U.S.C. § 312(a)(3) because its challenge to the patentability of claim 17 of the '751 patent was "incomprehensible." Open. Br. at 68-70. Once again, we disagree.

Stryker faults the petition for overreliance on abbreviations and internal cross-references. The Board did not abuse its discretion by evaluating the petition on the merits or by failing to address Stryker's critiques. Stryker's comparison to *Netflix Inc. v. DivX, LLC*, 84 F.4th 1371, 1377 (Fed. Cir. 2023), where we held that a "petitioner may not rely on a vague, generic, and or meandering petition and later fault the Board for failing to understand what the petition really meant," fails, as that is not what happened here. Instead, the Board implicitly determined that it could understand OsteoMed's Petition, notwithstanding Stryker's purported difficulties doing so, and therefore did not view the petition as impermissibly vague, generic, meandering or incomprehensible. This was not an abuse of discretion.

IV

We have considered Stryker's remaining arguments and find them unpersuasive. Accordingly, for the forgoing reasons, the judgment of the Board is affirmed.

AFFIRMED