

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

STRAUMANN USA, LLC,
Petitioner,

v.

SMART DENTURE CONVERSIONS, LLC,
Patent Owner.

IPR2025-00956 (Patent 11,937,992 B1)
PGR2025-00054 (Patent 12,156,781 B1)

Record of Oral Hearing
Held: September 9, 2026

Before: MICHAEL J. FITZPATRICK, ERIC C. JESCHKE, and
RYAN H. FLAX, *Administrative Patent Judges*.

IPR2025-00956, Patent 11,937,992 B1
PGR2025-00054, Patent 12,156,781 B1

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P R O C E E D I N G S

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JUDGE FLAX: We'll go on the record. Good morning, everyone. I'm Judge Flax. I'm here with Judge Jeschke. Judge Fitzpatrick is remote. You can see him behind us.

JUDGE FITZPATRICK: Good morning, everybody.

JUDGE FLAX: We are here in two consolidated cases that are related, both of them, Straumann USA, LLC is the Petitioner v. Smart Denture Conversions, LLC as the Patent Owner. First case is IPR2025-00965, and that's over patent 11,937,992. And the second case, same parties, PGR2025-00054, U.S. Patent 12,156,781. So, if any of that's wrong, please say something.

MS. MORTAZAVI: Your Honor, I think you may have said 965. It's IPR2025-956.

JUDGE FLAX: '956. Yep. Okay. Thank you. '956. Fix that on the record, please. Thanks for paying attention. So, Counsel, could you all please stand up and make appearances? Let us know who's here. And if you have other guests, let us know who they are too, please.

MS. MORTAZAVI: Good morning, Your Honors. I'm Sheila Mortazavi on behalf of Petitioner. I have with me my colleagues, Mr. Georg Reitboeck, Mr. Mark Chapman, along with our client representative, Mr. David Mlaver. Mr. Reitboeck will be doing the oral presentation this morning.

JUDGE FLAX: Okay. And Patent Owner?

MR. NIX: Good morning, Your Honor. Kelsey Nix for the Patent

1 Owner. With me is my colleague, John Gibbons. Mr. Gibbons will be
2 arguing this morning. Also with me is our client representative, JJ Kofford.

3 JUDGE FLAX: Okay, thank you. So, as this is consolidated, the
4 parties have asked for 90 minutes each, which you've got. You can see
5 behind me, there's your clock. As it counts down, I'll try to remind you as I
6 see your time running out. You'll see it behind me and you'll see the lights
7 come up here. You can reserve time for rebuttal. So, when you get up to
8 start arguing, just let me know how much time you want to reserve for
9 rebuttal, and we'll adjust that way. Ninety minutes is a long time, and
10 there'll be no points deducted for not using all your time. So, argue as you'd
11 like. So, whenever you're ready, Petitioner, go ahead.

12 MR. REITBOECK: Thank you, Your Honor. Good morning.
13 Georg Reitboeck for Petitioner, Straumann. I would like to reserve 20
14 minutes for rebuttal. We have copies of our presentations for you. May I
15 approach?

16 JUDGE FLAX: I'm sorry, did you say you have --

17 MR. REITBOECK: We have copies of the presentation slides.

18 JUDGE FLAX: That's fine. If you want to give that to us, that's
19 okay. We have everything in front of us right here, so we have all your
20 demonstratives in front of us, the entire record, which brings up another
21 point.

22 JUDGE FITZPATRICK: Yeah, and I'll clarify, I do too. I have it
23 up on my monitor. So --

24 JUDGE FLAX: So, as you're --

25 JUDGE FITZPATRICK: -- I'm all set.

1 JUDGE FLAX: As you're --

2 JUDGE FITZPATRICK: I do reference them.

3 JUDGE FLAX: Yeah. As you're going along, and you're going
4 through your demonstrative slides, keep up with where you are and let us
5 know what slide you're on for the record, so that we can track that in the
6 transcript. As well as whenever you refer to any evidence, please identify it,
7 if you can, by exhibit number. And if you're talking about a specific part of
8 it, what page, what column, whatever it might be, it would be very helpful to
9 us on the transcript.

10 Papers -- you can identify those by the name. You don't really
11 need to identify the number, but either way is fine. So, we'll remind you
12 because people forget all the time, and say, what slide are you on, let us
13 know. But if you can remember, please keep track. So, I'll start your time.
14 You can go.

15 MR. REITBOECK: Thank you, Your Honor. So, to preview my
16 argument a little bit, I will be talking about the technical background here,
17 the person of ordinary skill in the art, the various issues that revolve around
18 the thread geometry, the slot, the issue of obviousness, and lastly, some
19 selected other Section 112 issues I would like to address. With that said, let
20 me start with discussing the background and the prior art a little bit, and I
21 will go to Slide 3.

22 These cases concern dental technology, and in particular, they
23 concern components that are used for installing a dental prosthesis to dental
24 implants in the jaw. On Slide 3, we have the basic building blocks. This is a
25 figure from the Bernhard prior art. That is Exhibit 1003. And we see on the

1 one side, the implant colored in yellow is installed, surgically placed in a
2 patient's jaw. The jaw is in purple. And a so-called abutment is connected
3 to the dental implant. Abutment is colored in blue on Slide 3.

4 On the other side, we have the prosthesis that is colored in green
5 on this slide. That prosthesis is bonded to a so-called coping that is colored
6 in red on this slide, and that coping gets connected to the abutment. Now,
7 before the prosthesis can be installed, the coping must be aligned to the
8 abutment. And the dentist does this by temporarily connecting the coping to
9 the abutment and taking a so-called impression to record the position.

10 Going to Slide Number 4. Traditionally, there are two ways to
11 take an impression -- the so-called open tray method and the closed tray
12 impression method. And we see on Slide 4 those two methods represented
13 by Figures 2A and 1A of the Kumar prior art reference that is Exhibit 1004
14 in both proceedings.

15 In both of these methods, the dentist can either use an existing
16 denture that is being converted to an implant-supported fixed prosthesis or a
17 separate impression tray, if a new prosthesis is made. In the open tray
18 method, which is represented on the left of this Slide 4, there is a through
19 hole in the location of the abutment. So, what the dentist does, he or she
20 first screws on the coping to the abutment and puts the impression on with
21 the through holes being aligned with the abutments and copings. And the
22 coping, in many cases, sticks through those through holes.

23 The dentist then adds a bonding agent to bond the coping to the
24 impression. And because the coping is accessible through those holes, the
25 dentist can then unscrew the coping and remove the impression. And when

1 he removes the impression, the coping is being removed along with the
2 impression, or it's called -- it is picked up. The industry speaks of pickup
3 copings.

4 Now, because they are picked up with the impression, the coping
5 stays in place and stays in the correct position and orientation. And so, that
6 method is very accurate in terms of aligning the coping with the abutment
7 compared to the closed tray method. Because of that, the method is more
8 accurate. Downside is that it takes a long time and it requires these large
9 through holes that could compromise the structural integrity of the
10 impression or the prosthesis if it's used as an impression.

11 On the other hand, in the closed tray method, there are no through
12 holes, as you can see on the right side of Slide 4. And the dentist, first,
13 again, screws on the coping to the abutment, puts the impression on, and
14 then adds an impression material. However, that impression material does
15 not bond the coping to the impression, but the coping stays in place. The
16 dentist takes the impression off, and the coping has made an indenture in the
17 impression material, thereby recording the position. And once the
18 impression is removed, the dentist unscrews the coping and then transfers
19 the coping to the impression. He basically inserts the coping back into the
20 impression, and that's why the industry speaks of so-called transfer copings.

21 Now, compared to the open tray method, that closed tray method is
22 quicker, more convenient for the patient, and it does not require these large
23 through-holes. Downside is that it's less accurate because one has to use
24 transfer copings and not pickup copings. Now, the reason pickup copings
25 could not be used in the traditional closed-tray impression protocol was that

1 one needed to unscrew them and therefore needed access to them, which is
2 what the through holes in the open tray method were for.

3 However, various people in the field came up with the concept of a
4 temporary connection between coping and abutment that did not have to be
5 unscrewed, but could be pulled off along with the impression. And that
6 concept resulted in the best of both worlds, if you will, the convenience and
7 structural advantage of the closed tray impression method, and the accuracy
8 of the traditional open tray method and of using pickup copings. In
9 particular --

10 JUDGE FITZPATRICK: Can I ask one question?

11 MR. REITBOECK: Yes, please.

12 JUDGE FITZPATRICK: When you speak of accuracy, is it
13 -- you're referring to that ultimately, that the prosthesis will be exactly how
14 you want it positioned?

15 MR. REITBOECK: Yes.

16 JUDGE FITZPATRICK: Right?

17 MR. REITBOECK: Yes.

18 JUDGE FITZPATRICK: Okay. Thank you.

19 MR. REITBOECK: And just to elaborate very briefly, because
20 there are various abutments and various implants used with these large
21 prostheses, none of the angles are the same, none of the positions are really
22 predictable, which is why the dentist has to basically record the positions by
23 way of this impression method.

24 I'm turning to Slide 4 and wanted to give some examples of people
25 in the prior art. Yes, I'm on Slide 5. I'm sorry, I may have misspoken.

1 Some examples of people in the prior art that used the concept of a
2 temporary connection that could be pulled off. In particular, the Bernhard
3 prior art reference, which is Exhibit 1003 in both proceedings, describes
4 various types of a provisional connection between coping and abutment that
5 can be pulled off. For example, a snap-fit connection, which we see on Slide
6 4.

7 As shown on Slide 6, once the prosthesis, which is number 510 in
8 this figure 8 of Bernhard -- once the prosthesis is bonded to the coping, the
9 dentist can remove both prosthesis and coping together without accessing
10 the coping. He doesn't have to unscrew it, he can just pull it off.

11 Turning to Slide 7. Similarly, the Poovey prior art reference,
12 which is Exhibit 1005 in both proceedings. The Poovey prior art reference
13 also describes a temporary coping abutment connection that can be pulled
14 off. The type of connection is slightly different than Bernhard. Poovey uses
15 a screw with flexible threads.

16 So, the coping is screwed into the abutment with this type of
17 screw, and once the coping is bonded to the prosthesis, the dentist can pull
18 off prosthesis coping, and along with it, the screw comes out of the abutment
19 because of the flexible threads. And Poovey expressly mentions that this
20 allows the advantages of both the traditional closed tray method, the
21 accuracy of the closed tray method -- I'm sorry, the accuracy of the open tray
22 method and the convenience of the closed tray method.

23 Turning to Slide 8, there the Derey reference is also another prior
24 art reference that uses a temporary connection. This one uses a holding
25 device with a split post structure. It has a slot at the end and deflecting legs,

1 and when the dentist pulls the whole thing off, the deflecting legs move
2 inward and release the force against an internal thread that is stucked into in
3 advance. Now, all of this happened in the prior art. The inventors have not
4 yet entered the picture. So, let me turn to the patents that are at issue in
5 these cases, and to the inventors, Mr. Kofford, Dr. Kofford, Mr. Ruetschi,
6 and their patents at issue, which are referred to as the '992 and '781 patents.

7 Like Bernhard and Poovey and Derey, the inventors of those
8 patents employed the concept of a temporary connection between coping
9 and abutment. It does need -- does not have to be unscrewed, but then that
10 can be pulled off along with a closed tray impression. However, they now
11 describe further variations of how this temporary connection between coping
12 and abutment is implemented. Like Poovey, they used a temporary screw,
13 but not with flexible threads, but with a different mechanism for how the
14 prosthesis and the coping could be pulled off.

15 I'm turning to Slide 10. Most of the various embodiments in the
16 patents at issue revolve around the concept of a separable cap. In that
17 version, the temporary screw has a cap, which is colored yellow on Slide 10,
18 that is separable from the post of the screw, which is colored in red on this
19 slide. When the dentist removes the prosthesis, as we can see in Figure 6 on
20 the right of Slide 10, she pulls off the coping and the screws cap with it, and
21 the post remains in the abutment and is later unscrewed.

22 Turning to Slide 11, the inventors describe a number of variations
23 of this concept, such as the one shown in Figures 34 to 36. And that seems
24 to correspond to what they actually commercialized, which can be seen on
25 the right side of Slide 11. Turning to Slide 12, central to this case, however,

1 is not the separable cap embodiment but another embodiment, the one of
2 Figure 75, which is the species the inventors pursued, elected to pursue,
3 during prosecution in response to a restriction requirement.

4 In this embodiment, the cap does not separate from the post.
5 Instead, in this embodiment, the screw has a slot and asymmetric so-called
6 buttress threads, and those structural features allow for the temporary screw
7 to be pulled out of the abutment when the prosthesis and the coping are
8 removed. The inventors describe that that fastener has a deflecting feature
9 that allows the post to disengage through axial motion instead of rotary
10 screw motion. They further describe that this embodiment has a split post
11 that has deflecting sections with screw threads shaped to facilitate axial
12 separation.

13 They further described that this embodiment has a slot and
14 asymmetric threads or serrations that allow the temporary attachment post to
15 be inserted and extracted in the axial direction. And they further described
16 that the split post bottom structure shown in Figure 75 is what allows axial
17 extraction. All of these descriptions that are on Slide 12 are from the
18 inventor's first utility applications filed in October 2019.

19 Now, years later, in 2023, after our client Straumann's accused
20 product had been introduced to the market, the inventors made some edits to
21 the third section that I just went through, and which we can see on Slide 13.
22 Apparently trying to obscure the role of the slot because the accused product
23 doesn't have a slot. However, the other sections all remained unchanged,
24 and the overall import of these descriptions remained unchanged. The
25 structural features of the slot and the asymmetric buttress thread were

1 presented as the allegedly innovative structures that allows for the temporary
2 screw to be pulled off.

3 Now, whether we talk about the separable cap embodiment or the
4 embodiment of Figure 75, it is important to note that all of them employ the
5 same concept that Bernhard, Poovey, and Derey employed -- the concept of
6 temporary connection between coping and abutment that can be pulled off
7 and need not be unscrewed. In other words, that insight to use a temporary
8 connection that can be pulled off was not an insight the inventors of these
9 patents at issue today had, or had first, I should say.

10 Let me turn to the issue of the person of ordinary skill in the art.
11 Both parties presented definitions, proposed definitions of the person of
12 ordinary skill in the art. And the key difference between the parties'
13 definitions is the type of experience that person of ordinary skill in the art
14 would have. Looking at Slide 15, we see the competing definitions of the
15 parties with the type of experience highlighted in yellow. In our Petitioner's
16 view, the person of ordinary skill in the art would have experience working
17 with dental implants and prostheses. Patent Owner, SDC, on the other hand,
18 asserts that a POSA, person of ordinary skill in the art, may not have
19 dentistry-specific experience. It defines the person of ordinary skill as
20 having experience in the field, such as experience with the design of bone
21 implants, anchors, and/or screws.

22 JUDGE FLAX: Counsel, I have a question about these competing
23 definitions. I know that an argument that Patent Owner makes is that
24 somehow your definition would exclude the inventors from being of
25 ordinary skill. Can you explain that a little bit?

1 MR. REITBOECK: Patent Owner made that argument that our
2 definition can't possibly be right because it would exclude the inventors.
3 Now, number one, there is no such requirement that the definition has to
4 include the inventors, and we cited several cases where the Federal Circuit
5 affirmed definitions where just that happened, that the definition did not
6 include the inventors.

7 Secondly, SDC's definition wouldn't cover the inventors either. It
8 would not cover Dr. Kofford, who is a dentist -- prosthodontist, I should say.
9 And it's unclear whether it would cover the second inventor, Mr. Ruetschi.
10 And when we talk about their definition, it will, I think, become clear that
11 we just don't know whether it would cover him.

12 There is numerous reasons why we think our definition is correct.
13 These patents are just about dental technology. The patents describe
14 dentistry-specific components -- implants, prostheses, copings, abutments.
15 They describe that these dentistry-specific components are used in a
16 dentistry-specific context, dentistry-specific procedures, such as these
17 impression protocols I discussed. They talk about that these procedures are
18 employed in a dentistry-specific clinical setting, or in plain English, in the
19 patient's jaw, or in a dental lab. And the key prior art we have on the table
20 -- Bernhard, Poovey, Derey, Gracco -- they're all about dental implants and
21 prostheses.

22 In short, everything about these patents is about dental technology,
23 in particular, about dental implants and prostheses. SDC ignores all that and
24 suggests that a person of skill only has to have experience in the field. Now,
25 to this day, I can't tell you what the field is supposed to mean. And as we

1 laid out in our reply brief, Mr. Leinsing, SDC's expert, was not able to give a
2 coherent answer to that. Mr. Leinsing essentially suggested that the
3 definition of the person of ordinary skill depends on who the experts are.
4 And when we look at SDC's definition, one example, just an example, is
5 experience with the design of bone implants, anchors, and/or screws.

6 Now, where does that come from? There's nothing in the patents
7 that suggests that this area should be part of the definition, and SDC
8 certainly hasn't pointed to anything in the patents. Instead, where it comes
9 from is essentially Mr. Leinsing's CV. So, what SDC is essentially asking
10 you is to look at Mr. Leinsing's qualifications first and then decide and adapt
11 the definition to include him. We think that's backward. It puts the cart
12 before the horse. The Board should first determine the qualifications of a
13 person of skill in the art and then, as a second step, measure Mr. Leinsing's
14 qualifications against it.

15 Now, once this dispute about the definition of a person of ordinary
16 skill in the art is decided -- that's a merit question -- and the related
17 evidentiary issues are the one we raised in our motion to exclude, namely
18 whether Mr. Leinsing's testimony should be excluded, his declarations. If
19 the Board adopts our definition of the person of ordinary skill in the art, the
20 evidentiary questions and the analysis in our view is, number one, does Mr.
21 Leinsing meet that definition, and number two, what's the consequence if he
22 doesn't. And we think the answers to those questions are very
23 straightforward. To question number one, clearly Mr. Leinsing does not
24 have experience with dental implants and prostheses, and the SDC does not
25 claim that he does. And --

1 JUDGE FLAX: Didn't he testify in his deposition that he had
2 some sort of dental experience? I thought they pointed to that as evidence.
3 Am I misremembering that from the record?

4 MR. REITBOECK: Certainly not to dental implants and
5 prostheses. I --

6 JUDGE FLAX: Something related to dentistry?

7 MR. REITBOECK: -- would have --

8 JUDGE FLAX: Okay, I might be wrong.

9 MR. REITBOECK: You may be referring to certain veneers, I
10 think.

11 JUDGE FLAX: Maybe veneers. That goes on teeth, right?

12 MR. REITBOECK: I'm not sure. I can't answer that question.

13 JUDGE FLAX: Okay. Does it matter?

14 MR. REITBOECK: I don't think so. If these patents are about
15 implants and prostheses, he had to do something with a chemical solution
16 that might be put on teeth. I don't see how that matters. As for question
17 number 2, what's the consequence if he doesn't meet the definition that is
18 guided by the Federal Circuit's Kyocera case. If the expert does not qualify
19 as a person of ordinary skill in the art, his testimony is to be excluded under
20 Rule 702.

21 JUDGE FLAX: So, your position is that it should be excluded in
22 its entirety, not just the parts that may relate to dental prostheses, right?

23 MR. REITBOECK: Yes, correct.

24 JUDGE FLAX: Okay.

25 MR. REITBOECK: We think basically all of his testimony is on

1 issues that are viewed from the perspective of a person of skill in the art, and
2 therefore, all of his declarations in their entirety should be excluded.

3 JUDGE FLAX: Okay.

4 MR. REITBOECK: Now let me move on to the grounds in our
5 petitions that revolve around two features of the temporary screw. On the
6 one hand, the thread geometry, and on the other hand, the slot that results in
7 a split post with deflecting legs. The core of these challenges is the written
8 description requirement under Section 112, and I think before we dive into
9 the details, it's worthwhile noting that purpose of the written description
10 requirement is to ensure that the scope of the patent rights, as expressed in
11 the claims, does not overreach the scope of the inventor's contribution as
12 described in the patent specification. And it prevents inventors from
13 alleging after they filed their patent application, and sometimes years after
14 they filed the patent application, from alleging that something is part of their
15 invention when it never was. And we think that that is exactly what
16 happened here.

17 JUDGE FLAX: So, Counsel, sometimes disclosing one or just a
18 few species of a genus limitation won't suffice. So, for example, if you are
19 -- if you've disclosed a specific antibody, let's say, and the claim is to the
20 function of an antibody and you haven't really tied the two together.
21 Antibody technology is somewhat unpredictable, maybe more so in the past
22 than it is today. But here, we're dealing with things like screws and the
23 physics of metal holding on metal or materials holding in threads and things
24 like that, which is indisputably a lot more predictable than antibody
25 technology. Where's the line between the disclosure of a single species in a

1 predictable art and one in an unpredictable art? At what point does the claim
2 become too generic, as you're arguing here? How do we know that that's the
3 case here?

4 MR. REITBOECK: As for the predictability, we agree that this is
5 a predictable technology, but that's not a blank check to expand patent
6 claims to something that the inventors never invented, and there's no
7 authority for equating the two. Where's the line? It's a case-by-case
8 determination, but I think one very important aspect to point out here is that
9 in the course of the briefing, the Patent Owner stresses and focuses on this
10 idea that the threads are different than the definitive screw. The thread
11 geometry is different than the definitive screw. They call it the mismatch
12 concept. Okay, they say that's the creative spark.

13 Now, had the patent discussed that in the context of Figure 75 and
14 said, this is just an example and this is the creative spark we came up with,
15 things might be different, but that's not the case here. This concept is
16 nowhere in the patent. There's just no mention of it. It just happens to be
17 that that's what applies to Figure 75.

18 So, where is the line? Hard to tell in the abstract, but if the patent
19 gives one example, even in a predictable technology, and does not give any
20 indication that members of other species of that genus would work in the
21 same way, and a person of ordinary skill in the art could not see that other
22 members of this genus would work in the same way, then I think the line is
23 crossed, and claiming that other species are part of the invention is
24 overreach.

25 Looking at Slide 17, let me put our specific challenges in context.

1 Grounds 1 to 3 of the inter partes review proceedings for the '992 patent are
2 based on the underlying assertion that the claims of the '992 patent are not
3 supported by any of the priority applications, and the effective filing date of
4 that patent is therefore June 3rd, 2023, which makes the inventor's own
5 parent patent -- or grandparent patent, I should say -- 11,311,354, which is
6 called the Kofford patent in the briefing, which makes this patent prior art
7 vis-à-vis the '992 patent.

8 Grounds 1 to 3 in the IPR assert that the claims of the '992 patent
9 are anticipated or rendered obvious by the '354 Kofford prior art patent, and
10 the dispute is whether or not the claims of the '992 patent are supported by
11 the priority applications. That question of support revolves around the
12 issues of the thread geometry and the slot.

13 The thread geometry and the slot are also front and center in the
14 post-grant review proceeding regarding the '781 patent, where Ground 2
15 asserts lack of written description and enablement, and Ground 1 asserts
16 indefiniteness, all revolving around those two structural features. I will
17 focus on the issue of the thread geometry first.

18 I'm looking at Slide 18. As I discussed before, the inventors
19 depicted and described this embodiment as having asymmetric threads
20 shown in Figure 75, which experts refer to as a buttress thread. Together
21 with the slot, they allow for the temporary screw to be pulled out of the
22 abutment when the prosthesis and coping are removed.

23 In the claims, however, and I'm looking at Slide 19, SDC did not
24 restrict itself to buttress threads. Instead, they broadened the scope of the
25 claims for the claims to recite that the temporary screw has a pattern, has

1 threads in a pattern that is shaped differently from a pattern of the threads of
2 the definitive screw, or threading profile that is different from definitive
3 screw. Priority applications do not support this broad claim scope.

4 The patent never discusses the concept of the thread profile of the
5 temporary screw being different from the one of the definitive screw. That's
6 an afterthought. It's a litigation-driven afterthought. The only thread profile
7 the inventors disclosed which is different from the one of the definitive
8 screw is the one of Figure 75, the buttress threads of Figure 75. The claims,
9 however, encompass a wide range of thread geometries that meet the claim
10 language but are not disclosed by the inventors, such as reverse buttress
11 threads, threads with truncated peaks, threads with smaller thread angles.
12 The list goes on.

13 JUDGE FLAX: What about the other embodiments that Patent
14 Owner allege are disclosed in the patent that they say would teach different
15 thread patterns, like the interference design and the idea of not having a slot,
16 I guess, and the idea of reversing that thread shape?

17 MR. REITBOECK: Yes, I will go through them one by one. In
18 summary, none of them can support the claim scope because they're either
19 -- they don't meet the claim language. Most of them are push-in versions, as
20 opposed to screws that can be rotated in. And at the end of the day, all that
21 remains is Figure 75.

22 JUDGE FITZPATRICK: Let me ask another question. You
23 know, you mentioned a moment ago an after-the-fact litigation-driven
24 strategy or something to that effect. And that is something that I thought
25 about, and I haven't phrased it that way in my head, but that the issue here, if

1 there's an issue for -- if there's a problem for Patent Owner, it's that they
2 didn't describe this concept up front of the differently -- of the threads
3 having a pattern that's different, the male and the female threads not
4 matching. However, they in fact disclosed an example of one. They just
5 never brought attention to that in the priority applications.

6 Assuming you don't disagree with me on that, or just assume that
7 you agree with me on that, then the question is, is this really an issue of
8 purely of written description and it has nothing to do with enablement?
9 Would you agree that it would be very easy for someone to immediately
10 envisage different -- threads that don't match? It's a very simple concept.

11 MR. REITBOECK: I can't quite agree with that, Your Honor. Let
12 me give you an example. I mentioned the reverse buttress thread, where the
13 threads are pointing the other direction. Now, Patent Owners assert that that
14 is described in the patent. I will show later that it's not, but let's assume that
15 a person of skill in the art could easily think of that. Mr. Leinsing, Patent
16 Owner's expert, testified in his deposition that this would work. Mr.
17 Brunski, our expert, and Patent Owner even pointed it out in the briefing,
18 couldn't quite make heads or tails out of this version and understand how,
19 even assuming it was described, this would come out in an actual extraction.
20 And when you look at it, it's unclear how, if you turn this around that the
21 screw would get stuck.

22 JUDGE FITZPATRICK: Yeah. Assuming that the tolerances are
23 the same, I see what your point is, that it's going to be really hard to yank
24 that thing out, without doing some damage or using a tremendous amount of
25 force. But I'm not too focused right now on putting all the features of the

1 claim together. I just want to -- and then having it work. I'm looking at just
2 the feature of the threads, like, for example, in Claim 1, threads in a pattern
3 that is shaped differently from a pattern of the threads of the definitive
4 screw.

5 That concept perhaps is missing from the priority applications, but
6 they appear to have disclosed a species that would fit within that genus. And
7 I guess my point is, I think it'd be very easy for me even, but for a person of
8 ordinary skill in the art to come up with threads that are shaped differently.
9 It's just a basic geometry point. At least that's my thinking right now, and
10 that the issue is really about written description, not enablement. In any
11 event, to the extent that that helps you with your presentation, that's what I'm
12 focused on.

13 MR. REITBOECK: Written description is certainly the focus here.
14 I agree with you on that. I can't quite agree that enablement is not really an
15 issue. We certainly agree that the two challenges rise and fall together, for
16 what it's worth, but I can't quite agree that a person of skill in the art would
17 immediately know which differently shaped pattern would work in this
18 environment. The reverse buttress set is one example. There might be other
19 examples, and we have no information either in the patent or anywhere else
20 how much force would be required to yank out which screw of which shape.
21 I think it's important to remember that we're in a context where there's a
22 patient in the dentist's chair with a freshly placed implant, so there's only so
23 much force you can use. And which thread shape would work and which
24 would not work, even though they might be differently shaped, we have
25 nothing in the record.

1 We think that several Federal Circuit cases support our conclusion
2 that there's no written description support. We mentioned the Tronzo case.
3 Let me also point out the Synthes case we cited, where the specification
4 related to intervertebral implants and described plates with so-called grooves
5 and channels. And then the accused product came to market and the Patent
6 Owners broadened the claim to just say openings. And the conclusion of the
7 Court was, and the Federal Circuit affirmed, that there was no written
8 description for that broader disclosure.

9 JUDGE FLAX: Patent Owner liked the Gillette case from the
10 Board. Why is that case applicable?

11 MR. REITBOECK: We think the Gillette case is not applicable
12 because the feature in question there the location of the legs in a razor
13 apparatus was not presented in the patent as the innovative structure, where
14 here the slot and the buttress thread are the two features that are described,
15 as I went over before, as the structural features that are key to this release
16 function. And that's the critical element, that the screw can be removed
17 axially with the coping and the prosthesis.

18 Now, one thing I'd like to mention, Patent Owner several times
19 said, well, Tronzo is distinguishable because the Patent Owner in those cases
20 asserted advantages over other shapes of what was at issue there, cup
21 implants. And they basically presented this as if there is no disclaimer, and
22 then Tronzo is not applicable because there was a disclaimer there. That
23 was sort of the thrust of the argument.

24 First of all, in Tronzo itself, when you read that case, the Federal
25 Circuit does not use the fact that the Patent Owner purported advantages of

1 this particular shape as a disclaimer itself. What they used it for is to say the
2 only shape they described was that cup shape -- that conical cup shape -- that
3 was at issue there. And moreover, to make things clear, in the Anascope
4 case that we cited, the Federal Circuit was crystal clear and said, this has
5 nothing to do with disclaimer, that doesn't need to be a disclaimer to find
6 against Patent Owner.

7 Similarly, in the '781 patent, SDC did not restrict itself to the
8 buttress thread that is disclosed, but broadened the claim language. Now
9 they speak of the temporary screw and the definitive screw making contact
10 with the implant abutment threads over a threading contact area, and the
11 threading contact area of the temporary screw is less than the one of the
12 definitive screw. And there are similar limitations in Claim 8 and Claim 10
13 then says that the shaft threading contour of the temporary screw does not
14 essentially match the implant abutment threads contour limitation. I will
15 come back to that later.

16 Now, and for the record, we're on Slide 20. Thank you. Now, in
17 the institution decision, the Board was of the opinion that we did not address
18 the claim language of this particular patent. So, let me try to address that.
19 What we did was to use a shorthand of a thread pattern that is different, and
20 we did tie this shorthand to the actual claim language in the petition.

21 Slide 21 shows an excerpt from our petition where we did just that,
22 where we tied that shorthand to the convoluted language of the claims. And
23 as shown on Slide 22, we did the same, again, in the context of the actual
24 written description analysis in Ground 2. Slide 22 shows an excerpt from
25 page 40 of our petition in the PGR case.

1 Now, that use was consistent with the Patent Owner's usage. Slide
2 23 shows excerpts from Patent Owner's response. This is in the context of
3 the written description issues where SDC first summarized the independent
4 claims as describing temporary fasteners with thread contours that are
5 different from the definitive screws and/or the abutments. And then they go
6 through the different species they allege are embodiments of the claims, and
7 for each one of them, they say that the threads are different than the
8 definitive screws' threads.

9 Similarly, in the context of obviousness, they now talk about the
10 concept of mismatch. Same concept, different word. Also, words that's not
11 part of the claims. Our shorthand was also consistent, in our opinion, with
12 prosecution history. There, SDC argued that the features of less surface area
13 and less material volume, which we see in the claims, are inherent results of
14 the thread profile of the temporary screw being different from the one of the
15 definitive screw. So, based on all that, I hope that that clarifies what we did
16 in the petition. In our view, we did address the claim language.

17 I'm looking at Slide 26. That brings me to SDC's main
18 counterarguments. As you mentioned before, SDC points to various alleged
19 species that are showing the different thread pattern, and they argued that
20 those three embodiments illustrate both, a representative number of species,
21 as well as structural features that are common to the members of the genus,
22 which is the legal test.

23 Now, in sum, none of the alleged species support the claim
24 limitations related to the thread geometry. First, they argue that the
25 specification describes temporary screws with asymmetric threads generally.

1 We think that's incorrect. The only asymmetric thread that is actually
2 disclosed is the one of Figure 75. And in particular, SDC points to the
3 language we see on Slide 26 from the patent -- from the paragraph that is
4 about Figure 75, where the patent says that the threads could be designed to
5 provide engagement with the implant abutment threads through axial motion
6 in the opposite direction to the arrow shown in Figure 75. But rotation to a
7 design torque on engagement is generally preferred.

8 JUDGE FLAX: So, that one would be pushed in?

9 MR. REITBOECK: Yes.

10 JUDGE FLAX: And then could not be pulled out? Would be --

11 MR. REITBOECK: Well --

12 JUDGE FLAX: -- rotated out?

13 MR. REITBOECK: I think your question assumes that the threads
14 would be reversed. And one thing --

15 JUDGE FLAX: Right, that one --

16 MR. REITBOECK: -- I want to point out, that the patent doesn't
17 say that. The patent says that the threads could be designed so that the screw
18 can be pushed in. Whether the threads are reversed, as we see in the figure
19 on the right on Slide 26, it's not in the patent, it's a figure SDC's expert came
20 up with, or whether the threads are just shallow angles on both sides, we
21 don't know. Or if it's different, we don't know. The patent doesn't say. The
22 patent merely says that this is pushed in. Okay.

23 So, in our view, it does not describe reverse buttress thread, and it
24 certainly doesn't describe how this thing would come out. And I can answer
25 that question. How would this thing come out? It would get stuck. But I

1 think the bottom line is that this embodiment, this version, is clearly
2 described as being axially pushed in, whereas the claims require the screw to
3 be rotated in. So, this alleged species cannot support the claim scope.

4 Next, SDC argues that the specification describes -- and I'm
5 looking at Slide 28 -- the specification describes, on the one hand, temporary
6 screw with symmetric threads, which we see on the right of Slide 28, Figure
7 70 from the patent. And they say the patent also describes the Figure 75
8 temporary screw with a slot. And then they say these could be combined to
9 arrive at the figure that we see in the middle of Slide 28, the middle figure.
10 And because it has a slot, the thread profile would be different.

11 Now that argument fails too because Patent Owner cannot show
12 written description by picking and choosing elements from different
13 embodiments that are never linked. The claimed subject matter must be
14 described in the specification as an integrated whole, and the boilerplate
15 statement that SDC relies on, which is just about every patent, cannot
16 change that outcome. So, this alleged species cannot support the claim
17 scope either, which brings us to the interference fit embodiment. That's the
18 third alleged species.

19 SDC argues that the specification describes a so-called interference
20 fit temporary screw. They present the figure on the right, which, again, is
21 not in the patent, but was created by SDC's expert and they rely on a
22 sentence towards the end of the specification that talks of this interference
23 fit. However, when you read that section in context, it is clear that this
24 interference fit version 2 is described as being pushed in, not screwed in, and
25 can therefore not support the claim scope either. So, at bottom, the only

1 thread profile the inventors disclosed which is, quote, different from the one
2 of the definitive screw is the asymmetric buttress thread shown in Figure 75.

3 Let me turn to the issue of the slots. As I discussed before, the
4 inventors described the Figure 75 embodiment as having a slot that results in
5 a split post bottom structure which, with deflecting legs and together with
6 the buttress thread, these deflecting legs allow for the temporary screw to be
7 pulled out of the abutment when the prosthesis and coping are removed.
8 And together with the buttress thread, the slot is presented as the allegedly
9 innovative structural feature here.

10 However, when SDC, Patent Owner, drafted the claims of the
11 patents at issue years later, they left out the slot altogether. The limitations
12 that relate to the release of the coping and the temporary screw from the
13 abutment does not mention the slot. Looking at Slide 34, it's not mentioned
14 in the claims of the '781 patent either. Slide 34 shows one of the
15 independent claims.

16 However, the specification does not describe an embodiment of the
17 claims which does not have a slot. There is no indication in the specification
18 that the inventors were in possession of an embodiment that did not have a
19 slot. Figure 75 is the only embodiment presented, and it has a slot, and it is
20 described as performing the critical release function because of the slot. The
21 specification therefore does not support the claim scope that leaves the slot
22 out.

23 We cited the ICU Medical decision of the Federal Circuit in
24 support of that conclusion, where the patent related to a medical valve and
25 described a spike being part of the medical valve and having a critical

1 function. And years later, patentees drafted new claims and left that spike
2 out. The conclusion was that a person of skill would not have understood
3 the inventors to have invented a spikeless medical valve, and therefore there
4 was a lack of written description.

5 Now, what are SDC's counterarguments? On the one hand, they
6 say, well, the slot is not important. It's not critical. That is just relied by the
7 specification. I went through these sections before. We see them on Slide
8 35. The specification describes both, the slot and the buttress thread, being
9 the structural features that allow for the removal. And that is also why the
10 cases I mentioned earlier -- the Gillette case is different. There, the feature
11 at issue was not presented as important to the invention.

12 Secondly, SDC, again, argues that the specification has
13 embodiments of the claims both with a slot and without a slot. SDC argues
14 that a person of skill in the art could have just left the slot out and instead,
15 make the threads deform to such an extent that this screw can be pulled out.
16 And SDC makes this argument by presenting the figure we see on the right
17 of Slide 36, which is not in the patent but was created anew. That is just not
18 enough. The fact that a person of skill could come up with that version, it's
19 not enough for written description, even if it would have been obvious to a
20 person of skill.

21 Now, SDC keeps pointing out that the screw can be made of
22 plastic, but even if we assume that it can be made of plastic, there's
23 absolutely no description that with the forces that are applied in this
24 particular scenario, the threads would deform at all of a plastic screw,
25 depends on the plastic. And more importantly, there's absolutely no

1 description that the threads would deform sufficiently for the screw to
2 actually come out. SDC also points to the interference fit version again and
3 argues, well, that doesn't have a slot. But as we saw before, and I'm looking
4 at Slide 38, the interference fit is a pushed-in, not screwed-in version, and
5 therefore cannot support the claim scope.

6 Looking at Slide 39, now, in the claims we discussed so far, the
7 structural features related to the critical release function was significantly
8 broader than what the inventors contributed. The slot was left out and the
9 thread geometry was recited, but broader than what the inventors had
10 contributed. Due to the thread geometry, there was some structure. In
11 Claim 6 of the '781 patent, Patent Owner no longer bothered to include any
12 of these structural features and just had a (INDISCERNIBLE) related to the
13 release function. It neither requires the thread pattern to be different, nor
14 does it require a slot.

15 Under Section 112, that is a problem from various angles. It is
16 indefinite under the Supreme Court, General Electric and Halliburton law,
17 and those might be not the most recent cases, but they're still good law,
18 which is also shown by the Board's recent Jelinek case that we cited in our
19 briefing. The claim is also not sufficiently described, and it's not enabled,
20 and that is supported by the Board's Miyazaki and Wong cases.

21 Now, it's interesting to note that in the preliminary response, SDC
22 argued that this type of claiming is allowed under the means-plus-function
23 regime of Section 112(f), but did not quite state clearly whether it thinks this
24 is a means-plus-function limitation. And then the Board in the institution
25 decision said just as much and said if Patent Owner wants to argue that this

1 is a means-plus-function limitation, it should say so, and the parties should
2 develop this for trial. Patent Owner did not argue that in their response.

3 JUDGE FLAX: How do you respond to the Swinehart case that
4 seems to be adopted by the office at large and the Federal Circuit? And they
5 say that it's okay to claim things functionally, generally speaking, but it may
6 open your claims up to a very broad interpretation.

7 MR. REITBOECK: I think functional claiming, to my
8 recollection, is allowed if the correlation to a structure is well known and
9 established to a person of skill in the art. That's not the case here, and the
10 SDC never argued that. And so, if that's not the case, we are right in the area
11 of what the Supreme Court called the vice of functional claiming. When
12 you get to the critical novel feature, here the release function, you refrain
13 from claiming structural elements, but you just say it functionally and
14 thereby, try to cover everything and anything that does that function.

15 And one of their counterarguments -- one of SDC's
16 counterarguments, is, well, look at all these other limitations in the claim.
17 Those are structural, at least that's how I understand the argument. That
18 argument has been rejected by the Supreme Court in the General Electric
19 case we cited, and the very quote that is the famous quote, they said,
20 (INDISCERNIBLE) of a functional claim exists not only when a claim is
21 wholly functional, if that is ever true, but also when the inventor is
22 painstaking when he recites what has already been seen and then uses
23 conveniently functional language at the exact point of novelty, and that
24 applies here.

25 Let me turn to the issue of obviousness. To summarize the key

1 prior art references briefly, as I discussed before, various people in the field
2 came up with this concept of having a temporary connection that can be
3 pulled off rather than unscrewed, and Bernhard discloses such a connection
4 in the form of a snap-fit connection. The Poovey prior art reference also
5 describes such a temporary connection but uses a thread with flexible
6 threads, and that screw can be screwed in but then pulled out.

7 As our expert explained, person of ordinary skill in the art would
8 know that a buttress thread as compared to a symmetrical thread make a
9 screw easier to pull out. That is confirmed by the Gracco study. By the
10 way, this corresponds to what the Patent Owner argued before the
11 institution, when they moved for discretionary denial, when they argued that
12 Gracco is cumulative because it does not teach anything more than inherent
13 geometry. That's probably true, that this is inherent geometry, and the
14 POSA would know that.

15 JUDGE FLAX: So, does that inherent geometry counter their
16 argument that Gracco is screwing their screws into bone rather than a
17 threaded bore?

18 MR. REITBOECK: Our obviousness case does not include that
19 the screw what is called a self-tapping screw. The geometry of a buttress
20 thread makes the screw easier to pull out, and that's true whether you're
21 dealing with a self-tapping screw or you're dealing with the screw of our
22 obviousness case. So, we're not using Gracco for the point about the self-
23 tapping aspect. Gracco is relied on and it just confirms the teaching that a
24 buttress thread makes the screw easier to pull out. And that is confirmed in
25 this study.

1 And lastly, Derey describes a holding device with the deflecting
2 legs, which can be pulled out of an internal thread. Now, as I said before,
3 the snap-fit connection of Bernhard already allows for axial removal. A
4 person of ordinary skill in the art would have been motivated to modify that
5 snap-fit connection by using the teachings of Poovey, Gracco, and Derey.
6 First, using a temporary screw with flexible threads, like in Poovey, instead
7 of the snap-fit connection, would make the temporary connection more
8 stable. It will also be more straightforward since Bernhard already has an
9 internal bore, threaded bore, that can be used for the screw. And then a
10 person of skill in the art would also seek to reduce the force that is required
11 to pull out the screw.

12 In other words, make it easier to pull out the screw. And both, the
13 buttress thread teaching increases that ease of removal, as well as the Derey
14 concept of the deflecting legs would make it easier to pull out the screw.
15 And for the record, I'm looking at Slide 45. And a person of skill would also
16 have had a reasonable expectation of success in making these modifications,
17 and that is undisputed.

18 Looking at Slide 46, I will turn to SDC's counterarguments. First,
19 they assert that the concept of mismatching the threads between the
20 temporary and the definitive screw is the invention, the innovation. It is
21 what they call the creative spark. And then they assert that none of the prior
22 art references teach that mismatch concept.

23 Now, first of all, as I discussed before, the patents at issue do not
24 teach that mismatch concept either. It's an afterthought. Legally, in this
25 context, their argument is just wrong. Our obviousness challenge is based

1 on a combination of prior art references, and arguments that attack the
2 disclosures of references individually lack merit. Likely aware of that legal
3 standard, SDC also argues that the references do not teach the mismatch
4 concept in combination, and that is just factually incorrect, as our expert
5 carefully explained. The temporary screw that is based on the teachings of
6 Poovey and Gracco would have had buttress threads, and those would have a
7 different thread profile than the definitive screw in Bernhard. And for the
8 record, I'm looking at Slide 47.

9 Secondly, SDC argues that if you combine Bernhard with the
10 Poovey screw, there's no need to add buttress thread of Gracco or the
11 deflecting legs of Derey. Essentially, the SDC argues that once you're -- you
12 combine Bernhard and Poovey, all problems are solved and you're done.
13 However, the reduction of the required pullout force of making it easier to
14 pull the screw out, it's not a binary issue that at some point is solved. It's a
15 matter of degree. And a person of skill would be motivated to reduce the
16 required pull-out force as much as possible, as long as stability is
17 maintained, the easier the screw -- the easier it is to pull out the screw, the
18 better.

19 And it's worthwhile to envision the scenario, and I mentioned this
20 before, where these components are actually used. There's a patient who had
21 a dental implant surgically installed, sometimes on the very same day, and
22 now the dental practitioner installs, and as relevant here, removes
23 components that are all indirectly connected to that implant. Of course, all
24 of this should be done as gently as possible so that the freshly placed implant
25 remains stable and does not injure the patient.

1 Both, Bernhard and Poovey, expressed this very consideration.
2 Bernhard says, as we see on Slide 48, that the threshold to overcome the
3 connection should be chosen so that injury to the patient's bone is avoided.
4 Later also says that is particularly important shortly after surgical
5 implantation of the implants. That's in paragraph 67 of Bernhard, which is
6 Exhibit 1003, and Poovey expresses the same consideration. He says that
7 the flexible through screws should be pulled out with low resistance, such
8 that it is not difficult for the dental professional and does not cause pain or
9 stress to the patient.

10 And that goal to reduce the required removal force as much as
11 possible is precisely what would have motivated a person of skill to
12 incorporate buttress threads and deflecting legs into the flexible temporary
13 screw. As our expert Dr. Brunski explained, a person of skill would have
14 been motivated to use buttress threads to make the screw easier to pull out,
15 and the person would also have been motivated to use Derey's deflecting
16 legs to make the screw easier to pull out. And for the record, I'm on Slide
17 49.

18 Let me be very brief on the issue of objective indicia. In the inter
19 partes review, SDC initially argued objective indicia. We pointed out in our
20 reply brief that SDC has not established nexus, mainly because all of their
21 secondary considerations are based on either their commercial product,
22 which is not an embodiment of the claims at issue, or on the accused
23 product, for which infringement is, of course, disputed, and SDC did not
24 prove nexus. And in the IPR, these arguments sort of faded away in the
25 surreply. SDC essentially abandoned these arguments and says that the

1 Board need not even reach objective indicia because there's no prima facie
2 case of obviousness. In the post-grant review proceedings, SDC did not
3 even argue objective indicia in its response at all.

4 I'm running out of time, but let me briefly mention that on the
5 other Section 112 issues, the claim limitation -- and I'm looking at Slide 51
6 -- that requires the shaft threading contour to not essentially match the
7 implant abutment thread's contour is indefinite. And let me mention that it
8 was, as we developed in our briefing, the specification has an express
9 definition that says that the term essentially means plus minus 10 percent.
10 There's absolutely no guidance how this definition would apply to a
11 threading contour. SDC tries to run away from this definition, but it's there
12 and it is the main reason why this claim is indefinite.

13 And lastly, Claims 1, 6, and 8 of the '781 patent recite that the
14 threads of the definitive screw are configured for securing the coping to the
15 threads of the implant abutment. I'm looking at Slide 52. There's no written
16 description support for this. Patent never describes the coping being secured
17 to the threads of the abutment. In its response, SDC says we're being
18 pedantic and it's all the same. What they are essentially asking you to do is
19 to rewrite these claims to delete the reference to the threads of the abutment,
20 and that's not allowed. And if we're being pedantic, so be it. As between a
21 patent Applicant who is sloppy in drafting claims and the public who takes
22 the patentee at their word, the law sides with the public, and therefore this
23 claim is invalid for lack of written description. With that, I will yield the
24 floor to my colleague. Thank you very much.

25 JUDGE FLAX: Hi, Counsel. Did you want to reserve any time

1 for rebuttal?

2 MR. GIBBONS: Yes, Your Honor, 20 minutes.

3 JUDGE FLAX: Okay, when you're ready.

4 MR. GIBBONS: Good morning, Your Honors. John Gibbons for
5 Patent Owner, Smart Denture Conversions. We're on Slide 2. Broadly
6 speaking, there are three principal issues that we want to address before the
7 Board today. First, written description. In the IPR, Grounds 1 through 3
8 collapse because Kofford is not prior art based on the written description,
9 and the PGR, the '781 specification, supports the claims. So, that's issue 1.

10 Issue 2 is the prior art and obviousness issue. None of Petitioner's
11 references, alone or combined, supplies the central inventive concept
12 -- different temporary fastener threading that still engages the same female
13 abutment threads, holds alignment at a predetermined torque, and then
14 releases axially without damaging those threads. Without that inventive
15 concept, which is expressed in each independent claim's limitations, no
16 combination can satisfy all of the limitations.

17 And third is indefiniteness. Petitioner challenges some, but not all
18 of the '781 patent claims as indefinite, and we'll explain why that's incorrect.
19 Slide 3. For convenience, this slide maps our three overarching points to the
20 grounds in each petition. IPR Grounds 1 through 3 and PGR Ground 2 rise
21 and fall on the written description and priority date issues. The next bucket
22 of grounds, labeled 2, deals with the prior art and obviousness challenges.
23 And finally, the indefinite challenge deals only with PGR Ground 3.

24 Slide 4. So, let me start with the clinical background and the
25 procedure mechanics, because the written description, prior art, and

1 indefinite disputes all become clearer if we keep in mind the conversion
2 procedure. Slide 5. This slide shows an overview of the process of
3 converting a temporary prosthesis to a provisional permanent one, which is
4 attached to the implants in the jawbone.

5 Dr. Kofford has been a practicing prosthodontist for decades now.
6 The prior techniques for converting a temporary denture into a permanent
7 one involved what were called closed tray and open tray techniques. One
8 was cumbersome and time-consuming. That's open tray. The other
9 struggled with accuracy. That's closed tray. Those drawbacks were known
10 long before this patent. Kumar was describing the open and closed tray
11 alternatives in 2001, and Poovey was still addressing the same trade-off in
12 2016. So, Dr. Kofford's stroke of genius came from his frustration with
13 those existing procedures. And as a result, came up with the pull-out
14 threaded temporary fastener.

15 Here's how a procedure with one such fastener works, as shown in
16 both patent specifications. Starting with Figures 4 and 5, the implant is
17 screwed into the jawbone. That's 70 in Figure 5. The implant abutment,
18 which is marked with blue, is attached to the implant. The coping, marked
19 with orange, is placed on top of the abutment, and it's screwed on with a
20 temporary fastener marked in yellow. Then the prosthesis, which is a false
21 tooth, a denture arch, is attached to the coping with glue or acrylic material,
22 sort of cemented on, essentially.

23 Once that sets, what comes next is known as the pickup process,
24 which you can see in Figure 6. The temporary fastener, yellow, is designed
25 to separate the cap from the post and release the denture without being

1 unscrewed. Then in Figure 9, we see the definitive screw, which is marked
2 in blue-gray, is inserted in the same female abutment threads to permanently
3 attach the prosthesis to the same abutment.

4 Slide 6. The clinical payoff of this invention is not abstract. The
5 record describes how a conversion procedure with this system takes roughly
6 30 minutes rather than about two hours or longer, with smaller pilot or screw
7 access holes in the denture itself, resulting in a stronger prosthesis. It also
8 results in better contours and better occlusion. Occlusion meaning the fit
9 when the patient closes their mouth, how the dentures fit in a closed
10 jawbone, while still using a closed tray pickup for the convenience and
11 speed. The temporary fastener is stable enough to be torqued in and hold the
12 coping in the same alignment with the same force and direction as the
13 definitive screw ultimately will, but its contact with the female abutment
14 threads is limited or otherwise shaped so that axial removal does not require
15 unscrewing.

16 Moving to Slide 7. Now, the diagrams on the previous Slide 5,
17 including Figure 4 here again, show how the invention would work with a
18 temporary fastener that has a separable cap, which is one version Dr.
19 Kofford invented. The same process is used for a single-piece fastener like
20 the one we see here in Figure 75. The temporary fastener is torqued into the
21 implant abutment to hold the coping in alignment along the same axis and
22 with the same force as the definitive screw.

23 JUDGE FLAX: Counsel, is 75 the only embodiment where the
24 cap doesn't disengage?

25 MR. RIBBONS: Well, I wouldn't limit it to Figure 75. Figure 75

1 is an illustration of what's described in the written descriptions.

2 JUDGE FLAX: Are there other embodiments where the cap
3 doesn't come off?

4 MR. GIBBONS: Not in the drawings, Your Honor.

5 JUDGE FLAX: Okay.

6 MR. GIBBONS: So, the temporary screw is torqued into the same
7 abutment, and afterwards it's used to pull out, preserving the abutment
8 threads for the definitive screw that comes later.

9 Slide 8. So, here is the inventive concept, which is expressed in
10 each independent claim's limitations. And I want to state it precisely
11 because it is critical to each issue. The temporary screw has a thread pattern,
12 a thread profile, a thread configuration or contour, depending on the specific
13 independent claim language. That differs from the definitive screw's male
14 threads and from the matching female abutment thread geometry.

15 JUDGE FLAX: Are those things the same or are they different?

16 MR. GIBBONS: Well, they're each slightly different. That's why
17 the different claims are phrased differently.

18 JUDGE FLAX: Can you explain the difference between a pattern
19 profile and configuration, please?

20 MR. GIBBONS: Well, for example, you could say an asymmetric
21 thread has the same pattern, whereas if it has a slot, it would have a different
22 profile or configuration. Does that make sense? So, an asymmetric buttress
23 or asymmetric buttress thread that's slotted may have the same pattern or
24 may have a different pattern than -- or it may have a different profile than
25 one without a slot, and vice versa.

1 JUDGE FLAX: Okay, I understand.

2 MR. GIBBONS: Because the temporary threading does not fill or
3 engage the female geometry in the same continuous way as the definitive
4 screw, the coping and temporary fastener release axially without unscrewing
5 and without destroying the abutment threads. So, this isn't a minor
6 difference. It's the geometry that makes these functions possible, and it's
7 reflected in each independent claims limitation.

8 So, looking at a couple of independent claims, for example, we're
9 on Slide 9. This is '992, Claim 1. I won't read every word, but I want to
10 show why it can't be reduced to different and release like the Petitioners
11 would like. The claim language sets out multiple structural and functional
12 limitations that define in detail the claimed temporary fasteners. I believe
13 Petitioner called these convoluted. I would call them detailed. The system
14 has four distinct components shown in yellow -- a threaded implant
15 abutment, a definitive screw whose male threads engage that abutment, a
16 coping, and a temporary screw. Then it describes how those four
17 components will work together.

18 Limitation G requires the temporary screw's distal shaft to have
19 threads in a pattern shaped differently from the definitive screw's pattern.
20 Limitation H tells us what those threads must do. It's rotatable in the distal
21 direction, engages the same implant abutment threads to a predetermined
22 torque, and causes its proximal head to hold the coping in alignment.
23 Limitation I completes the sequence. An axial force in the proximal
24 direction releases the coping and temporary screw.

25 Slide 10. Similarly here, limitation G requires a shaft sized and

1 configured for rotary engagement with the implant abutment threads.
2 Limitation H requires an engagement depth at a predetermined torque that
3 holds the coping in alignment before the definitive screw is attached.
4 Limitation I requires release of at least part of the temporary fastener and the
5 coping as a unit under the axial release force. J says the distal shaft does not
6 engage the abutment threads continuously, and K compares the temporary
7 threading contact area with the larger contact area created later by the
8 definitive screw. So, just as with the '992 claim --

9 JUDGE FLAX: So, when it recites that -- the threads don't engage
10 the implant abutment threads continuously -- what are some examples of that
11 disclosure?

12 MR. GIBBONS: Well, for example, a slotted fastener wouldn't
13 engage the threads continuously.

14 JUDGE FLAX: Okay. Is that the only structure that doesn't do
15 that, or does that, I guess?

16 MR. GIBBONS: I can't speak to whether that's the only one.
17 That's the first one I have in mind, but just as with '992, Claim 1, these claim
18 limitations describe the components, their geometry, and the resulting
19 function in detail -- where they touch, how deeply they engage, how much
20 torque they carry, and why they disengage axially.

21 So, Slide 11, turning to the first issue, which is written description.
22 I want to begin with the governing standard, then explain why the
23 preliminary scope assumption the Board made at Petitioner's encouragement
24 made the claim genus appear broader than it actually is. And finally, we'll
25 walk through the written description, the accompanying Figure 75, which is

1 illustrative, as well as the additional disclosed species. The written
2 description question is context-specific.

3 Your Honor, you asked, where's the line between where a claimed
4 genus is too generic for a single species. You asked, how do you draw the
5 line there? The Ariad case from the Federal Circuit says we look at whether
6 the disclosure reasonably conveys possession. The disclosure may do so
7 with a representative number of species or by structural features common to
8 the genus. And they must let a POSA visualize or recognize the members of
9 the genus. So, that's the line. Now, it's context-specific, obviously. It varies
10 depending on the predictability of the art.

11 For example, as Your Honor alluded to, the genus case -- or the
12 Juno case, sorry -- explains that the requirement for disclosure goes up, as
13 the art is more unpredictable. For example, in Juno, it was a life sciences
14 genus containing millions of unknown molecules that were being claimed.
15 This is a predictable mechanical art, just like Your Honor said. It's pretty
16 simple. It's a simple concept. Screws have been around since ancient
17 Greece or older. This isn't Juno trying to claim millions of unknown
18 molecules. The Board's Gillette decision recognizes that in these predictable
19 circumstances, less disclosure is required to claim a genus.

20 JUDGE FLAX: So, I hear you saying that this isn't the situation
21 where millions of unknown molecules --

22 MR. GIBBONS: Sure.

23 JUDGE FLAX: -- are being claimed. But when you say that some
24 -- this is different than that --

25 MR. GIBBONS: Um-hum.

1 JUDGE FLAX: -- which is essentially what the claims say, I
2 mean, aren't there infinite differences that are possible, based on just that
3 generic language? I mean, it's more than a million molecules. It's any
4 conceivable difference. Why is that not too much?

5 MR. GIBBONS: Well, because going back here to the patent
6 claims, it's not just that they're different. It has to satisfy all of these claims.
7 And so, these claims set out in detail, with the multiple functional and
8 structural applications, exactly what this temporary screw has to look like
9 and how it has to interact with these. So, it's not --

10 JUDGE FLAX: It's not just the thread geometry that allows it to
11 be pulled out, according to your arguments, because you say sometimes it
12 could be just flexible, sometimes it could be some kind of an interference --

13 MR. GIBBONS: Yeah.

14 JUDGE FLAX: -- or something else --

15 MR. GIBBONS: Absolutely.

16 JUDGE FLAX: -- potentially. So, those functional limitations are
17 not directly tied to the different thread pattern per se, right?

18 MR. GIBBONS: Well, so it says the temporary screw has threads
19 in a pattern that is shaped different from a pattern of the threads of the
20 definitive screw, wherein -- so, and here's what narrows it a little bit -- is
21 rotatable in distal direction. So, it has to go into the abutment --

22 JUDGE FLAX: Um-hum.

23 MR. GIBBONS: -- and then it has to hold the coping in alignment,
24 and then it has to release the coping in the temporary screw.

25 JUDGE FLAX: Right.

1 MR. GIBBONS: And so, those functional and structural
2 limitations tell the POSA what this kind of a screw needs to look like.

3 JUDGE FLAX: So, then why do we care if it can be plastic? Why
4 does that make any difference if it's the different thread pattern that matters?

5 MR. GIBBONS: Well, because a plastic screw is disclosed in the
6 priority applications. Let me go forward. So, with your indulgence, let me
7 kind of move into the answer to your question, if that's okay. I'm going to
8 Slide 14. So, the Ariad case does not require a patent to enumerate every
9 possible embodiment. It asks whether the disclosure reasonably conveys
10 possession. In a predictable and mechanical field under Epistar, Hynix,
11 Gillette, Busch, those cases explain that one species can be enough in a
12 predictable field.

13 Counsel conceded here today that this is a predictable field, and we
14 agree that these are simple, straightforward concepts. Gillette is particularly
15 important because it is similar to the procedural posture where the Petitioner
16 was arguing a priority date -- was arguing written description via the priority
17 date. And the claim language at issue in Gillette was similar -- or sorry, the
18 specification language was similar in important ways, in the way it allowed
19 for variations. Just one disclosed embodiment was adequate disclosure of a
20 broader genus in Gillette, and for the same reason, it's sufficient here.

21 JUDGE FLAX: But in Gillette --

22 MR. GIBBONS: In Gillette -- oh, I'm sorry. Go ahead.

23 JUDGE FLAX: -- it was pretty specific. The legs of the shaver
24 were actually illustrated as claimed. So, isn't that a distinction?

25 MR. GIBBONS: It's a distinction, but I don't think it undercuts our

1 argument in the sense that they were illustrated as claimed. And here we
2 have written description that describes a broader set of fasteners and then
3 gives as one example of those fasteners Figure 7.

4 JUDGE FLAX: Right. But you're not claiming I mean, the thread
5 pattern that's shown in Figure 75, per se.

6 MR. GIBBONS: That's right.

7 JUDGE FLAX: Or the slot that's shown in Figure 75, per se.

8 MR. GIBBONS: Well, and Figure 75 isn't the only fastener
9 disclosed in the written description. So, here, this language right here on
10 Slide 15, it says, for example, as shown in Figure 75. So, Figure 75 is one
11 example. Here's the disclosure. An alignment fastener post may contain a
12 separable threaded or serrated portion that engages the screw threads in the
13 abutment for pickup, but will release with axial force after.

14 Now, in discussing Figure 75 later, it says this particular
15 convenient illustration is shown as having a slot 41 and asymmetric threads
16 or serrations. And then it describes the function of the asymmetric
17 threading. The asymmetric threading still allows the temporary attachment
18 post to be inserted through rotation, and it may be subsequently extracted
19 with the separation force.

20 So, this isn't describing buttress threads, and Petitioner said this
21 several times in the argument. This is broader than -- the claims are broader
22 than the buttress threads shown in Figure 75. Well, Figure 75 is an example
23 of a broader disclosure itself. Figure 75 is just one example of a separable
24 threaded portion. And a POSA would know that threading can be
25 asymmetric. They would know that they can have different categories of

1 asymmetric or symmetric threads, as Dr. Brunski conceded in his deposition.

2 JUDGE FITZPATRICK: If you could stay on this slide for one
3 moment.

4 MR. GIBBONS: Sure.

5 JUDGE FITZPATRICK: The description that you're describing is
6 broader here. That's not the actual language from the claim. None of that
7 recites the genus that we're talking about.

8 MR. GIBBONS: That's correct.

9 JUDGE FITZPATRICK: And so, my question is -- thank you for
10 confirming. My question is, those cases that you were citing previously
11 where a single species can suffice are -- in any of those cases, do we have a
12 situation where the genus was not recited in the specification? That's what
13 we have here. We don't have the genus cited in the specification of the
14 priority applications. And so, do you have a -- is there any case that's
15 analogous to this situation here?

16 MR. GIBBONS: Well, I don't think there's a requirement that the
17 genus be explicitly recited in the same words that it appears in the later
18 claim limitations. I think that's the -- there's a --

19 JUDGE FITZPATRICK: So, are you saying that -- what is the
20 non-ipsimus verbis description of the genus? It sounds like you're implying
21 that it is described in the specification of the priority application, just with
22 different words.

23 MR. GIBBONS: Well, there's no requirement to describe it with
24 the same words, and this is a description of a species within that genus that
25 is sufficient to claim the broader genus.

1 JUDGE FITZPATRICK: Right, I want to focus on genus. I want
2 to focus on genus. Is there a description? The first question was, is there
3 case law that is analogous to the current situation, which I'm going to tell
4 you I think this is the situation --

5 MR. GIBBONS: Sure.

6 JUDGE FITZPATRICK: -- that the priority applications don't
7 describe the genus. You, instead of answering that question directly about
8 whether there are such cases, or if you know of a case, you instead implied
9 that that is not the situation here because we have a description of the genus
10 in the priority application, albeit using different words. And now my
11 question then is, what is that description specifically? Can you quote the
12 description from the priority application of the genus, not of the species?

13 MR. GIBBONS: Oh, well, apologies, Your Honor. I think I must
14 have misspoke. I don't think we can claim that the broad genus is disclosed
15 in the same words in the specification, and that's not our argument.

16 JUDGE FITZPATRICK: It's another qualification. You keep
17 saying that in the same words. What about not in the same words?

18 MR. GIBBONS: Well, no, not in the same words either. Our
19 argument is that this disclosure of a species is sufficient.

20 JUDGE FITZPATRICK: Understood. Thank you.

21 MR. GIBBONS: Yeah. Petitioner's arguments only work if they
22 treat Figure 75 as limiting, but the specification specifically says drawings
23 for the purpose of illustrating certain convenient embodiments are not to be
24 considered as a limitation. This is also why Petitioner's primary cases,
25 Tronzo and ICU Medical, and the Anascape case are irrelevant here.

1 In Tronzo, the patent disclosed a single conical shape for a hip
2 replacement cup, and it went out of its way to characterize alternative shapes
3 as inferior prior art and contrary to an extremely important aspect of the
4 invention. In that situation, the Federal Circuit said the single disclosed
5 embodiment could not support claims for the inferior shapes that were kind
6 of pushed to the side in the specification. In ICU Medical, the spike
7 structure that was omitted from the claims --

8 JUDGE FLAX: Well, not just the inferior shapes. It couldn't be
9 broad enough to include the other shapes.

10 MR. GIBBONS: Other shapes, yeah.

11 JUDGE FLAX: Yeah. So, it wasn't specifically excluding those
12 discredited or things that were described as inferior, but they said that the
13 claims could not be interpreted broadly enough to extend to other
14 embodiments that might be those other shapes.

15 MR. GIBBONS: Yes, I think I can agree with that.

16 JUDGE FLAX: Okay.

17 MR. GIBBONS: So, in ICU Medical, the spike structure for the
18 valve, it was omitted from the claims because they wanted to claim a kind of
19 a rod or a tube, but the spike appeared in every disclosed valve in the
20 specification, and there was no disclosure explaining how the invention
21 could work without the disclosed valve. But here, the text affirmatively
22 invites and describes variations in thread profiles, materials, and release
23 mechanisms.

24 Because like I said, we have separable threaded portion,
25 asymmetric threads, asymmetric threading. There's nowhere here that says it

1 has to be the buttress thread shown in Figure 75. That's just importing
2 limitations from the specification to the limitation -- to the claims. Now, in
3 these circumstances, like we said, the law only requires a single disclosed
4 species to support the claims. The written description, one example of
5 which is Figure 75, adequately supports the full claim scope of the genus.
6 Even if more disclosure were required here -- we're on Slide 17 -- the written
7 descriptions in the priority applications provide it with temporary fasteners
8 with asymmetric threads, with or without slots. Figure 75 is one example.

9 JUDGE FLAX: So, how could that be pulled out?

10 MR. GIBBONS: Well, let me explain it.

11 JUDGE FLAX: The symmetric threads.

12 MR. GIBBONS: I'm sorry?

13 JUDGE FLAX: The ones with the symmetrical threads.

14 MR. GIBBONS: Okay.

15 JUDGE FLAX: How is that explained that they could be pulled
16 out?

17 MR. GIBBONS: So, we're on Slide 19. Here's where slotted
18 temporary fasteners with symmetrical threads comes from. So, you start
19 with that same disclosure as before, says it may contain a separable threaded
20 or serrated portion that engages the screw threads in the abutment for
21 pickup. That doesn't say you have to use asymmetric threads. Later, it says
22 a polymer post and a fastener may be included in this. And then it says in
23 some embodiments, the threaded end of the post --

24 JUDGE FLAX: In that embodiment, the one with the serrated ribs,
25 how does the polymer relate?

1 MR. GIBBONS: Oh, yes. So, we're combining these portions of
2 the disclosure. This is how a POSA would read this. So, they would say
3 that it can be a threaded or serrated portion. They would also see that it can
4 be made out of a polymer. And then they would see in this third paragraph
5 in the disclosure, it says, in some embodiments, the end of the post can have
6 a deflecting feature. That's one example is a split post, but not all
7 embodiments have to have that. It's not required. And a POSA would know
8 that you just take the threaded and the polymer portions, and that enough is
9 what you need to get to the function of screwing in, holding to a
10 predetermined torque, and then releasing axially without unscrewing.

11 Dr. Brunski called the combinability language in the specification
12 that these features can be combined in any appropriate manner, he called it
13 boilerplate. But even Dr. Brunski, Petitioner's expert, ultimately admitted
14 that following those instructions, it is part of the process of reading the
15 disclosure. And for this and the interference fit, Petitioner focuses on the
16 demonstrative drawings of these disclosed embodiments that Mr. Leinsing,
17 our expert, prepared in connection with his declaration. And they emphasize
18 that Mr. Leinsing's drawings are not themselves in the specification. And of
19 course they aren't. Mr. Leinsing himself in his declaration said they aren't,
20 but that's beside the point because Mr. Leinsing's drawings are part of his
21 expert testimony.

22 They are evidence in the record that shows these written
23 descriptions satisfy Ariad. Because remember, the Ariad case asks whether
24 disclosure is enough to allow a POSA to visualize the members of the genus.
25 So, what Mr. Leinsing did was he looked at these disclosures and he drew

1 what he was visualizing. So, that's exactly what Ariad requires, and these
2 drawings, the ones that Petitioner says aren't in the specification, and of
3 course they aren't -- those drawings are evidence that a POSA can read the
4 written description and then visualize or recognize the broader genus.

5 And then the last species that's disclosed is moving here to Slide
6 20, the interference or press fit. And again, a POSA says -- he takes the top
7 paragraph, the disclosure, he says it's a threaded or serrated portion. He
8 says, okay, polymer posts and fasteners. Okay, we can make it out of a
9 polymer. Now, an interference fit between the bottom of the post with the
10 threads may also be designed to provide sufficient engagement to provide
11 adequate alignment. Now, of course, a couple sentences before that, it talks
12 about push-in axial insertion, but a POSA would know that an interference
13 fit doesn't require axial insertion, and it can easily be screwed in like the
14 -- it's what Dr. Brunski called the Leinsing post -- that screw -- it's a cylinder
15 and it's screwed into the threading and it releases -- or I'm sorry -- the elastic
16 deformation creates narrow shallow threads through relaxation.

17 Now, Petitioner says this isn't described, but Petitioner's own
18 expert disagrees. Brunski, in the deposition said, yeah, it's certainly
19 describing it. It's described here. He said, it's hard for me to imagine that,
20 but I would submit that goes more to Dr. Brunski's lack of familiarity with
21 these fasteners than to what's being disclosed.

22 JUDGE FLAX: How do we know that the interference fit gets
23 screwed in?

24 MR. GIBBONS: Well, I mean, like Petitioner was saying, these
25 kinds of procedures are done on freshly inserted implants. And so, you don't

1 want to be jamming it straight down into the jaw. It would be very painful
2 and it could hurt.

3 JUDGE FLAX: Isn't that what one of your -- I mean, you have
4 embodiments that do that, right? Like the one with the reversed serrations
5 that's got an arrow in your drawings that points in, right into where the
6 jawbone would be.

7 MR. GIBBONS: Yeah.

8 JUDGE FLAX: And that's pushed in, right?

9 MR. GIBBONS: Yeah, so there are push-in fasteners disclosed,
10 but it says that --

11 JUDGE FLAX: But this one doesn't get pushed in?

12 MR. GIBBONS: -- insertion through rotation is preferred.

13 JUDGE FLAX: And not for the interference fit? That's screwed
14 in?

15 MR. GIBBONS: Yes, it's also preferred here.

16 JUDGE FLAX: How do we know that?

17 MR. GIBBONS: Well, a POSA would know that an interference
18 fit in this context, with -- given all the other disclosures in the specification
19 -- would know that that's what's being referred to, an interference fit where it
20 creates shallow threads through deformation.

21 JUDGE FLAX: Based on --

22 MR. GIBBONS: Dr. Brunski agreed with that, too.

23 JUDGE FLAX: -- your -- is that based on your witness'
24 understanding of how the person of ordinary skill would read the patent?

25 MR. GIBBONS: I would say it's based on the plain language of

1 the disclosure and how our expert reads the patent and how Dr. Brunski
2 reads the patent.

3 JUDGE FLAX: The screwing in part of it and the deforming of it
4 when that happens --

5 MR. GIBBONS: Yeah, I mean, I would have to double-check the
6 transcript to see if he was -- if he mentioned the screwing in portion
7 specifically. I can't speak to that.

8 JUDGE FLAX: But let me ask you this. If we agree with
9 Petitioner that there's a problem here relating to ordinary skill in the art and
10 your witness not having it --

11 MR. GIBBONS: Um-hum.

12 JUDGE FLAX: -- what impact is that going to have on his
13 declaration? Is there any part of that declaration that should be salvaged, or
14 is it scrapped entirely? Because I understand he has knowledge about
15 prosthetics, screws, things like that, actual things. Is there any part of his
16 declaration that would be salvageable if we discounted every part of it that
17 was relating to him opining on what someone of ordinary skill might know
18 or think?

19 MR. GIBBONS: I'm struggling to think of something. I mean, it's
20 possible, but I'm struggling to think of something that would be salvageable
21 if he's not a POSA, because candidly, that's the lens that both experts had to
22 use when they were evaluating these disclosures. So, I don't want to
23 overreach and say that part of it would survive, because very consciously, he
24 did look at it through the lens of a POSA. But I think, and going to the
25 POSA definition -- I think it would be a mistake to exclude his declarations.

1 There's a lot of overlap here between these two declarations, as the Board
2 recognized in its institution decision.

3 JUDGE FLAX: You mean the definitions of the ordinary skill?

4 MR. GIBBONS: Yes, sorry. If --

5 JUDGE JESCHKE: Counsel, I have a quick question. Sorry. The
6 --

7 MR. GIBBONS: Yes.

8 JUDGE JESCHKE: You had said Dr. Leinsing is a POSA under
9 either definition here at the bottom of Slide 49. I'm still struggling, and I
10 apologize if you already answered this, but what is your argument for how
11 he has five years of experience working with dental implants? Is it the
12 physically -- you ellipsed out, I think, design.

13 MR. GIBBONS: Yeah.

14 JUDGE JESCHKE: Is that why you say that he meets it, because
15 you change what their definition is? Is that --

16 MR. GIBBONS: No, no, we didn't mean to change substantively
17 their definition.

18 JUDGE JESCHKE: Okay, then if you add the word back in there,
19 design of --

20 MR. GIBBONS: Yeah.

21 JUDGE JESCHKE: -- dental implants, how does he meet that?

22 MR. GIBBONS: Well, we're not saying he meets that. The
23 ellipses was just --

24 JUDGE JESCHKE: You said under either definition, that's why
25 I'm confused.

1 MR. GIBBONS: Yeah, yeah. So, we're looking at the last bullet
2 point. It says, could have less formal education but commensurately more
3 practical experience, or vice versa. So, Leinsing has a master's degree in
4 mechanical engineering, and he has decades of experience in bone screws,
5 bone implants, fasteners. And we're saying that based on that bottom clause,
6 Leinsing has commensurately more practical experience and
7 commensurately more formal education that more than make up for the
8 supposed lack of experience in design of dental implants and prosthesis.

9 JUDGE JESCHKE: I see.

10 JUDGE FLAX: But that last bullet doesn't refer to the previous
11 two bullets -- it seems like it refers to the previous two bullets where, let's
12 say, you got 10 years of dental experience. That might compensate for -- I
13 don't know -- like a bachelor's degree in mechanical engineering versus if
14 you have a PhD or you're a dentist, maybe that compensates for maybe only
15 two years of practical experience. That's how I read it. Am I not reading
16 that right?

17 MR. GIBBONS: I don't see that as different from how I'm reading
18 it.

19 JUDGE FLAX: But he doesn't have any experience in dental stuff
20 --

21 MR. GIBBONS: Right, but his --

22 JUDGE FLAX: -- or a degree in --

23 MR. GIBBONS: He has a master's degree in --

24 JUDGE FLAX: -- dental stuff?

25 MR. GIBBONS: -- mechanical engineering. And I mean, so --

1 JUDGE FLAX: Master's degree?

2 MR. GIBBONS: Yeah.

3 JUDGE FLAX: Okay.

4 MR. GIBBONS: And if the Board does reach this issue, the
5 dispute primarily deals with whether the field should be unnecessarily
6 limited to dentistry or properly recognized as the broader mechanical field,
7 in which the claimed fasteners reside, which is design of bone implants,
8 anchors, or screws. Now, there's no reason to artificially limit the field to
9 dentistry alone. Petitioner has not shown any reason why fasteners and
10 implants attached to the jawbone operate meaningfully different from any
11 other -- from implants attached to any other kind of bone.

12 JUDGE JESCHKE: Counsel, I had a quick question here. So, the
13 third bullet here under the Patent Owner's definition is that --

14 MR. GIBBONS: Um-hum.

15 JUDGE JESCHKE: -- the POSA here may consult with a dental
16 -- a dentist, oral surgeon, et cetera. Did Dr. Leinsing do that? Is there any
17 evidence of that happening?

18 MR. GIBBONS: There's none in the record, but like we said, this
19 is a may consult, as necessary, but our broader point is these are mechanical
20 fasteners. This screw technology is not specific to dentistry. And in fact,
21 those who are knowledgeable in the field of prosthodontics know the father
22 of modern implantology was an orthopedic surgeon. His name was Per-
23 Ingvar Branemark. So, even the father of all of this wasn't a dentist, and
24 there's no reason -- if the father of modern implantology satisfies it, then it's
25 good enough for a POSA to have broader experience.

1 And the two deposition transcripts confirm there's no magic to
2 having dental implant-specific experience. Mr. Leinsing was consistently
3 better prepared and more knowledgeable and more articulate about the
4 fastener technology issue at issue than Brunski was, notwithstanding
5 Brunski's supposedly extensive dentistry-specific experience, which we don't
6 challenge. So, the bottom line is, Leinsing is a POSA under either
7 definition. If the Board has to reach it, there's no reason to artificially limit
8 this to dentistry, because what's at issue are screws and abutments.

9 Moving back here to Slide 22, I wanted to briefly address
10 Petitioner's prior art challenge. Petitioner here relies on various
11 combinations of four prior art references -- Bernhard, Poovey, Gracco, and
12 Derey. Now, keep in mind as we go through these, Petitioner's two principal
13 references that do most of the work in these combinations were already
14 before the examiner during prosecution. And Petitioner, if I heard correctly,
15 said that Gracco doesn't add much beyond them. He said it just confirms
16 what was already known in the art, that reverse buttress threads pull out
17 easily. And so, if Gracco doesn't add anything beyond them, then their
18 Poovey-Bernhard-Gracco combination is just Bernhard and Poovey, and
19 that's what the examiner already had.

20 So, here's a roadmap. We'll first identify what each reference
21 actually teaches, and then we'll test the proposed combinations against the
22 claim language to see if they render them obvious. None of the four
23 references, alone or in combination, provide the inventive concept that's
24 embodied in these claim limitations. None of the combinations result in the
25 claimed invention, and even if they did, they haven't shown that a POSA

1 would be motivated to combine them the way they propose.

2 So, again, we want to emphasize, this is the inventive concept that
3 overlays these independent claims. It's expressed in each independent
4 claim's limitations, and Petitioner is hoping that with enough hand waving,
5 the Board will overlook that the proposed combinations on their face don't
6 satisfy these. One is a temporary fastener with threads different from the
7 definitive screws, male threads and the female abutment threads. It torques
8 into the same abutment threads to a predetermined torque. It releases axially
9 without unscrewing, and it has to preserve the abutment threads for the
10 definitive screw.

11 So, here are the '992 claims covering that concept. The
12 components of the system, again, are highlighted in yellow, and then
13 limitations G through I describe the structural and functional limitations of
14 the temporary screw that embody -- that cover this inventive concept. And
15 then the same thing for '781, Claim 1, system components in yellow, and
16 then limitations G through K cover this inventive concept.

17 So, let's start with Bernhard, and keep in mind, Bernhard was
18 before the examiner during patent prosecution. Bernhard's temporary
19 attachment system uses what it calls provisional connection features to
20 attach the impression coping to the abutment during the conversion process.
21 Now, the disclosed provisional connection features are specifically named in
22 Bernhard -- fingers, springs, snap fits, friction fits, elongate members,
23 protrusions, slots, flanges, grooves, and related surface features. That's a
24 long specific list, and it does not include screws. And there's a reason for
25 that, because Bernhard teaches away from using screws.

1 The entire thrust of Bernhard was to get rid of the long processing
2 screws used in the open tray procedure. And it talks about -- it extols the
3 benefits of getting rid of these long processing screws. It leads to
4 procedures that require less chair time. It gives rise to a lower risk of
5 contamination because there's fewer separate parts. So, Bernhard is saying,
6 hey, leave the screws behind, let's use snap fit.

7 JUDGE FLAX: What about paragraph 82 of Bernhard? Doesn't
8 that just discuss using a screw for that purpose? Or am I misreading that?

9 MR. GIBBONS: I believe I know what you're referring to, but I
10 want to confirm. Okay. So, Bernhard, paragraph 82. So, in some
11 embodiments, the coping can include additional connection features to
12 reduce the likelihood of inadvertent detachment of the coping. In some
13 embodiments, the coping in the abutment can be attached using a separate
14 fastener, such as a prosthetic screw. So, this isn't describing a screw -- a
15 connection used during the impression process. This is describing what we
16 would call the definitive screw at the end, that's attaching the prosthesis to
17 the implant abutment.

18 Anytime Bernhard is talking about a temporary connector, it calls
19 it a provisional connection feature. And in fact, Bernhard never shows any
20 threaded provisional connection features that engage with the threads. And
21 why would it? Bernhard is saying, let's get rid of the screws. We can do
22 this an easier way.

23 And in fact, actually, let me go back to Bernhard for a second. The
24 patent specifications themselves explain the problems with these sort of
25 snap-on connectors. It says, and I quote, "Since snap-on systems are

1 generally physically larger than dental screws," these systems, "may require
2 large clearance cavities to be bored into the existing denture", that reduces
3 the mechanical stability of the denture and the mechanical precision required
4 to manufacture these makes them more expensive.

5 So, you can see the resilient spring element 708, it has to be
6 manufactured to fit into annular slot 652. And it's just harder to manufacture
7 those than a screw. Another problem with this is you have to use special
8 abutments that have the annular slot. You can't use this kind of fastener with
9 just any abutment, like you can with a temporary screw. And again, the
10 Board should pay close attention to what Poovey -- or Bernhard doesn't
11 disclose. It doesn't disclose a provisional connection feature with threading
12 at all. Of course, it discloses a definitive screw at the end of the process.
13 That's what everyone uses. That's not this inventive -- that's not what's
14 inventive about Dr. Kofford's work. The only threaded connector in
15 Bernhard, like in paragraph 82, is the definitive screw that engages for
16 lasting attachment.

17 And I want to read Bernhard paragraph 168. Certain embodiments
18 of systems and methods can provide an efficient workflow execution post-
19 surgery, post-implant, which can reduce the risk of site contamination and
20 extensive tissue swelling, thus reducing healing time. For example, systems
21 and methods using a provisional connection feature as described herein -- so,
22 those are all snap fits -- can reduce, e.g. substantially eliminate the use of
23 screwing and unscrewing components in patients, which takes chair time.

24 So, Bernhard is saying, this is great. We're going to reduce,
25 substantially eliminate the use of screwing and unscrewing components.

1 Let's go to Poovey. We'll look at Poovey, what Poovey discloses. And keep
2 in mind, again, Poovey was also before the examiner. The examiner allowed
3 these claims over both Poovey and Bernhard. Poovey has a temporary screw
4 that's used in the impression-taking step of the conversion process, but
5 Poovey's temporary screw matches the implant abutment threading into
6 which it is threaded. Poovey's -- or sorry, the implant threading. Poovey's
7 male threads are designed to correspond to or -- and closely fit the implant
8 threading.

9 Dr. Brunski -- or I'm sorry, Poovey expressly teaches away from
10 the claimed invention. In fact, because it says at the time of removal, the
11 screw must always be activated to dissolve or soften the plastic or silicone
12 sufficiently to allow removal. That's in Poovey paragraph 2381 and
13 something similar in paragraph 78. Now, this morning, Petitioner said that
14 what Poovey teaches is a flexible thread that can be pulled out, but that's not
15 quite what Poovey teaches. Poovey says, every time you pull it out, it has to
16 be activated. It doesn't explain what that means. It just means -- or it doesn't
17 explain how to do that. It just explains that it's activated to dissolve or melt
18 the threading. And so, Poovey doesn't -- Poovey teaches away because it's
19 saying it's not the flexible threads by themselves. It's you have to introduce
20 this additional activation step.

21 And Dr. Brunski conceded at his deposition, this probably isn't
22 workable. I mean, you can't use a blowtorch to heat up the abutments in a
23 patient's mouth. You'd have to heat it through the prosthesis, through the
24 coping, and through the abutment to heat up the threads, and you'd have to
25 heat it sufficiently to allow them to dissolve or melt, and that's just not

1 feasible.

2 Reference 3 is Gracco, which is the least relevant of these prior art
3 references, and if I understood Petitioner correctly, it also doesn't add much.
4 Gracco was a study measuring self-drilling, self-tapping bone mini screws.
5 Those screws cut their own female threads like Your Honor recognized, and
6 so the male and female thread geometry necessarily matches. And so,
7 Gracco is an experiment about how thread geometry affected the force
8 necessary to strip them out of the synthetic bone material. Mr. Leinsing
9 explained the titanium mini screws did not deform or degrade to release the
10 mini screws, like in the invention at issue. Rather, the synthetic bone
11 material around the screws failed. It ripped it out of the bone material.

12 And Gracco is trying to figure out which thread design makes it the
13 strongest connection, which will hold on the tightest against force. And so,
14 Gracco is going in the opposite direction from what this invention is going.
15 Gracco is not trying to figure out which is easiest to pull out, it's trying to
16 figure out which is going to provide the most secure connection. So, again,
17 it teaches away -- it's irrelevant because it -- these are going into bone rather
18 than into the abutment. And apparently, according to Petitioner this
19 morning, it only discloses what's -- or only confirms what's already in the art
20 anyways.

21 JUDGE FLAX: If that thread pattern was -- if the Gracco thread
22 pattern was used with the Poovey screw, would that be a different thread
23 pattern than the definitive screw?

24 MR. GIBBONS: No.

25 JUDGE FLAX: It'd be the same?

1 MR. GIBBONS: And the reason I say that is because this is a
2 -- this is kind of a hole in the prior art, and Petitioner hopes you'll just skip
3 over it. They're assuming -- so, sorry, we're on Slide 33 now. So,
4 Petitioner's combination assumes that a POSA would change Poovey's screw
5 threads to match a Gracco buttress thread. But they have to assume that they
6 would do that without also changing the abutment threads to match it.

7 There's nothing in these four references that gives a reason for a
8 POSA to change the fastener threads without changing the matching female
9 threads. Bernhard doesn't say that. Poovey doesn't say it. Gracco doesn't
10 say it. Derey doesn't say it. All of them combined don't give you any reason
11 to do that. It's just not there. And now, Petitioner is hoping that you'll just
12 gloss over that and say, oh yeah, you change the screw, you got the buttress
13 threads, there we go.

14 But there's no reason for a POSA to do that, where they change the
15 abutment threads -- or sorry, the fastener threads -- without making the
16 abutment threads correspond, because that's the inventive -- like, the spark
17 of genius that led to this invention. Mismatching the threads is what allows
18 this function to occur. And that's why we say, if you take the Poovey screw,
19 you add Gracco, you still don't get the invention because it still is going to
20 match the abutment threads. The POSA doesn't have a reason to leave the
21 abutment threads the way they are.

22 JUDGE FLAX: Would it match the Bernhard threads --

23 MR. GIBBONS: Well, it would --

24 JUDGE FLAX: -- or not?

25 MR. GIBBONS: Well, if you're saying like the Bernhard threads

1 shown, like if you -- the Bernhard threads shown are symmetrical threads.
2 But if a POSA would change the fastener threads to buttress threads, then
3 the POSA would also change the abutment threads in Bernhard to match
4 them.

5 JUDGE FLAX: So, they would be different from what's shown in
6 Bernhard?

7 MR. GIBBONS: They would have to be, yeah.

8 JUDGE FLAX: Okay.

9 MR. GIBBONS: And because there's no reason anywhere in any
10 of these references for them to go back and change the abutment -- or to
11 keep the abutment threads and change only the fastener threads. Now,
12 Petitioners argued in the briefing this morning that Patent Owner's argument
13 falls short because the references can't be evaluated individually. That's not
14 what's happening here. We're looking at each of them individually and
15 showing that none of them contains this concept or anything suggesting that
16 concept.

17 We're also combining them, and even combined, nothing in there
18 produces the claimed invention. We simply don't have -- and this is the
19 inventive concept again -- we simply don't have a temporary fastener with
20 threading that is different from the permanent screw and female threading.
21 A temporary fastener that torques into the same female abutment threads to a
22 predetermined torque, and a temporary fastener that releases axially without
23 unscrewing during the pickup process without degrading the female threads.

24 And even if it did satisfy the claim limitations and it doesn't, there's
25 no motivation to combine. Like I said, the references teach away from this

1 combination. Let's look at Bernhard's snap-fit system, which extolled the
2 virtues of eliminating screws. Why would a POSA take Poovey, which
3 predated Bernhard, and say, okay, I like Bernhard's snap-fit, let's add a screw
4 back in? That doesn't make any sense.

5 Why would that same POSA look at those together and then say,
6 well if this works the way Petitioner does, then I can pull it out without
7 unscrewing? Why would they then move to Gracco's destructive bone-
8 stripping experiment. That doesn't make any sense.

9 In fact, Gracco doesn't even have any real relevance to this
10 problem that's trying to be solved here. A POSA looks at the entirety of the
11 references rather than just picking and choosing disparate elements from
12 assorted prior art. Without using the hindsight as -- without using the patent
13 as a blueprint, who is going to combine these four references to produce the
14 claimed invention? No one. This is an exercise in hindsight using the patent
15 as a roadmap to pull out each little bit, but it's not a contemporaneous reason
16 why a POSA would have created the invention in 2019.

17 And last of all, I want to touch on the indefiniteness arguments.
18 Keep in mind as we go through these that Petitioner does not contend that all
19 of the '781 patent claims are indefinite. They only challenge patent Claims 6
20 and 10 through 16. So, regardless of how the Board comes out on this, '781
21 Claims 1, 2, 3, 4, 5, 7, 8, and 9 are definite, and Petitioner doesn't argue
22 otherwise.

23 Petitioner argues that Claim 6 recites functional limitations at the
24 point of novelty, and I'm reading from Petitioner's PGR petition at 32.
25 Claim 6 does not include any structural limitations for the temporary

1 fastener that relate to its ability to be pulled out of the abutment without
2 being unscrewed. Now, the claims themselves disprove that argument.
3 Limitations B, C, D, and E list the four components of the system that have
4 to work together. Then E through J describes how the temporary screw is
5 sized and configured, as well as what it must do. So, the release function
6 that Petitioner focuses on is tightly connected to the fastener's thread
7 geometry, contact depth, and its relationship to the abutment threading in the
8 definitive screw, each of which are claimed in detail, or as Petitioner called
9 it -- he called it convoluted. But again, it's claimed in detail and explained
10 exactly what's required.

11 JUDGE FLAX: When the claims recite that one of these fasteners
12 has different widths along the axis, does that mean threads?

13 MR. GIBBONS: I believe it can refer to threads.

14 JUDGE FLAX: Can refer to threads.

15 MR. GIBBONS: Yeah.

16 JUDGE FLAX: Okay.

17 MR. GIBBONS: So, that's Claim 6. Claim 10 is the does not
18 essentially match argument. Petitioner's challenge here is that does not
19 essentially match does not tell a POSA how to interpret this limitation.
20 Now, the Supreme Court said in Nautilus that what's required here is only
21 reasonable certainty, not mathematical precision or perfect exactness. And
22 we have that here. DDR Holdings says that specific examples can provide
23 clear notice of terms of degree to explain them, and we also have specific
24 examples here. And the Federal Circuit in Enzo Biochem said that the
25 language not interfering substantially was sufficiently definite applying

1 these concepts, and the same thing is true here for does not essentially
2 match.

3 JUDGE JESCHKE: Counsel, what do we do with the plus or
4 minus 10 percent then?

5 MR. GIBBONS: Well, so --

6 JUDGE JESCHKE: In other words, what does that 10 percent
7 refer to? Is it the thread width? There's so many different parameters that it
8 could seemingly apply to that --

9 MR. GIBBONS: Yeah.

10 JUDGE JESCHKE: -- that's somewhat of a concern, I think.

11 MR. GIBBONS: Yeah, and Petitioner said we're running away
12 from the fact. We're not running away. It's obviously in the specification.
13 The plus or minus 10 percent doesn't affect the definiteness issue for several
14 reasons. One is that a POSA would readily understand how to alter the
15 thread geometry so that, for example, the temporary fastener's volume
16 differs from the definitive screw's volume by plus or minus 10 percent.

17 Second, as Dr. -- or sorry, Mr. Leinsing explained, the analogous
18 concept of manufacturing tolerances is something that any POSA in this
19 mechanical field would understand. This is something that is often
20 expressed in plus or minus whatever. And in the end -- if you don't like
21 either of those arguments, in the end, essentially match is different from
22 essentially, it's not read in a vacuum as essentially plus match. Essentially
23 match is just something different.

24 JUDGE JESCHKE: I guess one question I had about that, you had
25 said that essentially match, one of skill in the art, would have viewed that as

1 being a volumetric plus or minus 10 percent. It would seem to me that it has
2 to -- would have to have something to do with compatibility, like that one
3 thread could go into the female thread plus or minus 10 percent of the time
4 or something like that. It seems like you could have lots of different
5 volumes that would have nothing to do with the compatibility. In other
6 words, you could make almost a V-shaped thread, one giant thread, that
7 would have the same volume as one that has zero --

8 MR. GIBBONS: Yeah.

9 JUDGE JESCHKE: -- compatibility. So, I'm not sure --

10 MR. GIBBONS: I think your intuition --

11 JUDGE JESCHKE: -- about the volumetric aspect.

12 MR. GIBBONS: I think your intuition as to how to understand
13 does not essentially match is spot on.

14 JUDGE JESCHKE: Okay.

15 MR. GIBBONS: I was just addressing the plus or minus 10. So,
16 let me back up a little bit. Okay?

17 JUDGE JESCHKE: Thanks.

18 MR. GIBBONS: So, here's Claim 10, the language of Claim 10.
19 This contains the challenge language, which is highlighted in --

20 MR. NIX: Green.

21 MR. GIBBONS: -- green. I'm sorry, I'm colorblind. It's
22 highlighted in green. Shaft threading contour does not essentially match the
23 implant abutment threads contour. This phrase doesn't appear in a vacuum.
24 It has multiple structural and functional limitations that describe the claimed
25 invention and the key inventive concept. So, looking at these and looking at

1 how the parts relate to each other and how they operate, a POSA would
2 know what does not essentially match means. And the examples in the
3 specification confirm this. Figure 9 shows a definitive screw that does
4 match. Figure 75 shows one inserted into the same abutment that would not
5 essentially match.

6 JUDGE FLAX: What is the contour that we care about here?

7 MR. GIBBONS: Well, I don't think we get into that in the
8 briefing. So, essentially, thread contour is the outer -- can be the outer
9 shape. You could also describe it as the outer shape going around, I think.

10 JUDGE FLAX: Okay. But in what ways can that differ so that
11 they're not essentially matching?

12 MR. GIBBONS: Well, it can differ in a lot of ways. You could
13 put an asymmetric thread in a symmetrical abutment. You could put a
14 symmetrical thread with shallower threads into a symmetrical abutment.
15 You could put a symmetrical thread that matches the volume, but has a slot
16 in it, so it's not continuous.

17 JUDGE FLAX: Are there any other ways that it could not
18 essentially match?

19 MR. GIBBONS: Well, like the interference fit would not
20 essentially match.

21 JUDGE FLAX: Why would that not essentially match?

22 MR. GIBBONS: Because the relaxation of the threads that are
23 created when you insert it -- or sorry, the threads that are created by
24 relaxation when you insert it, don't fill the abutment threads completely.

25 And the prosecution history itself shows that a POSA can readily understand

1 what this standard means, just like Your Honor was saying. Your sense was,
2 well, if it essentially matches, it means it engages. It means it goes in and
3 works with it, right? That's exactly what the examiner thought in rejecting
4 what was ultimately issued as Claim 10 initially. She, the examiner,
5 identified Berrevoets as a shaft threading contour that does not essentially
6 match the implant thread's contour. And you can see the part that the
7 examiner labeled as open space is what she said makes it not essentially
8 match. She also identified, Lannon, which she said did disclose a thread
9 contour that does essentially match.

10 And finally, Brunski himself, Petitioner's own expert, showed that
11 in the -- in his declaration that a POSA can interpret and apply this, because
12 when it benefited Petitioner, he had no problem at all interpreting and
13 applying this. He interpreted it as meaning the thread contours are different.
14 Petitioner hopes the Board will ignore this point because Brunski called his
15 interpretation an assumption. But the label he uses doesn't change what
16 actually happened. Petitioner's expert interpreted and applied the
17 supposedly indefinite language. Not coincidentally, he landed on the same
18 definition that the claim language, the specification examples, and the
19 prosecution history point to.

20 Your Honors, let me close with where that leaves the three issues,
21 unless you have any further questions. First, the written descriptions
22 adequately support the claims. For that reason, Kofford is not prior art, and
23 the '781 specification adequately provides written description. Issue 2, the
24 Board should reject the obviousness challenge because no reference teaches
25 or suggests two screws with mismatched threading screwed into the same

1 female threads. Not alone, not in combination. It's just not there. Third, the
2 Board should reject the indefiniteness challenge because a POSA is able to
3 interpret and apply this language with reasonable certainty. And unless the
4 Board has questions, I'll reserve the balance of our time for the surrebuttal.

5 JUDGE FLAX: Okay, we'll call that 30 minutes.

6 MR. NIX: Your Honor, may I suggest a brief break? We've been
7 going for about two and a half hours. I could use one.

8 JUDGE FLAX: Okay, any objections?

9 MR. REITBOECK: No objections.

10 JUDGE FLAX: Okay. Five minutes enough, or you want more
11 than that?

12 MR. NIX: Five minutes is fine.

13 JUDGE FLAX: All right, I guess we should all take a break.

14 COURT REPORTER: Okay. We're off the record.

15 (Whereupon, the above-entitled matter went off the record at 11:47
16 a.m. and resumed at 11:56 a.m.)

17 JUDGE FLAX: Court Reporter's ready to go?

18 COURT REPORTER: I'm all set.

19 JUDGE FLAX: Okay. All right, whenever you're ready, you've
20 got 18 minutes.

21 MR. REITBOECK: Thank you, Your Honor. Let me first respond
22 to some arguments Counsel for SDC made on the issue of written
23 description. SDC keeps pointing out that we're in a predictable field, and
24 that's true, but that's not a blank check to claim whatever you want. And let
25 me point out that all the cases that we cited to support our challenges were

1 also in predictable fields. Tronzo, Synthes, D Three's. D Three's was about
2 a roof ceiling with washers. ICU Medical was a medical valve with spikes.
3 Tronzo was about these cup implants. They're all predictable fields, and just
4 because we're in a predictable field does not mean that the claims can be
5 expanded as the inventors wish.

6 Counsel for SDC made the argument that in Tronzo, there was a
7 disclaimer. I did address that, but let me repeat it. The Court there did not
8 use this as a disclaimer as such, and more importantly, in Anascope, the
9 Federal Circuit expressly said that a disclaimer is not necessary to find a lack
10 of written description in this context.

11 Generally, Counsel for SDC tried to make their argument about
12 various embodiments by piecing together snippets from the prosecution
13 -- from the specification, from here and there. Generally, one cannot leave
14 breadcrumbs in the specification and then have a statement at the end that
15 anything and everything can be combined, and then after the fact, can cobble
16 together whatever one needs. That's not how it works. Then that would
17 make the written description requirement absolutely toothless. One word on
18 the interference fit. Counsel for SDC said that every POSA would screw
19 this in, in this context. Sure, that's not what the patent says. The patent
20 clearly says it's pushed in.

21 JUDGE FLAX: What's your position on sort of the patching
22 together of the separate disclosures from these specs to kind of cobble a
23 disclosure, which is what I see their argument is.

24 MR. REITBOECK: Yes. Well, number one, even patched
25 together, most of them would just not be an embodiment of the claims for

1 the various reasons, like the interference fit which is pushed in. But number
2 two, the mere concept of cobbling together something is against Federal
3 Circuit law. Federal Circuit says that written description -- in the context of
4 written description, an embodiment has to be presented as a whole
5 embodiment, and it can't be -- you can't take elements from this
6 embodiment, from that embodiment, when the specification never links
7 them.

8 And so, this is against Federal Circuit law, and a boilerplate
9 statement at the end that one should combine all aspects or something to that
10 effect, cannot change that. Otherwise, again, the written description
11 requirement would be basically toothless. And then let me address one issue
12 that came up, whether Figure 75 alone would be sufficient to support the
13 claim scope. And that issue came in, in two flavors.

14 In their briefing, SDC argued that -- well, they first argued that
15 there are these three species and those provide support for the claim scope.
16 And then they said, well, at the very least, Figure 75 is disclosed, and at the
17 very least, with respect to this embodiment, the patent should be entitled to
18 priority date. And that is just legally flat out wrong. The entire claim scope
19 has to be supported.

20 The other flavor of that issue is whether Figure 75 alone could
21 support the entire genus. The answer is no, it cannot. But procedurally, I
22 have to point out that SDC has not developed that argument at all. But
23 substantively, the description would have to disclose structural features
24 common to the members of the genus, and a POSA would have to readily
25 discern that the other species of the genus would perform similarly, and

1 there's no trace of that, there's no development of that argument, and that's
2 just not the case here. And I said that before, but let me repeat it. Important
3 in that respect is that the patent never talks about this mismatch concept in
4 any way, shape, or form.

5 One more point on written description. SDC argued that
6 asymmetric threads are disclosed generally. That's not true. When you read
7 the text in context, it is described as the asymmetric threads 40 of Figure 75,
8 and the text says, as shown in that figure, and Figure 75 shows, when you
9 read that in context, those are the threads that are disclosed.

10 On the issue of the person of skill, SDC came up with the
11 argument that the phrasing of the definition, when it says that an expert
12 could have commensurately more or less practical experience, that clearly
13 refers to the number of years. So, when the definition requires five years of
14 experience, and it might be sufficient if the person of skill has three years, if
15 he instead has a PhD, for example. And that's how it's usually used, and
16 that's what the definition also expresses.

17 On the issue of obviousness, SDC now argued that -- essentially
18 now argued that both Bernhard and Poovey teach away. Now, that is not
19 something they argued before. They argued that Derey teaches away, and
20 we responded to that argument in our reply brief that it never argued that
21 Bernhard and Poovey teach away. So, that's the procedural point.
22 Substantively, that's just not the case. Bernhard does not teach away. He
23 does not teach against a temporary screw that can be pulled out.

24 What Bernhard tries to improve is the old system of the open tray
25 method that I discussed in the beginning, where you had a screw that needed

1 to be unscrewed for the impression and needed to be either unscrewed after
2 the closed tray is taken off or needed to be used with the open tray method.

3 But Bernard doesn't --

4 JUDGE FLAX: Could you talk about Poovey for a second?

5 MR. REITBOECK: I'm sorry?

6 JUDGE FLAX: Could you talk about Poovey for a second?

7 MR. REITBOECK: Yes.

8 JUDGE FLAX: So, Patent Owner -- it's not a new argument, that
9 he is now arguing that heat needs to be applied to activate the flexibility of
10 Poovey's screw. I'm not sure that's required. What is your position on
11 Poovey?

12 MR. REITBOECK: It's not. Poovey describes a screw with
13 flexible threads. And yes, Poovey describes one variant of that where he
14 uses threads that are melted, but that's by far not the only variant Poovey
15 describes. At the bottom, Poovey describes flexible threads. And there's no
16 reason to think that Poovey requires this melting.

17 Now, Judge Flax, you asked Counsel for SDC if one was using the
18 buttress threads, would that result in a different thread profile? And Counsel
19 for SDC said no, it wouldn't. And eventually explained that what the person
20 of skill would do is change the female threading in the abutments, along
21 with the temporary screw. At least that's how I understood it. Again, that's
22 not something they ever brought up. It's the first time I hear about that.
23 Substantively, there's no reason to think that a person of skill would do that.

24 The entire reason, as Dr. Brunski explained, for incorporating the
25 buttress threads of Gracco is to make the screw easier to pull out. And the

1 same motivation is for Derey. And the person of skill would be well aware
2 that at the end of the day, when the prosthesis is installed on a permanent
3 basis, you need a regular definitive screw, with a regular symmetric thread
4 for stability. And that would obviously be different than the threading
5 profile of the buttress thread.

6 JUDGE FLAX: Well, your opposing Counsel mentioned that the
7 Gracco screw was easier to pull out because it pulled some of the bone with
8 it. What's your response?

9 MR. REITBOECK: First of all, again, we are not -- the teaching
10 of Poovey corresponds to what a POSA would know, that the buttress thread
11 geometry would make it easier to pull the screw out. And I think Gracco
12 confirms that. Gracco was in the context of self-tapping screws, but that's
13 not how it is used in the combination we propose. And I don't think that
14 Gracco, for that reason, teaches away. It doesn't.

15 It confirms that a buttress fit is the geometry that makes the screw
16 easier to pull out. And Gracco expresses as much when they say that the
17 conclusions essentially correspond to what you would expect from inherent
18 geometry, which is exactly what SDC and their expert argued too, when they
19 tried to argue that Gracco would be cumulative and everything else would be
20 cumulative, and therefore the petition --

21 JUDGE FLAX: So, your position is just because of the shape of it,
22 generally speaking, it will always be easier to pull out one that has the
23 inclination opposite the direction of the pole?

24 MR. REITBOECK: Correct. Yes.

25 JUDGE FLAX: Okay.

1 MR. REITBOECK: On the essentially match issue, there's a
2 whole slew of parameters one could pick to determine whether the plus-
3 minus 10 percent definition would apply, and there's simply no guidance at
4 all anywhere, which one to pick. SDC essentially tries to ignore the
5 definition and points to the examples in the prosecution. Even that, even
6 examples have to be clear and unequivocal under the case law. That's
7 certainly not the case here. And the first step in the analysis would be the
8 definition. It's not possible to look beyond that definition so easily. Unless
9 you have any questions for me, I think I'm done.

10 JUDGE FLAX: Judge Fitzpatrick, do you have any questions?

11 JUDGE FITZPATRICK: I do not.

12 MR. REITBOECK: Thank you.

13 JUDGE FLAX: Thank you for your time. Okay. Ready to go?

14 MR. GIBBONS: Yes, Your Honor. Just a few quick points. One
15 is the POSA definition. Dental implants aren't separate and apart from other
16 orthopedic fasteners, bone screws, abutments, attachments. The same
17 principles of osseointegration underlie a bone screw, just as much as it does
18 a dental implant. That's (INDISCERNIBLE) in Leinsing's expertise, and
19 there's no reason to exclude his testimony in any part.

20 Counsel mentioned the cases on genus and species, and said that
21 all the cases they cite are in mechanical arts, and that's true. So, let's go
22 through them. And you'll discover in each of these cases that they can -- the
23 specification contains things that our specification does not, that led the
24 Court, the Federal Circuit, to say that the additional embodiments were not
25 disclosed.

1 So, Tronzo was the hip prosthesis cup. It found there was
2 insufficient disclosure because it described only one species of cup. It
3 distinguished all the other shapes as prior art and inferior to an extremely
4 important aspect of the invention. That's not what we have here. It doesn't
5 distinguish other shapes of threads. It specifically says threaded portion. It
6 encompasses more, and doesn't diminish the other embodiments.

7 D Three Enterprises. This is the washerless assemblies case that
8 Counsel referenced. This is a quote from D Three Enterprises. "2009
9 application in no way contemplates the use of other types of attachment
10 brackets in a washerless assembly." That's why it didn't disclose the
11 additional embodiments, because it in no way contemplated it. That's not
12 what we have here.

13 The Anascape case -- this is Anascape v. Nintendo. It deals with
14 video game controllers. At issue is whether a disclosure of a controller with
15 a single input member -- I read that as a joystick, essentially -- includes
16 embodiments that have multiple input members, multiple joysticks. The
17 Court said it did not because all the drawings depict a single input member.
18 The written description describes a single input member. And in fact, this is
19 another quote. Nintendo counts over 20 explicit statements that the
20 invention is directed to a single input member that is operable in 6 degrees
21 of freedom.

22 And the Anascape case stressed the advantages -- or sorry, the
23 specification stressed the advantages of a single member configuration. And
24 the disadvantages of a multiple-member configuration. And so, that's why
25 in Anascape, there was insufficient disclosure for a multiple-member

1 embodiment.

2 In ICU Medical v. Alaris Medical, this is the medical valve case,
3 whether there was a disclosure for embodiments that didn't have spikes. It
4 says, this is a quote, the specification repeatedly and uniformly describes the
5 spike. As a pointed instrument for the purpose of piercing a seal inside the
6 valve. And it never suggests that the spike can be anything other than
7 pointed. And that's why it didn't include embodiments that had a rounded
8 end or were a tube.

9 And then finally, Liebel-Flarsheim v. Medrad, the last case they
10 cite in their petition. That was a fluid injector, and the issue is whether or
11 not it covered embodiments that did not have a pressure jacket. And the
12 Court said it nowhere describes an injector that had a disposable syringe
13 without a pressure jacket. And in fact, it taught away from such a
14 configuration and called it impractical. And even setting all that aside, there
15 was no guidance for how to configure such an injector. And that's not what
16 we have here either. It didn't disparage other thread profiles. It doesn't teach
17 away from other thread profiles.

18 Counsel said you can't leave breadcrumbs. You can't put together
19 different aspects of the disclosure when the specification never links them.
20 I'm not sure what type of link is necessary, but as we showed on our slides,
21 the specification describes a separable threaded or serrated portion. It
22 describes what it does. It describes how it does it. It says in another place
23 -- I mean it's not right next to it, but these are all describing different
24 variations of these separable fasteners. So, elsewhere it says the post can be
25 made of metal, it can be made of polymer. In some embodiments, it can

1 have a deflecting feature.

2 I mean, you look at -- it discloses the drawings themselves are
3 dozens and dozens of different variations of these separable fasteners with
4 separable caps, and then in Figure 75, without a separable cap. And so, the
5 idea that these are not linked is just not true. These are all disclosing
6 different variations of these screws that allow this concept.

7 JUDGE JESCHKE: So, Counsel, what do we do with cases like
8 Novozymes, that is the concept, I think, that Petitioner is getting at about the
9 idea of kind of an integrated whole. I think you're not really showing that
10 they're linked. You're showing that they're in the same disclosure. That's a
11 little different than linking it. So, that's what I'm trying to understand is how
12 is that an integrated whole, like the Federal Circuit's Novozymes case talks
13 about, to be able to provide the written description that I think you're
14 seeking?

15 MR. GIBBONS: Yeah, I mean, they're linked because they're all
16 describing different variations of these separable fasteners.

17 JUDGE JESCHKE: But that's not --

18 MR. GIBBONS: And the text itself says --

19 JUDGE JESCHKE: That's just lots of different examples. That
20 linkage is going to be, oh, and you would want to put that feature over there
21 with this because of this reason, or something like that where it actually
22 discloses one embodiment that has all the things you're looking for.

23 MR. GIBBONS: Yeah.

24 JUDGE JESCHKE: You keep using the term link. I'm still not
25 seeing the linkage that you're pointing to, except you're saying there's lots of

1 different examples of various features that can be present.

2 MR. GIBBONS: Well, textually, in the specification, it will say
3 things like polymer posts and fasteners are included in this and other
4 embodiments. It'll say in some embodiments, the deflecting features is
5 included. It describes the threaded fasteners, and then later, it talks about the
6 benefits of asymmetric threading specifically. And so, these considered
7 together, I would say, are a sufficient link for Novozymes.

8 JUDGE JESCHKE: Okay. So, it sounds like that what you're
9 relying on is various separate statements throughout the disclosure saying
10 what the benefits of each feature are. But is that correct? If it's not, please --

11 MR. GIBBONS: The only part of that statement I would take
12 issue with is the last one describing the benefits. I think it describes, in some
13 cases, the benefits. In some cases, it just describes the features. I don't
14 know if it links the benefits to the features explicitly, but it discloses the
15 features.

16 JUDGE JESCHKE: Okay.

17 MR. GIBBONS: And last, I wanted to just address Poovey.
18 Counsel said that Poovey discloses a flexible screw and doesn't need the
19 activation process. So, I wanted to go to Poovey. That's Exhibit 1005,
20 paragraph 21. In certain embodiments -- this is the second sentence. In
21 certain embodiments, the impression coping securing screw comprises
22 threads made of metal or plastic and coated with a heat label, plastic or
23 silicone.

24 Then next sentence talks about in use, how it's threaded into the
25 dental implant. And then it says, at the time of removal, the heat labile

1 plastic or silicone threads, or heat labile plastic or silicone coated threads,
2 are activated to allow the impression coping secured by the impression
3 coping screw to be disengaged. And then if you go to paragraph 82, it says,
4 after the impression material has set, the heat labile plastic or silicone
5 portion of the impression coping securing screw is then activated to dissolve
6 or soften sufficiently.

7 Paragraph 84 is where it says the threading and sleeve coating of
8 the impression coping securing screw is preferably a plastic or silicone
9 material with enough flexibility to be pulled out. And I think that's where
10 Counsel is saying that it can just be a flexible screw, but when it talks about
11 the process of removing it, it refers to it as being activated to dissolve or
12 soften it sufficiently. So, it's not that the Poovey screw is flexible enough by
13 itself. It's that there's an intermediate activation step, and then it can be
14 pulled out.

15 And even if you were to say, okay, well, a POSA would look at
16 that and say, okay, let's say you could pull out flexible threads that can be
17 pulled out without activation. The POSA still has to look at the reference as
18 a whole, and the reference as a whole is telling him, the best version of this
19 is activating it to dissolve it or melt the silicone. And that teaches away
20 from the invention. Your Honors, unless you have any other questions, I'll
21 release the remainder of my time.

22 JUDGE FLAX: I think we're good. Thank you.

23 JUDGE FITZPATRICK: No questions.

24 JUDGE FLAX: Okay. Well, thank you all for being here today
25 and presenting your oral arguments to us. I know we also have the

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1 outstanding motion to deal with, which we'll probably deal with in the final
2 decision. So, we will, at this point, consider the record closed. We'll
3 consider your arguments here today and everything in the briefing in view of
4 the record as a whole, and we will get you your two final decisions in due
5 course.

6 (Whereupon the above-entitled matter went off the record at 12:20
7 p.m.)

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