

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

STRAUMANN USA, LLC,  
Petitioner,

v.

SMART DENTURE CONVERSIONS, LLC,  
Patent Owner.

---

PGR2025-00054  
Patent 12,156,781 B1

---

**PATENT OWNER'S RESPONSE**

April 1, 2026

## TABLE OF CONTENTS

LIST OF PATENT OWNER’S EXHIBITS .....	8
I. INTRODUCTION .....	12
II. LEGAL STANDARD .....	15
III. PRIORITY DATE.....	16
IV. PERSON OF ORDINARY SKILL IN THE ART .....	16
A. Petitioner’s Proposed Skill Level Would Exclude Both Inventors.....	17
B. Petitioner’s Proposed Scope Of The Relevant Art Is Too Narrow And Petitioner’s Expert Agrees .....	18
V. THE BOARD’S IMPLICIT CLAIM CONSTRUCTION IS WRONG .....	20
A. The Board Construed The Claim Limitations .....	20
B. The Board’s Implicit Claim Construction Is Incorrect.....	21
VI. GROUND 1 FAILS BECAUSE THE CHALLENGED CLAIMS ARE NOT INDEFINITE.....	27
A. Claim 6 Does Not Include Solely Functional Limitations At The Point Of Novelty .....	28
B. Claims 10-16 Provide Reasonable Certainty Regarding The Scope Of The <i>Does Not Essentially Match</i> Limitation .....	29
VII. GROUND 2 FAILS BECAUSE THE WRITTEN DESCRIPTIONS PROPERLY SUPPORT THE ’781 PATENT CLAIMS .....	35
A. The Board Correctly Rejected Petitioner’s Arguments Regarding The <i>Different Threads</i> Limitations From The Related IPR .....	36
B. The Specification Supports The <i>Release</i> Limitations (All Claims) .....	36
1. Temporary Fasteners With Asymmetric Threads .....	43
2. Slotted Temporary Fasteners With Symmetric Threads.....	48
3. Temporary Fastener With Interference Fit .....	50
4. The Claimed Genus Is Adequately Disclosed Under <i>Ariad</i> .....	52
5. The Claims Are Supported Even If The Specification Discloses Only The Figure 75 Embodiment.....	62

C.	The Specification Supports The <i>Securing the Coping</i> Limitations (Claims 1-9) .....	62
D.	The Specification Supports The <i>Does Not Engage Continuously</i> Limitations (Claims 1-9).....	64
E.	The Specification Supports The <i>Outer Surface Deform</i> Limitation (Claim 5) .....	65
F.	The Specification Supports The <i>Configured to Release</i> Limitation (Claim 6) .....	66
G.	The Specification Supports The <i>Deform</i> Limitations (Claims 5, 14).....	67
H.	The Specification Supports The <i>Maximal Width</i> Limitation (Claim 15) ..	68
I.	The Petition’s Enablement Argument (If Any) Fails .....	68
VIII.	GROUND 3-4 OF THE PETITION FAIL TO SHOW ANY CLAIMS WERE OBVIOUS .....	70
A.	Combining These References Does Not Meet All Limitations Of The Claimed Invention.....	72
B.	A POSA Would Not Have Been Motivated To Combine The Prior Art To Arrive At The Invention.....	77
C.	The Petition Relies On Impermissible Hindsight To Arrive At The Claimed Invention.....	81
IX.	CONCLUSION .....	81
	CERTIFICATE OF COMPLIANCE .....	83
	CERTIFICATE OF SERVICE .....	84

## TABLE OF AUTHORITIES

	Page(s)
<b>Cases</b>	
<i>Amerigen Pharms. v. UCB Pharma</i> , 913 F.3d 1076 (Fed. Cir. 2019) .....	78
<i>Ariad Pharm. v. Eli Lilly</i> , 598 F.3d 1336 (Fed. Cir. 2010) .....	<i>passim</i>
<i>BASF v. Commonwealth Sci.</i> , 28 F.4th 1247 (Fed. Cir. 2022) .....	46
<i>Belden v. Berk-Tek</i> , 805 F.3d 1064 (Fed. Cir. 2015) .....	70
<i>Bilstad v. Wakalopulos</i> , 386 F.3d 1116 (Fed. Cir. 2004).....	37, 38
<i>Bos. Sci. v. Johnson &amp; Johnson</i> , 647 F.3d 1353 (Fed. Cir. 2011) .....	55
<i>Capon v. Eshhar</i> , 418 F.3d 1349 (Fed. Cir. 2005) .....	39
<i>Cheese Sys. v. Tera</i> , <i>Pack</i> , 725 F.3d 1341 (Fed. Cir. 2013) .....	78
<i>Curtiss-Wright v. Velan</i> , 438 F.3d 1374 (Fed. Cir. 2006) .....	24
<i>Daiichi Sankyo v. Apotex</i> , 501 F.3d 1254 (Fed. Cir. 2007) .....	17, 20
<i>Days Corp. v. Lippert Components</i> , 2019 WL 3072306 (N.D. Ind. July 15, 2019) .....	37
<i>DDR Holdings v. Hotels.com</i> , 773 F.3d 1245 (Fed. Cir. 2014) .....	28

<i>Dynamic Drinkware v. Nat’l Graphics</i> , 800 F.3d 1375 (Fed. Cir. 2015) .....	16
<i>Eli Lilly v. Teva Pharms.</i> , 2020 WL 806932 (PTAB Feb. 18, 2020) .....	70
<i>Endo Pharms. v. Actavis</i> , 922 F.3d 1365 (Fed. Cir. 2019) .....	70, 71
<i>Enzo Biochem v. Applera</i> 599 F.3d 1325 (Fed. Cir. 2010) .....	27
<i>Epistar v. ITC</i> , 566 F.3d 1321 (Fed. Cir. 2009) .....	38
<i>Ethicon Endo-Surgery v. U.S. Surgical</i> , 93 F.3d 1572 (Fed. Cir. 1996) .....	59
<i>Ex parte Bush</i> , 2012 WL 3863280 (BPAI Aug. 29, 2012) .....	52, 53, 62
<i>Ex parte Kojer</i> , 2023 WL 4652884 (PTAB June 28, 2023) .....	54
<i>Ex parte Miyazaki</i> , No. 2007-3300, 2008 WL 5105055 (BPAI Nov. 19, 2008) .....	66
<i>Ex parte Wang</i> , No. 2012-001318, 2014 WL 1005328 (PTAB Jan. 9, 2014) .....	67
<i>Fox Factory v. SRAM</i> , 2017 WL 1242973 (PTAB Apr. 3, 2017) .....	59
<i>Gillette v. Sphere USA</i> , 2023 WL 6367741 (PTAB Sept. 19, 2023) .....	<i>passim</i>
<i>GlaxoSmithKline v. Banner Pharmacaps</i> , 744 F.3d 725 (Fed. Cir. 2014) .....	24

<i>Google v. EcoFactor</i> , 92 F.4th 1049 (Fed. Cir. 2024) .....	20, 21, 26
<i>Harmonic v. Avid Tech.</i> , 815 F.3d 1356 (Fed. Cir. 2016) .....	16
<i>Henny Penny v. Frymaster</i> , 938 F.3d 1324 (Fed. Cir. 2019) .....	78
<i>HTC v. Cellular Comms. Equip.</i> , 877 F.3d 1361 (Fed. Cir. 2017) .....	20
<i>Hynix Semiconductor v. Rambus</i> , 645 F.3d 1336 (Fed. Cir. 2011) .....	38
<i>Intelligent Bio-Sys. v. Illumina Cambridge</i> , 821 F.3d 1359 (Fed. Cir. 2016) .....	69
<i>Interconnect Planning v. Feil</i> , 774 F.2d 1132 (Fed. Cir. 1985) .....	79
<i>Juno Therapeutics v. Kite Pharma</i> , 10 F.4th 1330 (Fed. Cir. 2021) .....	<i>passim</i>
<i>KSR v. Teleflex</i> , 550 U.S. 398 (2007) .....	78
<i>Liebel-Flarsheim v. Madrid</i> , 418 F.3d (Fed. Cir. 2007) .....	69
<i>LizardTech v. Earth Res.</i> , 424 F.3d 1336 (Fed. Cir. 2005) .....	37, 70
<i>Martek v. Nutrinova</i> , 579 F.3d 1363 (Fed. Cir. 2009) .....	53
<i>McCoy v. Heal Systems</i> , 850 F. App'x. 785 (Fed. Cir. 2021) .....	19

<i>Medtronic v. Teleflex Innovations</i> , 69 F.4th 1341 (Fed. Cir. 2023) .....	53, 59
<i>Nautilus v. Biosig Instruments</i> , 572 U.S. 898 (2014) .....	27, 34
<i>Orexo AB v. Actavis Elizabeth</i> , 903 F.3d 1265 (Fed. Cir. 2018) .....	79
<i>Pac. Biosci v. Oxford Nanopore</i> , 996 F.3d 1342 (Fed. Cir. 2021) .....	69
<i>Panduit v. Dennison</i> , 810 F.2d 1561 (Fed. Cir. 1987) .....	71
<i>Phillips v. AWH</i> , 415 F.3d 1303 (Fed. Cir. 2005) .....	18, 24
<i>Plantronics v. Aliph</i> , 724 F.3d 1343 (Fed. Cir. 2013) .....	76
<i>Polaris v. Arctic Cat</i> , 882 F.3d 1056 (Fed. Cir. 2018) .....	78
<i>Precision Planting v. Deere &amp; Co.</i> , 2020 WL 7378831 (PTAB Dec. 15, 2020) .....	15
<i>Reiffin v. Microsoft</i> , 214 F.3d 1342 (Fed. Cir. 2000) .....	37
<i>Rexnord v. Laitram</i> , 274 F.3d 1336 (Fed. Cir. 2001) .....	54
<i>SDC v. Straumann USA</i> , 759 F. Supp. 3d 555 (D. Del. 2024) .....	27
<i>TQ Delta v. CISCO</i> , 942 F.3d 1352 (Fed. Cir. 2019) .....	78

*Trading Techs. v. eSpeed*,  
595 F.3d 1340 (Fed. Cir. 2010) ..... 25, 59

*Tronzo v. Biomet*,  
156 F.3d 1154 (Fed. Cir. 1998) ..... 56, 58, 59

*TVnGO v. LG*,  
861 F. App'x 453 (Fed. Cir. 2021) ..... 24

*In re Wands*,  
858 F.2d 731 (Fed. Cir. 1988) ..... 69, 70

**Statutes**

35 U.S.C. § 322(a)(3)..... 16

**Regulations**

37 C.F.R. § 42.22(a)(2) ..... 69

**LIST OF PATENT OWNER’S EXHIBITS**

<b>Exhibit No.</b>	<b>Description</b>
2001	First Supplemental Complaint, <i>Smart Denture Conversions, LLC v. Straumann USA, LLC</i> , No. 1:24-cv-00507-JCB (D. Del. Feb. 4, 2025), ECF No. 34
2002	Docket sheet, <i>Smart Denture Conversions, LLC v. Straumann USA, LLC</i> , No. 1:24-cv-00507-JCB (D. Del.)
2003	Complaint, <i>Smart Denture Conversions, LLC v. Straumann USA, LLC</i> , No. 1:24-cv-00507-JCB (D. Del. Apr. 23, 2024), ECF No. 1
2004	Defendant Straumann USA, LLC’s Opening Brief in Support of its Motion to Dismiss Plaintiff’s Complaint for Failure to State a Claim for Relief under Fed. R. Civ. P. 12(b)(6), <i>Smart Denture Conversions, LLC v. Straumann USA, LLC</i> , No. 1:24-cv-00507-JCB (D. Del. July 29, 2024), ECF No. 13
2005	Order, <i>Smart Denture Conversions, LLC v. Straumann USA, LLC</i> , No. 1:24-cv-00507-JCB (D. Del. Jan. 30, 2025), ECF No. 31 (“scheduling order”)
2006	Stipulated Protective Order, <i>Smart Denture Conversions, LLC v. Straumann USA, LLC</i> , No. 1:24-cv-00507-JCB (D. Del. Mar. 4, 2025), ECF No. 44
2007	Defendant Straumann USA, LLC’s Initial Invalidity Contentions, No. 1:24-cv-00507-JCB (D. Del.) (served June 2, 2025)
2008	Order Regulating Practice for civil cases assigned to The Honorable J. Campbell Barker, <i>Smart Denture Conversions, LLC v. Straumann USA, LLC</i> , No. 1:24-cv-00507-JCB (D. Del. Dec. 16, 2024), ECF No. 22
2009	Notice of <i>Sotera</i> Stipulation, <i>Smart Denture Conversions, LLC v. Straumann USA, LLC</i> , No. 1:24-cv-00507-JCB (D. Del. June 4, 2025), ECF No. 57
2010	Declaration of Karl Leinsing

2011	Smart Denture Conversions, <i>Technique Manual</i> , available at <a href="https://shorturl.at/798cX">https://shorturl.at/798cX</a>
2012	International Patent Application No. WO 96/2019 (Sept. 26, 1996) (“Sutter 1996”)
2013	U.S. Patent No. 6,332,777 B1 (Dec. 25, 2001) (“Sutter 2001”)
2014	U.S. Patent No. 3,115,804 (Dec. 31, 1963) (“Johnson”)
2015	U.S. Patent No. 5,904,483 (May 18, 1999) (“Wade”)
2016	U.S. Patent No. 6,517,543 B1 (Feb. 11, 2003) (“Berrevoets”)
2017	U.S. Patent No. 9,568,037 B2 (Feb. 14, 2017) (“Staniszewski”)
2018	U.S. Patent Publication No. 2002/0094255 A1 (July 18, 2002) (“Neuhengen”)
2019	Curriculum Vitae of Karl Leinsing
2020	Declaration of Dr. Brandon Kofford
2021	Second Declaration of Karl Leinsing
2022	Deposition Transcript of John B. Brunski, Ph.D. (Feb. 13, 2026)
2023	U.S. Patent No. 5,350,302 (Sept. 27, 1994) (“Marlin”)
2024	U.S. Patent No. 9,844,425 (Dec. 19, 2017) (“Thomke”)
2025	U.S. Patent No. 5,213,502 (May 25, 1993) (“Daftary”)

**TABLE OF ABBREVIATIONS**

Bernhard	U.S. Patent Publication No. 2017/0202649 A1 (July 20, 2017), Ex-1003
Berrevoets	U.S. Patent No. 6,517,543 B1 (Feb. 11, 2003) Ex-2016
Brunski	Declaration of John B. Brunski, Ph.D., Ex-1002
Brunski Dep.	Deposition Transcript of John B. Brunski, Ph.D. (Feb. 13, 2026), Ex-2022
Companion IPR	<i>Straumann USA, LLC v. Smart Denture Conversions, LLC</i> , IPR2025-00956
Derey	W.O. Patent Publication No. 2013/030839 A1 (Mar. 7, 2013), Ex-1008
Ex-	Exhibit
Gracco	A. Gracco, <i>Effects of Thread Shape on the Pullout Strength of Miniscrews</i> , 142 Am. J. Orthodontics & Dentofacial Orthopedics 186 (2012), Ex-1006
IDS	Information Disclosure Statement(s)
IPR	<i>Inter partes</i> review
Kofford	U.S. Patent No. 11,311,354 (Apr. 26, 2022), Ex-1013
Lannan	U.S. Patent Publication No. 2008/0206709 A1 (Aug. 28, 2008)
Parallel Litigation	<i>Smart Denture Conversions, LLC v. Straumann USA, LLC</i> , No. 1:24-cv-00507-JCB (D. Del.)
Patent Owner	Respondent Smart Denture Conversions, LLC
Petitioner	Straumann USA, LLC
PGR	Post-grant review

Poovey	U.S. Patent Publication No. 2016/0045290 A1 (Feb. 18, 2016), Ex-1005
POSA	Person of ordinary skill in the art
Priority Applications	'942 Application, '402 Application, '082 Application, and '361 Application (collectively)
PTAB	Patent Trial and Appeal Board
SDC	Patent Owner Smart Denture Conversions, LLC
Straumann	Petitioner Straumann USA, LLC
'082 Application	U.S. Patent Application No. 62/818,082 (Mar. 13, 2019), Ex-1011
'361 Application	U.S. Patent Application No. 16/596,361 (Oct. 8, 2019), Ex-1012
'402 Application	U.S. Patent Application No. 62/774,402 (Dec. 3, 2018), Ex-1010
'781 Patent	U.S. Patent No. 12,156,781 B1, Ex-1001
'942 Application	U.S. Patent Application No. 62/742,942 (Oct. 9, 2018), Ex-1009
'992 Patent	U.S. Patent No. 11,937,992 (Mar. 26, 2024)
1Leinsing	Declaration of Karl Leinsing, Ex-2010
2Leinsing	Declaration of Karl Leinsing, Ex-2021

## I. INTRODUCTION

The '781 Patent provides improved systems and methods for aligning dental implants using a temporary screw-in fastener.<sup>1</sup> Specifically, the patented invention ensures the alignment of dental implants and painless removal of temporary fasteners, thereby improving clinical efficiency, implant-to-prosthesis alignment accuracy, and patient comfort. It does so with a “temporary alignment system and method for holding a dental coping to an implant abutment *using the same threads in the abutment* that are used for definitive attachment.” ’781 Patent, Abstract (emphasis added).

Petitioner falls short of carrying its burden to show that the '781 Patent claims are invalid. The Board should reject the Petition so that the Parallel Litigation may proceed. None of the four Grounds shows that any challenged claim is invalid.

Ground 1. Petitioner argues that claims 6 and 10-16 are indefinite. First, Petitioner is wrong on claim 6 because it does not recite solely functional limitations at the point of novelty. The claims describe both structural limitations as well as functional limitations that are tightly connected to the fastener structure. Second, claims 10-16 are adequately definite because the claim language at issue

---

<sup>1</sup> For convenience, a Table of Abbreviations is provided at pages 10-11.

(“does not essentially match”) delineates the scope of the claimed invention with reasonable certainty. The other limitations elucidate the meaning of this language, as do the ’781 Patent’s drawings and intrinsic record. Moreover, Petitioner and Brunski themselves disprove this argument by conceding the claim scope later, in conjunction with arguing that claim 10 is obvious. The Board credited Petitioner’s argument explicitly based “[o]n the current record.” Inst. Dec. 36. With the benefit of a complete record, including the intrinsic record, this argument fails.

Ground 2. Petitioner argues that claims 1-16 are not adequately supported by the specification. Yet the Board’s preliminary decision to credit Petitioner’s arguments was based on an incorrect implicit claim construction that Petitioner advanced. Furthermore, Petitioner’s argument requires considering *exclusively* embodiments specifically depicted in a drawing like Figure 75, while ignoring the written portions of the specification. Taken as a whole (as it must be), the specification discloses at least three different species of the claimed genera of temporary fasteners. Because this case deals with predictable mechanical arts, each species would be enough, standing alone, to disclose the claimed genera; taking all three together, even more so. And Petitioner’s six follow-on challenges to the support for various dependent claims are similarly unpersuasive.

Grounds 3-4. Finally, Petitioner argues that claims 10, 12, 15 and 16 are obvious over Bernhard, Poovey, and Gracco (Ground 3), and that claims 1-9, 11,

13 and 14 are obvious over the same references plus Derey (Ground 4). But Petitioner fails to carry its burden of showing obviousness for several related reasons.

First, no combination of prior art references shows the required limitations in each independent claim requiring (1) the male threads of the temporary fastener be *mismatched* and different from (2) the abutment's female threads and the definitive screw's matching male threads. '781 Patent, 26:9-24, 27:6-10, 46-59, 28:16-20. Bernhard does not show or suggest a temporary fastener at all. Poovey's temporary screw has plastic threads with the same thread pattern as the threads of the fixation screw. And while Gracco (which is not a dental-system reference) discloses self-tapping screws with well-known thread patterns screwed into (and pulled out of) synthetic bone material (rather than a dental abutment), it does not disclose either a temporary or a definitive screw—or even two screws with different thread patterns screwed into the same female threads. Derey does not disclose a screw at all. Accordingly, since none of the references, alone or in combination, discloses this critical claimed feature, the Petition fails to prove that any of the claims are obvious.

Second, no POSA would have combined these references in the manner the Petition sets out. Specifically, even if a POSA could have combined Bernhard and Poovey, there is no disclosed motivation to further modify the Bernhard/Poovey

screw threads to an asymmetric buttress thread using Gracco's test results.

Poovey's silicone or plastic threads are already designed to be picked up using minimal force.

More importantly, even if a POSA had been motivated to (1) add Poovey's temporary screw to Bernhard and then (2) substitute Gracco's asymmetric buttress thread for Poovey's temporary screw, the resulting combination would still lack the critical limitations in each independent claim requiring mismatched threads.

Bernhard only teaches a well-known definitive screw (but no temporary screw) with male threads that match the abutment's female threads. Poovey only teaches a temporary screw with the same thread pattern as the definitive screw to match the abutment's female threads. And Gracco only teaches a self-tapping screw (not a dental system) with threads that exactly match the female threads of the synthetic bone material. Derey does not teach a screw at all.

In short, grounds 3 and 4 both impermissibly use the challenged claims as a roadmap to cherry-pick incompatible elements from multiple references to try to recreate the invention. The Board should reject this use of impermissible hindsight.

## **II. LEGAL STANDARD**

“Petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to Patent Owner.” *Precision Planting v. Deere & Co.*, 2020 WL 7378831, at \*1 (PTAB Dec. 15, 2020) (citing

*Dynamic Drinkware v. Nat'l Graphics*, 800 F.3d 1375, 1378 (Fed. Cir. 2015)).

“Petitioner must prove unpatentability by a preponderance of the evidence,” *id.*, and “with particularity,” *Harmonic v. Avid Tech.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016); 35 U.S.C. § 322(a)(3) (“with particularity”).

### **III. PRIORITY DATE**

The '781 Patent properly claims priority to the Priority Applications. '781 Patent, [63], [60] (related U.S. application data). The Petition does not contest this priority date. The claims are at least entitled to the '361 Application's priority date, October 8, 2019.

### **IV. PERSON OF ORDINARY SKILL IN THE ART**

The Board noted Petitioner's and Patent Owner's proposals “share many consistencies” and found “little meaningful difference” between Petitioner's and Patent Owner's proposed five and three years' of experience, respectively. Inst. Dec. 18-19. Where the proposed definitions differ, however, the Board should adopt Patent Owner's definition because Petitioner's proposal would exclude both inventors of the '781 Patent as POSAs at the time of invention.

The key difference between the two proposed definitions is the relevant art. Petitioner proposes that a POSA's experience must deal with “dental implants and prostheses” specifically. Pet. 31. Patent Owner contends, however, that because many “dental” implants concern the upper and lower jaw bones, experience with

non-dental products, such as bone implants, anchors, and/or screws, is equally useful. 2Leinsing ¶¶53-64; 1Leinsing ¶37.

The Board should adopt Patent Owner’s definition. A POSA is someone of *ordinary* skill, not an expert in the field. The standard POSA considerations support Patent Owner’s definition. *See Daiichi Sankyo v. Apotex*, 501 F.3d 1254, 1256 (Fed. Cir. 2007) (considerations include education of inventors and workers, problems encountered in the art, prior-art solutions, and nature of technology).

**A. Petitioner’s Proposed Skill Level Would Exclude Both Inventors**

Petitioner’s definition makes little sense because it would exclude the ’781 Patent’s inventors. 2Leinsing ¶60. Dr. Kofford is a dentist with no engineering degree or certifications. Mr. Rudisill has a degree in mechanical engineering but, before co-inventing the technology at issue, *no* experience with dental products. *Id.* His prior inventions involved mechanical and electrical applications across numerous industries.

It makes sense that Mr. Rudisill’s engineering expertise transferred over seamlessly; the invention is part of a broader field, mechanical engineering. The invention does not primarily involve concepts specific to dental practice, tooth anatomy or gums—rather, it involves the application of well-known mechanical principles to denture conversions anchored to jaw bones. The problems encountered in this field are the same problems that arise in mechanical

applications across numerous industries. 2Leinsing ¶56. The prior art confirms these commonalities; much is not specific to dental applications. *Id.* ¶57. Even Petitioner agrees, arguing repeatedly that this proceeding deals with “predictable technology.” Pet., 69, 86. Although inventors often have skill levels higher than a POSA, a definition that excludes them (as Petitioner’s would) is suspect. *See Phillips v. AWH*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc) (referring to “the well-settled understanding that inventors are typically persons skilled in the field of the invention”).

**B. Petitioner’s Proposed Scope Of The Relevant Art Is Too Narrow And Petitioner’s Expert Agrees**

Brunski’s deposition confirms a POSA need not have dentistry-specific experience.

Petitioner’s expert, Brunski, touts his experience “researching, consulting, and lecturing in biomaterials and biomechanics of oral and maxillofacial implants,” including “biomechanical problems that arise in the clinical use of dental implants.” Brunski ¶¶8-9. Yet he admitted having no direct experience with denture conversions and was only “familiar with general impression taking.” Brunski Dep., 13:2-3. His closest work was a project “25 years ago” designing a “snap on” mechanism to permanently attach prostheses to implants—but even that “didn’t really have anything to do with impression taking.” *Id.*, 9:15-10:15.

He also admitted he “was not specifically involved in that space” (denture conversions) except “to the extent there’s some overlap between dentistry and impression methods and stuff I do.” *Id.*, 18:6-16. Indeed, Brunski could not name specific products used in traditional conversion techniques as of 2000, had not thought about long-term changes in the open-tray or closed-tray techniques before, and never heard of SDC or NeoConvert before this engagement. *Id.*, 15:17-16:4, 17:17-21, 17:24-18:5, 18:20-19:9. Moreover, though his declaration asserted that Nobel Biocare (Bernhard’s applicant) was “a major company in the industry, and its advancements in the field are well-known, and would have been noteworthy to a POSA,” Brunski ¶69, he had no idea whether Bernhard’s and Poovey’s technologies had ever been commercialized, Brunski Dep., 134:11-13, 179:17-19. In short, nothing about Brunski’s experience with dental implants gave him special insight into the mechanical fastener technology at issue.

Because this technology belongs to the broader mechanical arts, therefore, a POSA need not have dentistry-specific experience. Just like Mr. Rudisill did by consulting Dr. Kofford, a POSA can consult a dentist as necessary. *See McCoy v. Heal Sys.*, 850 F. App’x 785, 788 (Fed. Cir. 2021) (a POSA’s reliance on another expert can be appropriate “if in the relevant art the POSA routinely would rely on such expert assistance”). Brunski testified that his own experience includes similar divisions of labor, describing work with a colleague who “is more of a bone

expert” where “the two of us together gave input” to “the design team.” Brunski Dep., 11:3-13.

The relevant considerations set out in *Daiichi Sankyo* support Patent Owner. Where Petitioner’s proposal diverges, the Board should therefore adopt Patent Owner’s definition. Regardless, Mr. Leinsing qualifies as an expert under either definition. 2Leinsing ¶¶61-64.

## **V. THE BOARD’S IMPLICIT CLAIM CONSTRUCTION IS WRONG**

Petitioner led the Board astray by quietly furnishing an incorrect claim construction, which the Institution Decision relied on to erroneously limit the claims’ scope. Inst. Dec., 37-41. Specifically, the Board’s discussion of written-description support for what it calls the *release* limitations requires implicit constructions of claims 1, 5-6, 8 and 10 that are incorrect. *Id.*

### **A. The Board Construed The Claim Limitations**

Though the Institution Decision purports not to construe any claim limitations, it did so implicitly. *Id.*, 19-20. When claim analysis “establishes the scope (e.g., boundaries) and meaning of the patented subject matter, the court (or the Board) has most likely construed the claim.” *Google v. EcoFactor*, 92 F.4th 1049, 1055 (Fed. Cir. 2024) (emphasis omitted); *HTC v. Cellular Comm’ns.*, 877 F.3d 1361, 1367 (Fed. Cir. 2017) (same).

Because the Institution Decision purported to establish the claims’ scope and meaning, it was based upon implicit claim construction. The Institution Decision focused on an isolated piece of claim language describing the temporary fastener’s function, saying that “the claims cover *broader* subject matter, i.e., nearly any temporary fastener that can be pulled out.” Inst. Dec., 40 (emphasis added).<sup>2</sup> That implicit construction, in turn, undergirded the Ground 2 analysis tentatively finding inadequate support for claims 1, 6, 8 and 10. *Id.*, 40 (contrasting the “broader subject matter” claimed with the specifications’ “single structure for being screwed in and then released by axial force”).

#### **B. The Board’s Implicit Claim Construction Is Incorrect**

The Board thus implicitly construed the claims—and, moreover, did so incorrectly in several ways. “[C]onstruing claim terms” requires “first look[ing] to, and primarily rely[ing] on, the intrinsic evidence, including the claims themselves, the specification, and the prosecution history of the patent, which is usually dispositive.” *Google*, 92 F.4th at 1058. “A patentee ‘is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its scope.’” *Id.*

---

<sup>2</sup> If the claims were this broad, the examiner would have rejected all of the claims based on Poovey alone.

*First*, the implicit construction accounted for only *part* of the claim language relevant to the temporary fastener's functions. It fails to consider other relevant portions of claims 1, 6, 8 and 10.

- Claim 1 requires at least five other limitations, *viz.*, that the temporary fastener must: (1(g)<sup>3</sup>) be “sized and configured for *rotary engagement* with the implant abutment threads,” (1(h)) “engage[] the implant abutment threads with an *engagement depth at a predetermined torque*,” “to *hold the coping into alignment* with the implant abutment prior to attachment of the definitive screw,” (1(i)) “*release* at least a portion of the temporary fastener and the coping from the implant abutment as a unit when *an axial release force is applied*,” (1(j)) “*not engage the implant abutment threads continuously*” when inserted, and (1(k)) “make *contact with the implant abutment threads* over a” *contact area smaller* than the contact area later created when the *definitive screw* makes contact with the female abutment threads. ’781 Patent, 25:60-26:24 (emphasis added).
- Claim 6 recites limitations (6(g)-(j)) similar to those listed above as 1(g)-(j), adding that 6(i)’s “axial release force” “is applied *without*

---

<sup>3</sup> For convenience, these use the claim numbering on Petition pages x-xv.

*rotation* of the temporary fastener.” *Id.*, 26:56-27:10 (emphasis added).

- Claim 8 recites limitations (8(g)-(j)) similar to those listed above as 1(g)-(j), but requires as well that (8(k)) the temporary fastener’s distal post portion must have a *smaller volume* than the definitive screw’s. *Id.*, 27:30-60 (emphasis added).
- Claim 10, among other limitations, requires the temporary fastener to: (10(g)) comprise “shaft threading having a shaft threading contour” that “does *not essentially match the implant abutment threads contour*,” (10(i)) such that the threading “engages the threads of the implant abutment at a *predetermined torque*,” in order to “cooperate[] with the threads of the implant abutment” and “*pull the coping into position* with the implant abutment,” and must then (10(j)) “release[]” “the coping and the temporary fastener...as a unit from the implant abutment” “in *response to application of an axial release force*,” (10(k)) “after the coping is adhesively bonded to a prosthesis or in a closed-tray impression process.” *Id.*, 28:16-41 (emphasis added).

“These functional limitations are tightly connected to the geometry of the temporary fastener threads.” 2Leinsing ¶¶114. The claims’ “language defines the claimed genus by [multiple] properties” *in addition* to the *release* limitation the

Institution Decision recognized. *GlaxoSmithKline v. Banner Pharmacaps*, 744 F.3d 725, 730 (Fed. Cir. 2014). By initially determining that the claims broadly cover “nearly any temporary fastener that can be pulled out,” therefore, the Board erred. Inst. Dec., 40. The Institution Decision’s implicit construction does not account for critical additional limitations.

*Second*, the Board’s construction ignores the claim differentiation of dependent claims 2, 7, 9, 11 and 14. Dependent claims provide intrinsic evidence informing the meaning of a more broadly recited claim from which it depends. *TVnGO v. LG*, 861 F. App’x 453, 460 (Fed. Cir. 2021) (applying *Phillips*, 415 F.3d at 1314). The “other claims of the patent in question” are “valuable sources of enlightenment as to the meaning of a claim term.” *Id.* (alterations omitted). For example, patent law recognizes “the presumption that an independent claim should not be construed as requiring a limitation added by a dependent claim.” *Curtiss-Wright v. Velan*, 438 F.3d 1374, 1380 (Fed. Cir. 2006).

The Board erred in failing to consider these additional dependent claims.

- Claim 2 recites “wherein the distal shaft portion of the temporary fastener comprises *asymmetric threading*.” ’781 Patent, 26:25-27 (emphasis added).

- Claim 7 recites “wherein the *distal shaft portion* of the temporary fastener comprises an *open space*, and wherein a portion of the axis is located within the open space.” *Id.*, 27:11-14 (emphasis added).
- Claim 9 recites “wherein the temporary fastener is *polymeric*, and wherein the *distal shaft portion* of the temporary fastener is *hollow*.” *Id.*, 27:61-63 (emphasis added).
- Claim 11 recites “wherein the shaft threading does *not have a continuous threading contour* along its path around the longitudinal axis.” *Id.*, 28:42-44 (emphasis added).
- Finally, claim 14 recites “wherein the distal shaft portion of the shaft of the temporary fastener is *configured to deform*” during pick-up. *Id.*, 28:49-54 (emphasis added).

Requiring the independent claims’ *release* limitations to describe only Figure 75’s split post with buttress threads, therefore, would render dependent claims 2, 7, 9, 11 and 14 meaningless because they add no limitations beyond those in the independent claims. 2Leinsing ¶¶115-24. That violates a fundamental tenet of claim construction. Moreover, the Board’s construction operates to “add[] additional limitations to claims 1, 6, 8 and 10 without a basis in the claim language for doing so.” 2Leinsing ¶123. This contradicts the principle that “courts must not import limitations into the claims from the specification.” *Trading Techs. v. eSpeed*,

595 F.3d 1340, 1352 (Fed. Cir. 2010). In this way as well, the Board’s construction was incorrect.

*Third*, like the implicit construction in *Google*, the Institution Decision’s construction here contradicts the relevant specification. In *Google* (though the Board stated “that claim construction was unnecessary”) a limitation was construed to require inputs that “were separate and distinct components that required distinctly different input data.” 92 F.4th at 1054. The Federal Circuit reversed because the limitation was “not limited to inputs that are entirely separate and distinct.” *Id.* at 1058. To the contrary, the specification “contains no restrictive language and does not explicitly require that the claim inputs be separate.” *Id.* What’s more, the specification expressly contemplated an alternate embodiment; claim terms “normally” are not “interpret[ed]...in a way that excludes embodiments disclosed in the specification.” *Id.*; see 2Leinsing ¶¶125-26.

The Board’s construction here, like in *Google*, contradicts the specification. The Priority Applications “contain[] no restrictive language and do[] not explicitly require” that the claims be limited this way. *Google*, 92 F.4th at 1058. And as explained below, the specification (like *Google*’s) expressly contemplates and discloses alternate embodiments. 2Leinsing ¶¶153-90 (describing disclosed embodiments). The Board’s construction is incorrect for this third reason.

To sum up: the Board implicitly construed claims 1, 6, 8 and 10—and did so incorrectly. When freed from Petitioner’s incorrect construction, the claims do *not* define an overbroad genus. They are well-written, definite claims, just as the district court determined when it rejected Petitioner’s arguments in the Parallel Litigation that similar claims in the ’992 Patent were ambiguous. *See SDC v. Straumann USA*, 759 F. Supp. 3d 555, 560 (D. Del. 2024) (finding the ’992 Patent’s claims were not indefinite and stating the wherein “rotatable” limitation “unambiguously refers to a functional capability of the temporary screw” and the “axial release” limitation also “plainly describes a capability of the temporary screw”).

## **VI. GROUND 1 FAILS BECAUSE THE CHALLENGED CLAIMS ARE NOT INDEFINITE**

A patent claim can be found indefinite only if the “claim[], read in light of the specification delineating the patent, and the prosecution history, fail[s] to inform, with *reasonable certainty*, those skilled in the art about the scope of the invention.” *Nautilus v. Biosig Instruments*, 572 U.S. 898, 901 (2014). This does not require the scope be set forth with exact precision or absolute certainty; it requires only reasonable certainty in light of the invention’s context, the POSA’s skill level, and the field of art. For example, *Enzo Biochem v. Applera* found the phrase “not interfering substantially” to be sufficiently definite. 599 F.3d 1325, 1334-35 (Fed. Cir. 2010). And for “terms like, for example, terms of degree, specific and

unequivocal examples may be sufficient to provide a skilled artisan with clear notice of what is claimed.” *DDR Holdings v. Hotels.com*, 773 F.3d 1245, 1260 (Fed. Cir. 2014).

**A. Claim 6 Does Not Include Solely Functional Limitations At The Point Of Novelty**

Petitioner argues that claim 6 “is indefinite because it impermissibly recites only functional limitations at the alleged point of novelty”; the “alleged point of novelty,” according to Petitioner, is the fasteners’ ability “to be pulled out without being unscrewed.” Pet., 32. Petitioner further argues that the ’781 Patent includes no “structural limitations for the temporary fastener that relate to its ability to be pulled out of the abutment without being unscrewed.” *Id.*

This is incorrect. The ’781 Patent includes interrelated structural limitations that would have informed a POSA with reasonable certainty of the invention’s scope. *See supra* Part V.B. (list of temporary fastener limitations in claims 1, 6, 8 and 10). As part of the claimed “dental system”, the ’781 Patent claims “an implant *abutment* having threads” and “a *definitive screw*...having threads for securing the coping to the threads of the implant abutment after processing.” ’781 Patent, 26:43-47 (emphasis added). The temporary fastener’s structure is defined in part by reference to these structures. The temporary fastener described in claim 6 thus is (a) “configured for rotary engagement with the implant abutment threads,” (b) “engage[s] the implant abutment threads with an engagement depth at a

predetermined torque” to “cause the proximal portion of the temporary fastener to hold the coping into alignment with the implant abutment,” (c) “release[s] at least a portion of the temporary fastener and the coping from the implant abutment as a unit in response to an axial release force...without rotation of the temporary fastener,” and (d) “does not engage the implant abutment threads continuously” when screwed in. *Id.*, 26:50-27:10. These are not purely functional limitations at the point of novelty, as Petitioner argues; instead, these “functional limitations are tightly connected to the geometry of the temporary fastener threads.” 2Leinsing ¶114; *id.*, ¶135 (similar). And these limitations’ specificity and interlocking characteristics would have provided far more than reasonable certainty to a POSA as to the scope of the claimed invention. 2Leinsing ¶¶129-35.

**B. Claims 10-16 Provide Reasonable Certainty Regarding The Scope Of The *Does Not Essentially Match* Limitation**

Petitioner argues that “does not essentially match” is indefinite—but erroneously considers that snippet of claim language in a vacuum. Pet., 35-40. Other portions of the relevant claim language narrow and reasonably define this claimed genus.

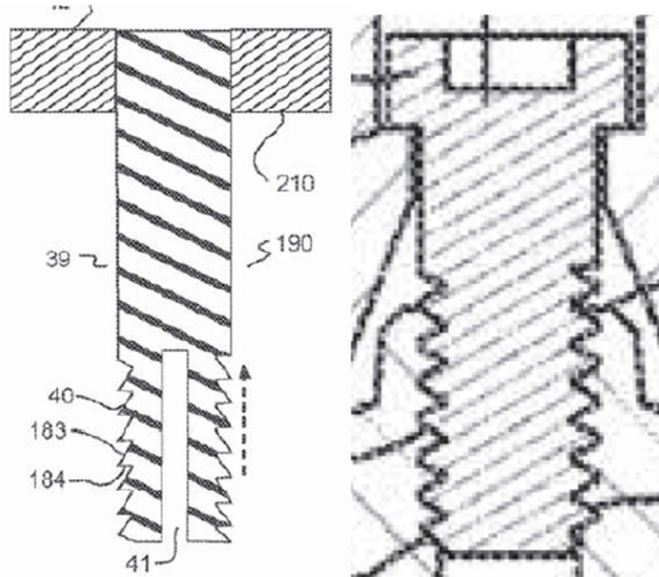
The implant abutment has threads with a certain “contour.” ’781 Patent, 27:65-67. Though the temporary fastener’s “shaft threading contour does *not essentially match the implant abutment threads contour*,” it still “engages the threads of the implant abutment whereby the shaft threading cooperates with the

threads of the implant abutment and is *sized and configured to pull the coping into position* with the implant abutment.” *Id.*, 28:16-32 (emphasis added).

Moreover, the shaft and its threading contour, during pick-up, operate to “*release[]*” “the coping and the temporary fastener...as a unit from the implant abutment” “in response to application of an *axial release force.*” *Id.*, 28:32-37 (emphasis added). These “functional limitations are tightly connected to the geometry of the temporary fastener threads.” 2Leinsing ¶135.

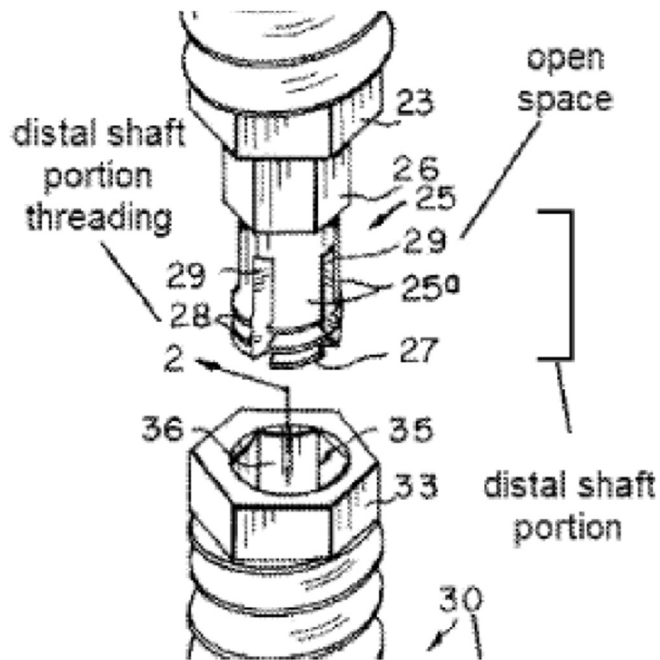
The ’781 Patent drawings provide a concrete example of when a temporary fastener’s and abutment’s thread contours would not essentially match.

Specifically, Figure 75’s asymmetric threading contour is not an essential match for the abutment’s standard symmetric thread contour in Figure 9; in Figure 9, on the other hand, the definitive fastener’s and abutment’s thread contours *do* essentially match. 2Leinsing ¶142.



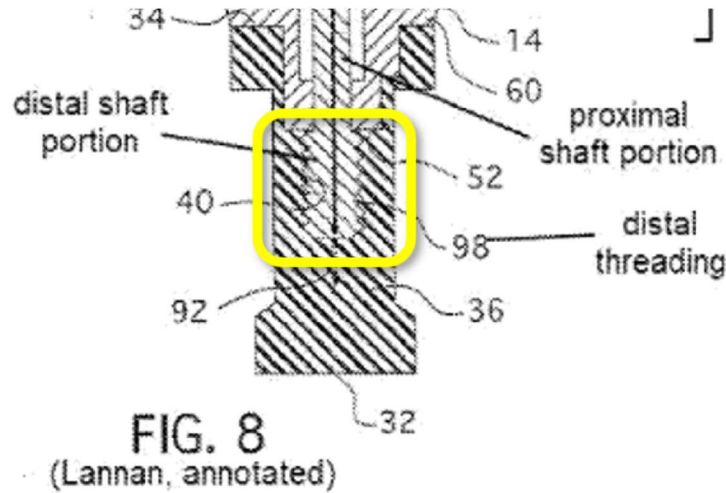
'781 Patent, FIGS. 75 & 9.

The intrinsic record confirms this understanding. For instance, the examiner explained that “Berrevoets teaches an apparatus...wherein the shaft threading contour does not essentially match the implant threads contour,” as shown in “Figs. 1-3.” Ex-1020, 940. The examiner included an annotated version of Berrevoets’ Figure 1.



Ex-1020, 934. The fastener threads do not essentially match the implant's threading, for example, because of (1) the slot 29, and (2) what the examiner labeled the Figure 1 fastener's "open space" (25), which left empty space in the female threading because it did not engage it. Both meant that the contact surface area between the threading contours was less than it would be with a matching thread contour. Likewise, the screw's thread volume was less than a matching thread's volume would be. 2Leinsing ¶144.

Furthermore, the examiner noted, "Lannan does not disclose" a configuration "wherein the shaft threading contour does not essentially match the implant threads contour." Ex-1020, 939-40. In other words, Lannan's screw *did* essentially match the implant threads:



Ex-1020, 932 (annotation added); 2Leinsing ¶145.

The differences between these two examples show what “essentially match” means with reasonable certainty. Lannan’s male threads filled all the volume of all the female threads, without any empty threading. Berrevoets’ male threads, on the other hand, did not fill all the volume of the female threads. It left certain female threads empty (because of “open space” (25)) and did not completely fill other female threads (because of the slots). 2Leinsing ¶¶143-45; 1Leinsing ¶¶97-98.

Finally, numerous other prior-art references submitted to and considered by the examiner during the parent ’992 Patent’s prosecution<sup>4</sup> show that “match” is a known term in the field describing male threads that cooperatively engage and fill the female threads. *See, e.g.*, Ex-2015, 6:64-67 (describing “[a] metallic fixture

<sup>4</sup> Ex-1015, 967, 972.

insert 28 having a threaded outer surface 30 *matching* the inner surface 26” (emphasis added)); Ex-2023, at 2:54-58 (describing an “anchoring screw which *matches* the threads of that particular implant” (emphasis added)); Ex-2024, 7:40-50 (“They are designed, for example, as inner and outer structures that are *matched* to one another, for example, *as an inner and outer thread.*” (emphasis added)); Ex-2025, 1:60-65 (referring to a “bolt part” with “screw threads which *match* the screw threads in the hole of the implant fixture” (emphasis added)).

These would not have been difficult concepts for a POSA to understand. Engineering and manufacturing specifications commonly include fit and tolerance requirements that are similar in function to the “essentially match” language. 2Leinsing ¶¶140-41, 146-47; 1Leinsing ¶¶82, 99. No further explanation is necessary. Indeed, the examiner understood this language enough to reject other claims containing it on obviousness grounds. Ex-1020, 939-40.

Indeed, Petitioner and Brunski both affirmatively demonstrate that this language delineates the scope of the claimed invention with the minimal “reasonable certainty” required. *Nautilus*, 572 U.S. at 901. They argue that combining Bernhard, Poovey, Gracco and Derey would produce a temporary fastener with “flexible buttress threads,” which “would ‘*not essentially match*’ the implant abutment threads contour” because it “would be different.” Pet., 77-78 (emphasis added); Brunski ¶253. In other words, neither Petitioner nor Brunski

have difficulty discerning the scope of the claimed invention with reasonable certainty when doing so bolsters Petitioner’s arguments. And, not coincidentally, the Petition formulates and relies on the same definition that the specification and intrinsic record point to. *See* Pet., 78 n.7 (“[F]or purposes of this Ground 3, Petitioner has assumed that this limitation is definite, *i.e.*, that it is disclosed if the temporary fastener threading contour and the implant abutment threads contour are different.”).

The claim language at issue is therefore sufficiently definite to satisfy §112(b)’s baseline requirements. At the very least, Petitioner has not shown by a preponderance of the evidence that it is indefinite because Brunski himself was able to understand and apply this language.

## **VII. GROUND 2 FAILS BECAUSE THE WRITTEN DESCRIPTIONS PROPERLY SUPPORT THE ’781 PATENT CLAIMS**

The Board instituted this PGR in part based on an interim determination that the *release* limitations of independent claims 1, 6, 8 and 10, as well as the *deform* limitation of dependent claim 5, may not be adequately supported. Inst. Dec., 39-41. As discussed below, Petitioner’s *eight* written-description arguments are incorrect; one even addresses the wrong patent.

**A. The Board Correctly Rejected Petitioner’s Arguments Regarding The *Different Threads* Limitations From The Related IPR**

Petitioner argues that the specification “does not support the full scope” of the claim limitations “that encompass any temporary fastener thread pattern that is different than the definitive screw and implant abutment thread pattern.” Pet., 40; *id.*, 50 (similar). The Board pointed out that this argument “appears to be a remnant from related IPR2025-000956,” because “*no claim of the ’781 patent has this limitation*” and “Petitioner does not address the actual claim language at issue in this proceeding.” Inst. Dec., 38 (emphasis added).

Patent Owner agrees. These arguments should be given no weight. If Petitioner tries to resuscitate them in its reply, all claim limitations are supported for the same reasons (discussed below) that the *release* limitations are also supported.

**B. The Specification Supports The *Release* Limitations (All Claims)**

Petitioner argues that the claims’ “full scope” is unsupported because they do not require “a *split-post structure with deflecting legs* that enable the fastener to be pulled out without being unscrewed, as in the only disclosed embodiment.” Pet., 46; *id.*, 51 (similar). As explained above, this argument is unpersuasive because it assumes an incorrect implicit claim construction.

Just as importantly, this argument also requires an unduly narrow reading of the specification itself. The specification need only “reasonably convey[]” to a

POSA “that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharms. v. Eli Lilly*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). This is a context-specific requirement that “varies with the nature and scope of the invention” and with existing “scientific and technologic knowledge.” *Juno Therapeutics v. Kite Pharma*, 10 F.4th 1330, 1335 (Fed. Cir. 2021). For predictable mechanical arts,<sup>5</sup> §112 sets a low bar. This helps ensure that “the scope of the right to exclude” matches “the inventor’s contribution.” *Reiffin v. Microsoft*, 214 F.3d 1342, 1345 (Fed. Cir. 2000).

“A claim will not be invalidated... simply because the embodiments of the specification do not contain examples explicitly covering the full scope of the claim language.” *LizardTech v. Earth Res.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005). Established law permits claims to a broader genus relying solely on specifications that disclose only one or more species within it. *Ariad* requires only disclosing “either a ***representative number of species*** falling within the scope of the genus or

---

<sup>5</sup> *Bilstad v. Wakalopulos*, 386 F.3d 1116, 1126 (Fed. Cir. 2004) (describing “mechanical world” as “fairly predictable field”); *Days Corp. v. Lippert Components*, 2019 WL 3072306, at \*5 (N.D. Ind. July 15, 2019) (“requisite scope of enablement varies inversely with the degree of unpredictability of the factors involved”).

*structural features common to the members of the genus,*” enough for a POSA to “visualize or recognize’ the members of the genus.” *Juno*, 10 F.4th at 1335 (emphasis added).

Often, disclosing a single species is sufficient to support a genus claim. “[T]here is *no categorical rule* that a species cannot suffice to claim the genus.” *Hynix Semiconductor v. Rambus*, 645 F.3d 1336, 1352 (Fed. Cir. 2011) (emphasis added). To the contrary, the representative number of species required to disclose a broad genus in predictable arts is *often* one. *Cf. Epistar v. ITC*, 566 F.3d 1321, 1336 (Fed. Cir. 2009) (when “an invention pertains to *an art where the results are predictable,*” “a broad claim can be enabled by disclosure of a single embodiment” (emphasis added)). The ’781 Patent does so.

To be sure, in a “particular field” with more “unpredictability” like chemical or molecular engineering, “closer scrutiny of whether disclosure of a species is sufficient to describe a genus” may be appropriate. *Bilstad*, 386 F.3d at 1125. For this reason, the issue arises most in life sciences, which are far less predictable. *See Juno*, 10 F.4th at 1336 (“Kite argues that the claims cover an enormous number (millions or billions) of scFv candidates,” only some of which satisfied the limitations). To be sure, requiring more disclosed species makes sense where “much of the [genus] sought to be claimed [is] of unknown structure,” because broad claims in those circumstances represent only “a ‘wish’ or research ‘plan,’”

rather than actual possession. *Capon v. Eshhar*, 418 F.3d 1349, 1357 (Fed. Cir. 2005). That is not the case here; the '781 patent claims are not a research plan. “[T]he lack of complexity of the relevant technology, the predictability of the mechanical arts, and the scope of the claims...reduces the number of species that must be disclosed.” *Gillette v. Sphere USA*, 2023 WL 6367741, at \*17 (PTAB Sept. 19, 2023).

For the claims at issue, these principles mean that the specification only needs to show possession of specific, narrower claimed genera:

- Claim 1: “[T]emporary fastener[s]” with (1) “a shaft...sized and configured for rotary engagement with the implant abutment threads,” which (2) “engages the implant abutment threads with an engagement depth at a predetermined torque,” “to hold the coping into alignment with the implant abutment prior to attachment of the definitive screw,” then (3) “release[s] at least a portion of the temporary fastener and the coping from the implant abutment as a unit” with an “axial release force,” and (4) while fastened, “does not engage the implant abutment threads continuously” and (5) has “threading” that makes contact with the abutment’s female threads over a smaller area than the definitive screw’s threads do. ’781 Patent, 25:54-26:24.

- Claim 6: “[T]emporary fastener[s]” with (1) “a shaft...sized and configured for rotary engagement with the implant abutment threads,” which (2) “engages the implant abutment threads with an engagement depth at a predetermined torque,” “to hold the coping into alignment with the implant abutment,” then (3) “release[s] at least a portion of the temporary fastener and the coping from the implant abutment as a unit in response to an axial release force...without rotation of the temporary fastener,” and (4) “does not engage the implant abutment threads continuously.” *Id.*, 26:50-27:10.
- Claim 8: “[T]emporary fastener[s]” with (1) “a shaft...sized and configured for rotary engagement with the implant abutment threads prior to attachment of the definitive screw,” which “engages the implant abutment threads with an engagement depth at a predetermined torque,” “to hold the coping into alignment with the implant abutment,” then (3) “release[s] at least a portion of the temporary fastener and the coping from the implant abutment as a unit” with an “axial release force,” and (4) “does not engage the implant abutment threads continuously,” as well as (5) has a shaft volume smaller than the definitive screw’s post volume. *Id.*, 27:24-60.

- Claim 10: “[T]emporary fastener[s]” with (1) “a shaft...comprising shaft threading” with “a shaft threading contour” that “does not essentially match the implant abutment threads contour,” which (2) “engages the threads of the implant abutment whereby the shaft threading cooperates with the threads of the implant abutment,” “to pull the coping into position with the implant abutment,” then (3) “release[s]” “the coping and the temporary fastener...as a unit from the implant abutment” “in response to application of an axial release force” (4) applied during the “pick-up process after the coping is adhesively bonded to a prosthesis or in a closed tray impression process.” *Id.*, 28:3-41.

2Leinsing ¶¶104-12, 153-58.

The specification discloses **both** “a representative number” as well as common “structural features.” *Juno*, 10 F.4th at 1335. It discloses differences between the temporary fastener’s threading and that of the definitive screw/abutment, and explains how the differences facilitate axial pull-out of the temporary fastener while still allowing both fasteners (temporary and definitive) to screw into the same abutment. It does so by describing the definitive screws, the abutments, and the temporary fasteners, and each piece’s role in the denture conversion.

**First**, the specification describes definitive screws with symmetric threading, which engage and fill the abutment's threading, establishing a long-lasting post-conversion attachment. Figure 9 thus shows a definitive screw 175 with standard symmetrical threading that matches and fills the abutment 8's threading. The temporary fasteners' structural features are defined by reference to these definitive screws and the matching abutments; whatever specific threading the definitive screw uses to permanently engage the abutment, the temporary fastener's threading must engage differently, whether through a smaller engagement contact area (claim 1), noncontinuous engagement (claim 6), less volume (claim 8), or different contour (claim 10).

**Second**, the specification describes the threaded abutments to which both the definitive and temporary fasteners attach. "The abutments for use with the inventive concepts disclosed herein include screw threads to mount the prosthesis with copings onto the abutments." '781 Patent, 6:63-65. The temporary fasteners "may engage the same screw threads of the abutment that are used to definitively attach the prosthesis." *Id.*, 4:61-63. The specification shows multiple standard abutments 8 with female threads 18. *Id.*, FIGS. 1-2, 4-6, 9-15; *id.*, FIGS. 82, 85, 88, 90 (abutment 60). Such abutments' "typical screw thread size" is a standard metric "m1.4x0.3" thread. '781 Patent, 14:23-24. The temporary fastener's functionality directly results from its relationship to the definitive screw's male

threading and the abutment's corresponding female threading. 2Leinsing ¶¶104-11, 114, 135.

*Finally*, the specification discloses multiple temporary fastener embodiments. It explicitly describes (1) temporary fasteners with asymmetric threads (with or without slots), (2) slotted temporary fasteners with symmetric threads, and (3) temporary fasteners with interference fits. These embodiments illustrate both “a representative number of species” as well as the genera’s common “structural features.” *Juno*, 10 F.4th at 1335.

### 1. Temporary Fasteners With Asymmetric Threads

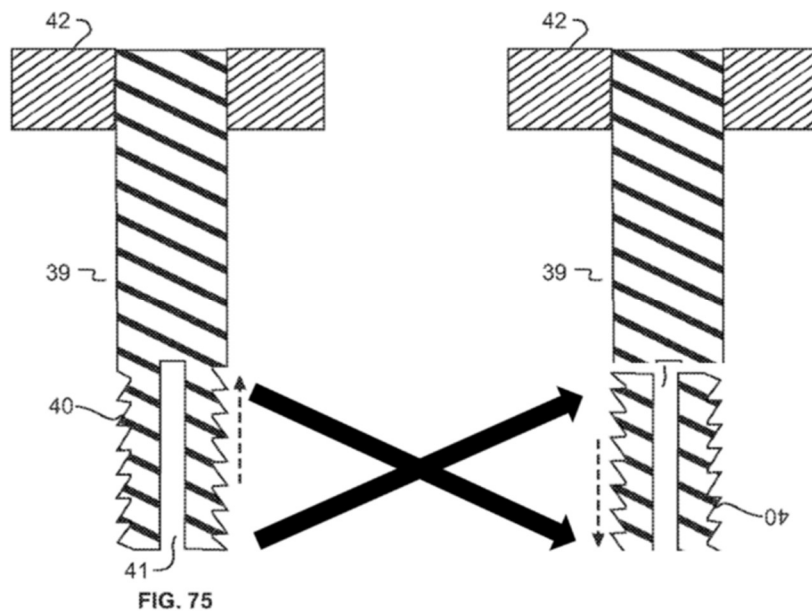
The specification discloses temporary fasteners with asymmetric threads different than the definitive screws’ symmetric threads. “For example, as shown in FIG. 75 an alignment fastener post 39 may contain a separable threaded or serrated portion 40 that *engages the screw threads in the abutment* for pick-up, *but that will release with axial force after.*” ’781 Patent, 23:17-21 (emphasis added).

Figure 75 illustrates one such configuration. Because its asymmetric threads have the same pitch as the abutment threading, they achieve “rotational engagement of the bottom of the post with internal threads of the abutment.” *Id.*, 24:53-54.

Importantly, these threads are *different* from the definitive screw’s and thus do not completely fill the abutment threads. This allows the temporary fastener to disengage the abutment threads during pick-up. ’781 Patent, 23:24-30

(“asymmetric threads or serrations 40,” allow “insert[ion] through rotation” and “subsequent[] extract[ion] with a separation force in the axial direction”). The specification does not limit itself to Figure 75’s buttress threads, however. It discloses threading “that engages the screw threads in the abutment for pick-up, but that will release with axial force after,” and later discusses “asymmetric threads” generally. *Id.*, 23:10-21, 24. These are all disclosed embodiments. A POSA would have understood that the inventive concepts could be practiced using these other well-known screw profiles. 2Leinsing ¶¶167-70.

For example, “the threads could be designed to provide engagement with the implant abutment threads through axial motion in the *opposite direction* to the arrow shown in FIG. 75.” ’781 Patent, 23:30-33 (emphasis added). A POSA would have understood this to refer to *at least* one additional asymmetric thread profile, what the Petition calls a reverse buttress thread. 2Leinsing ¶171.



*Id.* Designed correctly, these threads screw into the abutment by engaging the threading and, on a fastener made of plastic as disclosed, “release” the threading “with axial force after” through deformation. *Id.*

The phrase “as shown in FIG. 75” does not limit this disclosure. ’781 Patent, 23:17; 2Leinsing ¶172. The ’781 Patent provides Figure 75 “for the purpose of illustrating” a “certain convenient embodiment[]” and not “as limitation thereto.” *Id.*, 8:13-15; *id.*, 25:11-12 (“Various embodiments have been described to illustrate the disclosed inventive concepts, not to limit the invention.”). Asymmetric threads include reverse buttress threads like the one the specification describes. *See* ’781 Patent, 23:30-34; 2Leinsing ¶¶171-73; *see also* Brunski Dep., 114:14-15 (testifying that a POSA “would know that a reverse buttress is an asymmetric thread pattern”).

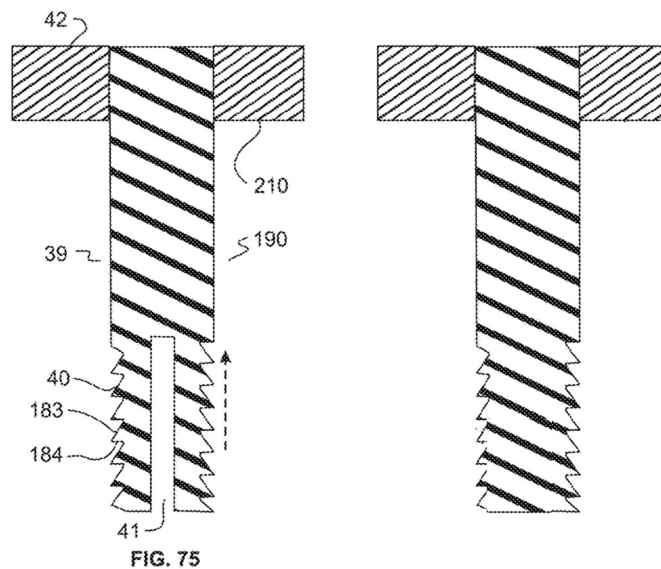
A POSA therefore would not have understood the specification to describe *only* the Figure 75 temporary fastener. 2Leinsing ¶¶166-77. Because (in Petitioner’s words) “this is a predictable technology,” Pet. 69, a POSA could have readily recognized and visualized the full scope of “asymmetric threads” (a known category) included in this genus. ’781 Patent, 23:24. Brunski admitted the “asymmetric buttress thread” would be “[o]ne well known...example.” Brunski ¶222; *BASF v. Commonwealth Sci.*, 28 F.4th 1247, 1264 (Fed. Cir. 2022) (“patentee may rely on information that is well-known in the art” to “inform[] how” POSA “would reasonably understand” specification).

The specification also discloses temporary fasteners with *and* without the slotted post illustrated in Figure 75. The ’781 Patent never says the split post shown in Figure 75 is critical to the invention. 2Leinsing ¶174. It says only that “[i]n *some* embodiments, the threaded end of the post portion of the temporary fastener has a deflecting feature.” ’781 Patent, 5:31-32 (emphasis added). This “deflecting feature” includes, but would not be limited to, Figure 75’s slotted post. 2Leinsing ¶¶161, 174. A POSA would therefore have understood that Figure 75’s slotted post is not essential. 2Leinsing ¶¶161-62, 174-75.

A POSA would also have understood that, functionally, a slotted post is not necessary for axial release. 2Leinsing ¶¶162, 175. Rather, screw threads made of

plastic or polymer material as disclosed,<sup>6</sup> would deform when the clinician pulled out the screw. 2Leinsing ¶¶164, 175.

Moreover, a POSA would have understood that a screw with an optional slotted post will have a different thread contour from one that does not. 2Leinsing ¶175. One slotted fastener with asymmetric threading is Figure 75, below left; an example of a fastener without a slot is below right.



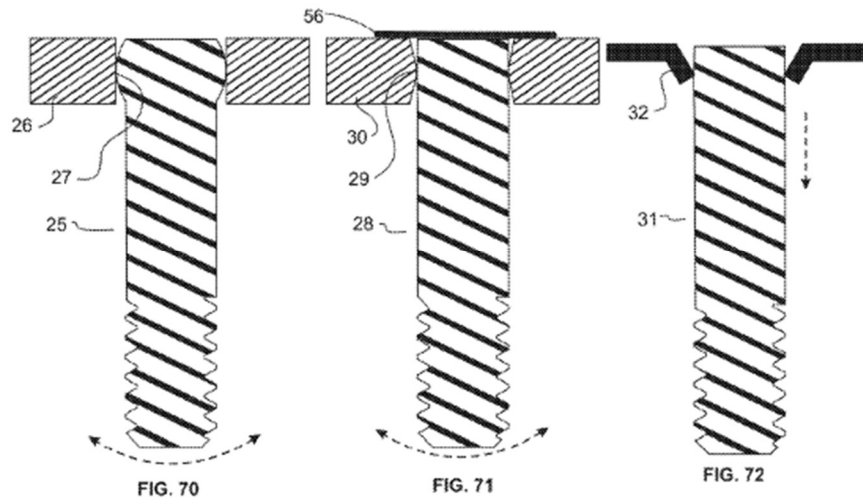
---

<sup>6</sup> “Metal, metal-reinforced, ceramic, and *polymer* copings, posts and fasteners may be included in this and other embodiments.” ’781 Patent, 24:11-13 (emphasis added); *id.*, 21:48-51 (“Temporary attachment posts and caps may be made from metal and polymer materials such as titanium, stainless steels, nylon and PEEK and other non-corrosive biocompatible materials.”).

2Leinsing ¶176. These have different thread contours; one has continuous asymmetric threading while the other's is interrupted by slots. The specification discloses both. 2Leinsing ¶177.

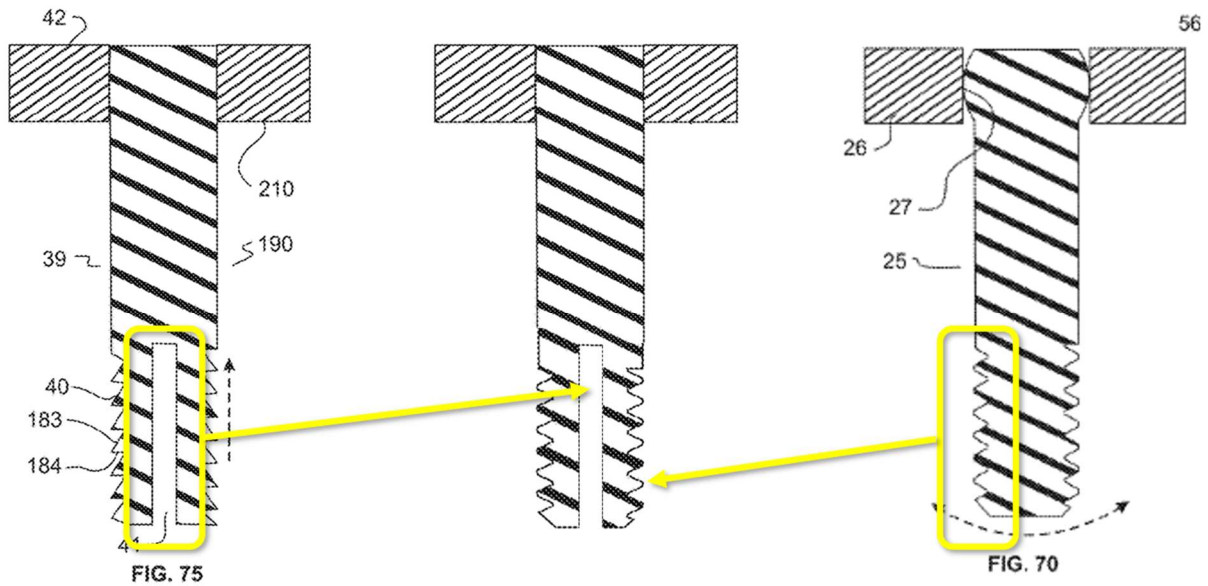
## 2. Slotted Temporary Fasteners With Symmetric Threads

The '781 Patent likewise discloses slotted temporary fasteners with symmetric threads, resulting in a thread contour different from the definitive screw's. 2Leinsing ¶178. Numerous drawings depict temporary fasteners with symmetric threads:



'781 Patent, FIGS. 70-72; *id.*, FIGS. 73-74; 2Leinsing ¶178.

A POSA would have understood that symmetrical threads can be combined with a slotted post. 2Leinsing ¶¶179-80. This embodiment would have a different contour from the definitive screw's continuous contour. 2Leinsing ¶180. One such combination is illustrated below, middle:



2Leinsing ¶179. A POSA would have understood how to combine disclosed features this way. 2Leinsing ¶180.<sup>7</sup> The resulting fasteners (a) have a different thread contour from the definitive screw’s continuous, symmetrical threads, (b) “engage[] the screw threads in the abutment for pick-up,” and (c) “release with axial force after,” just like the buttress threads shown in Figure 75 and the reverse buttress threads. ’781 Patent, 23:17-21; 2Leinsing ¶180.

---

<sup>7</sup> Brunski apparently discounted these and similar directions because he saw them as “kind of a boiler plate statement that is kind of always there” in patents. Brunski Dep., 67:25-68:4. But he ultimately admitted, as he must, that following these instructions was “part of the process” required for reading disclosures. *Id.*, 68:5-10.

### 3. Temporary Fastener With Interference Fit

The specification also describes temporary fasteners that use “an interference fit between the bottom of the post with the threads,” “designed to provide sufficient engagement to provide adequate alignment.” *Id.*, 24:60-64. A POSA could have readily visualized an interference fit, “a mechanical friction fit that results from inserting a large first part into a smaller hole of a second part.” 2Leinsing ¶184; 1Leinsing ¶115.

Such a fastener could be designed to be pushed in or rotated in. 2Leinsing ¶184. Either way, it “engages the screw threads in the abutment for pick-up,” ’781 Patent, 23:19-20, through deformation (whether elastic or inelastic), 2Leinsing ¶184.

A fastener with an interference fit also has “a threading profile that is different from that of the definitive screw.” 2Leinsing ¶185. Even if designed as a plain cylindrical post (initially without threading), rotating or “[p]ressing a polymeric post large enough to produce an interference fit into the abutment’s female threading will result in the polymeric post’s deformation.” *Id.* ¶185. “Elastic relaxation away from the crests creates a shallow male thread in the post” that “would not fill the female abutment threads.” *Id.* This results in a thread contour different from the definitive screw’s. *Id.*

Through deformation, the fastener would also “release the coping” during pick-up. ’781 Patent, 5:17-18; 2Leinsing ¶186. Like other embodiments, the interference fit permits “easy removal of the dental prosthesis from the fastener post...without the need for special tools or access to the fastener system to unscrew it.” ’781 Patent, 4:46-50. It can “be picked-up in a closed-tray impression process without unscrewing the temporary fastener.” *Id.*, Abstract.

Brunski admitted that identical language in the Priority Applications “certainly describ[ed]” such an interference fit. Brunski Dep., 59:4-5; *id.*, 96:8-11 (“Q. And so that would have a release mechanism that doesn’t include a split post, correct? A. That’s correct.”). He apparently discounted the disclosure because “[t]hat particular kind of fit to me is difficult to imagine.” *Id.*, 59:3-4. He conceded that the resulting threads “would have the same pitch as the female that it’s being shoved into.” *Id.*, 62:2-3. To be sure, Brunski expressed doubts about “the size of the threads that would be created” by the deformation. *Id.*, 62:3-4. Regardless of thread size, however, the thread profile of such a fastener would be different from the definitive screw’s as long as it did not fill the abutment threads—even if no threads were created. 2Leinsing ¶185. And Brunski conceded that a cylindrical post without threads would have a thread profile “different from the thread profile shown in Figure 75.” Brunski Dep., 62:16-18.

Thus, even Brunski agrees fasteners with interference fits are disclosed. “I find it hard to conceptualize that one,” he said, “*but it’s described here anyway.*” *Id.*, 59:5-7 (emphasis added).

#### 4. The Claimed Genus Is Adequately Disclosed Under *Ariad*

The specification thus discloses at least *three* species satisfying claims 1, 6, 8, and 10. Even one would be sufficient. “The mechanical field at issue” here “is a sufficiently predictable art that the disclosure of a species...is sufficient disclosure of the genus.” *Ex parte Bush*, 2012 WL 3863280, at \*4 (BPAI Aug. 29, 2012).

Claims 1, 6, 8 and 10 describe temporary fasteners with thread contours that are different from the definitive screw’s and/or abutment’s. The specification discloses not just one, but at least *three* such embodiments. It provides ample material from which a POSA could have “‘visualize[d] or recognize[d]’ the members of the genus,” *Juno*, 10 F.4th at 1335, because the claims’ “functional limitations are tightly connected to the geometry of the temporary fastener threads.” *Leinsing* ¶¶114, 135. Alone and in combination, the three species were “a representative number of species falling within the scope of the genus,” and they illustrated “structural features common to the members of the genus so that one of skill in the art can ‘visualize or recognize’ the members of the genus.” *Juno*, 10 F.4th at 1335. This is enough under *Ariad*.

As in *Gillette*, a POSA would have “recognize[d] that the inventors were in possession of the necessary common attributes or features” shared by all claimed embodiments, “in view of the embodiment disclosed.” 2023 WL 6367741, at \*18. The minor, known differences between species are such that a POSA would have “readily discern[ed] that other members of the genus would perform similarly to the disclosed members,” meaning that fewer species are needed “to adequately show possession of the entire genus.” *Bush*, 2012 WL 3863280, at \*4.

Petitioner fails to carry its burden on this point. Its entire argument is that “the specification discloses only one temporary fastener embodiment that can be pulled out of the abutment without being unscrewed: the embodiment of Figure 75.” Pet., 58. The Board tentatively agreed that the claims were unsupported based on the limited, preliminary record. Inst. Dec., 38-40. But Petitioner is incorrect in two different ways: (1) when the claims are properly construed, the specification discloses more than just the Figure 75 embodiment; and (2) even if only Figure 75 were disclosed, that would be enough to disclose the broader genera. Either way, *Ariad* is satisfied.

“That a claim may be broader than the specific embodiment disclosed in a specification is in itself of no moment.” *Medtronic v. Teleflex*, 69 F.4th 1341, 1354 (Fed. Cir. 2023) (quoting *In re Rasmussen*, 650 F.2d 1212, 1215 (CCPA 1981)); *Martek v. Nutrinova*, 579 F.3d 1363, 1371 (Fed. Cir. 2009) (“patent claim is not

necessarily invalid for lack of written description just because it is broader than the specific examples disclosed”). “[A]n applicant is *not required* to describe in the specification *every conceivable and possible future embodiment* of his invention.” *Rexnord v. Laitram*, 274 F.3d 1336, 1344 (Fed. Cir. 2001) (emphasis added). Rather, under *Ariad*, the disclosures need only provide enough for a POSA to have recognized the claimed genus. “[E]ach case must be decided on its own facts.” *Ex parte Kojer*, 2023 WL 4652884, at \*6 (PTAB June 28, 2023) (quoting *In re Smythe*, 480 F.2d 1376, 1382 (CCPA 1973)). As shown above, the specification satisfies *Ariad*.

Furthermore, there is a good reason why it makes no sense to require additional disclosed embodiments: abutments and implants can have different thread patterns. As one of the Priority Applications explains, “various styles and systems of abutments and implants are commercially available”; the abutments shown in the drawings with standard metric (symmetrical) threads are “standard abutments.” Ex-1009, 17. This is why, for example, Patent Owner sells its own fasteners in various configurations compatible with abutments made by Nobel Biocare, Straumann and Patent Owner itself.<sup>8</sup>

---

<sup>8</sup> Smart-on-X, *Separable Fastener Packs*, <https://perma.cc/98S7-KC2G>.

The temporary fasteners may also be screwed directly into an implant rather than an abutment. “The inventive concepts disclosed apply to both configurations.” ’781 Patent, 7:8-9; *id.*, 7:5-8 (“abutments may be integral to the implants embedded into the patient’s jaw or gingiva, or they may be separate units that are attached to the implants”); *id.*, 13:40-44 (“The distal end of the abutment may be directly attached to the patient’s jaw or attached to a separate implant attached to the jaw. The inventive concepts are not dependent upon the nature of the implant ....”).

Thus, using this technology on a given abutment or implant *cannot* depend on using Figure 75’s precise configuration—because if it matches the abutment or implant’s threads, it will not provide the invention’s advantages. Rather, a POSA would have understood that employing this technology on any given abutment or implant works because the temporary fastener threading is *different* from the abutment, implant, and/or definitive screw. *E.g.*, 2Leinsing ¶¶104-14, 153-90. The structures “are tightly connected” to the respective threads’ functionality. 2Leinsing ¶¶114, 135; *cf. Bos. Sci. v. Johnson & Johnson*, 647 F.3d 1353, 1366 (Fed. Cir. 2011) (“[F]unctional claim language can meet the written description requirement when there is an established correlation between structure and function ....”). The threads are “*shaped to facilitate axial separation without unscrewing the post threads.*” ’781 Patent, 11:33-34 (emphasis added). Given the predictability of the

mechanical arts, a POSA would have readily connected the dots here that the inventive concepts go to the differences between the temporary and definitive screw threads, not to the specific configuration shown in any drawing. *E.g.*, 2Leinsing ¶¶104-14, 153-90.

Petitioner primarily relies on *Tronzo*, but this case is instead like *Gillette*. *Gillette* analyzed whether disclosed embodiments in which a shaving razor’s cartridge contained “two opposed legs” around a pivoting sphere were sufficient to also disclose embodiments where the handle (rather than the cartridge) contained the legs. *Gillette* (like Petitioner here) argued “the ’486 patent claims encompass subject matter neither described in earlier applications nor possessed by the inventor any earlier,” because it “does not ‘suggest to a [POSA] that the inventor had possession of a razor whose handle includes both the two opposed legs *and* the pivot sphere.’” 2023 WL 6367741, at \*8. The challenger even highlighted the same cases (*D Three* and *Tronzo*) that Petitioner now features. *Id.*

The Board rejected *Gillette*’s arguments with reasons that support rejecting Petitioner’s here:

- *Gillette*, as petitioner, bore the burden of persuasion. 2023 WL 6367741, at \*11.
- The claims did not “expressly recite a location of the opposed legs,” and “the specification...does not provide any description that would

suggest locating the opposed legs on the cartridge is critical.” *Id.* at \*12.

- The specification used “permissive language with respect to locating the opposed legs off the cartridge.” *Id.*
- “[T]he technology is not complicated and the level of ordinary skill in the art sufficiently high such that the grandparent application reasonably conveys a razor with opposed legs not on the cartridge.” *Id.* at \*13. “A degreed mechanical engineer, with two years of experience in the razor/personal grooming industry would understand from the disclosure of the grandparent application that the opposed legs could be separately connected to the cartridge.” *Id.*
- The disclosure “clearly identifies the illustrated razor of Figure 1 as an *exemplary* embodiment.” *Id.* (emphasis added).
- “[B]oth species ultimately *results in an assembled razor that functions as intended by the inventors.*” *Id.* at \*17 (emphasis added).

Like *Gillette*:

- Petitioner here has the burden of showing inadequate disclosure, so it does not receive the benefit of the doubt on close issues.

- Independent claims 1, 6, 8, and 10 do not require buttress threads or a split post as shown in Figure 75, nor does the specification say those structures are critical.
- The specification contains permissive language regarding the claimed characteristics.
- The mechanical technology (screw threading) is not complicated and the level of ordinary skill is sufficiently high that the specification reasonably conveys the full claim scope. In fact, because the screw is one of the classic “six simple machines,”<sup>9</sup> the technology at issue is even less complicated than in *Gillette*.
- Figure 75, like other drawings, is provided merely as an example and does not limit the claimed invention.

*Gillette* aptly highlights the aspects of *Tronzo* that distinguish it from this case. *Tronzo*’s “written description disclosed a conical shape for the prosthesis only and **significantly**, characterized other shapes as ‘prior art’ and ‘inferior’ to a conical shape.” *Gillette*, 2023 WL 6367741, at \*15 (emphasis added). “[T]he

---

<sup>9</sup> See Teach Engineering, *Simple Machines*, <https://perma.cc/2QRY-32V3> (last visited Mar. 30, 2026); Umbrex, *Six Simple Machines*, <https://perma.cc/3Q59-2PVK> (last visited Mar. 30, 2026).

conical shape” in *Tronzo* was “an extremely important aspect” of the invention. *Id.* (quoting *Tronzo*, 156 F.3d at 1158-60). None of that is true here. Neither specific threads nor a split post are “an extremely important aspect” of the ’781 Patent, nor does the specification characterize other threading or posts without deflecting legs as inferior. *Fox Factory v. SRAM*, 2017 WL 1242973, at \*5-6 (PTAB Apr. 3, 2017) (similarly rejecting a *Tronzo* written-description argument).

*Gillette* found another recent Federal Circuit case helpful as well, explaining that *Medtronic*, 69 F.4th 1341, had facts “strikingly similar to those in the present case. Like in *Medtronic*, the challenged claims at issue do not recite a location for the opposed legs, and we find that the location is not critical to the invention.” *Gillette*, 2023 WL 6367741, at \*14. Similarly, this case’s facts are much closer to *Gillette* and *Medtronic* than to *Tronzo*.

Like the failed challenges in *Gillette*, the arguments here ultimately seek to “impose[]” on claims 1, 6, 8, and 10 “additional limitation[s]” they “do[] not contain.” *Gillette*, 2023 WL 63677414, at \*13 (quoting *Ethicon Endo-Surgery v. U.S. Surgical*, 93 F.3d 1572, 1582 n.7 (Fed. Cir. 1996)); *see also Trading Techs.*, 595 F.3d at 1352 (“courts must not import limitations into the claims from the specification”). The Board should reject them.

Moreover, Brunski’s deposition testimony laid bare the analytical failings that led him to overlook all of the disclosed embodiments not depicted in Figure

75. He did not realize, for example, that a temporary fastener with a reverse buttress thread could be screwed into symmetrically threaded abutment.<sup>10</sup> That is an obvious error. Leinsing ¶¶171-73. Brunski attributed this oversight to his own preconceptions; he “ha[d]n’t sort of considered that idea in depth” because “it’s not immediately obvious to me that it would work.” Brunski Dep., 49:2-11. Yet he ultimately admitted his misstep, acknowledging that with “the right pitch and the right helix angle,” such a fastener could be screwed into the abutment. *Id.*, 51:14-22; *id.*, 114:3-5. He conceded that it would “look different than Figure 75” and have a different thread profile. *Id.*, 51:23-52:2, 73:16-19. In the end, Brunski’s unsound conclusion that the ’781 Patent’s specification disclosed no such embodiment rested on his assumption that a reverse buttress thread would not “be the first thing that somebody would think of,” *id.*, 53:10-11, which is obviously *not* the applicable legal standard.

---

<sup>10</sup> Brunski Dep., 48:19-49:11 (“Q. There’s no way you can make it thread in?...A. I really can’t answer without, you know, I haven’t sort of considered that idea in depth. Q. Why hadn’t you considered that idea? A. Well, looking at it, my understanding was we want something that can thread in, if I now invert the part and think about threading it in, it’s not immediately obvious to me that it would work. So I’d have to think about it.”).

Brunski also failed to recognize the other disclosed embodiments because he misapplied the POSA standard in a way that conveniently benefitted Petitioner's arguments. The POSA that Brunski uses to evaluate the written descriptions in this case is markedly *less* intelligent, capable, and creative than the POSA that Brunski invokes to argue obviousness.<sup>11</sup> Further, Brunski's POSA directly contradicts himself *on the same issues*. He contends, for example, that "[c]laims 10-16 are indefinite because "the specification does not explain whether or not the thread contour of the asymmetric threads 40 of the temporary fastener of Figure 75 'essentially match[es]' the thread contour of the symmetric threads 18 of implant abutment 8 of Figure 9." *Id.*, ¶145. Yet Brunski himself had no problem later ascertaining the scope of this invention, asserting the *same claims* are obvious because his proposed Bernhard-Poovey-Gracco combination would have a "threading contour" that "would 'not essentially match' the implant abutment threads contour" because it "would be different." Brunski, ¶253. In short, Brunski

---

<sup>11</sup> Brunski Dep., 177:16-25 ("Q. And isn't this interpretation of what Bernhard discloses more generous than your interpretation of the 361 priority application[] disclosures?...A. I hear you. And I take your point. Q. When you say I take your point, does that mean yes? A. I understand that you can see it that way.").

selectively chooses a POSA that is highly capable or incompetent—based on which level of skill will help Petitioner’s arguments.

**5. The Claims Are Supported Even If The Specification Discloses Only The Figure 75 Embodiment**

Even setting aside the above, the ’781 Patent provides adequate support for these claims because, as both the Petition and Institution Decision correctly acknowledges, it describes at least one embodiment covered by the claims—*i.e.*, the temporary fastener in Figure 75. Petitioner admits “the specification discloses...the embodiment of Figure 75.” Pet., 58. The Board acknowledged the specification discloses a structure “shown at Figure 75.” Inst. Dec., 40.

Consequently, the ’781 Patent’s claims are adequately supported *at least* for that configuration. Because it is undisputed that the specification provides sufficient written description of the example shown in Figure 75, the claims are valid. As explained above, even disclosing this embodiment alone would be adequate under *Ariad* because “[t]he mechanical field at issue...is a sufficiently predictable art that the disclosure of a species...is sufficient disclosure of the genus.” *Bush*, 2012 WL 3863280, at \*4. Ground 2 fails.

**C. The Specification Supports The *Securing the Coping* Limitations (Claims 1-9)**

The Petition challenges claims 1-9 because “the definitive screw threads do not secure the coping to the threads of the abutment as recited,” and instead secure

the screw to the threads, which screw secures the coping to the abutment. Pet., 53. A POSA would not have had such a hyper-technical understanding. 2Leinsing ¶¶193-96; 1Leinsing ¶¶135-37. The '781 Patent's temporary fasteners are novel, in part, *because* they secure the coping to the abutment using the *same abutment threading* as the definitive screw.

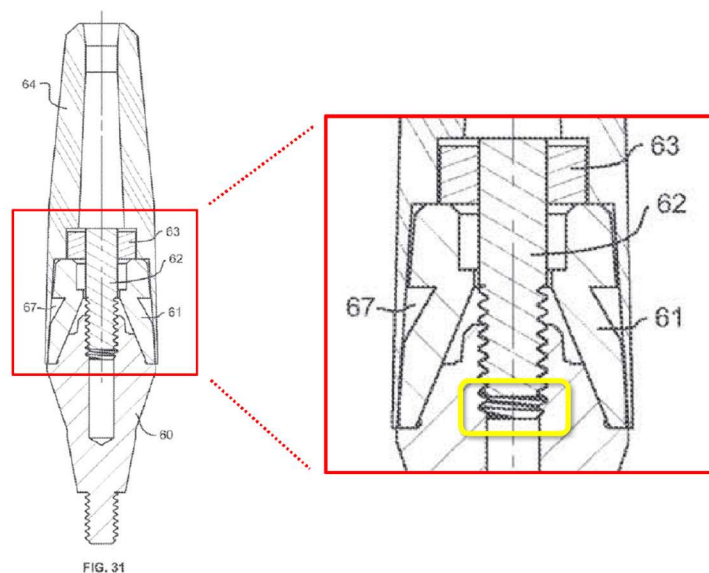
Petitioner's argument relies on a trivial difference in phrasing. Compare, for example, Bernhard fastener, which uses a snap-fit mechanism integrated into the coping itself to grip the abutment end. Ex-1003, FIG. 8. One could accurately say that Bernhard's fastener secures the coping *either* to the abutment (generally) or to the abutment's proximal end (specifically). Similarly, the specification discloses several temporary fasteners that secure the coping to the abutment (generally) *by* securing the coping to the abutment threads (specifically). '781 Patent, FIGS. 75, 82-87. In the context of this specification, the distinction is not meaningful.

Using Petitioner's logic, one could not accurately say that a belt holds up pants; one could say only that a belt holds up belt loops, which in turn hold up pants. Similarly, Petitioner could not speak to tying a dock to a boat; the boat is instead secured to a rope, which is secured to a metal cleat, which (finally) is secured to a dock. No POSA would have understood the claims in the overly pedantic way Petitioner proposes. 2Leinsing ¶¶193-96; 1Leinsing ¶¶135-37.

**D. The Specification Supports The *Does Not Engage Continuously* Limitations (Claims 1-9)**

Petitioner argues the *does not engage the implant abutment threads continuously* limitations of claims 1-9 are not supported because the specification “does not describe any temporary fastener with continuous threads that are threaded into only a portion of the abutment threads, leaving abutment threads above and/or below the temporary fastener empty.” Pet., 56. For one thing, this is irrelevant because the limitation does not use the word “portion” or “empty”; it refers to continuous engagement. 2Leinsing ¶200.

Moreover, Petitioner is facially incorrect. Figure 31 depicts such an embodiment, with the yellow-outlined portion showing abutment threads below a temporary fastener which are left empty.



'781 Patent, FIG. 31; 2Leinsing ¶¶199-200. Figures 82-90 of the '781 Patent also shows additional examples with abutment threads left empty below the temporary fastener. '781 Patent, FIGS. 82-90; 2Leinsing ¶¶200-03; 1Leinsing ¶¶138-44.

**E. The Specification Supports The *Outer Surface Deform* Limitation (Claim 5)**

Petitioner says this limitation is unsupported because the specification “does not describe any temporary fastener that has an ‘outer surface’ that ‘deform[s].” Pet., 57. This is wrong; several such embodiments are disclosed.

For example, as discussed above, the specification discusses temporary fasteners *without* slotted posts. 2Leinsing ¶¶160-65, 174-77. Screw threads (whether symmetric or asymmetric) made of plastic or polymer as disclosed<sup>12</sup> would deform when the clinician pulled out the screw. 2Leinsing ¶¶175-77.

The '781 Patent further describes a temporary fastener that uses “an interference fit between the bottom of the post with the threads,” which “[s]imilarly...may also be designed to provide sufficient engagement to provide

---

<sup>12</sup> “Metal, metal-reinforced, ceramic, and *polymer* copings, posts and fasteners may be included in this and other embodiments.” '781 Patent, 24:11-13 (emphasis added); *id.*, 21:48-51 (“Temporary attachment posts and caps may be made from metal and polymer materials such as titanium, stainless steels, nylon and PEEK and other non-corrosive biocompatible materials.”).

adequate alignment and fixing of the coping.” ’781 Patent, 24:60-64. Any interference fit presupposes deformation. A temporary fastener with an interference fit would be made of polymeric material like PEEK or acetal; the post would need to be large enough to provide the interference fit but shallow enough to deform (whether elastically or inelastically) and release. 2Leinsing ¶¶183-89; 1Leinsing ¶¶147-48. This is all disclosed.

**F. The Specification Supports The *Configured to Release* Limitation (Claim 6)**

Petitioner argues that claim 6’s *configured to release* limitation is unsupported. Pet., 58. The limitation more fully recites “wherein the temporary fastener is configured to release ***at least a portion of the temporary fastener and the coping*** from the implant abutment as a unit.” ’781 Patent, 26:66-27:1 (emphasis added).

Numerous disclosed embodiments meet this limitation. As explained above, those disclosed embodiments include temporary fasteners with asymmetric threads (with or without slotted posts), slotted temporary fasteners with symmetric threads, and temporary fasteners with interference fits. 2Leinsing ¶¶153-90. Furthermore, the specific embodiments depicted in Figures 34, 69, 75 also meet this limitation. See ’781 Patent, FIGS. 34, 69, 75. Because these embodiments are disclosed and the limitations are not purely functional, the two cases the Petition relies on are inapposite. See *Ex parte Miyazaki*, 2008 WL 5105055, at \*10-14 (BPAI Nov. 19,

2008) (precedential); *Ex parte Wang*, 2014 WL 1005328, at \*2 (PTAB Jan. 9, 2014).

**G. The Specification Supports The *Deform* Limitations (Claims 5, 14)**

Petitioner argues that the '781 Patent does not “describe any temporary fastener that can be pulled out of the abutment without being unscrewed because its threads detach.” Pet., 60-61. This is a red herring. For one thing, the claim language speaks to deformation, not detachment. *Leinsing* ¶214. And even Petitioner’s illustration does not show threads completely separated from a fastener post; they are still partially attached.



Pet., 61.

Regardless, a POSA would have understood the disclosed deforming embodiments (discussed above) includes those in which the threads detach; detachment is a known form of inelastic deformation. *Leinsing* ¶214. A POSA would have understood that these same features could be used to release the

temporary fastener from the abutment threading because “the particular features, structures, or characteristics may be combined in any suitable manner in one or more embodiments without limitation.” *Id.*, 8:3-5; 2Leinsing ¶214.

#### **H. The Specification Supports The *Maximal Width* Limitation (Claim 15)**

Petitioner argues the specification “does not describe any temporary fastener” with a shaft having “a maximal width that is smaller than the maximal width of the definitive screw threads.” Pet., 62. “If anything,” Petitioner says, “the threads peaks of the temporary fastener and the definitive screw appear to have the same diameter as the proximal unthreaded portion of the shaft.” Pet., 62.

Inherent geometry shows that Figure 75’s temporary fastener could not possibly have the same thread diameter as the permanent screw; it would not screw in to the abutment if it did. 2Leinsing ¶¶215-21. Materials submitted during the parent ’992 Patent’s prosecution—when the examiner requested information on a similar point—show this clearly. Ex-1015, 296-97; 2Leinsing ¶¶215-21. Petitioner is incorrect—and this analysis is another telling illustration of Brunski’s selectively incompetent POSA.

#### **I. The Petition’s Enablement Argument (If Any) Fails**

As the Board noted, “Petitioner also mentions a lack of enablement, but without much, if any, further argument or support.” Inst. Dec., 37. Essentially, Petitioner scattered passing references to enablement everywhere it argued

inadequate written description, leaving sentences with the rote formulation “does not adequately describe *or enable*,” each followed by a written-description argument. *See* Pet., 40, 43, 45, 49-62, 89 n.8 (emphasis added). The closest the Petition comes to arguing enablement is its reference to *Liebel-Flarsheim v. Madrid*, 418 F.3d 1371 (Fed. Cir. 2007), after which it says cursorily that “[s]imilarly, the description of the split-post temporary fastener of Figure 75 does not enable the full claim scope that encompasses temporary fasteners that do not have a split post with deflecting legs.” Pet., 49. But it does not explain why that is so.

That is not enough to present an enablement argument. “It is of utmost importance” that a petition “identify ‘with particularity’ the ‘evidence that supports the grounds for the challenge to each claim.’” *Intelligent Bio-Sys. v. Illumina Cambridge*, 821 F.3d 1359, 1369 (Fed. Cir. 2016). The Petition does not; it fails to provide “[a] full statement of the reasons for the relief requested, including a detailed explanation of the significance of the evidence including material facts, and the governing law, rules, and precedent.” 37 C.F.R. § 42.22(a)(2). And it contains no analysis of the relevant enablement standard—whether a POSA could “practice the claimed invention ‘without undue experimentation,’ a determination typically guided by” the so-called *Wands* factors, *Pac. Biosci. v. Oxford Nanopore*, 996 F.3d 1342, 1350 (Fed. Cir. 2021) (citation omitted), which “is not a single,

simple factual determination” and “require[s] weighing many factual considerations,” *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988).

Petitioner thus failed to develop (and waived) any separate enablement challenge. To the extent Petitioner intends to rely on the same arguments that support its written-description argument, Patent Owner’s responses to those arguments likewise suffice to respond. *See LizardTech*, 424 F.3d at 1345 (“Those two requirements usually rise and fall together.”).

#### **VIII. GROUNDS 3-4 OF THE PETITION FAIL TO SHOW ANY CLAIMS WERE OBVIOUS**

“An obviousness determination requires finding that a [POSA] [1] would have been motivated to combine or modify the teachings in the prior art and [2] would have had a reasonable expectation of success in doing so.” *Endo Pharms. v. Actavis*, 922 F.3d 1365, 1373 (Fed. Cir. 2019). “[O]bviousness concerns whether a skilled artisan not only ***could have made*** but ***would have been motivated to make*** the combinations or modifications of prior art to arrive at the claimed invention.” *Belden v. Berk-Tek*, 805 F.3d 1064, 1073 (Fed. Cir. 2015). The combinations of prior art must disclose or suggest “each and every element of the challenged independent claims” to be found obvious. *Eli Lilly v. Teva*, 2020 WL 806932, at \*12 (PTAB Feb. 18, 2020).

“Relevant underlying findings of fact include: (1) ‘the scope and content of the prior art,’ (2) ‘differences between the prior art and the claims at issue,’ (3) ‘the

level of ordinary skill in the pertinent art,’ and (4) the presence of objective indicia of nonobviousness such ‘as commercial success, long felt but unsolved needs, failure of others,’ and unexpected results.” *Endo*, 922 F.3d at 1373. Prior art “must be considered in its entirety, i.e., as a *whole*, including portions that would lead away from the invention in suit.” *Panduit v. Dennison*, 810 F.2d 1561, 1568 (Fed. Cir. 1987).

Grounds 3-4 argue that various combinations of four references—Bernhard, Poovey, Gracco and Derey—would have rendered the claims obvious. Not so. For the reasons explained below, the proposed combinations would not meet the claims’ limitations. Furthermore, no POSA would have been motivated to combine Bernhard, Poovey and Gracco in the manner Petitioner posits, much less motivated to add Derey on top.

The Board’s tentative determination that “Petitioner has sufficiently mapped the limitations of independent claim 1 to the combination of Bernhard, Poovey, and Gracco,” and “set forth a reason with rational underpinning why the [POSA] would have combined these references,” was explicitly based “on the current record” at that preliminary stage. Inst. Dec., 32; *id.*, 33 (similar for Ground 4). With the benefit of a complete record, these arguments do not prevail.

### **A. Combining These References Does Not Meet All Limitations Of The Claimed Invention**

According to Petitioner's Ground 3, a POSA would have (1) taken Bernhard's snap-on system, then (2) switched out the snap-on connector for Poovey's temporary screw with flexible silicone threads, before finally (3) substituting Gracco's buttress threads for the silicone threads. Pet., 63-83. Ground 4 takes that same Bernhard-Poovey-Gracco combination and then adds Derey on top. Pet., 83-105.

However, Petitioner's thought experiment glosses over a key aspect of the invention, which appears in each independent claim—but *nowhere* in Petitioner's prior art: *viz.*, the inventive concept of a mismatch between (1) the temporary fastener's threading and (2) the definitive screw's or female abutment's threading, which permits the temporary fastener to be screwed (or rotationally engaged and torqued in) in and pulled out axially.

Each independent claim contains several limitations going to this precise concept. For example, limitations 1(g)-(k) describe in detail a genus of threaded temporary fasteners that screw into the same abutment female threading the definitive screw will ultimately screw into, but which (because the threading is mismatched to the abutment threading) do not engage the female threads as completely as the definitive screw's threads and therefore can be pulled out axially. '781 Patent, 25:60-26:24. Likewise, limitations 6(g)-(j), 8(g)-(k), and

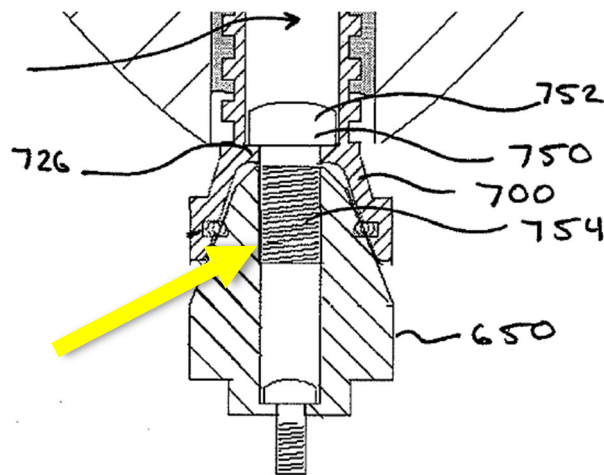
10(g), (i)-(k) recite temporary fasteners implementing and practicing this critical inventive concept. '781 Patent, 26:56-27:10, 27:30-60, 28:16-41.

Petitioner's superficial analysis of these limitations (1(g)-(k), 6(g)-(j), 8(g)-(k), and 10(g), (i)-(k)) obscures this shortfall. The argument merely assumes, without justification, that its "temporary fastener with flexible buttress threads" would have an "asymmetric shaft threading contour" that "would be different than the symmetric threads contour" of the female abutment threading and therefore "would 'not essentially match'" it. Pet., 77-78 (limitation 10(g)). The Petition likewise assumes that the other relevant limitations would be satisfied without showing its work for that inventive leap, arguing that the proposed Bernhard-Poovey-Gracco-Derey combination would have a temporary fastener whose "threads would contact a smaller area of the symmetric threads of shaft 754 of threaded fastener 750." Pet., 93 (limitation 1(k)); and would have a temporary fastener whose "threads would occupy a smaller volume of the symmetric threads of bore 654 of implant abutment 650 than the matching, symmetric threads of shaft 754 of threaded fastener 750." Pet., 101 (limitation 8(k)). 2Leinsing ¶¶222-26.

Not so. Neither Bernhard, Poovey nor Gracco ever teaches using mismatched threads. 2Leinsing ¶¶222-51. Every screw in those references is screwed into matching female threads. There is not a single reference, suggestion,

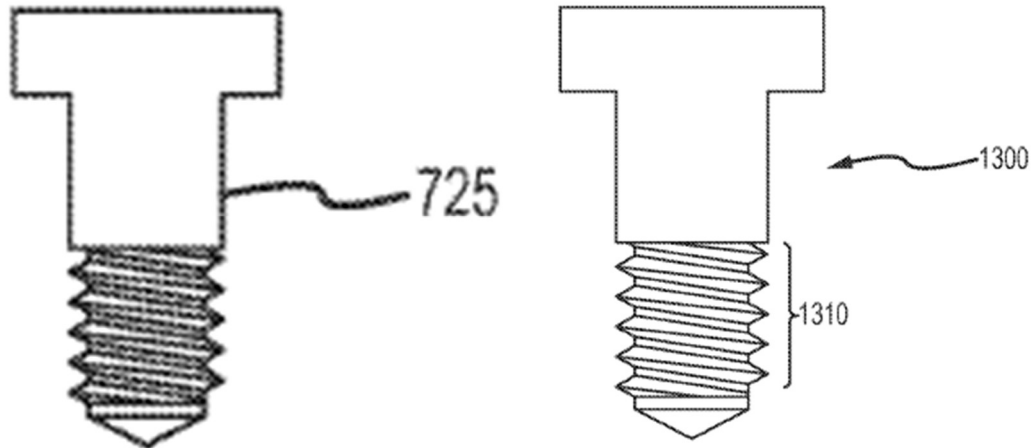
hint, or whisper of mismatched threads anywhere in those references. Nor is there any such teaching in Derey either. 2Leinsing ¶¶250-51.

To the contrary, **Bernhard** discusses and illustrates *only a definitive screw* with threading that matches and “engages *corresponding threading*” in the abutment. Ex-1003, [0134] (emphasis added).



Ex-1003, FIG. 12 (annotated); 2Leinsing ¶223.

Though **Poovey**'s permanent screw is not configured to be screwed into the same female threading as the temporary screw, Poovey's temporary screw *exactly matches the shape of the fixation screw and, by extension, the implant/abutment threading* as well:



Ex-1005, FIG. 7 (fixation screw), FIG. 13 (temporary screw); *see also* 2Leinsing ¶¶224.

The mini-screws in **Gracco** were “self-drilling and self-tapping, with a cutting flute at their apex,” Ex-1006, 4, meaning that these mini-screws *by definition matched the synthetic bone’s female threading*; the mini-screws directly created the female threading. Nothing in Gracco teaches or suggests using a temporary fastener with a thread profile that is different from a definitive screw or the corresponding abutment. 2Leinsing ¶225.

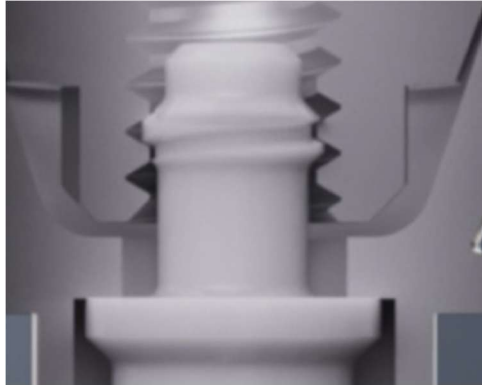
Finally, **Derey** (part of Ground 4’s proposed combination) does not teach putting threading on temporary fasteners at all, much less teach or suggest the required thread mismatch. 2Leinsing ¶¶222-51. The *snap-in fastener in Derey’s Figures 5 and 6 is not a screw and has no threading*; Derey’s fastener is presented as an *alternative* to a screw. Ex-1008, 18-19.

The upshot is that even if a POSA had used Bernhard as a starting point, added Poovey's temporary screw, and modified the threads per Gracco, that still **would not produce a temporary fastener that is a mismatch to the abutment's female threading or the definitive screw's male threading**. Nor would adding Derey on top. None of these references teach that concept, alone or in combination. 2Leinsing ¶¶222-51. That omission is fatal to Petitioner's arguments. To argue obviousness, one cannot simply "assume" a key inventive feature.

Petitioner has not adduced any evidence suggesting a motivation to mismatch the threads or pointed to any prior art teaching that concept. The temporary fastener's threads of these proposed combinations therefore would not have a "different" "threading contour," a smaller contact area, or a smaller volume, as the '781 claims require. '781 Patent, 26:14-24, 27:51-60, 28:16-19. Petitioner fell into the "temptation to read into the prior art the teachings of the invention in issue." *Plantronics v. Aliph*, 724 F.3d 1343, 1355 (Fed. Cir. 2013).

The Board cannot overlook this critical inventive concept. Mismatching the threads between the temporary and definitive screws in a manner is one of the principal innovations differentiating the invention from prior technology. The mismatch is what makes the temporary fastener capable of both (1) rotating to a sufficient torque for coping alignment (simulating the definitive screw's attachment after pick-up) and (2) then pulling out. It is the creative "spark" that

makes this invention novel. It is also the inventive concept that Petitioner's knock-off incorporates:



Ex-1019, 4.

In short, even if the POSA had combined Bernhard, Poovey and Gracco as Petitioner suggests, the resulting combination would still lack this key concept—and it would not satisfy the limitations of independent claim 10. <sup>2</sup>Leising ¶¶222-29. Nor would combining Bernhard, Poovey, Gracco and Derey have satisfied the limitations of independent claims 1, 6 or 8. <sup>2</sup>Leising ¶¶230-51.

**B. A POSA Would Not Have Been Motivated To Combine The Prior Art To Arrive At The Invention**

Even assuming the prior art could be combined to reach the claimed invention, no POSA would have been motivated to do so. And assuming a POSA would have combined Bernhard and Poovey, a POSA would have had no motivation to add Gracco and then Derey in an unwieldy four-reference combination. Petitioner fails to adduce any evidence proving otherwise.

In evaluating motivation, the Board must consider prior art in its entirety, including portions that teach away from the claimed invention. *See Henny Penny v. Frymaster*, 938 F.3d 1324, 1332 (Fed. Cir. 2019) (discussing “longstanding principle” that “the prior art must be *considered for all its teachings*, not selectively”). “A reference may be said to teach away when a [POSA], upon reading the reference, would be *discouraged from following the path* set out in the reference, or would be *led in a direction divergent from the path that was taken by the applicant*.” *Polaris v. Arctic Cat*, 882 F.3d 1056, 1069 (Fed. Cir. 2018).

The Board must also be careful to evaluate motivation without “hindsight bias” and without using the ’781 Patent “as a roadmap to reconstruct the claimed invention using disparate elements from the prior art.” *TQ Delta v. CISCO*, 942 F.3d 1352, 1361 (Fed. Cir. 2019); *KSR v. Teleflex*, 550 U.S. 398, 421 (2007) (warning factfinders to avoid “the distortion caused by hindsight bias” and “arguments reliant upon *ex post* reasoning”). That is because “[t]he genius of invention is often a combination of known elements which in hindsight seems preordained.” *Cheese Sys. v. Tera Pack*, 725 F.3d 1341, 1353 (Fed. Cir. 2013); *see also Amerigen Pharms. v. UCB Pharma*, 913 F.3d 1076, 1089 (Fed. Cir. 2019) (“Any compound may look obvious once someone has made it and found it to be useful, but *working backwards* from that compound *with the benefit of hindsight, once one is aware of it, does not render it obvious*.”).

Petitioner’s obviousness arguments rely heavily on hindsight bias because they use “the template provided by the inventor” and then work backwards to cherry pick the references—not evaluate them as a whole, as the law requires. *Orexo AB v. Actavis Elizabeth*, 903 F.3d 1265, 1271 (Fed. Cir. 2018). The Board must resist this distorted reasoning.

Brunski argues that a POSA would have combined Poovey and Gracco “so that the temporary screw would provide a stable, reliable and secure connection, while retaining the ability to be pulled out without having to be unscrewed.” Brunski ¶229. But according to Brunski, Bernhard and Poovey already accomplish precisely this. *Id.*, ¶218 (stating that Poovey’s “threaded temporary fastener” would be “more stable, reliable and secure” than Bernhard’s snap-fit connector); *id.*, ¶232 (“[A] POSA would have been motivated to improve the system disclosed in Bernhard, because Bernhard’s snap-fit connection would be less stable, reliable and secure, more complicated, and less elegant than using a temporary fastener, like the one disclosed in Poovey”).

In other words, the proposed motivation for adding Gracco is to address issues that Poovey, supposedly, *already solved*. That makes no sense. A POSA would not have been motivated to add Gracco to Bernhard-Poovey. Petitioner’s arguments otherwise thus rely on “the blueprint drawn by the inventor”—*viz.*, that Figure 75 has asymmetric buttress threads—rather than confining themselves to

“the state of the art that existed at the time.” *Interconnect Planning v. Feil*, 774 F.2d 1132, 1138 (Fed. Cir. 1985).

The same is true for Derey, which Petitioner argues would be added next *on top of* Bernhard, Poovey and Gracco. Pet., 83-105. A POSA “would have been motivated” to incorporate Derey’s deflecting legs into the Bernhard-Poovey-Gracco temporary screw, Petitioner says, “in order to make it easier to pull the screw out of the abutment while still ensuring that the temporary connection is stable and secure.” *Id.*, 85. But as with Gracco, there is no reason for a POSA to have dug around for Derey—because these are all problems that, according to Brunski, Bernhard and Poovey *already solved*. See Brunski ¶218 (stating that Poovey’s “threaded temporary screw” would be “*more stable, reliable and secure*” than Bernhard’s snap-fit connector (emphasis added)). And taking Derey as a whole, the combination makes little sense because Derey explicitly teaches that its “flexible devices are designed to be used *instead of* the screws used for attaching the construction to the implants.” Ex-1008, 10.

In short, no POSA would have been motivated to combine Bernhard and Poovey with Gracco and, finally, Derey, in any configuration suggested by Grounds 3-4.

### **C. The Petition Relies On Impermissible Hindsight To Arrive At The Claimed Invention**

The illogic of Petitioner’s proposed combinations points to the true motivation for arguing these combinations: to satisfy all claim limitations and recreate Figure 75. If a Bernhard-Poovey combination would have worked as well as Petitioner and Brunski argue, there would be no reason (apart from hindsight) to further modify the temporary screw with Gracco’s buttress threads. The only true explanation for this proposed combination is apparent: Figure 75 has buttress threads. There would be even less reason to further incorporate Derey’s deflecting legs—apart from the fact that Figure 75, which Petitioner hopes to imitate and undercut, has them.

The Petition’s analysis is therefore fatally off-track. Without the benefit of the ’781 Patent’s claims as an (impermissible) roadmap, a POSA would not have been motivated to pick-and-choose among the prior art to arrive at the claimed invention; Petitioner is simply trying to cobble together whatever is needed to reach that destination. Clearly, Petitioner used the ’781 Patent “as a roadmap to reconstruct the claimed invention using disparate elements from the prior art.” *TQ*, 942 F.3d at 1361. None of its evidence proves otherwise.

### **IX. CONCLUSION**

For the reasons stated above, the Board should find that Petitioner failed to carry its burden of proving unpatentability as to all grounds.

Respectfully submitted,

Dated: April 1, 2026

By: /s/ *Kelsey I. Nix*  
Kelsey I. Nix (Registration No. 33,119)  
Counsel for Patent Owner

**CERTIFICATE OF COMPLIANCE**

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that the foregoing Patent Owner’s Request for Discretionary Denial and Supporting Brief contains, as measured by the word-processing system used to prepare this paper, 13,960 words, which is within the limit set in 37 C.F.R. § 42.24(b)(2). This word count does not include the items excluded by 37 C.F.R. § 42.24.

Respectfully submitted,

Dated: April 1, 2026

By: /s/ Kelsey I. Nix  
Kelsey I. Nix (Registration No. 33,119)  
Counsel for Patent Owner

**CERTIFICATE OF SERVICE**

I hereby certify that on April 1, 2026, I caused a true and correct copy of the foregoing Patent Owner’s Response to be served via email on Petitioner at the following addresses:

Sheila Mortazavi (Registration No. 43,343)  
HAUG PARTNERS LLP  
745 Fifth Avenue, 10th Floor  
New York, New York 10151  
(212) 588-0800  
[smortavazi@haugpartners.com](mailto:smortavazi@haugpartners.com)

George Reitboeck (pro hac vice)  
Mark A. Chapman (pro hac vice)  
HAUG PARTNERS LLP  
745 Fifth Avenue, 10th Floor  
New York, New York 10151  
(212) 588-0800  
[greitboeck@haugpartners.com](mailto:greitboeck@haugpartners.com)  
[mchapman@haugpartners.com](mailto:mchapman@haugpartners.com)

Christopher Gosselin (pro hac vice)  
HAUG PARTNERS LLP  
1717 K Street NW, Suite 9000  
Washington, DC 20006  
(202) 292-1530  
[cgosselin@haugpartners.com](mailto:cgosselin@haugpartners.com)

Respectfully submitted,

Dated: April 1, 2026

By: /s/ Kelsey I. Nix  
Kelsey I. Nix (Registration No. 33,119)  
Counsel for Patent Owner