IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

RSB SPINE, LLC,

Plaintiff/Counter-Defendant,

v.

DEPUY SYNTHES SALES, INC. and DEPUY SYNTHES PRODUCTS, INC.,

Defendants/Counter-Plaintiffs.

Civil Action No. 19-01515-RGA

TRIAL OPINION

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August 27, 2025

ANDREWS, U.S. DISTRICT JUDGE:

This case follows a jury trial that took place in 2022.

I held a bench trial starting April 7, 2025, to resolve DePuy's outstanding interference counterclaim. (D.I. 384, hereinafter "Tr."). The parties dispute whether the claims of U.S. Patent No. 7,846,207 ("the '207 patent") interfere with the claims of U.S. Patent No. 9,713,537 ("the '537 patent"). DePuy has also filed a motion to admit exhibits into evidence it neglected to admit at trial. (D.I. 378). RSB Spine opposes this motion. (D.I. 381). I have reviewed the parties' post-trial briefing. (D.I. 378, 379, 380, 381, 382, 383). I GRANT DePuy's motion to admit DTX-642 and DTX-643. I find no interference between the '207 patent and the '537 patent.

I. BACKGROUND

RSB Spine develops and markets spinal implant products. (D.I. 10 ¶ 10). DePuy manufactures and distributes spinal therapy products. (D.I. 41 ¶ 4).

RSB Spine asserted claims of infringement of the '537 patent against DePuy.[1] (D.I. 10 at 1; D.I. 351 ¶ 4). DePuy asserted a counterclaim of interference between the '537 patent and its own '207 patent in an amended answer (D.I. 16 at 39–42; D.I. 351 ¶ 5)[2] and again in a second amended answer (D.I. 41 at 46–55; D.I. 351 ¶ 6).

RSB Spine filed a motion for summary judgment of no interference. (D.I. 174; D.I. 351 ¶ 10). I deferred a decision on that summary judgment motion until after the jury trial. (D.I. 218; D.I. 351 ¶ 12).

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[1] RSB Spine also asserted infringement of U.S. Patent No. 6,984,234 ("the '234 patent"). I found the asserted claims of the '234 patent invalid as anticipated at summary judgment. (D.I. 236; D.I. 351 ¶ 13).

[2] I dismissed DePuy's interference counterclaim as to the '234 patent as moot. (D.I. 311 at 2).

I held a five-day jury trial on infringement, invalidity, and damages. (D.I. 287, 288, 299, 290, 291; D.I. 351 ¶ 14). At trial, RSB Spine asserted infringement of claims 10 and 14 of the '537 patent by DePuy's Zero-P, Zero-P Natural, Zero-P VA, and SynFix Evolution devices. (D.I. 351 ¶ 14). The jury returned a verdict in favor of RSB Spine, finding DePuy's devices infringed claims 10 and 14 of the '537 patent under the doctrine of equivalents. (D.I. 273; D.I. 276; D.I. 351 ¶ 15). The jury determined that DePuy had not shown claims 10 and 14 of the '537 patent to be invalid and awarded RSB Spine $12,000,000 in damages. (D.I. 276; D.I. 351 ¶ 15).

I must resolve DePuy's interference counterclaim before I can issue final judgment.

II. LEGAL STANDARD

A. Interference

Before the passage of the America Invents Act ("AIA"), 35 U.S.C. § 102(g) authorized district courts to conduct an interference to determine priority of invention under 35 U.S.C. § 291. *SNIPR Techs. Ltd. v. Rockefeller Univ.*, 72 F.4th 1372, 1375 (Fed. Cir. 2023); 35 U.S.C. § 102(g) (2002).[3] Pre-AIA section 291 states, "The owner of an interfering patent may have relief against the owner of another by civil action, and the court may adjudge the question of the validity of any of the interfering patents, in whole or in part." 35 U.S.C. § 291 (2012).

Whether the patents interfere is a threshold jurisdictional issue. *Albert v. Kevex Corp.*, 729 F.2d 757, 762 n.4 (Fed. Cir. 1984). "Until it is determined that there are patents which do, in fact, interfere, § 291 simply does not apply." *Id.* at 761.

[3] Only patents containing claims with effective filing dates prior to March 16, 2013, may be part of an interference. *SNIPR Techs.*, 72 F.4th at 1376. The '207 patent was filed August 8, 2005, and is a continuation of an application filed on February 6, 2003. The '537 patent was filed January 24, 2017, but is part of a chain of continuations-in-part dating back to an application filed April 21, 2003.

Determining the existence of an interference-in-fact under section 291 "requires that the two patents claim the same or substantially the same subject matter." *Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 655 F.3d 1291, 1302 (Fed. Cir. 2011) (cleaned up). The existence of an interference-in-fact is determined through application of the same "two-way-test" as used by the PTO. *Id.* (citing *Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 934 (Fed. Cir. 2003)). "[A]n interference exists if the subject matter of a claim of one party would, if prior art, have anticipated or rendered obvious the subject matter of a claim of the opposing party and vice versa." *Id.* (quoting 37 C.F.R. § 41.203(a)). In other words, "The claimed invention of Party A must anticipate or render obvious the claimed invention of Party B and the claimed invention of Party B must anticipate or render obvious the claimed invention of Party A." *Medichem*, 353 F.3d at 934 (citation omitted). In the context of an interference under section 291, the available prior art for the anticipation and obviousness inquiries "includ[es] the allegedly interfering subject matter." *Id.* at 933. The two-way-test "incorporates the standards for both anticipation under § 102 and obviousness under § 103 in determining the existence of an interference[.]" *Id.* at 934.

DePuy does not argue for anticipation. DePuy asserts that claims 10 and 14 of the '537 patent are obvious in view of claim 17 of the '207 patent and vice versa. (D.I. 379 ¶ 71).

B. Obviousness

A patent claim is invalid as obvious under pre-AIA 35 U.S.C. § 103 "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103(a) (2004) (current version at 35 U.S.C. § 103); *see KSR Int'l. Co. v. Teleflex Inc.*, 550 U.S. 398, 406–07

(2007). "Obviousness is a question of law based on underlying factual determinations, including (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) any secondary considerations of non-obviousness."[4] *Janssen Pharms., Inc. v. Teva Pharms. USA, Inc.*, 97 F.4th 915, 925 (Fed. Cir. 2024) (cleaned up) (citations omitted). "Assessing obviousness is based on an 'expansive and flexible approach'" and "a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *Id.* (citation omitted).

After determining that all elements of a patent claim are present in a combination of prior art references,

> a proper analysis under § 103 requires, inter alia, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success.

Medichem, S.A. v. Rolabo, S.L., 437 F.3d 1157, 1164 (Fed. Cir. 2006) (citation omitted).

Assessing the first of these factors, "motivation to combine," "serves to prevent hindsight bias." *Id.* "[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *KSR*, 550

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[4] "Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented." *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). RSB Spine did not present evidence at trial in support of these secondary considerations and has rightly noted, "Objective indicia of nonobvious[ness] are irrelevant to DePuy's burden under the two-way test." (D.I. 356 at 4). "Simultaneous invention" is another objective secondary consideration. However, as simultaneous invention is "[i]nherent in the existence of interference practice," "simultaneous invention cannot alone show obviousness" and must be "considered in light of all the circumstances." *Regents of Univ. of Cal. v. Broad Inst., Inc.*, 903 F.3d 1286, 1295–96 (Fed. Cir. 2018).

U.S. at 418. "[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *Id.*

"Reasonable expectation of success" does not require certainty of success. *Par Pharm., Inc. v. TWI Pharms., Inc.*, 773 F.3d 1186, 1198 (Fed. Cir. 2014) (citing *In re O'Farrell*, 853 F.2d 894, 903–04 (Fed. Cir. 1988)). Both "motivation to combine" and "reasonable expectation of success" are questions of fact. *Id.* at 1196.

C. Burden and Standard of Proof

DePuy, as the pleading party, bears the burden of establishing that an interference exists. *Albert*, 729 F.2d at 761. Because neither patent enjoys a statutory presumption of validity over the other, DePuy must establish obviousness by a preponderance of the evidence. *Cf. Medichem*, 437 F.3d at 1169 (applying preponderance standard to priority determination in a section 291 interference proceeding); *Eli Lilly & Co. v. Aradigm Corp.*, 376 F.3d 1352, 1365 (Fed. Cir. 2004) ("the presumption of validity is nonexistent and the preponderance of the evidence burden is appropriate even if both of the patents have issued by the time a section 291 interference proceeding is initiated in a district court").[5]

III. MOTION TO ADMIT TRIAL EVIDENCE

DePuy moves to admit DTX-642 and DTX-643 into evidence. DTX-642 ("Bagga") is U.S. Patent No. 7,238,203 and DTX-643 ("Janssen") is a paper by M.E. Janssen et al. entitled

[5] I note that the district court in *Genetics Institute* appears to have applied a clear and convincing evidence standard to the determination of an interference-in-fact through obviousness. *Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 687 F. Supp. 2d 486, 496 (D. Del. 2010), *aff'd*, 655 F.3d 1291 (Fed. Cir. 2011) (affirming a finding of no interference-in-fact). I doubt that burden of proof applies. Since I determine that DePuy does not meet its preponderance of the evidence burden to show an interference-in-fact, I would likewise conclude that it could not meet the burden if it were clear and convincing evidence.

"Outcomes of allogenic cages in anterior and posterior lumbar interbody fusion." These documents were only referred to while RSB Spine's expert, Mr. Troy Drewry, was on the stand. They were first mentioned when DePuy referred to them during its cross-examination of Mr. Drewry. (Tr. 204:9–208:13). Mr. Drewry used pictures from Janssen and Bagga in a declaration to illustrate known spacers available in 2003. (Tr. 203:17–206:11). RSB Spine then referred to these documents in its redirect examination of Mr. Drewry. (Tr. 228:22–230:1). DePuy used DTX-642 and DTX-643 to demonstrate the existence of spacers with teeth, and presumably that "spacers with teeth" would be known to a POSA.

DePuy contends that it "inadvertently forgot" to move to admit DTX-642 and DTX-643 into evidence during the trial. (D.I. 378 at 2). DePuy argues that witnesses testified about the documents during trial and their admission will assist the court in understanding Mr. Drewry's testimony. (*Id.* at 3). RSB Spine argues that DePuy's motion is untimely and prejudicial, as it waited two weeks to move to admit these exhibits, only doing so on the afternoon before DePuy's Proposed Findings of Facts were due. (D.I. 381 at 1–2). RSB also contends that the exhibits are irrelevant. (*Id.* at 2).

After the first day of trial, I determined that there was likely no interference-in-fact and cancelled the second day of trial. DePuy contends that it intended to move for admission of these exhibits on the morning of the second day but could not do so because the trial was truncated. Normally, if a party moved to admit "inadvertently forgotten" evidence after two weeks, I would be less sympathetic—all trials need to end sometime. But in this particular instance, I will grant DePuy's motion due to the atypical nature of these proceedings. I do not believe RSB Spine will be prejudiced by the inclusion of these exhibits in the record.

I GRANT DePuy's motion to admit DTX-642 and DTX-643 into evidence.

IV. INTERFERENCE-IN-FACT

The '207 and '537 patents are directed to intervertebral implants. (*See* '207 patent at Abstract; '537 patent at Abstract). Because the existence of an interference is a threshold jurisdictional issue, *Albert*, 729 F.2d at 762 n.4, the only question is whether DePuy successfully proved that the '207 patent interferes with the '537 patent by a preponderance of the evidence.

A. The Asserted Interfering Claims

Claim 17 of the '207 patent depends from claim 1:

> 1. An intervertebral implant for insertion into an intervertebral disc space between endplates of adjacent vertebral bodies, the implant comprising:
>
> a three-dimensional body having an upper side and an underside provided with teeth, the upper side and underside suitable for abutting the end plates of the adjacent vertebral bodies, the upper side defining an upper plane and the underside defining an underside plane, a left side surface and a right side surface, a front surface including first and second partial boreholes, a rear surface, a horizontal middle plane between the upper side and the underside, and a vertical middle plane extending from the front surface to the rear surface;
>
> a front plate mounted to the front surface of the three-dimensional body, the front plate including a first borehole and a second borehole having openings, the first borehole and the second borehole each being aligned with a respective first and second partial borehole;
>
> first and second fixation elements being anchorable within the first and second boreholes and the first and second partial boreholes, respectively, the first and second fixation elements having first and second heads and first and second shafts, respectively, the first and second heads and the first and second boreholes and partial boreholes positioned substantially between the upper and underside planes in an assembled configuration, the first and second shafts being positioned substantially on an opposite side of the upper and underside planes, respectively, in the assembled configuration; and
>
> a securing plate fastened substantially parallel to the front plate in such a manner that the first and second boreholes of the front plate and the first and second heads are covered at least partly by the securing plate.

('207 patent at 6:25–58).

17. The intervertebral implant according to claim 1, wherein axes of the first and second boreholes define an angle β, ranging from 20° to 60° with the horizontal middle plane.

('207 patent at 7:38–40).

Claims 10 and 14 of the '537 patent depend from claim 1:

1. A bone stabilization plate system comprising:
a base plate having a top surface, first and second ends, a bottom surface, and a plurality of bone screw holes, wherein the base plate is configured to fit primarily between anterior portions of adjacent vertebral bones' lip osteophytes to bear weight to hold the vertebral bones while sharing weight with bone graft material for fusion; and
a plurality of bone screws configured to fit in the plurality of bone screw holes, respectively;
wherein the vertebral bones have top surfaces and have side surfaces generally facing each other;
wherein a first of the bone screw holes, being configured to receive a first of the bone screws, extends at least partially from the top surface of the base plate and opens at least partially toward the side surface of a first of the vertebral bones;
wherein a second of the bone screw holes, being configured to receive a second of the bone screws, extends at least partially from the top surface of the base plate and opens at least partially toward the lip osteophyte of a second of the vertebral bones; and
wherein each and every one of the plurality of bone screw holes is configured to receive one of the bone screws angled relative to the base plate and oriented generally in an anterior-posterior direction through at least partially the top surface of the base plate.

('537 patent at 37:65–38:24).

10. The system as set forth in claim 1, wherein the base plate includes two lateral tabs configured to fit between the lip osteophytes of the vertebral bones and extending from opposite ends of the bottom surface of the base plate in a direction generally transverse to the vertebral bones.

('537 patent at 38:51–55).

14. The system as set forth in claim 1, wherein each of the plurality of bone screw holes extends at least partially through the first or second end, the first end comprising a first bone engaging region fully extending uninterrupted between lateral extents of the first end, and the second end comprising a second bone engaging region fully extending uninterrupted between lateral extents of the second end.

('537 patent at 38:66–39:5).

B. Claim Construction

Before the jury trial, I issued a claim construction opinion and order construing several terms in the '537 and '234 patents on November 16 and November 22, 2021. (D.I. 123; D.I. 127). I amended (without substantive change) the order at the start of the jury trial. (D.I. 254). The construed terms in the '537 patent relevant to this interference are as follows:

- "Primarily" (claim 1) was construed to mean "'mainly' (and does not connote a temporal aspect)"
- "Base plate" (claims 1, 14) was construed to mean "fixation plate to stabilize adjacent vertebrae for fusion"
- "Lip osteophyte"/ "lip osteophyte" (claims 1, 10) was construed to mean "bony outgrowth at the lip"
- "Side surface" (claim 1) was construed to have its plain and ordinary meaning
- "Bottom surface" (claim 1) was construed to have its plain and ordinary meaning
- "First end"/ "second end" (of the base plate) (claims 1, 14) was construed to have its plain and ordinary meaning
- "Lateral tabs" (claim 10) was construed to have its plain and ordinary meaning

(D.I. 254).

I issued another claim construction opinion and order construing terms in the '207 patent on January 7 and 14, 2025. (D.I. 328; D.I. 331). The construed terms in the '207 patent are as follows:

- "Three-dimensional body" (claim 1) was construed to have its plain and ordinary meaning
- "Fixation element" (claim 1) was construed to be an "'anchorable element having a head, a shaft, a tip and axis' (includes bone screws, threadless cylindrical pins with a drilling tip, spiral springs, single-vaned spiral blades, and multi-vaned spiral blades)"

(D.I. 331).

C. Level of Ordinary Skill in the Art

RSB Spine argues a POSA would have a bachelor's degree in mechanical engineering or biomedical engineering and two or more years of experience in biomechanical, biomedical engineering, and/or spinal implant devices. (D.I. 380 at 2 n.1 (citing Tr. 185:16–19)). DePuy argues a POSA would have a "Bachelor of Science degree in the field of mechanical, biomechanical or biomedical engineering with at least 5 years of experience designing and developing orthopedic implants and/or spinal interbody devices, or be a practicing orthopedic or neurosurgeon with at least five years of experience, as well as some number of years of experience in the design of orthopedic implants and/or spinal interbody devices." (D.I. 379 ¶ 10). DePuy's technical expert, Dr. Boyle Cheng, testified that a POSA would have an engineering, mechanical engineering, biomechanical engineering, or biomedical engineering degree and five years of experience, or be a practicing orthopedic or neuroscience surgeon. Alternatively, Dr. Cheng testified that a POSA would be a person with an advanced degree and three to five years of experience. (Tr. 63:25–64:9).

The parties do not argue that the definition of a POSA makes any difference in the obviousness or non-obviousness determinations at hand. I find that my determinations of non-obviousness would be the same under any of the proposed POSA definitions.

D. Findings of Fact: Non-obviousness of '207 Patent Claim 17

1. The allegedly interfering claims of the '537 patent are prior art to the '207 patent for purposes of this interference proceeding. *Medichem*, 353 F.3d at 933.
2. Claim 17 of the '207 patent depends from claim 1. ('207 patent at 7:38).
3. Claim 1 of the '207 patent requires "a three-dimensional body" with "teeth" and "partial boreholes." ('207 patent at 6:29, 30, 35).

4. The "bone graft material" in claim 1 of the '537 patent is a "three-dimensional body." (*See* '537 patent at 38:4).
5. Claim 1 of the '207 patent requires a "front plate" with "borehole[s]" aligned with the "partial borehole[s]" on the "three-dimensional body." ('207 patent at 6:39–43).
6. Claim 1 of the '207 patent requires a "securing plate." ('207 patent at 6:55).
7. Claims 1, 10, and 14 of the '537 patent do not disclose "teeth."
8. Claims 1, 10, and 14 of the '537 patent do not disclose "partial boreholes."
9. Claims 1, 10, and 14 of the '537 patent do not disclose a "securing plate."
10. A POSA would not have motivation to combine "teeth" with claim 10 of the '537 patent.
11. A POSA would have motivation to combine "teeth" with claim 14 of the '537 patent.
12. A POSA would not have motivation to combine "partial boreholes" with either claim 10 or claim 14 of the '537 patent.

a. "Three-dimensional body"

DePuy argues that a POSA would understand a "three-dimensional body" as recited in claim 1 of the '207 patent to include spacers made from allograft bone. (D.I. 379 ¶ 41). Dr. Boyle Cheng testified that a POSA would understand the "bone graft material" recited in claim 1 of the '537 patent to be a "three-dimensional body." (Tr. 89:13–18). Mr. Drewry agreed that "bone graft [as] referred to in Claim 1 of the '537 patent" could be a "three-dimensional body" and that "bone graft" includes "both bone graft material and spacers packed with bone graft material." (Tr. 203:3–10). RSB Spine disputes that the features of the three-dimensional body as claimed in the '207 patent are present in or obvious based on claim 1 of the '537 patent. (D.I. 380 ¶¶ 57, 60). That does not mean that the bone graft material is not a "three-dimensional

body." I find that the "bone graft material" in claim 1 of the '537 patent is a "three-dimensional body" for the purpose of comparing the claims of the two patents.

b. "Teeth"

DePuy asserts that a POSA would have found the "teeth" limitation of the '207 patent obvious in view of claim 1 of the '537 patent and a POSA's background knowledge. (D.I. 379 ¶¶ 43–49). DePuy argues that spacers made out of allograft bone featuring teeth would be known to a POSA. (*Id.* ¶ 44). DePuy argues that a POSA would be motivated to include teeth on the "bone graft material" disclosed in claim 1 of the '537 patent because "[t]eeth are commonly included to limit the migration of a spacer" and "prevent potential expulsion of the spacer."[6] (*Id.* ¶¶ 45, 49).

RSB Spine argues that a POSA's "general knowledge" of teeth "cannot be used as a wholesale substitute for reasoned analysis and evidentiary support, especially when dealing with a limitation missing from the prior art." (D.I. 380 ¶ 65 (citing *Arendi S.A.R.L. v. Apple, Inc.*, 832 F.3d 1355, 1362 (Fed. Cir. 2016))). RSB Spine contends that the "lateral tabs" recited in Claim 10 of the '537 patent perform the function of preventing migration and expulsion. (*Id.* ¶ 67). Accordingly, RSB Spine argues that there would be no motivation to combine teeth with claim 10 as the teeth would be "superfluous." (*Id.*).

I credit Dr. Cheng's testimony that a POSA in 2003 would have understood that spacers could have teeth. (Tr. 90:24–91:3). Mr. Drewry likewise acknowledged that there were spacers available in 2003 that had teeth. (Tr. 204:6–210:2; *see* DTX-642; DTX-643). Both experts

[6] DePuy also argues that teeth "scratch up the endplates" and "increas[e] blood flow and improv[e] fusion at the graft site." (D.I. 379 ¶ 45). However, the only testimony DePuy cites for this proposition is from Mr. Beat Lechmann, who did not provide an expert opinion in this case. (*See* Tr. 23:12–24:5). None of the experts who provided opinions on obviousness cited or responded to this potential purpose of teeth.

recognized that the purpose of these teeth was to prevent subsidence and migration of the spacer. (Tr. 91:10–15, 189:8–12).

"[T]here is no problem with using common sense without any specific hint or suggestion in a particular reference" as long as there has not been an "utter failure to explain the common knowledge and common sense on which it relied." *Arendi*, 832 F.3d at 1362. *Arendi* notes that, at least in one instance, "common sense was invoked to supply a limitation that was admittedly missing from the prior art" when "the limitation in question was unusually simple and the technology particularly straightforward." *Id.* (discussing *Perfect Web Techs. v. InfoUSA, Inc.*, 587 F.3d 1324 (Fed. Cir. 2009)). The concept of using teeth to keep something from shifting is not rocket science.

DePuy admitted into evidence multiple examples of spacers with teeth, including toothed spacers made out of bone, some of which were discussed by the expert witnesses. (DTX-95; DTX-642; DTX-643). Though DePuy does not propose one particular prior art reference for the "teeth" limitation, it has not utterly failed to explain the common knowledge of experts regarding the use of teeth on spacers. Testimony also indicates that a POSA would have a reasonable expectation that adding teeth to a spacer would accomplish the purpose of preventing subsidence and migration of that spacer.

Nevertheless, a POSA would not be motivated to combine teeth with the "bone graft" spacer in Claim 10 of the '537 patent. Both Dr. Cheng and Mr. Drewry testified that the purpose of teeth on spacers is to prevent migration and subsidence. (Tr. 91:10–15, 189:8–12). The problems of migration and subsidence are already addressed in claim 10 by the lateral tabs. As Mr. Drewry explained, "the lateral tabs, as defined in the '537 patent, are extending from the bottom side of the base plate into the disc space, and their function is for subsidence control and

also to control migration of the bone graft." (Tr. 189:4–7). Mr. Drewry's testimony is supported by the '537 patent specification, which reads: "In use, the lateral tabs extend around the bone graft to prevent lateral shift of the graft and control subsidence of the adjacent vertebrae as they set during healing." ('537 patent at 10:67–11:3).

Claim 14 of the '537 patent, however, does not disclose a mechanism to prevent subsidence and migration. While lateral tabs are one way to accomplish this purpose, teeth are another. Because a POSA would have been aware of spacers with teeth and their use to prevent migration and subsidence, a POSA would have been motivated to combine teeth with the "bone graft" spacer of claim 14.

c. "Partial boreholes"

"Partial borehole" was not construed, so it carries its plain and ordinary meaning. As RSB Spine does not dispute the meaning of this limitation, I accept that the plain and ordinary meaning of a "partial borehole" is an "incomplete" borehole, *i.e.*, "an incomplete circle when it intersects a surface." (Tr. 91:16–20).

DePuy argues that a POSA would "understand that a spacer [i.e., the 'bone graft' disclosed in claim 1 of the '537 patent] used with the claimed baseplate could have 'partial boreholes' based on a POSA's understanding of the spatial relationship of the claimed implant device." (D.I. 379 ¶ 52). Specifically, DePuy argues that a POSA would understand that "partial boreholes in the three-dimensional body result from placing the plate between vertebrae and placing the screws through the base plate at an angle up and down into the vertebral bones above and below the base plate. (*Id.* ¶ 55 (citing Tr. 91:21–92:6)). DePuy relies on Figure 3 in the specification of the '537 patent, which DePuy argues shows a "partial borehole." (*Id.* ¶ 56; '537 patent at Fig. 3).

RSB Spine argues that DePuy may not rely on the '537 specification to fill in missing limitations. (D.I. 380 ¶ 64 (citing *Advance Transformer Co. v. Levinson*, 837 F.2d 1081, 1083 (Fed. Cir. 1988), *overruled on other grounds by Cardinal Chem. Co. v. Morton Int'l, Inc.*, 508 U.S. 83, 92 n.12 (1993); *Noelle v. Lederman*, 355 F.3d 1343, 1352 (Fed. Cir. 2004)). Even so, RSB Spine argues that the '537 patent specification does not disclose partial boreholes. (D.I. 380 ¶ 64). Further, RSB Spine argues a POSA would have no motivation to combine partial boreholes with claim 1 because, first, the '537 patent does not contemplate a bone graft that is "mated" to the base plate, and second, it is dangerous to place a screw through a plate into an unmated bone graft. (D.I. 380 ¶¶ 71–72).

When evaluating a potential interference-in-fact, courts must "compare claims, not disclosures, when comparing issued patents under section 291." *Advance Transformer*, 837 F.2d at 1083. Disclosures in the specification may be used "as a guide" to determine whether the claimed subject matter is the same, but the ultimate comparison is between the claims. *See id.* at 1083–84; *Noelle*, 355 F.3d at 1352. Even considering Figure 3 of the '537 patent specification as prior art, I do not think that it depicts a "partial borehole" in the bone graft. I credit Mr. Drewry's testimony interpreting Figure 3:

> [T]his is a cross-sectional view of the bone graft and the base plate. It shows one screw here, and I believe Dr. Cheng said that this screw was actually going through the bone graft material here. If it was truly a partial borehole and that's the way it was intended, you would see on the top of the threads a dashed line similar to the ones that you see in the base plate here that represent a predetermined borehole or partial borehole that was provided in the bone graft prior to implantation.

(Tr. 201:21–202:4).

In other words, Mr. Drewry testified that the screw (24), as depicted in Figure 3, is passing in front of rather than passing through the bone graft (48). ('537 patent at Figure 3). Mr. Drewry further explained that it would be dangerous to drill into the bone graft during

implantation. He explained that femoral ring bone grafts—like those preferred by the inventor of the '537 patent, Dr. Bray—often are frozen when used in the operating room. Frozen bone grafts are brittle and a drill bit "may skive off and go into the vertebral body or somewhere else," possibly fracturing the graft or pushing material into the spinal cord, thereby paralyzing the patient. (Tr. 202:9–21). As an alternative, Mr. Drewry proposed that a femoral ring used as the "bone graft" would create only a "tangent point" from the ring to the base plate, and that there would be "room behind the base plate for the screws to easily go into the vertebral bodies without coming into contact with the bone graft." (Tr. 211:16–23).

Furthermore, Mr. Drewry testified that "the function of a partial borehole in the '207 patent was alignment of the boreholes in the front plate to match up with the boreholes in the three-dimensional body, and they were connected." (Tr. 200:22–25). This function is reflected in the language of claim 1 of the '207 patent, which reads: "the front plate including a first borehole and a second borehole having openings, the first borehole and the second borehole each being aligned with a respective first and second partial borehole." ('207 patent at 6:40–43). In contrast, Mr. Drewry testified that the design of the '537 patent contemplates a bone graft that is "independent of the base plate," so that there are "no fixation elements that connect the base plate to the bone graft material." (Tr. 201:1–5).

The addition of "partial boreholes" to the '537 patent is non-obvious for multiple reasons. First, an interference-in-fact requires that both parties claim the "same patentable invention," which is found in the patents' claims, not the specification. *Noelle*, 355 F.3d at 1352. Other than the '537 specification, DePuy did not present any prior art reference or evidence of a POSA's general knowledge of partial boreholes on spacers or bone grafts. Second, assuming the '537 patent specification were an appropriate reference for demonstrating a claim element in the prior

art, I agree with Mr. Drewry that there is no partial borehole depicted in Figure 3. Third, I credit Mr. Drewry's testimony that a POSA would have no motivation to combine partial boreholes with the bone graft in claim 1 of the '537 patent because it would be dangerous to do so, and because the design of the '537 patent does not contemplate the "bone graft"/"three-dimensional body" as attached to the "base plate"/"front plate" with "fixation elements." If the "three-dimensional body" does not connect to the "front plate," there is no need for the "boreholes" to align with "partial boreholes," as claimed in the '207 patent.[7]

Accordingly, DePuy has not proven that a POSA would have motivation to combine partial boreholes with the "bone graft" of claims 1, 10 and 14 of the '537 patent, nor demonstrated that a POSA would have a reasonable expectation to succeed by doing so.

E. Conclusions of Law

For the reasons stated above, a POSA would have no reason to believe combining partial boreholes with the subject matter claimed in either claim 10 or 14 of the '537 patent would be successful, or have any reason to attempt to do so. Nor does DePuy provide evidence of a POSA's knowledge of "partial boreholes" on spacers in the prior art other than an unconvincing interpretation of Figure 3 from the '537 patent specification. A POSA would additionally have no motivation to combine the "teeth" limitation present in claim 17 of the '207 patent with claim 10 of the '537 patent because the "lateral tabs" in claim 10 already perform the purpose of limiting migration and subsidence.

Accordingly, claim 17 of the '207 patent is not obvious in light of claims 10 and 14 of the '537 patent. As an interference requires obviousness in both directions, this finding alone is

[7] Since the addition of "partial boreholes" is non-obvious to a POSA, so too would be the inclusion of "boreholes" on the "base plate"/"front plate" that line up with those "partial boreholes." (*See* '207 patent at 6:41–44).

sufficient for a finding of no interference-in-fact. I find no interference-in-fact between the '207 and '537 patents.

V. CONCLUSION

For the foregoing reasons, I find no interference between the claims of the '537 patent and the '207 patent. The parties shall submit a proposed final judgment consistent with this memorandum opinion within one week.