Trials@uspto.gov
571-272-7822

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MEDACTA USA, INC., PRECISION SPINE, INC.
and LIFE SPINE, INC.
Petitioners

v.

RSB SPINE, LLC,
Patent Owner.

IPR2020-00264 (Patent 9,713,537 B2)
IPR2020-00265 (Patent 6,984,234 B2)
IPR2020-00274 (Patent 6,984,234 B2)

Record of Oral Hearing
Held: February 23, 2021

Before PATRICK R. SCANLON, MICHAEL L. WOODS, and ERIC C. JESCHKE, *Administrative Patent Judges.*

APPEARANCES:

ON BEHALF OF PETITIONERS:

DION M. BREGMAN, ESQ.
SCOTT D. SHERWIN, ESQ.
JAMES J. KRITSAS, ESQ.
Morgan, Lewis & Bockius LLP
1400 Page Mill Road
Palo Alto, California 94304-1124
(650) 843-7519

ON BEHALF OF PATENT OWNER:

ERIK B. MILCH, ESQ.
JOSEPH VAN TASSEL, ESQ.
DUSTIN M. KNIGHT, ESQ.
Cooley, LLP
Reston Town Center
11951 Freedom Drive, 14th Floor
Reston, Virginia 20190-5640
(703) 456-8573

The above-entitled matter came on for hearing on Tuesday, February 23, 2021, commencing at 1:00 p.m. EDT, by video/telephone.

PROCEEDINGS

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JUDGE WOODS: Good morning everyone and welcome to the Patent Trial and Appeal Board. My name is Michael Woods, and with me on the panel today are APJs Eric Jeschke and Patrick Scanlon. Today we have a consolidated hearing in inter partes review numbers IPR2020-00264, -00265, and -00274 between Petitioner Medacta USA, Incorporated, Precision Spine, Incorporated, and Life Spine, Incorporated, and Patent Owner RSB Spine, LLC. Challenged patents are U.S. Patent numbers 6,984,234 and 9,713,537.

Moving on to party appearances, Petitioner, we understand that Mr. Kritsas is the LEAP practitioner and will present some of your argument. But would you also please identify other counsel who will present arguments.

MR. BREGMAN: Good afternoon, Your Honors, my name is Dion Bregman. Scott Sherwin is with me, he'll be presenting some of the argument, as will James Kritsas.

JUDGE WOODS: Okay. Just to get that name correct, the second was Sherwin?

MR. BREGMAN: Scott Sherwin.

JUDGE WOODS: Sherwin. Okay, thank you. And for Patent Owner we are aware that Mr. Knight will present some of your arguments as the LEAP practitioner. But would you also please identify other counsel who will present argument.

MR. MILCH: Good afternoon, Your Honors. Erik Milch from Cooley. And also with me are my colleagues Joe Van Tassel, and as you indicated, Mr. Dustin Knight.

JUDGE WOODS: All right. Welcome. Thank you. Each party will have a total of 105 minutes to present its arguments, which sets us up for about a three and half hour hearing. As you all know, Petitioner bears the burden of persuasion and will proceed first, followed by Patent Owner. Petitioner may use all of its time to present its case and may reserve some of its time for rebuttal. Patent Owner may then respond and may also reserve some of its time for surrebuttal. I'll set my watch to indicate when the requested time is expired but I ask that the parties also keep track of the time so that we may stay on schedule.

Also I understand that Petitioner filed a Motion to Exclude. The Petitioner and the Patent Owner may also use their time to address this Motion if they would like.

For clarify of the record and for benefit of everyone, please identify your name when speaking, and identify early and often the current slide number of the demonstrative that you're referring to. We do have electronic copies of the demonstratives.

Also, counsel may not interrupt opposing counsel to raise objections when opposing counsel is presenting its arguments. Rather, counsel may raise objections during their own time for response, rebuttal, or surrebuttal.

Petitioner's counsel, do you wish to reserve a portion of your time for rebuttal?

MR. BREGMAN: We do. We're going to shoot for reserving 25 minutes. If we go a little bit over on the first part we'll just eat into our rebuttal.

JUDGE WOODS: Okay. Thank you, Mr. Bregman, 25 minutes for rebuttal. I'll set the clock for your opening presentation for about 80 minutes and I will start the clock when you begin.

MR. BREGMAN: I will start my clock too, thank you, Your Honors. As I mentioned earlier, my name is Dion Bregman. With me is Scott Sherwin and Jimmy Kritsas, and we'll be taking turns in the arguments.

Hopefully you've got our demonstrative slides in front of you, and we'll sort of march through those. And of course we're here to answer your questions, so if there's anything you want to discuss, I'm more than happy, we're more than happy to talk about that the whole day, and the slides can wait.

So turning to Slide 1, that's our cover slide just to remind everyone and level set, we've got three different IPRs. The IPRs relate to two patents, there's the 234 patent and the 537 patent. The 537 patent is a CIP of the 234.

If you turn to Slide Number 2, 3, and 4, that's the agenda that we hope to get through. I'm going to start with the overview very, very briefly of the patents and then hand it over to Mr. Sherwin. I'll come back again and then Jimmy will finish it up on our opening.

Jumping to Slide 5, so just a very brief introduction of the patents again, the 234 patent and the 537 patent.

If you go to Slide 6 you can see a colorized Figure 1 from both of the patents on the right-hand side of the slide. You can see in tannish color are the two vertebrae. These patents relate to a bone plate stabilization system that's placed between vertebrae and a person's spine. As the spine here is shown on the side so you'll see the spine sort of sideways like a person's

lying on their back, in some figures you'll see the spine sort of vertical. So we apologize that the figures sort of meet back and forth.

So you'll see the vertebrae in tan, you'll see the base plate next in an orange figure, you'll see the base plate sort of a U shape, saddle-shaped piece. You've got the bone graft material shown in yellow, and then you've got a number of screws in green and purple.

Something I didn't appreciate when I started working on this plate is that this implant is actually inserted through the front of the patient's body so they sort of cut into the patient and it goes through the front, not through the back of the spine as I would have thought would have been a more natural way for this to work.

And because it's going through the front of the patient's body you've got all the patient's organs, you don't want those screws eventually sticking out too much as they will snag on some of those organs.

So if you turn to Slide 7 that's a side view from the patent Figure 3. Again you can see the same thing, that the base plate in orange, the bone graft material in yellow. And what's kind of important to see from this cross sectional view, although the vertebrae here shown in tan or shown as perfect rectangles, of course vertebrae are different in every patient, they're not perfect rectangles but you can see that the base plate is sticking out about that top surface a little bit. That top surface, it's called the top surface in the patents. Also it's called the anterior surface of the patient. The opposite side of that's called the posterior, that's sort of the back of the patient. So let's figure the patient would be lying on this back and the top surface of the vertebrae with the anterior would be facing towards the ceiling.

Slide 8, 9, and 10, just summarize briefly, the grounds. There are a fair amount of grounds over these three different IPRs. But in essence they are all obviousness grounds and they're all based on a combination of one or more of the three references of Fraser, Michelson, and Byrd. I'm going to pronounce it Michelson, it could be Michelson, but Fraser, Michelson, and Byrd.

And in the Fraser grounds there are two different embodiments we rely on. One is a fused implant embodiment, that's where the plate and the body of Fraser are fused together. And the other one is where you've got a separate plate and a separate body, and that would be referred to as the two-piece embodiment.

So with that I'm starting with Slide 11, I will turn it over to Scott.

MR. SHERWIN: Thank you, Dion. And good afternoon, Your Honors. So the first primary dispute we have here is a claim construction dispute centering around the term "base plate." This term is used throughout both of the patents and all of the challenged claims.

And there's two primary issues that we want to raise to your attention here. The first is that Patent Owner is advancing its proposed construction. We are going to walk through why we think that construction's not only incorrect, it's directly contrary to the intrinsic evidence in this case.

JUDGE JESCHKE: Mr. Sherwin, this is Judge Jeschke. I have two quick kind of clarity questions. In the Petition, you all had proposed kind of two additional aspects to this construction for base plate. One was not used with a load-bearing fusion-cage, and the other one was distinct from bone-graft material deployed across a bone-graft site. Am I right that you Petitioners are not asserting those requirements anymore?

MR. SHERWIN: Your Honor, well I think that construction is correct, we have focused our entire argument after *Institution* on the Board's proposed construction, and that is also what we're focusing on now at this time.

JUDGE JESCHKE: Okay. So it sounds like yes, you're not asserting those parts anymore; is that --

MR. SHERWIN: Yes, that's right, Your Honor.

JUDGE JESCHKE: Okay. That's all. Thank you.

MR. SHERWIN: Okay. And then the second issue that we can see still here on Slide 11 is, as you know, the Board has advanced its own proposed construction. And what the Patent Owner has really done here, they've looked at it, they've basically said they don't like it, so what they're really trying to do is reinterpret it. And we'll see that what they're really doing is they'd be adding limitations, they're trying to narrow the scope of the Board's construction.

So if we turn to Slide 12, I think that will really introduce the issues for us. At the top of Slide 12 in orange, we can see the Patent Owner's construction. And the big key issue that they're advancing is that they want this limitation distinct from a spacer. They want the base plate to have no spacer aspect involved in it whatsoever. They're trying to exclude that. Why? Well of course, because the prior art, Fraser and Michelson, have those integrated spacers. That's exactly why they're trying to do it.

Now you'll never see the word "spacer" in the 234 and 537 challenged patents, it's not in there. They're simply taking this argument, attorney argument they've created now during this IPRs in the hopes of avoiding the prior art.

As we'll see, the specification is explicitly contrary to this. In fact, the disclosed embodiment of a base plate includes integrated spacers. That's fundamentally fatal to their argument.

The second big issue is of course their reinterpretation of the Board's preliminary construction. We can see that on the bottom here in blue. The Board's construction is a fixation plate to stabilize adjacent vertebrae for fusion. What did the Patent Owner do with that construction? They don't accept it, they don't apply it, they want to reinterpret, they want to change it. What they want to do is they want to grasp on to that word "plate" and loop back in this argument that it has to exclude spacers.

Put simply, what they couldn't get through the front door, they're now trying to get through the back door by reinterpreting the Board's construction. And that's wrong for the same reasons their construction's wrong. It just isn't supported by the intrinsic evidence. And that's how we determine the scope of a claim under claim construction.

We can turn to Slide 13 now. There are two core issues that I want to raise with you with respect to why the Patent Owner's proposed construction is simply wrong.

The first issue is the specification, the intrinsic evidence explicitly discloses integrated spacers. The second core issue is that Patent Owner wants to rely upon the 537 patent, that's a later child continuation in part from the 234 patent. They want to look at some new matter that's been added over a period of almost 15 years between those two applications. They want to look at some new matter and say that completely changes the equation, that completely changes what a base plate should be. And that's

wrong for several reasons. They can't really look at that new matter, even if you do, it really doesn't help them at all.

So we come to Slide 14 now, beginning with the first core issue. What does the intrinsic evidence say? That is, after all, how we construe claims. We'll start by looking at the claim itself. And what does the claim say? A base plate, the base plate is configured to primarily fit between anterior portions of adjacent vertebral bones. And what does it do? To hold the vertebral bones while sharing weight. That's what the claims of the base plate is. It's between the bones and it holds them for fixation.

How that's described in this slide we can see that here under the figure on the right, on the right-hand side, Figure 3. We see the base plate in the middle, the two bones on the respective left and right-hand sides, and those screws going through screw holes in the base plate. And that's what holds it for that sharing weight.

Turning to Slide 15, how is this described in the specification? Once again, it's assembled between the adjacent vertebrae. Here we have a colorized image of Figure 1. That base plate, as my colleague Mr. Bregman was talking about, is in orange, sort of that U-shaped, saddle-shaped base plate that sits in between the two bone bodies. And then you have the various screws, green and purple, on each respective side. Those are used to go into the bone bodies to hold it to that fixation. That's how the patent's described basically.

Turning now to Slide 16. What about this idea of a spacer? RSB makes this argument, the Patent Owner makes this argument that a spacer somehow has to be excluded from the definition of a base plate. What do they mean by a spacer? As I told you before, it's not in the patent. So let's

take a look at what they say. They say that a spacer is an interbody device. They say a spacer bears weight from the vertebral bodies. That sounds familiar. They're absolutely correct. Let's go back and look at the claims.

What do the claims say? The claims say a base plate is configured to fit between the interior portions and a base plate is configured to share weight. So when the Patent Owner is talking about a spacer exactly the way the patent describes base plate. So now come back and say that somehow those concepts are totally different, totally divorced from each other and it'll be impossible to have a spacer as part of a base plate. It's just wrong, it's just contrary to the intrinsic evidence.

Turning to Slide 17, Your Honors, we have here depicted the various embodiments across the two challenged patents. I want to focus right now on the top left-hand corner. That's Figures 1 through 4, those are common across both challenged patents. That is the only embodiment, the only embodiment in these challenged patents that is referred to as a base plate.

That device has an integrated spacer. And I'll talk to that in just a moment. You'll see some other imagines on here, that's Figures 8 to 14, 32 to 34, and 35 to 44. That's that new matter I was talking about before. That was in the 537 patent only. None of those refer to the base plate. But even if you look at them, they all have an integrated spacer as well. And we can discuss that.

Let's first focus on the actual embodiment referred to as a base plate. And that will be Slide 18. Slide 18 talks about the base plate embodiment. The specification refers to it as having a pair of lateral tabs that are labeled 60 and they're integrally formed with a primary member. They are part of the base plate. It is all one unitary device. In other words, this whole idea

the Patent Owner has that a base plate has to exclude spacers, it's right here in black and white, intrinsic evidence explicitly rejects that concept. And in fact intrinsic evidence explicitly describes in its specifications and depicts here the integrated spacers with the base plate.

JUDGE JESCHKE: Mr. Sherwin, I have a question for you. This is Judge Jeschke again. So I'm still looking at Slide 17, which is talking about how every embodiment has integrated spacers. I'm trying to understand, in your Reply you had said that we should conclude, I think, that a base plate includes integrated spacers. Is it that integrated spacers are required by the independent claims is your argument, or that they are not precluded? Does that make sense, the difference?

MR. SHERWIN: Yes, Your Honor, I think it does. And I think what the Board's construction says is it's essentially silent on the idea of spacers. It doesn't say they have to be included or excluded. I think what the real issue here is Patent Owner has essentially come up with a negative limitation. And they're saying a base plate cannot ever include that spacer, it has to be distinct from it, right? And that's the real problem because that's contrary to us. You can see every single embodiment in here, every embodiment in this specification has a spacer.

JUDGE JESCHKE: If you could hold on one moment. So as you talked about a couple minutes ago, neither of the specifications actually include the term "spacer." Your assertion, Petitioner's assertion, is that lateral tab 60 and nub 66 would be considered a spacer by one of skill in the art, right?

MR. SHERWIN: Yes.

JUDGE JESCHKE: And the fact that some of the dependent claims, at least in the 234 patent, include those lateral tabs. Your position I think is that spacers, if that's what lateral tab 60 are, they are not precluded by this, you know, under our construction of base plate. Am I understanding that correct?

MR. SHERWIN: Yes, Your Honor. I think that is sort of a bearing of the prior issue. They're not required by the Board's construction. We're not required to show as Petitioner a base plate and separately a limitation of a spacer but we're required to show the base plate.

What the issue is of course is that the inverse of that. The Patent Owner's trying to argue that you have to exclude always and forever, it always have to exclude spacers. And that's just contrary to specifications.

Any further questions, Your Honor, or may I continue?

JUDGE WOODS: I have a question. How would you define a spacer? Because I'm referring to that Figure 1 embodiment from the specification which includes the lateral tabs, and I think a site you've shown of it occupying the disc space in Figure 3. I wouldn't consider that a spacer because it doesn't contact both sides or both surfaces of the adjacent vertebral bodies. But in your opinion, that's a spacer?

MR. SHERWIN: Yes, Your Honor, that's a good question. And actually I think that if what you're referring to I believe is Figure 3 of the challenged patents. You're saying that, "well, maybe they don't really touch, so if it doesn't touch how could it be a spacer?" Am I understanding your question?

JUDGE WOODS: Yes.

MR. SHERWIN: Yeah. And I think that's what it really comes down to here is we are not relying upon Figure 3 alone in a vacuum for our argument. What we're relying upon is the entire specification. And what does the specification say? The specification talks about the tab 60 and the nub 66. They're specifically designed to contact the bone. In other words you will have contact on both sides of the bone.

And if you can actually turn to Slide 19 I can address this argument specifically with some arguments that we've raised with the Patent Owner's expert and some specification cites. And on Slide 19 we asked their expert explicitly about the exact question you're talking about here. What about these tabs and nubs 60 and 66. So we asked the question. Is it your opinion that those do not function as spacers. I think that's Your Honor's exact question. What was their expert's answer, Patient Owner's expert's answer? If there becomes a loss of disc height or one vertebral body moves down toward the other, 60 and 66 may come into contact and provide a spacer. He admits it. When those bone bodies move and settle over time it acts as a spacer. And he's absolutely correct.

If we turn to Slide 20, you can see all the surfaces that will come in contact when those bones settle. As we look at Figure 1 on the left-hand side of the challenged patents, we can see Screw 25. That Screw 25 is part of that primary member. You might recall that it has a slot in it so can move, it can translate as those bones settle. Look at how that impacts Figure 3 on the right-hand side here. We see bone body 16, which is that same screw, Number 25, it's coming out of that member that's angled and red at the top. And it slides down as that body and spine move into compression

after it's implanted. And what does it hit? It hits that surface, that surface in red where you're saying there might be a little bit of gap there.

What is that surface in red? We know exactly what it is, look at Figure 1. It says tabs and nubs, 60 and 66. Those surfaces are specifically designed to do that. And if Your Honors want I can give you some cites to the reference itself, I can talk about how that happens.

JUDGE WOODS: Well, I guess to focus on my question a little bit more. Although it appears Mr. Drewry acknowledged that there may be some subsidence that causes those vertebral bodies over time to the stage within those two vertebral bodies to narrow and therefor causing contact on both sides of the tabs, that's not always the case. And so if that doesn't happen would you still understand that to be a spacer?

MR. SHERWIN: So I think the hypothetical is, what if this device is implanted and for some reason the bones never subside? Is it still a spacer?

I think that's a pretty complicated question. I mean the device itself is designed to have that bone screw 25 laterally translate and move toward the spacer. In addition, that whole area is filled with bone graft. So if you've got bone and then you've got the bone graft material and then you've got the lateral tabs and the nub 66 and they're all compressing together and the bones don't end up moving, that spacer is still maintaining that space. Because what maintains the space between the two bones? You've got a bone on one side on the left, 14, and you've got a spacer that's made out metal, that's the lateral tab 60. And then even if there's a little bit of a gap there, because that bone doesn't always compress, it's just compressing the bone graft material. So the spacer is all of those things, right? It's the actual metal and it's the bone graft that's been put in there that maintaining that

height. So they all work together, they all act in concert to maintain that space.

So we can't just ignore that spacer just in those scenarios where theoretically the bone never subsides.

JUDGE WOODS: Okay. Thank you.

MR. SHERWIN: Now I mentioned to you a little bit before that there were some other embodiments. Again we don't think those embodiments control, they're never referred to as base plates. We can see that on Slide 21. But even if you look at them, they also have interface numbers. They're labeled 130. And what are they explicitly for, those sort of pyramid shaped devices. Those pyramid shaped devices are intended to engage with the bone to provide that subsidence control, which is maintaining a space between the discs. That's why it exists. You simply cannot push the bones together so far that they would crush that metal. That's why they exist.

We see this also in Slide 22, this is for the embodiments and Figures 32, 35, and the associated figures. Once again, the specification refers to the interface numbers 530, and explicitly says they can be configured on either side or both sides of the base plate specifically for interface numbers 530 are configured to contact at least one surface of a bone body.

So once again, every single embodiment in these two patents is talking about the idea of these devices having the ability to act as a spacer. And that just fundamentally undermines their argument.

As we see on Slide 23, I mean the --

JUDGE JESCHKE: Mr. Sherwin, this is Judge Jeschke again. Your comment just now, what I'm trying to understand is what a spacer is in your

view. Is it simply any structure that performs the function of providing space, is that an accurate understanding of spacer?

MR. SHERWIN: Yes. The tab 60 and nub 66, they're made out of metal, often titanium. They maintain space. The bones cannot compress so much that they would compress or collapse or remove that space. In other words there is a minimum amount of space between the two bones. What provides that minimum amount of space? The spacer. That's the tab and nub 66. It is simply impossible to have the bones crush that piece of titanium. So it is absolutely maintaining space.

JUDGE WOODS: I'm sorry, I hate interrupt, but my understanding was those tabs were simply used to keep the bone graft material, which is a spacer, from moving laterally after the surgery. And so I wouldn't understand that those tabs can, as shown in Figure 3, even if you have some subsidence and you're going to have some narrowing of that disc space when the implant settles in. As fusion is occurring, I don't think that necessarily means that those tabs contact and bear weight between the adjacent vertebral bones. So I wouldn't think that would be a spacer, I don't think that would be a spacer, I think they're simply tabs to hold the bone graft material within the space.

MR. SHERWIN: Your Honor, I think I have two comments for that. And one is that I think that that structure can perform multiple different functions. You're saying that structure wraps around the bone graft material to hold it in place. I agree with that. There's nothing inconsistent about that with the Board's construction. Those tabs and nubs can wrap around a piece of bone graft and hold it stable.

But they can also perform another function, which is subsistence control. And like I said before, you know, we can see that in the 234 patent, Column 6, Line 38. It specifically talks about their being subsistence occurring and how those tabs are specifically there to deal with that subsistence, that movement of the bones to maintain that space. That's the way the specification describes it.

JUDGE WOODS: Okay. Thank you.

MR. SHERWIN: So I'd like to move on now to Slide 24. I mentioned that there was a second issue, a second problem with Patent Owner's construction. And that is that they are relying upon new matter. And I think we can get through this relatively quickly.

Turn to Slide 26. If they rely upon new matter, yes, absolutely. And that intervening years, I think it's 13 years or so between the two applications, they added numerous figures and corresponding specification. And what do they want to do with that?

We turn to Slide 28. You can see what they've done. On the top we have the only embodiment that talks about a base plate. That's what's depicted at the top. The bottom three figures are some new embodiments added, some new matter that they added in the 538. And what they want to do is they want to make the argument that this new matter, which is not ever described as a base plate. They want to say that sometimes those are base plates, sometimes those are not base plates. And if you parse it in just the right way, if you look at it just the right way, according to them and their attorney argument, that somehow supports their position. Unfortunately that just simply isn't correct.

Please turn to Slide 29. As I mentioned, these embodiments are not base plates so they do not directly bear upon the meaning of the term "base plate." Figure 8, embodiments, are referred to as an interbody device 110 and a base member 120. Not a base plate.

We can see the same thing on Slide 30. It's referred to as an implant device 510 and a base member 520. Again, not referred to as a base plate.

Slide 31 is the exact same issue. They refer to base number 520 of the implant device 510, and include the primary member 600. Again, none of those structures are referred to as a base plate.

So as an initial matter I don't think the Board even needs to consider these embodiments. But why, why is the Patent Owner so insistent on trying to look at these New Material to try to change the meaning of a term that is already in the original parent 234 application?

We know the answer in Slide 32. We asked their expert explicitly about this issue. How would a person of ordinary skill in the art know that the claim term "base plate" refers to these members and all those embodiments I just showed you, except some of them? Except Figures 32 and 34. How would that person of ordinary skill in the art be able to pick up that 537 application and know the answer to the question?

The expert answered with the requirement that a base plate is intended to be used as a distinct spacer. Once again, that's attorney art, that is nowhere in the intrinsic evidence. It's not in the claims, not in the specification, not in the figures. It's just attorney argument. That's all they're trying to do. They're trying to sneak that limitation back into this term. It just simply isn't supported by the intrinsic evidence.

So I'd like to turn now to Slide 37 to address the second claim construction issue. As I mentioned before, the Board has of course, as you know, come up with its proposed construction for this term. Patent Owner does not accept it, they do not like it, they want to change it. They're trying to reinterpret what that really means.

As we see on Slide 38, what is their intent? They want to exclude spacers. The same issue that we've just been talking about this entire time, this whole idea that spacers must somehow be affirmatively excluded from the definition of a base plate. Once again, intrinsic evidence simply does not support them.

We can see this on Slide 39. What does the Patent Owner do to try to advance its "reinterpretation" of the Board's construction? Relies on extrinsic evidence. But that extrinsic evidence, as we know under Phillips, cannot be relied upon by the Board to overcome what the intrinsic evidence explicitly says. And that's fatal to their argument. In addition, we know that the Board's construction does not exclude integrated spacers. It simply isn't listed in the definition.

So if we turn to Slide 41 we can see RSB's argument. Then look at the Board's construction and they say it does not broadly encompass all structures of any shape or form, it doesn't include rods, screws, rings, boxes, et cetera. They're trying to add these limitations, they're trying to add these geometric limitations. And why are they doing it? As we know, it's to get rid of spacers. How do they try to do it? We can see that on Slide 42.

They take a look at that word "plate" and they say plate has a well understood meaning, it's got to be an object with a particular shape, it has to have the thinnest relative to their dimensions, a piece of paper.

JUDGE WOODS: I'm sorry. I apologize for interrupting, but I understand that dispute having three and a half hours, you still have limited time to go through all the issues. But when I see, I think we're conflating two different arguments here. So I agree that the Patent Owner argues that a spacer is distinct from a base plate. But I also understand that Patent Owner argues separately that the structures you've identified in the prior art is not a plate. So that's a separate argument as to whether or not a base plate is distinct from a spacer.

And with that, I think it's a fair point. I'm looking at the structure that the Petitioner has identified as satisfying the claimed base plate and I'm not sure it's a plate. I think the claim doesn't recite a base member, it recites a base plate. And a plate has to, what does a plate mean, you know, I know that it's not a term that either party has proposed construction of directly, but what is your understanding of a plate and how is it different just from something that's just more general, like a member?

MR. SHERWIN: Well, Your Honor, I think the claim term is base plate, it's not plate. The term that they chose in their claims. Their choice, as the inventors, they get to decide how they want to characterize their claim. And they called it a base plate. If they wanted to call it just a plate, they could have done that, but they did not do so.

JUDGE WOODS: But, Mr. Sherwin, the parties both agreed that on the aspect of what is now the preliminary construction that begins with fixation plate. So I mean that term still needs to be mean something. The word "plate" in the preliminary construction, which was agreed upon by both parties. So we still need to do something with that term "plate" even if it's in the phrase fixation plate. Right?

MR. SHERWIN: Yes, Your Honor. And where does that term fixation plate come from? That comes directly from the specification. The party just looked at the specification to say okay, well what is a fixation plate. I think it's clear what a fixation plate is because the patent explicitly talks about it.

We can see this on Slide 45. The intrinsic evidence, the record explicitly talks about what is a base plate. It talks about these two figures, Figure 2 and Figure 3. Are these flat, thin objects that look like pieces of paper? No, absolutely not. In fact the specifications specifically refers to it as a unitary substantially U shaped structure, it's not a flat, thin piece of paper. It almost looks like a saddle, particularly with that Number 31 sticking up. We can see that both on the left figure with screw 25 and also on the right Figure Number 3 that sticks up.

So it has all these sort of weird interesting shapes to it. It's not simply some flat piece. That is what the inventor says their invention was. That's what they disclosed to the public in the specification. That is what they depicted to the public in their figure.

JUDGE WOODS: But, Mr. Sherwin, as we talked about before, the lateral tabs are not actually required so if you were to remove those, would the structure above, so what we see in Figure 1, with the lateral tab 60 removed, would you agree that that would be considered a plate as well?

MR. SHERWIN: Yes, Your Honor. I'm not suggesting that the proper construction, the term "base plate" has to be this exact geometry. In fact I think that's exactly what Patent Owners are trying to do. They're trying to say the construction has to be limited to some specific geometry. That is absolutely not our argument. And in fact, as we know, the Fraser

two-piece embodiment has that thin, almost flat, piece of paper. That of course is a base plate. But so do other configurations, so do other geometries.

And that's exactly our point. The point is the way that they describe base plate, the way they talk about the scope of their term in the specification of base plate is not restricted to some specific geometry. Instead they depict it as this sort of U-shaped or saddle-shaped device. And what does it do? It's got to be between the bone bodies and it has to hold them. We know it has to be in between those two intervertebral bodies, we can see that in Figure 3. And we know it has to hold it. That's what the screws are for. So that plate is doing those two things, that fixation plate that's in our proposed construction, theirs, and the Board's proposed construction. Where'd that come from? It's this idea that it has to be this device that allows for fixation. It has to be this device that has holes in it, or screws, so the screws can go through, go into the bone, and fixate everything. That is entirely the point of what they described here.

So I think that's what the inventor was talking about, that's what they disclosed in their specification, and that's what they have to be stuck with. They can't simply change that now because they don't like it.

JUDGE JESCHKE: Okay, Mr. Sherwin, I think we understand the position on the construction. It may be helpful, given the time, to move, if you want, to I think you call it "Issue 2," the kind of the fusion embodiment in Fraser, maybe around Slide 52. If that's --

MR. SHERWIN: Yeah, I think you're exactly correct, Your Honor. So if we turn to Slide 50 there's right there, there's three core issues here.

Let's take that construction and apply it to both Fraser fused, Fraser two-piece, and Michelson.

As you mentioned, you know, the Board has already preliminarily found that Fraser fused, you know, is going to be -- I'm sorry, that Fraser two-piece is going to meeting that limitation. There's also still some dispute about Fraser fused and Michelson.

So as we turn to Slide 52, as you mentioned. This is Fraser's fused embodiment. As we can see, at the top we have the Board's proposed construction. And on the left we have the challenged patent. And at the base plate in the middle, it's in between the two bodies, it has the ability for screws, that's what allows that fixation, and that is why that's a base plate. That's what they describe as a base plate in the patent.

On the right we have Fraser. Again, almost identical structure. You have a structure that goes, a device that goes in between the two bones so it's intervertebral, and then also it has these screw holds in it that allows for fixation. We have the screws on the left in green, the screws on the right in purple. And that's exactly what the Board's preliminary construction is, it's a fixation plate, it's a device that can go in between the bone bodies for fixation. And what does it do? It stabilizes the adjacent vertebral for fusion. So we believe that that is not in the Fraser fused embodiment.

As I mentioned before for Fraser two-piece, this really isn't an issue I don't believe. We turn to Slide 54. RSB does not make this argument. They only raise the weight bearing issue, which I recognize is a dispute between the parties. We'll deal with that separately and later. But in terms of just the structure of a base plate, and I think this goes to Your Honor's point about what geometry does it have to be. That Fraser two-piece is just

that small little plate on the front. Okay, sure, that can also be the claim base plate but it's not restricted, it's not limited to only that specific geometry.

And we asked their expert, is this a base plate or the Fraser two-piece. His answer, I believe the base plate matches the construction by the Board. Again, I recognize there's a weight bearing issue, and we'll deal with that separately.

So, Your Honors, I think we spent a pretty good amount of time on base plate, and unless you have any further questions I think we should move to some of the other limitations, in particular the side surface and lip osteophyte limitations.

And I would recommend that we start at Slide 57. I'll start by discussing Fraser and how that discloses these limitations. And then after I finish Fraser I'll speak to Michelson and how it meets those limitations.

So turning to Slide 58, we can see on the left the challenged patents and the embodiment, the only embodiment that is a base plate. And we can see those screws. One is going through the side surface, the other one is going through the corner of the bone, or the lip osteophyte, that's how the patent describes it. And on the right we see Fraser. It's doing the exact same thing. It has the ability to have this base plate in the middle and then two different screws.

Well how do we know that those screws can go into two different locations? How do we know that we can angle those screws in a way so they get into both respectively to side surface and lip osteophyte, or sometimes the corner of the bone it's referred to.

We see that on Slide 59. It's the intrinsic record. What does the specification tell us? That the tabs can be angled to orient the screws as

desired. The specification goes on to give us more information about that. The angle formed by the tab and the plate as well as the screws in the medial plane that's designated Alpha. What does that mean? It's determined by a particular situation in a patient's anatomy. And that makes all the sense in the world.

Bones are not perfect rectangle like they're often depicted in the challenged patent. They're unique, they're different. Every patient has a different degenerative condition or different spinal condition that requires one of these intervertebral body devices. The surgeon needs the ability to assess those bones and place the screws where they need to be.

Fraser came in and disclosed the way to do that. These tabs, that can move, change their angle such as the screws can be placed into different places. And that's what we see here at the bottom of the slide. The tabs are flexible or readily bent with respect to the angle of the plate so you can determine what the appropriate angle will be.

On Slide 60 we know that their expert, Patent Owner's expert, agrees with this. He agreed that there was anatomical variability. And we asked him, because of that the vertebral bodies would not be parallel to each other when you place your implant there. Correct? His answer, yes, that's correct. In other words they are not these perfect rectangles, they're unique, interesting shaped vertebral bodies.

Now the argument they challenge us on is they try to say that we're wrong despite all this intrinsic evidence for Fraser explicitly said you can change the angle, to place those screws appropriately. They come back and say well, you didn't show me a picture of it. Because you didn't show me a picture of it that's not good enough.

Now we all know that's not the standard for invalidity. The standard for invalidity is what the reference discloses, what the reference teaches, and that's exactly what we described there on this specification. But that's fine, we'll take on their argument, what it is, you need to show us a picture of what that looks like.

So our expert did that. Our expert took on their argument and said fine, if you want to see a picture, what would it look like when you have anatomical variability of those bones, and how would you change the angle of Fraser's screws so one would go through the side, one would go through the lip osteophyte. It was no problem at all. Because that's exactly what Fraser's device is designed to do.

As you can see here on the right-hand side, our expert's depiction of what that would look like. Top screw is going through the lip osteophyte or the corner of the bone, and the bottom screw is going through the side surface. Just like it's depicted in the challenged patents.

RSB comes back with another argument. They say well wait a minute, all you're really doing are toggling the screws, rotating the angle of the screws. And when you rotate the angle of something, it doesn't really change its entry point, it just rotates. So that's not good enough. Again, we're going to take that argument on in Slide 62 and say, is that really correct.

Our expert look at that said no, that is not correct. RSB's argument is wrong. Because adjusting the tabs adjusts both the angle as well as the entry location of the screws. And that's really important. I tried to think there was a simple analogy of this. Well imagine just holding a screw in your hand right now. If you just toggle that screw, if you just rotate that screw,

it'll shift a little bit in your hand. That's RSB's argument. But that's not the structure of Fraser. What's the structure of Fraser? Remember, the structure of Fraser that you have a pad that projects away from the rest of the device. And you can bend that tab, you can move that tab.

What is that like? Well it's a bit like your forearm, rotating about your elbow. And when you move your elbow you're not just rotating the screw, you're literally moving the location of the screw as it relates to the bone body.

So RSB's argument, this idea that all you're doing is rotating the screw, it's simply not supported by Fraser. Fraser makes it clear that you're actually changing the lever on. You're changing the tab, you're moving the tab. That's if you rotate, that's what you change.

We can see this on Slide 63. On the left-hand side we see Patent Owner's depiction of what they think this would look like. Again, we've got the assumption of these perfect bone bodies that are perfectly square and all the rotation occurs perfectly at the surface of the bone. We reject all of that.

But the point here is, let's take them on. Even if you accept, even if you're willing to entertain this argument, are they right? The answer is no. And we see that here on the right-hand side. Because in Fraser what you're doing is you're not simply rotating the screw, you're not toggling the screw in the hole, you're actually rotating the entire pad. And that moves where the screw would be. And we can see that in the orange line here. When you rotate that tab and you move that tab, you actually move the location of where that screw would enter into the bone body.

And that's why Fraser, both in the two-piece and the fused embodiment have the ability to have screws going through multiple different surfaces of the bone.

So I think I'll turn now to, unless you have any questions I think I'll turn now to the Michelson portion of this argument. I think it will be easiest to keep everything together.

And we can see that starting on Slide 123, please. So as I mentioned before, Michelson also meets these limitations. And really it does so in the exact same way. It explicitly discloses that those screws can go through a variety of different angles. And because of those variety of different angles, it can go into different surfaces of the bone.

And so I think it might be the best use of our time is what does RSB complain about? What does the Patent Owner complain about, and are they right? The answer to that is generally no, they are not correct.

And I will describe that, starting on Slide 125. This is a bit of a confusing image so I'm going to try to explain it. What we see in the middle is the orange and yellow. The orange is obviously the Michelson base plate, the yellow is whatever bone graft material the surgeon has chosen to put in there. We can see in light green and light purple the screws on the respective right and left-hand sides of the device.

What we see in dark brown are the sort of optimized, the sort of figurative bone bodies that are perfect rectangles. And if we just stop there that is the way the Petitioners have described Michelson's device, sitting in between the bones at various screw angles.

Patent Owners come back and say that's all wrong, that's incorrect. Instead what you have to do is you have to look at the bone bodies, like in

the light gray, almost translucent boxes that they've applied in here and put on top. Effectively what they're doing is they're taking Michelson and shoving it all the way to the posterior side of those bones and saying if you shove it all the way in there so deep that after the surgeon puts it, not once, not sometimes, but every single time. If Michelson does not disclose putting that device in the interior circle, if Michelson discloses always putting it at the posterior surface, those screw angles wouldn't work. The problem with their argument is it's not supported by the intrinsic evidence. It is not supported by Michelson's teachings and disclosure.

We can see this on Slide 126. Michelson has a variety of embodiments and figures in its application. And in there we can see that Michelson places the body of devices right at the anterior surface, not the posterior surface.

In Slide 127 we can this is in fact is in every single figure, every single time Michelson discloses where you'd place this device, you place it at the interior surface. And that is exactly why that's the appropriate way to place Michelson's device in order to figure out where those screw angles would go.

Now if we turn to Slide 128, Patent Owners have another problem with their proposed idea of placing Michelson all the way at the posterior. If you tried to put a screw in, it would be very difficult, if not impossible. We can see that, the little red dash lines. The screw angle that Michelson explicitly discloses is taught by its device, it would be very hard to get a screw in there because it's being blocked by the bones if you stick it all the way to the posterior side. It just simply doesn't make any sense. This hypothetical, this attorney argument, this position that they're advancing that

is nowhere described in Michelson, nowhere depicted in Michelson, it just simply doesn't make sense in the context of what Michelson discloses, and it doesn't make sense in the real world either.

Turning now to Slide 129. There's also a question in some dependent claims about whether the 20 degree limitation can be met. As we see here, the screw, the purple screws depicted at both 35 degrees and 75 degrees, a corresponding angle for 75 degrees with respect to the top surface is 15 degrees. So there's this question of whether Michelson still goes through both surfaces of bone when it's in its various angles.

Now I recognize that this specific image that we've presented is at 15 degrees, and that's outside of the 20 degree claimed range. But we're not relying on this figure alone. Our argument is not premised on one specific figure in a vacuum, it's premised on the teachings of Michelson. And what are the teachings of Michelson? That it can go through an entire range, and that entire range includes 15 to 65 degrees. In other words, if you would take this picture and slightly alter that degree a little bit, it would be well within the range disclosed both by Michelson and by the claims.

And what about the claims themselves? Do the claims say you have to show it exactly at 20 degrees? No, they don't. 234 patent, Claim 1, patent says about 20 to 60 degrees. So even if the Board thinks it needs to look at a specific picture, this picture probably gets you there for the claim language. And even if the Board recognizes that what really counts is the entire teachings in this photo of Michelson. Michelson explicitly discloses the screws going through that 20 degree range. It is directly in there.

Your Honors, I don't have any further questions, I'm sorry, I don't have any further comments at this time. If you have any questions I'd be

happy to address them, but in the interest of time I think we should move to some of the other arguments.

MR. BREGMAN: All right. So I think it's my turn again. So if Your Honors could turn to Slide 65, and this is dispute 4. And this dispute is about whether Fraser's fused embodiment fits primarily between the anterior lip osteophyte. So what's important here to note is this only applies to the grounds that rely on Fraser's fused embodiment, not the two-piece embodiment, just the fused embodiment.

And to remind you that the two-piece embodiment you are relying on Fraser, there's a plate 20 and there's a separate body 10. Now Patent Owner's argument here is that Fraser's device in the two-piece embodiment, the base plate does not fit primarily between the anterior lip osteophytes. And we'll show you that's wrong for two reasons. First we will show you that Fraser's base plate in this embodiment, sorry, the fused embodiment. In the fused embodiment the base plate does primarily fit between the anterior surfaces of the lip osteophytes. And then secondly we'll explain why Patent Owner's interpretation of this term is not supported by the intrinsic record.

So turning to Slide 67, Your Honors have already construed the term "primarily" to mean "mainly." There's no dispute about this where it says that the base plate needs to fit primarily between the lip osteophytes it primarily means mainly between the lip osteophytes.

If we turn to 68, and I think this is instructive to start off by looking at what Patent Owner's positions were during prosecution when discussing the prior art. And you can see on Slide 68 the two references that they were a distinguishing over, Geisler and Henderson.

And this is what Patent Owner said. They said each of these prior art cage devices is not configured to fit primarily between anterior portions of the bone bodies lip osteophytes and they have top plates that cover significant portions of the top surfaces of the bone bodies. So you'll see the claim language right there, fitting primarily between the anterior portions of the lip osteophytes.

And what are they saying? They're saying if you look at these figures, sizing of these figures, you can see that they're portions of what the examiner was calling the base plate that sits on the top surface, on the anterior surface of the vertebrae, and you can see that for example in Henderson shows a good example. We can see the flanges 109 sitting along that left most surface of the vertebrae. It's not sitting between the anterior portions of the lip osteophytes.

When you look on the next slide, Slide 69, when you look at the actual patent itself, the preferred embodiments, you'll see what they mean. So here is as compared to the prior art, if you look at Figure 3 from the patents you can see here that the base plate fits primarily between the back portion of that top portion of each of the vertebrae. Doesn't fit completely between it, it sticks out a little bit, it's above those top surface or anterior surface of the vertebrae, and in fact where the purple screw goes up, actually does even overlay a portion of the vertebrae but it's primarily between those two rear, sorry, anterior surfaces of the lip osteophytes on each of the vertebrae.

If you turn to the next slide, which is from the patent from Fraser. Fraser describes the exact same thing. It says that the screw heads, you remember they were also shown in green and purple in Fraser, have to be

flush or sub flush with the anterior surface plate 66 of the fusion cage to minimize the likelihood that major blood vessels running along the spinal edge. They also, exact same reason, they don't want the screws and the base plate to stick out into the person's body cavity, they want it to sit flush with the vertebrae. And that's the exact same way as the patent.

If we look at Slide 71 why don't we just compare them side by side, the figures? You'll see on the left is the prior art, there you can see a portion of the base plate sitting on the anterior surfaces of the bone. They're saying that's not what the claims cover. Then they talk about what the claims cover, that the base plate has to sit primarily between those two vertebrae. And then in Fraser it's the exact same thing. In fact in Fraser, Figure 8, it's even better with respect to the claims because the entire base plate sits between the anterior surfaces, it's not even just mainly between it, as you can see in the figure, it doesn't stick out at all beyond the anterior surface of the vertebrae.

Your Honors, already on Slide 72, the Institution decision already recognized that Fraser's Figure 8 shows the base plate sitting between the anterior portions of the vertebral bone lip osteophyte, as supported by Mr. Sherman's testimony, which we can see on the next slide where Petitioner's expert, Mr. Sherman has said that the Fraser base plate fits between the lip osteophytes of the vertebral bodies as unilaterally and do not cover the top surfaces of the bone. Every single time in the prosecution history where the Patent Owner was distinguishing the prior art they were looking at a side view of the spine. That's what they were distinguishing over the prior art where the prior art had a portion of the base plate that went, covered over the top surface of the vertebrae.

So how does Patent Owner now attempt to address the fact that Fraser discloses the challenged patent's sole covered embodiment? So they come up with a very convoluted analysis, and that's shown on Slide 74. So if you look on the right-hand side of Slide 74 there's something, a round circle you can see and it says "Simplified plan view of anterior and posterior portions of the lip osteophyte." So Patent Owners say, well you've got the simplified perfectly round vertebrae and you draw a line through the center of it and everything on the anterior surface, the green-dashed line, that's going to be where you're going to have your anterior portions of the lip osteophytes. They then apply that to Fraser's top down view, a plan view of Figure 1, they color in some sections in orange and they say only those sections in orange of Fraser fit primarily between the anterior portions of the lip osteophyte. And they say, "that's less than 50 percent of the entire base plate, and therefore it doesn't meet the limitations of the claim."

So first we completely disagree with this analysis for numerous reasons. Firstly, they've taken measurements of the figures, which we know are cartoons and (inaudible) unless the patent specifically says they're drawn to scale.

Secondly, this is not the way they argued it during prosecution. During prosecution they always argued looking at the side-view, not this top-down view that they made up for the first time. There is no intrinsic support for this analysis. If you look at the top-down view and try to figure out half of the base plate needs to be exposed to the anterior portions of the lip osteophyte. There's just no description of that in the intrinsic record. And Patent Owner didn't even try to apply its own analysis of theirs, this

analysis to the preferred embodiment in Figures 1 through 4 of the challenged patent.

So we disagree with this analysis. And we think the correct analysis is looking at the side-view which we just went through. But even if you assume the Patent Owner's analysis, the broad analysis is correct, this top down view, Fraser still discloses this plane element. How do we know that? Well we know that because if you look on Slide 75 and these are portions of the very figures, sorry, the very embodiment that we relied upon in our Petition, the Fraser 106 is very clear that the fusion cage and I'll read the highlight sections from Fraser, the fusion cage can also be provided with first and second transfer elements 28 and 30, so it's clear there that the transverse elements 28 and 30 are optional, as the fusion cage can be provided.

Read a little bit further in Fraser. What does it say? It says that the transfer elements 28 and 30 (if included), you don't have to have these transfer elements. Why is that important? Well if you look on the next slide, Slide 76, you'll see that if you don't have those transfer elements, and the transfer elements are shown with the two blue lead lines in Patent Owner's annotated Figure 1 on the left, they are the two center sort of columns that you see there in red, well we know Fraser says that those are optional. That was in the very embodiment we relied on for this feature in the claims.

And if you remove those, which is what our expert did, and you do that exact same calculation, that same analysis that Patent Owner's performed, Mr. Sherman, our expert, calculated that what you'll end up with, even following the flawed analysis of Patent Owners, that without

those transfer elements you're going to get about 60 percent of Fraser's base plate that fits between those anterior portions of the lip osteophytes, following Patent Owner's top down plan view analysis, which we think is correct.

JUDGE WOODS: Mr. Bregman, if I may interrupt to ask questions.

MR. BREGMAN: Yes.

JUDGE WOODS: I actually think Patent Owner makes a pretty good argument as it relates to the 537 patent. And first I am going to point to you the claim language. Okay. So the claim requires that the base plate is configured to sit primarily between anterior portions of adjacent vertebral bones lip osteophytes to bear weight, to hold the vertebral bones while sharing weight with bone graft material.

MR. BREGMAN: Yes.

JUDGE WOODS: Okay. Let's assume that we're removing the transverse elements 28 and 30. As you point out, I do believe they're optional. What concerns me with Mr. Sherman's testimony as to this point is it appears to me that this figure was manipulated to show how it supports or it occupies at least 60 percent of that space. In particular, as I'm looking at Figure 1, I'm on Slide 76 of your demonstrative. So as I'm looking at Figure 1, Patent Owner's annotated Figure 1 on the left, and then I look at Mr. Sherman's, Petitioner's, annotated figure on the right, in addition to taking out the transverse elements 28 and 30, it appears that what is 20, the base plate, it has been enlarged and also, you know, it's been moved down. I think it shows up more clearly in Mr. Sherman's Declaration when you can actually do a more direct side by side comparison.

And so I'm concerned with this because it appears to me that what Mr. Sherman has done is manipulated this figure to show that it occupies 68 or 60 percent of that anterior space. And I'm not persuaded by that evidence. I think that Patent Owner's argument, it's in the claims, and is there another position that you have?

MR. BREGMAN: Let me talk you through that because I think maybe you're misinterpreting this thing a little bit. So if you look what Patent Owners have on there, you can see those transfer elements. Now between the transfer elements there is actually material that just doesn't come all the way to the top, that's that little curved line you see between the two transfer elements in Figure 1. I don't know if you can see that.

JUDGE WOODS: Yes.

MR. BREGMAN: I think it's got a lead line there, I'm not sure. So first the Patent Owners don't even include the bottom part of those transfer elements for some reason in the analysis, they just ignore it. Now if you were to take those out, the plate, that little plate, that sort of triangular plate, I forget what it's called in the patent, Number 24, that sort of is dove-tailed first into that piece. So you still absolutely need to have where that curved area is and you need to have something that it can bite on or otherwise it wouldn't fit in there.

So if you took it out it would still absolutely have to come up to that level where that little curved line is and then come back to join on the side to the orange. So I don't think using orange here at all, we gave no instructions, by the way, to what he should do. This is completely what our expert did himself. And I think it's a fair representation that if you take into

account the bottom part of the transfer elements you have to have some portion for that dovetail to bite. Number one.

Number two is at 60 percent it's way over 50 percent, it's got 10 percent more. Even if that were smaller it wouldn't make any difference.

And thirdly, I think this is the most important thing. Patent Owner has come back and they say Mr. Sherman made assumptions, who knows where he put the middle line, who knows what other assumptions he made. They didn't bother to test that. They didn't even take his deposition. If they were so concerned about anything that Mr. Sherman had done, any analysis he had performed, or the simple way Your Honors provide a mechanism for that to be tested, that's through deposition. That's the purpose of a deposition. They could have taken his deposition, they could have challenged him on those points. Instead, nothing. Instead all you get is a surreply with attorney argument that they don't like this, who knows where he picked the center line. He picked the center line exactly the same place they picked the center line. If they want to talk to him about why it's better there and maybe the same point you're asking, they should have asked him that question during a deposition. But they chose not to. And to me that's fatal to their argument. They had an opportunity, they chose to throw that away, that's it, they don't have any support for their argument other than complete attorney argument without anything in return from Mr. Sherman during his deposition.

So I actually think his figure is very representative of what it should be as long as you take into account that that middle section needs to be there. Once you realize the middle section needs to be in there, that's all he did. He came around and he flapped under at that same point where that little

section comes down. He didn't add any material, that's exactly where, if you look at that bottom curve in that middle area 32, the top of that bottom curve is where he drew his line and then he joined that onto the side parts of orange, not getting any thicker than what's shown there.

So I don't know if that answers your question but I think that a, I think Mr. Sherman accurately represented what it would look like without the contrary element. I think 100 percent that transfer elements are optional, they're just an optional component of the embodiment we relied on. If you look at Slide 75 in our demonstratives, this exact embodiment with the exact quotes from the patent were referred to in at least five places in our Petition, including Page 26. I also think Page 28, which I don't see there, Page 33, 52, 55, and 71. That's the exact embodiment we relied in our Petition, that's not a new argument. That's all.

JUDGE WOODS: Okay. Thank you.

MR. BREGMAN: Okay. So let's turn to Slide 77. So just to wrap up on this, we believe the correct analysis is viewing it from the side, exact argument that Patent Owners made during the prosecution. And they were distinguishing the prior art from their plan, so we think that's the correct analysis. And even if you took the top down analysis we believe that furnishes embodiment that we rely on in the Petition discloses that the need for analysis that Patent Owners came up with.

Okay. Let's turn to the next dispute, and that's on Slide 78, Dispute Number 5. So this the bearing weight argument. And we again, this time we're only referring about the two-piece embodiment and the question is whether in the two-piece embodiment the base plate bears weight.

Jumping to Slide 80. So, Your Honors, in the Institution decision preliminarily construed that to bear weight the anterior portions of the adjacent lip osteophytes must supply compressive force to the base plate. So the base plate has to be subject to a compressive force. And as we'll show you in a minute, that's exactly the case for the base plates in the two-piece embodiment.

Starting with Slide 81, you'll see that RSB or Patent Owner takes the position that Figure 3, this is from Fraser, demonstrates that the vertebral bones do not and cannot rest on the plate 20. Plate 20 is shown underneath in green, they rest only on body 10. So in the two-piece embodiment where you've got the green piece in the plate and the red piece being the body, Patent Owners say there can't be any compression on the base plate because the base plate does not come into contact with the vertebral bones.

Well that's not what their experts said. We asked their expert, would you agree that the tabs, this is 38 and 40 which you can see in Figure 3, follow the base plate in Fraser, are depicted as contacting the bone in Figure 8 of Fraser, correct, it appears that there are contact. So Patent Owner's own expert admits that the bone touches those tabs, despite what Patent Owner says in their Brief.

JUDGE WOODS: Mr. Bregman, if I get off my --

MR. BREGMAN: Yeah, go ahead.

JUDGE WOODS: I apologize for interrupting again, but I think I don't want to gloss over the intrinsic teachings of Fraser 106. And so as I understand Fraser 106, it discloses that that plate, when included, ensures that body 10 will not become dislodged from the spine. So that's what I understand a typical base plate does, it's attached to the anterior surface of

the vertebral bodies to keep the implant or the spacer from migrating outwards. And so that's what maybe some prior art base plates do.

So I understand Fraser 106 as exclusively disclosing and teaching the purpose of the base plate is to simply keep that implant from migrating out. Can you address that particular teaching?

MR. BREGMAN: Yes. I think you're absolutely correct, that's one of the purposes that a base plate can have. But the primary purpose of the base plate here is to have the screws screw into the vertebral, holding it in position. That's the entire purpose that you are affixing the vertebrae relative to one another.

If you didn't have those screws in there, and that's what the base plate is being used for, well, you know, you could have this vertebrae moving relatively to one another completely, they could move sideways, they could shift back and forth. So the primary purpose of the base plate is the hold these two vertebrae relative to one another. And that's what the claim says.

JUDGE WOODS: Well is it in Fraser 106 that base plate is optional? And so isn't it really what we're trying to achieve here, Fraser 106, is to fuse, you excavate the disc, you want to fuse the adjacent vertebral bodies, you put in a bone graft or some other spacer and then ultimately over time you're going to fuse those vertebral bodies, it'll be just one big bone.

And so I understand in reading Fraser that those bone screws are simply used to retain or hold that plate to keep that implant or bone graft or spacer from migrating out. So I don't see it, can you point to disclosure with Fraser 106 that would support the assertion that those screws are used to stabilize the adjacent vertebral bones?

MR. BREGMAN: I don't have the claim language directly in front of me but that's in the claim language itself. And the claim language itself says that the base plate is used to bear weight to hold the vertebral body, the vertebral bond. So it specifically even fair that in the plane that the base plate's jaw is to hold the vertebral bones together.

JUDGE WOODS: I'm talking about Fraser 106. I think that's the important part right here, right? To me the precise issue, and this is an important issue, is whether Fraser 106 discloses or teaches that that base plate 20 is, in reading the claims, configured to bear weight. I don't see anything in Fraser 106 that would support that. And so if you could point to something in Fraser 106, not something that's in the claim of the challenged patent, but if you could point to something in Fraser 106 to support that assertion, I would find that to be helpful. So maybe during --

MR. BREGMAN: So Fraser Column 1, lines 14 to 43 says the plate is configured to receive, retain, and orient bone screws, thereby holding the fusion cage and adjacent vertebral bodies in a stable relationship to promote fusion.

JUDGE WOODS: Yes. And so it's promoting fusion by retaining that fusion cage within the disc space, it's not the screws themselves in the absence of the fusion cage that would keep the vertebral bone stable. That's how I understand that disclosure.

MR. BREGMAN: I mean obviously the plate is used with the fusion cage. But I don't think one can dispute what Fraser says, that the plate, doesn't say the fusion cage, that the plate is configured to receive, retain, and orient the bone screws, thereby holding the fusion cage. So it's together with the fusion cage annotates the vertebral bodies in a stable relationship.

If you didn't have the screws through the base plate in Fraser then there's nothing holding those bones together. And you're right, over time the bones will fuse with one another, but in the interim period there's nothing holding them together other than the base plate with the screws.

And so I'm not following -- I agree with you, until this fusion, at one fusion you might not even need the screws until the bones have all fused together. But until this fusion of the bones, the bones screws with the base plate is what holds those two vertebral bones relative to one another in sort of a rigid relationship.

JUDGE WOODS: If you could point, identify some other disclosure within Fraser 106 during the rebuttal, I would find that helpful. Maybe I'm missing something. I honestly very well may be, but --

MR. BREGMAN: Yeah. We'll look for that as we keep going.

JUDGE WOODS: We're also by the way – I'm sorry, we just hit our 80-minute point and now you're in rebuttal time.

MR. BREGMAN: Okay.

JUDGE WOODS: It's my understanding.

MR. BREGMAN: Okay. We'll move on here. Let's move on a little bit. So next let's just jump to -- so the question is whether there is a compressive load. Patent Owners say there is no compressive load, we believe there is a compressive load.

Number 1, if you look on Slide 84, Patent Owners provide, their expert provides a, what they claim is a force diagram. They say the forces exerted on the bone screws are the only tension that's only going to be tension on the face plate. We asked their expert on Slide 85, was that a full body diagram? In other words does it show all the forces acting on the base

plate? And if you look at the last quote on Slide 85, Patent Owner's expert says it wasn't his intent to show a full body diagram, all he was trying to show was the tension forces.

So what he was trying to do was show tension forces, he was not trying to show all the forces. Our expert shows you on Slide 86 is a figure from his Declaration, that if you've got forces acting down on those bones, which you necessarily will have as the vertebrae push downwards, that will create a bending moment on the base plate. Has to work like that.

He did an element analysis, you can see that on Slide 88, as his figure, really Slide 89, is the full body element analysis from all the forces that would act on Fraser's device. And it's not as simple as you only have tension. It is complex. There are all sorts of forces and he shows them here, results A, B, and C, tension being in red and orange and yellow. I mean compression being in the dark shades of blue.

And you can see that there is a combination of forces that act on the base plate in Fraser. Some portions of the base plate are in tension, some are in compression.

And that's just when a patient is standing upright. When a patient bends over --

JUDGE WOODS: This is important to me too, and I think this is an important issue and I want to focus on it.

MR. BREGMAN: Okay.

JUDGE WOODS: Now aren't these screws, they fit within, they're polyaxial screws, right? And so what is your understanding as to how these screws are free to rotate once they're inserted into the bone?

MR. BREGMAN: If you look, I know it's a little small on the slide, but if you look at the last three sort of bullet points of the analysis that Mr. Sherman presented here, he had three different assumptions, A, B, and C.

So what is the relationship of the screws to the plate? In A they lock to the plate, completely lock to the plate. And B toggling is allowed, and in C, I'm sorry, no toggling is allowed in B, and in C toggle is allowed. So he ran through it in three different scenarios. Either fixed, either there's no toggle allowed, or the third one, toggle is allowed. And he looked at the three different ways how those screws could work. And that's why you have results A, B, and C for the three different analysis that he performed.

JUDGE WOODS: Okay. And then, I do. I guess the point I'm making is that I think there are, and you said it earlier, there are a whole lot of assumptions we have to make regarding how the implant is implanted, including the angles that the screws are implanted. And either these screws are designed to enter at various angles, depending on the needs of the patient, also there's disclosure that those tabs are readily bent, right, which suggests they're malleable and so relative to the plate, but of course Fraser 106, there's a lot of unknown. Fraser 106 doesn't precisely tell us a lot about the materials so I think it would be hard to come up with some sort of finite element analysis with the limited information that we have. Instead we have to make a lot of assumptions about how it would operate. And that's where I struggle, to be honest with you.

MR. BREGMAN: I mean, yes, the tabs are bent. They aren't bent by hand, right, but the surgeon will take pliers and bend them. This is all steel plates. He will then get it to fit exactly because there are really two vertebrae are going to be different from one another, some may not even have lip

osteophytes. He would get it to fit the way he wants it to work. Then he would screw the screwing piece of the base plate is now flat against the bone.

And at that point I don't think there are that many assumptions that you can make other than these three different assumptions that Patent Owner's expert made about how the screw locks completely to the base plate, that little toggle or just there being no toggle. I think those are the three main assumptions.

One can always try and make it more complicated than it needs to be. But once the plate is screwed tight against the bone, there are of course, when the bone's compressed there is going to be some, at any moment there's going to be some compression on the plate.

Just before, I want to try and convince you one more time that we don't necessarily believe that bearing weight is only compression. And I just want to give you one more shot at that.

So if you look at Slide 95, this is what our expert says. He says a person skilled in the art would understand that the patent applies a broader meaning to the term "weight bearing." These forces are experienced in the spine when a patient is walking, laying down, bending, stretching, turning, even just sitting, all of those are bearing weight.

When we've been talking about it and thinking about it, and I think the way Your Honors thought about it through the patent, is we had talked about bearing weight, you'd think well the person sitting upright or standing upright. And you think that there's going to be compressive forces. They will be some compressive forces. Not only compressive forces, there will also be some bending forces, some shear forces, etcetera. But think about a

person laying down on their back or their stomach or bending over. You would still say it's bearing weight. It's just not bearing weight only on compression. So the bearing weight could have all sorts of conflict forces.

And that was our point here, that we believe, not only do we believe that Fraser does disclose compression on the base plate, but we also think that it's unfair narrowing to say that bearing weight is only compression. We think it should be broader to be other types of forces. For example if I'm lying on my stomach and I though this implanting, well maybe if something went all compression maybe it's a shear force that's holding the two vertebrae with respect to one another as I lie down, or bend over, or move or stretch, etcetera.

So we believe that the requiring compression on the, I think at least in our expert's view, and we agree with him, that is too narrow.

JUDGE WOODS: I appreciate you raising this issue because I think it's important as well. So the claim recites to bear weight, it doesn't recite to bear a load, which I understand is your position to be that it wouldn't be limited to a compressive kind of a force, it would include, you mentioned here, and other types of forces. But I see the term "bear weight" to be narrower than to bear a load. And I see it as requiring some sort of compressive force, you know, when, for example, you know, the patient is standing and, you know, that a lot of the weight, you know, is going to be born between those two adjacent vertebral bodies.

And so, why has the patent applicant chose, why did they choose the word "weight" and not "load," so is that important to you?

MR. BREGMAN: I mean I think it is. I think bearing weight has got a gravitational component to it in a way, right? So in bearing weight the

same way as you thinking of it, and I completely agree with you. When you're standing upright the weight from the person's torso and head might be pulling down and it might be primarily a compressive force. Not always a compressive force because we could see this in bending and other things that the base plate does.

But when I'm lying on my stomach or I'm bending over, let's just talk about me lying on my stomach or on my back, the weight is completely different now, right? The weight from my torso and head is a shear force, there is not the same kind of force on that base plate in the same direction that you're thinking about it, and it's still weight, still a gravitational component to it. I forget the formula for it, gravitational constant times mass or whatever it is. I agree with you that it's not weight of vertical force in compression. Therefore if I'm lying on my back or my stomach it's still bearing weight but now it's perpendicular to the weight you've been thinking about or we've been thinking about. It's no longer compression and it's still bearing weight.

So I agree with you bearing load is different. Bearing weight specifically has a sort of mass component, gravitational field component to it, but it doesn't mean that a patient is always standing perfectly upright. In fact when the implant is inserted in the patient he isn't standing up, they're lying on their back. And as soon as it goes in you're not going to get those sort of compressive forces that we've been thinking about. Does that make sense?

JUDGE WOODS: It does, thank you.

MR. BREGMAN: I'm going to skip the last one, maybe we'll have time on the back side, and hand it over to James.

JUDGE WOODS: Thank you. Also, I think I misspoke on my calculation was wrong with the time. So, let's see, right now how much time do you have left according to your watch?

JUDGE JESCHKE: I have it just zeroed out. I think the original eighty minutes just now.

JUDGE WOODS: Okay.

JUDGE JESCHKE: I was kind of keeping the time.

MR. BREGMAN: Can we go one minute over quickly then and just talk about inter-fit because that's another issue that shows up.

So this is dispute Number 6 and it shows up on Slide 98. I'm going to jump to Slide 102 which actually has the claim language in. So the claim language says here, if you're on Slide 102, this is Claim 35 of the 234 patent. It says the base plate is being sized to have an inter-fit between the first and second adjacent bone bodies.

The base plate has to fit between basically the first and second bone bodies. This is even broader than what we had earlier that the base plate needs to fit between the anterior portions of the lip osteophyte. Same concept, just broader, for the same reasons we discussed above.

The pressure device, if you look at Slide 104, clearly is integral between the integral bodies.

JUDGE JESCHKE: Mr. Bregman, this is Judge Jeschke. I had a question about this one. So this is related to the two-piece embodiment, and I'm wondering why on the right where it says Fraser in Slide 104 it seems to show both the body 10 and the plate 20 as, I think, satisfying this inter-fit.

MR. BREGMAN: I know portions of that drawing was confusing. I mean we were just trying to show that the orange piece, the orange piece in

Fraser is between the vertebral bodies. The red lines which are supposed to show that sort of the edges of the vertebral body and anything within those red lines would be between. That's my apologies if that figure was confusing.

JUDGE JESCHKE: I see. Okay. Now I think I understand. Okay, thank you.

MR. BREGMAN: I don't need to spend much time on this, I mean if you look at Slide 103, this term inter-fit was discussed during prosecution when discussing the new LeHuec reference, if I pronounced that correctly. And there it was the same thing, they had an implant, they had the face plates on the anterior surface and they distinguished the same. That's not inter-fit between the first and second adjacent bond bodies, but that's just not the case when you look at them side by side with Fraser and (inaudible).

Figure 4 you can see the orange part in Fraser and this two-piece embodiment clearly is between the two vertebral bodies.

So with that I'll hand it over to Jimmy.

MR. KRITSAS: Great. Thanks, Dion. I'm going to jump in right away because I know we're running short on time everyone. But if Your Honors could please turn to Slide 105.

The first dispute we wanted to discuss is the adjacent to lateral extents formation. This is with respect to Claim 35, the 235 patent only. And it really only impacts Fraser's two-piece embodiment.

So if we switch to Slide 106. Actually let's just come straight to Slide 107. Patent Owner's arguments here is that the construction of the adjacent lateral extents is limited to a base plate that is next to and the boundary of, intersects with, or extends beyond the lateral extents of the bone graft

material. So Patent Owner is proposing that there is a discrete list of, well what I'll call separate requirements, based on if you need it to meet this claim limitation.

First of all we're on Slide 107, just to be clear. First of all Patent Owner's proposal has no support in the intrinsic record. And, in fact, it's only based on their expert, Troy Drewry's testimony here. And you'll see that this is quite inconsistent when we go to the next slide, Slide 108. When the patent uses the term "adjacent" it's referring to the term with respect to various sides that are just nearby. For example, the first quote we have here discusses two adjacent bones such as adjacent vertebral bodies.

Here, as we know, these bones are typically separated by a, you know, either an implant as we're discussing here or separated by a disc, they're merely nearby. And again, when discussing multiple bone plate systems that can be introduced, it talks about those being introduced over adjacent bone grafts. And again, these bone grafts are not on the border of each other, they're simply nearby. So Patent Owner's construction is contradicted by these specification cites.

If we look at Slide 109 now, you can see here that using the proper construction of being adjacent to lateral extents however, the proposed two-piece Fraser base plate embodiment is in fact nearby these lateral extents. But even if we do accept Patent Owner's proposed construction and their list of various requirements that would meet the limitation, we see that the base plate here is next to the bone graft. It's also intercepting the bone graft here.

JUDGE JESCHKE: Counsel, counsel, it's not just that it's next to the bone graft, the limitation is adjacent to lateral extents, which would be on the left and right portions of what we see here in Figure 1 on Slide 109. So

that's the thing I'm trying to understand is how is that, even under the construction you're proposing of nearby, how is it nearby the lateral extents of that?

MR. KRITSAS: Well, Your Honor, I think, you know, if you look at Slide 107, which we're discussing here, the base plate which we have identified is the nearest structure to those lateral extents here if you would stand them out like Patent Owner has done. There's no requirement in the intrinsic record that "adjacent" means on top of or intersects with. Adjacent, as we've tried to outline here, means, you know, the nearby or next to. And it's our position that the reference discloses that. That this base plate is next to those lateral extents as disclosed here.

In the interest of time I wanted to move on to the next dispute unless there are any other questions here. What I specifically wanted to discuss was on Slide 115, the bottom surface limitation. So there's a dispute as to what the construction of bottom surface is. In this we have all claims in the 537 patent as well as independent Claim 22 and its dependent 234 patent.

And what Patent Owner is proposing is that the bottom surface term needs to have a very specific location on a device. In particular they allege it as the outwardly facing surface on the posterior portion. However if we take a look at the 234 patent, excuse me, if you look at the 537 patent, Claim 1 for example. It identifies that the base plate needs to have a bottom surface. There's no other restrictions or limitations on that term other than it needs to be a surface on the bottom. (inaudible) actually get to the dependent claims where it has additional limitations.

For example on Slide 116, Claim 24 requires that the bone screw holes fit through a portion of the bottom surface. So this tells us the claim

differentiation that the bottom surface is quite a broad concept. In fact we could actually have multiple bottom surfaces at the same time as the patent use claim says.

So let's look at Slide 117 real quickly. As we have on the right side uses the Michelson device showing where Patent Owner depicted it would be inserted on the bottom surface here, that outwardly facing surface on the posterior portion.

And we hop to Slide 118 we see why this can't be correct because the patent uses the term bottom surface explicitly as surface 26 in Figure 3, which we have identified in 3. Upon Patent Owner's construction however, would result in the ends of the lateral tab being the bottom surface, which is inconsistent with how the specification is termed.

In addition, if we look at Slide 119, Claim 10 describes the two lateral halves again as extending from opposite ends of the bottom surface of the base plate. And finally, on Slide 120, the specification describes the bottom surface as contacting the bone.

So again, the bottom surface is described in the patent consistently as being the surface that abuts the bone graft material and over which the lateral path extends. So to somehow interpret it to being the low posterior portion of the implant is just inconsistent with the claimed end function.

I'm going to go ahead and jump ahead to one last discussion point on Slide 110 before wrapping up. And this has to do with the motivation to associate Michelson and Fraser together. Specifically with respect to the 254 Petition, we're going to be discussing Claims 4 through 16, 18 and 30 of the 537 patent.

Each of these claims requires a base plate to include a screw retainer. Moving on to Slide 111, Patent Owner contends that a person skilled in the art would not utilize Michelson's screw retainer plate on the Fraser device because it would run afoul of warning of both Fraser and Michelson in placing hardware outside the disc space. And in order to make this point they put a very exaggerated screw retainer on top of Michelson, excuse me, on top of Fraser, and said this is just inconsistent with the teachings here.

The problem with that is that their own example is just something a person skilled in the art would never utilize for design purposes. And so what we did is we asked our expert, Mr. Sherman, to put that combination together. Looking at Slide 112 he explained why Patent Owner uses such a base plate that's inconsistent with the knowledge of a person skilled in the art. In that what a person skilled in the art would do is they would take the teachings of Michelson and Fraser to minimize the implant profile and present a smooth outwardly facing surface.

And what he did is he took that retaining plate, apply it on Fraser's body in such a way that it sits comfortably between the two screw heads and the tabs that are part of the device. And as you can see here, what he depicted with the red line is that that retaining plate is actually recessed within the portions of Fraser's device that are already part of it. But there's no metal hardware that's sticking out any further than with our exposed Fraser device.

I think at this point I would like to answer any questions the Board has with respect to the combination. Otherwise we'd like to reserve the rest of our time for rebuttal.

JUDGE JESCHKE: I don't have any questions.

JUDGE WOODS: I don't either. Petitioner, you have about 13 minutes left.

MR. KRITSAS: Thank you, Your Honor.

JUDGE WOODS: All right. Mr. Milch, do you wish to reserve any portion of your time for surrebuttal?

MR. MILCH: Yes, Your Honor, Patent Owner would like to reserve 20 minutes for surrebuttal if that's okay.

JUDGE WOODS: Okay. All right. I'll start the clock when you begin.

MR. MILCH: Thank you, Your Honors. Again, as I said earlier, I am Erik Milch on behalf of Patent Owner RSB Spine.

We'll start on Slide 7 of the Patent Owner's demonstratives. And just to quickly review, there are a couple of pieces of prior art that were particularly relied upon for I think the Michelson reference. These are the 1006, and that's a circumferentially-enclosed spinal implant. Implant 400 is what Petitioners rely on as being in its entirety a base plate.

JUDGE JESCHKE: Mr. Milch, I have one quick question for you, I apologize. The question is about the level of skill in the art. In the Response you all proposed a slightly different level of skill in the art than did the Petitioner in the Petition and also as in the decision on Institution. It's on Page 7 of the Response if that helps.

But the question is this, Mr. Drewry appears to have relied on the level that you propose in the Response in Paragraph 9, at least in the 265 case. My question is, are there any material differences in those two levels? In other words, would your arguments and Mr. Drewry's position be the same under the level of skill that was laid out in the decisions on Institution?

MR. MILCH: Your Honor, I think there are no material differences, and I think Mr. Drewry's opinion would stand regardless of which level and skill in the art was applied by the Board in its final decision.

JUDGE JESCHKE: Okay. Thank you.

MR. MILCH: Thanks, Your Honor. Turning to Slide 8, the second reference, which is Exhibit 1007, is the Fraser 106 patent. And Fraser again, spinal implant assembly. And there are two ways Petitioners use this. Again, we've got the fused implant embodiment where the Petitioners treat the entire implant assembly as a base plate, and then the two-piece embodiment where the Petitioners treat just the plates 20 as the purported base plate.

And turning to Slide 9, what we'll walk through are, you know, first the fact that neither the fused implant embodiment nor Michelson's implant for hundreds that they cite, and this covers all the cases and all the claims. And second we'll talk about whether or not the two-piece implant embodiment bears weight. And obviously Patent Owner's position is that it does not.

Then my colleagues, Mr. Van Tassel and Mr. Knight, will cover the remaining deficiencies in the various Petitions.

Going to Slide 10. So the way, once Patent Owner identified defects and deficiencies in the Petitions, what the Petitioner did was two things, there were two primary strategies. First they said well this defect doesn't exist. And they ignored this notion that every construction of base plate requires the object to be a plate.

And then, you know, failing that, they fill in gaps with new argument evidence. And we'll talk about all of that, but for example new positions in

evidence regarding the bear weight limitation in the 537 patent. And as the Board knows, it's important to include in all the arguments in the original Petition with particularity, and that's the *Intelligent Biosystems* case.

JUDGE WOODS: Mr. Milch, if I could interrupt to ask a question I would appreciate that. I apologize for the interruption.

MR. MILCH: Yes, sir.

JUDGE WOODS: All right. Could we refer to Figure 34 of the 537 patent, please?

MR. MILCH: Yes, Your Honor. I'm there, Your Honor.

JUDGE WOODS: Okay. So in your estimation, is base number 520 a plate?

MR. MILCH: Your Honor, Figure 34 I would consider an unclaimed embodiment. Figures 32 to 34, that embodiment doesn't include a base plate as it's defined in the patent.

JUDGE WOODS: I understand your position is that it's an embodiment that's not claimed but I guess my question is, in trying to understand what the intrinsic record supports for the definition of what a plate is, would you understand 520 to be a plate? Because I'll just cut straight to the chase, if you go to Column 34 of that same 537 patent, in particular Lines 43 to 44, it says then sealed off the plate, such as the base number 520. So when I read that disclosure on 34, Column 34 and reference it to Figure 34, this is what gives me the most pause with your argument regarding what, you know, whether or not the prior art structure is a plate. I don't know based on 537 patent's reference to Figure 34 as being a plate.

MR. MILCH: First, Your Honor --

JUDGE WOODS: If you could reconcile that.

MR. MILCH: And I'm sorry, I'm looking down and not at the camera. I apologize. I just got it back in front of me.

But what we're talking about there is if you look down at the part view reference where, you know, it may be desirable to detach the chamber member, that portion is referring to an alternative embodiment. I think it's a little bit confusing in the specification.

If you look at Figure 35 this is where they're talking about, you know, the detachable functionality. And this is what I think is really a two-piece, not to use the same language used in the Petition, but a two-piece implant where it is a attachable member. And, you know, there again, the plate -- and we'll get to this if Your Honor is so inclined, to talk about the Patent Owner's proposed construction. And we heard a lot about it from the Petitioner's and I want to just mention a couple things. But this gets to the point where the plate is something that is distinct, physically distinct from, you know, a spacer or a fusion cage, if you will.

JUDGE WOODS: Well I don't want to belabor the point, I don't know if maybe this reference, if it was a typographical error or if that's your position, or if it was, I don't know. But when I read Column 34 it appears to be in reference to Figure 34. And so to me it seems that if we're referring to base number 520 as a plate, it seems to conflict with your definition of what a plate is and what a plate isn't.

MR. MILCH: I think it is here where it says if you read along around, again Column 34, Line 47, it may be desirable to detach the chamber member. And I think it's talking about, you know, the detachability. Because where it says sealed off with a plate, sealing it off suggests that it's separate at some point and that it's sealed off. I mean the active sealing off

is, you know, it could be a typographical error in reference to that figure. Again, it's not consistent with how the term is used elsewhere in the specification other than if you look at this notion of it being sealed off, suggesting that it could be a separate piece. I don't know how you could seal off the plate if it wasn't somehow separate, Your Honor. But I do understand your hesitation given some of the confusion.

It looks to me -- it's also possible if you look very close at Figure 34 and, Your Honor, none of this is in our papers. I just want to point out, we didn't really address this. But it looks like there's a line separating the two, hard to tell. I mean I think what you end up with is this notion that if it's a separable piece, if it's, you know, going to be sealed off later with a separate piece, then that's likely was intended to be separate.

JUDGE WOODS: Okay. Thank you.

MR. MILCH: Thanks, Your Honor. So jumping to Slide 13. Again, so each of the parties propose constructions and the Board's preliminary construction, which Petitioner has adopted, they require this notion of a fixation plate.

If you look at Slide 14, Mr. Drewry opined that the fuse implanting embodiment doesn't have the characteristics of a plate. And he says that, you know, it's got a well understood meaning what a plate is. And it describes particular shapes. And it's not a very specific or an exacting description. It's generally characterized by certain dimensions. And Mr. Drewry opines that a person would understand that a thin-walled object like Fraser's fused implant embodiment, would not be considered a plate, it would be something else.

JUDGE JESCHKE: Mr. Milch, I had a question about that, and it's on the pages of the Response in the 265 case that you're talking about, around Pages 19 and 20. Which is discussing these, as you mentioned, kind of shape characterizations that the thinness relative to other dimensions, having two opposed primary surfaces. And what I'm trying to understand is if we look at Figure 1 of for example the 234 patent or either, and look at the embodiment that does include lateral tab 60, which characterizes kind of a U shape, do those descriptions of the shape, if you will, of plate, how does that not conflict with that at least potential, for the shape of a kind of a U shape or a saddle shape?

MR. MILCH: I think there's a potential that you can, there is some potential for curvature. We're not saying it has to be completely flat, there is some point of curvature. In point of fact the lateral tabs, as we discussed earlier, are separate from the base plate. They're not --

JUDGE JESCHKE: On that point, if we look at Column 6, Lines 33 to 37, it says the base plate further includes a pair of lateral tabs. So those are considered part of it --

MR. MILCH: Right.

JUDGE JESCHKE: -- aren't they?

MR. MILCH: You're right, Your Honor, can include lateral tabs. And again, even with the lateral tabs attached to the base plate, there is some amount of curvature.

JUDGE JESCHKE: Well wait, that's the point. When you say attached to, that makes it sound like the base plate is one structure and then the lateral tabs are a separate structure that happens to be connected. My understanding is that when you look at, for example, as shown in the

Petition, if you look at Page 9 of the Petition in the 265 case, Petitioners have colored that entire U shaped structure in orange, and they are saying that is the base plate. Do you disagree with that?

MR. MILCH: In other words, Your Honor, the --

JUDGE JESCHKE: Okay. So you are including as part of the base plate the lateral tabs; is that correct?

MR. MILCH: There are embodiments in which the lateral tabs can be included in the base plate, yes, Your Honor, as part of the base plate.

JUDGE JESCHKE: Okay.

MR. MILCH: I'm going to get back to your original question, Your Honor, with that construction in mind.

So the point is that it can't be, the plate with the lateral tabs, it can't be bent around a form such an enclosed space such that you've got the interior and exterior surfaces. And I think that's the distinction. So if you're got this open form and something that can be placed onto an object from a perpendicular direction, for example, and that's --

JUDGE JESCHKE: Right, I understand that is part of the argument, but there's other statements that it is characterized by thinness relative to the other dimensions. And I just, it seems to conflict with I think our agreed upon understanding of what at least could be a base plate. But I think I get your point, is that, you know, there's the other point of not being sort of circular overall. In other words, one surface coming back on itself, if you will.

So I think I understand.

MR. MILCH: Correct. And again, that's just the one disclosed embodiment. And again, these are characteristics that were non-inclusive, Your Honor, I think we'll get into some more of that in just a few seconds.

So looking again at Slide 15, inventor of the Fraser 106 patent, which is relied upon by Petitioners, has other patents. And we are able to distinguish what a plate is and what is not a plate. And if you look at for example on the left-hand side, this is from Exhibit 2015, Figure BE shows what Fraser calls a plate marker. And that's 15E and it's highlighted in yellow. And that's got a different shape from other markers such as the ring in 14C or the rod in 14F.

Also in Exhibit 2015 in Figure 7A, which is on the right-hand side of Slide 15, it will illustrate a ring marker 14C with a trial implant. So Fraser knows what a plate is and what a plate is not. And in Fraser 106 in fact he uses the term plate to describe a particular component.

And I'm sorry, I'm on Slide 16 now and that's plate 20. It doesn't use a plate to describe the entire fixation assembly, in fact it calls the entire assembly a spinal fixation assembly. That includes a fusion cage to which a plate is mated. So there's no question that Fraser knew exactly what a plate was and what a plate was not.

On Slide 17 Mr. Drewry opined what a skilled artisan wouldn't have considered Fraser's "fused implant embodiment" to be a plate, as we discussed. And if you look at Slide 18, it's the same thing with Michelson. Mr. Drewry had the same opinion, that a person of skill in the art would not have described objects, you know, would have known this type of object, which is a circumferentially-enclosed structure is a plate. The plate has certain particular shapes and properties.

And if you look at Slide 19, and here's a really good example of a plate looks in curvature. So this is where Dr. Michelson, who's a prolific inventor of spinal instrumentation, he knows what a plate is, and this is from the Michelson 573 patent, which is Exhibit 2013. These plates are called just that, they're plates. In another reference, the Michelson 383 patent, which is Exhibit 2014, Dr. Michelson discloses a ring, which is incredibly similar to Michelson implant 400, and he calls it a ring, he doesn't call it a plate.

If we go to Slide 20, again, this from the same 573 patent, the Michelson 573 patent. Dr. Michelson again talks about different types of implants. He says, you know, it could be inserted into any part of a spine, and he describes them. They can be interbody spinal implants, fusion cages, or infusion implants, spacers, and then separately, plates. So again, Dr. Michelson knows what a plate is.

On Slide 21 Dr. Michelson doesn't refer to implant 400 or any other implant as a plate. There's another implant, and that's implant 600 prime from Figures 37 to 40 that Dr. Michelson expressly describes as a bone ring. He calls it a bone ring because it's made of bone but it's a ring shape. And again, that's the same patent, same patent as implant 400, he calls it a ring. None of these are called plates.

In Slide 22 Mr. Drewry reaches the same conclusion, that the Michelson implant 400 is not a plate. It would have been recognized as something else.

JUDGE WOODS: Mr. Milch, actually I find this argument to be very good but for the fact that, you know, the Applicant's own, or the 537 patent includes Figure 34 where it's described as a plate base number. And so I

understand too that if I could refer to page, I understand in your Patent Owner Response, in particular Page 8, Mr. Drewry provides support for what a spacer is and what a plate is. And I think that's probably, I find that to be persuasive. But what cuts against all of that are these embodiments in the 537 patent which shows, you know, what are base plates which also act as spacers.

And so it seems to me that, you know, if we're defining, for example, a plate, a fixation plate as something that screws into the interior face of adjacent vertebral bodies, which is what I think you pointed to in Dr. Michelson's earlier slide, and then a spacer is something that occupies the disc space between adjacent vertebral bodies, I think that okay, that makes sense but what we have here and what we're claiming, at least in the 537 patent, is something that does both.

And that's where I think we're using conventional terms like spacers and base plates in trying to distinguish the prior art. But what the applicant really has is something that's quite different, which is something that acts as both a spacer and a plate. If that makes sense.

MR. MILCH: I understand your position, Your Honor, and just to be clear, my reference, I think it was on Slide 19 to where Dr. Michelson calls plate, these are anterior facing bone plates, and here we're not claiming that. So you're right.

And we can go back to the specification of the 537 patent and looking at the section you pointed to, just a bit above, and I think this might clear it up. Where I think it starts on Line 39 where it says "However it may be easier to insert a chamber member having an open interior face between the adjacent bone bodies." And then he goes into the language about sealing off

of the plate. So I think that clarifies some of the misunderstanding perhaps about whether or not that was intended to point to that figure alone and that unitary construction embodiment.

JUDGE WOODS: Such as the base member 520, I think that's where it gets really confusing, right? It doesn't point or call out specifically to what you would understand to be the plate.

MR. MILCH: Yeah, I think that is a bit confusing but I think it's just, again, it's the distinction between a fully enclosed member such as Michelson's implant 400, such as the Fraser, you know, single piece embodiment. I mean those, it's not a fully enclosed structure that's being implanted.

JUDGE WOODS: Okay. Thank you.

MR. MILCH: And so turning back to Slide 23, the Petitioners don't refute this evidence. They don't refute the characteristics and properties of a plate, they don't refute the terminology that was used by Fraser and Michelson to describe their implants, and they don't dispute the (audio skip) understanding based on these factors that, you know, Fraser's fused implant embodiment and Michelson's implant 400 are not plates.

What Petitioner does, and what we heard about, was this supposed mischaracterization as a claim construction issue. And this isn't a claim construction issue, this is what Your Honor pointed out, this is just using the term "plate" that's in the construction. It's just an application of what the construction of the base plate. Again, proposed by both parties, preliminarily adopted by the Board, and then ultimately adopted by Petitioner. The term "plate" is in there.

And Petitioner's expert didn't consider it, that's on Slide 24. He admitted he didn't consider the distinguishing characteristics of plates even though the construction that he supposedly applied included the term "fixation plate."

And if we look at Slide 25, the Board's preliminary construction doesn't encompass all structures. And as Your Honor pointed out, it doesn't cover everything, it's not just a generic device or a generic member, it's a plate. It's simply a fixation plate. And again, the Petitioner just ignores this requirement and treats is a nonce word, having no particular meaning or import. And what we heard a lot about during their argument was defining plate with reference to the terminology in the claim language, rendering it useless. And so if you define it by the functionality and uses of what the base plate is, then the base plate is treated as a nonce word. And again, Petitioners don't explain why the infused implant embodiment or Michelson's implant 400 is a fixation plate under a proper understanding of the term.

And, Your Honor, we just talked briefly, I think we've covered in the papers and we rely primarily on the papers for Patent Owner's proposed construction of base plate, which we still do support and we do think it's well briefed. A couple of points of clarification. And I think we outlined it in the Patent Owner Response and provided some further clarification beyond what was in the Patent Owner Preliminary Response. So I wanted to address just some of that.

This notion that a plate, a base plate rather, is distinct from a spacer, it is not a negative limitation. And we're not saying it can't be used with a spacer. What Patent Owner is arguing is that you have two separate

components. You have a base plate on the one hand and a spacer infusion cage on the other. It cannot be used with a spacer. In fact it's also distinct from bone graft material. Bone graft material can be considered a spacer in many instances.

So the point that we see in the Institution decision that it was supposed to be, you know, not inclusive of a spacer, I think we've clarified that and again, consistent with our original position, it's just distinct from a spacer and basically can still be used with a spacer.

JUDGE WOODS: And if I could focus on that point as well. This is where I also struggle. So I'm looking at the Claim 1 of the 537 patent, and it recites in part wherein the base plate is configured to fit primarily between anterior portions of adjacent vertebral bones lip osteophytes to bear weight. Okay. So when I read that I say well, it's acting as a spacer because it actually bears weight and it's providing some support between adjacent vertebral bones.

And then I look at your own definition for what a spacer is on Page 8 of your Patent Owner Response, and I don't necessarily disagree with this definition, I think it makes sense and I think it's probably right, a spacer is configured to maintain disc space across the bone graft site and bears weight. So I read that, I say okay, how is it that Claim 1 recites a base plate acting as a spacer. So could you reconcile that for me?

MR. MILCH: Okay. Yes, Your Honor. I mean what Claim 1 doesn't require is that the base plate bear all of the weight. So what the base plate is required to do, if reading on in the claim, it says to bear weight to hold the vertebral bodies while sharing weight with the bone graft material for fusion. And again, there can be other elements. There can be a spacer that also

bears some of the weight. The claim doesn't require the base plate to bear all of the weight. And that's the distinction.

JUDGE WOODS: Well I'm sorry, maybe I can clarify. So the base plate bears some of the weight and fits between the vertebral bodies. So that's a spacer in my mind. And you're saying well, it's not the, you can also have a bone graft or some other spacer so therefore it's not a spacer. Well I'm not sure, are you saying now for it to be a spacer it has to bear all the weight?

MR. MILCH: No, Your Honor. I think one point of clarification. The spacer is configured, and I'm at the definition on Slide 27, if the spacer is configured to maintain disc space across the bone graft site. And if that's across the bone graft site. Where the base plate does not bear weight across the entire bone graft site. And so the bone graft shifts posterior to the base plate in all instances. Where a conventional spacer or fusion cage will be deployed across the bone graft site along with bone graft material. The distinction here is that the base plate does bear weight to hold the bones, but also shares that weight with the bone graft material, but isn't deployed across the entire bone graft site as a spacer would do.

JUDGE WOODS: Okay. Thank you.

MR. MILCH: Your Honor, the one point that was raised earlier is that the term "spacer" doesn't appear in any of the specifications. I just wanted to note that on Slide 29, for example, this is in the 537 patent. Well the term "spacer" isn't used, the term "cage" is used. And there's a discussion about cage design implants and cage plate combination devices. So the specifications do not ignore spacers as a whole even though it doesn't use the word "spacer" as suggested.

On Slide 30, the comment, Your Honor, there was a bit of discussion about whether or not these tabs provide subsidence control as the bones heal or whether these tabs are spacers. And Your Honor is right, and I just wanted to put a point on it. Just because that they're in there and there may at some point be subsidence control, that doesn't meet the definition of a spacer that maintains disc space across the bone graft site as it bears weight to promote fusion. You know there's a difference between these tabs that may never contact the bones and a spacer that would be inserted and contact the bones at the point of implant to perform the exact function it's intended to.

JUDGE WOODS: Okay. So I'm just trying to understand that distinction. So the distinction is really the lateral tabs, in your view, are not spacers because they don't necessarily have to bear weight, is that part of the distinction?

MR. MILCH: Well, yes, Your Honor, they don't bear weight when they're first implanted to be sure. But looking at the figures, and even the discussion, you know, you get the contact, but when implanted they do not bear weight.

So on Slide 31 the fused implant embodiment of Fraser and implant 400 in Michelson, these aren't distinct from a spacer. So if the Board were to adopt Patent Owner's construction, you know, they certainly couldn't be considered a base plate. And effectively Petitioners concede this point by not arguing, you know, anything to the contrary with respect to Patent Owner's construction.

And on Slide 32, under the construction that the Petitioner has now adopted, and was originally proposed by the Board, all of the claims in the

three proceedings are patentable over any ground that uses Michelson or the Fraser fused implant embodiment to satisfy the base plate limitation for the reasons just discussed.

And, Your Honor, if there are no further questions on the base plate term, I'd like to move on to the two-piece implant embodiment bearing weight term.

JUDGE WOODS: No questions.

MR. MILCH: Okay. Thanks, Your Honor. So moving to Slide 34, all of the claims of the 537 patent again require that the base plate bears weight. And again, what we're looking at here is the base plate which is a two-piece embodiment of Fraser, and that doesn't bear weight. And the Board recognized this in its Institution decision and found that Patent Owner's arguments persuasive. And if you look at Slide 35 there's a citation there.

What Patent Owner argued was that there was no argument or evidence to show that an implant consistent with a fusion plate 10, Fraser's fusion plate 10, even with the optional implant 20, and now concerted that those bones with either settle or subside, that the bones would rest on the superior and inferior bases. And it still doesn't who any argument to that effect. And it didn't show it in their Petition and what they showed later in their Replies is flawed, and we'll talk about why.

And if you look at Slide 36, what Fraser says is that a fusion cage body 10, not the plate 20 that bears all the weight.

Slide 37 shows the fact that the fusion body 10, the plate 20 is optional, and what it does is prevent expulsion and that's what, you know,

we talked about earlier, Your Honor. It's simply one disclosed means of providing expulsion protection for the implant. That's what it does.

Looking at Slide 38, this is Fraser (inaudible) we looked at earlier. Plate 20 doesn't bear weight. The superior and inferior faces of plate 20 don't contact the bone, not at any point. Petitioners haven't shown that.

JUDGE WOODS: And I apologize, this is something that maybe you're going to address, but does Fraser 106 describe or disclose like what kind of, like how those screws, are they locked in place when the screws are tightened in, do they rotate freely, are they provided with like some axial movement, like there might be like the holes are larger or enlarged so that it provides for some axial movement, or up or down relative to the implant insertion? Is there any discussion as to that in Fraser 106 or --

MR. MILCH: Your Honor, I don't believe there is. I believe they're locking screws if my memory is correct. I believe they are locking screws. And if you look at Slide 40, what Petitioners argue again, and you mentioned this earlier, but that these tabs are readily bent and the issue that they can be bent by, I mean we heard some new argument about perhaps a clinician could use some pliers, if these are made of steel, that they're bent at a particular angle. But the fact that the tabs or plate 20 may just touch the bones doesn't mean that they bear weight, that the bones rest on the tabs and the fact that they are readily bent suggests that it's unlikely you want them to.

Again, this is just in response to what we heard earlier. You know, the admission that the tabs are flexible or readily bent suggest that they wouldn't bear weight, in addition to other reasons that we'll talk about.

If you look at Slide 41 it introduces this reference to Mathieu, and this was in Patent Owner's Response, Mathieu has a very similar reference to Fraser. And it confirms that Fraser's plate 20 doesn't bear weight.

And if you look at Slide 42, we talk a little bit about why. And the implant that Mathieu discloses is very similar to Fraser's implant. Both of them have the fusion cage body, both of them have an optional fixation plate that can be mated into it. The fixation plates are configured to orient and hold the bone screws to prevent expulsion of the implant. And importantly, the fixation plate can move within the implant body. And so while the screws may not move, and again I think it's not entirely clear, but the fixation plate can move within the implant body in both Mathieu and Fraser. And in both implants, it's clear that the convex load-bearing surface of the fusion cage body is what bears the weight.

And if you look at Slide 43, Mr. Drewry opined that given the similarities in structuring function, a skilled artisan would have expected Fraser and Mathieu to behalf in a materially similar way.

If you look at Slide 44 Mathieu goes so far as to say expressly that the weight is born exclusively by the fusion cage body and not by the plate or the affixation screws. And so Mathieu expressed teachings further belie what the Petitioners have said with regard to Fraser's plate 20 and whether or not it bears weight.

And if you look at Slide 46, I just want to point out we sort of been addressing all the claims together, Claims 1, 15, and 21 but for Claim 21 specifically the Petition only references arguments about the fused implanted body. Claim 21, the Petitioners don't make any argument about how plate

20 alone in the two-piece implant embodiment bears weight. And Petitioners have done nothing to remedy this deficiency in their Reply.

Slide 47, what the Petitioner asserted was that a person of skill in the art would know that to hold the adjacent vertebral bones in a stable relationship, the plate would bear weight. But that's not the case. And again, it's in the original Petition just the testimony of their declarant. Again it's belied by Mathieu, and for reasons we'll talk about it would render the bear weight limitation completely superfluous.

In the Petition, what the Petitioners asserted was that the bone screws placed a compressive load on the bone graft material. That was it. That was the Petition. There's no assertion that the bone screws placed a compressive load by the vertebral bodies to plate 20. That wasn't in the Petition.

If you look at Slide 49, for the first time in their Reply now Petitioners say well, if this compressive bone force is exerted on the bone screw, that causes plate 20 to experience compressive force. But that ignores, and we talked earlier about assumptions, that ignores the effects of the fusion cage body. Again, that's the only component that Fraser says bears weight. And so the assumptions regarding compressive bone forces on bone screws are inapposite. And again, this ignores the unrebutted teachings of Mathieu that say the only element that bears weight is the fixation cage, not the front plate, expressly the front plate.

The Board also should disregard this testimony, I'm on Slide 50. There's new testimony about this finite element analysis, the first time we saw this in Petitioner's Reply. Should have been put in the original Petition but wasn't.

This new argument is also unreliable, also contradicted by Mathieu's express teachings, also unreliable because there are incredibly critical assumptions that we know nothing about. Far too many assumptions to consider whether or not that finite element analysis, sorry, finite element analysis is reliable. And again, you know, for example we don't know if Petitioner's expert considered whether or not the tabs were flexible or readily bent or how flexible or what material he was using for that assumption, or I guess he did mention material, but just not how flexible or readily bent.

Slide 51. This goes to the expansion of the term, the breadth of the term. Your Honor pointed out the difference between bearing weight and bearing load. And this supposed expansion of the meaning of bear weight goes far beyond its ordinary meaning. Essentially says any force exerted on a base plate, regardless of its source, would meet this limitation. If you look at what Petitioner's proposed construction was in their Reply, it requires limitations that if you would substitute in there for post construction, it makes the whole thing grammatically incorrect and meaningless. And it also broadens it out in such a way that any force on any portion of any plate would be considered to be, you know, bearing weight, which renders the term completely meaningless in the context of the claim.

And, Your Honors, any questions on bear weight? If not, I'd like to turn over to Mr. Van Tassel.

JUDGE WOODS: You know, I don't have any questions. Anyone else have any questions?

JUDGE SCANLON: No questions.

JUDGE WOODS: Okay. Well since we've been at this about a little over two hours and 10 minutes, I thought it might be a good time to take a brief 10-minute recess. So with that, we will reconvene in about 10 minutes, which I have as being about 3:24 Eastern Time. Mr. Mahoney, we can go off the record for 10 minutes.

(Recess)

JUDGE WOODS: Okay. Mr. Milch, I calculate that Patent Owner has about 48 minutes left with its primary argument before starting into the 20 minutes set aside for surrebuttal. Is that consistent with your calculation?

MR. MILCH: Yes it is, Your Honor.

JUDGE WOODS: Okay, terrific. So please proceed when ready. I will start the clock when you begin.

MR. MILCH: Thank you, Your Honor, and I will turn it over to Mr. Van Tassel at this point.

MR. VAN TASSEL: Thank you, Your Honor. Why don't we start on Slide 53, which summarizes the additional deficiencies that are present in the 264 petition? And I'll address each of these deficiencies in turn.

So turning to Slide 54 first, all the challenged claims that been discussed require that the base plate be configured to fit primarily between the interior portions of adjacent bones lip osteophytes and the plates are fused and incompatible, does not to satisfy its limitation.

So as an initial matter I just want to show on Slide 55 Petitioner's proposed construction of lip osteophyte. They defined it as a bony outgrowth at the interior corner of the bone. There's a picture of a bony outgrowth on the upper vertebral bone at Page 22, which is reproduced here on the lower right on Slide 55.

Notably, Petitioners never even attempt to show that the fused implant embodiment is configured to fit primarily between any bony outgrowths, so instead Petitioners acknowledge that Fraser discloses that the shape of the implant is designed to fit in the cavity between the bones as previously occupied by the disc. So Petitioner has thus failed to show that the Fraser implant satisfies this limitation under the only construction of lip osteophyte that Petitioners proposed and nominally applied.

If we turn to Slide 56. As Patent Owner's expert, Mr. Drewry, testified, a lip osteophyte constitutes the entire lip or corner surrounding the endplate of a vertebral bone.

So in the plan view figure on the right-hand side of Slide 56, the anterior portions of the lip osteophyte are represented by the green dashed semi-circle, and the red dashed semi-circle represents the posterior portions of the lip osteophytes. And the light red shaded circle in the center represents the non-lip osteophytes portions of the bone. So essentially what has happened here is a base plate must fit primarily between the green dashed portions of this figure to satisfy this limitation. And to the extent that it does not do so, instead it's mainly between the portions that are colored or shaded in red, it would not satisfy this limitation.

And as shown on the left-hand side in Slide 56, the Fraser fused implant was not configured to fit primarily between the interior portions of the adjacent vertebral bone.

So turning to Slide 57, Patent Owner's expert explained why this was so for two reasons. First, as shown on the end (inaudible) looking just at the outer ring-shaped walls alone, a person of ordinary skill in the art would have appreciated that a thing should be equal portions of these outer walls sit

between a posterior portions of a lip osteophyte versus the interior portions of a lip osteophyte. In other words, because the implant is essentially a (inaudible) essentially equal portions within the walls as shown in the green and red dashed areas on the figure on the right.

And then second, in addition to these lateral holes, a person of ordinary skill would also recognized that the internal elements i.e. transverse elements 28 and 30, also would not fit between the interior portions of the lip osteophytes. So when they deal more implant when considered as a whole would not fit between the interior portions of these lip osteophytes.

Importantly, as this implant embodiment, shown on the left, which has the transvers elements, Petitioners relied on when they were arguing for this limitation on the Petition. If we take a look at the Petition at Pages 25 and 26 and 27 you'll see this.

Petitioners did not rely on Fraser's disclosure that the transverse base elements were optional in this discussion of this claim limitation. Nor did they argue in the Petition that an embodiment of the Fraser implant without the transverse elements would be needed to satisfy this limitation.

And in addition, as we will allude to later, the Petitioners also did not include any depiction of a Fraser implant without these transverse elements in the Petition.

So moving on to Slide 58. After Patent Owner identified the defect in the Petition, Petitioners tried to fill in this gap. They had two new arguments in response. First they argued that the continued claim limitation requires a lateral view of the implant. Second they argued that different embodiments of the Fraser implant without the transverse elements might satisfy this limitation.

So Petitioner's first two arguments are addressed on Slide 55. First, the argument was not included in the Petition, thus should be given no weight. And second, there's no support in the claims or the intrinsic record for such a lateral review point. The fact that art cited during Institution that these prior art intents were configured to fit primarily between the interior bones lip osteophytes because portions of those bones fit outside of this base and can intersect portions of the bone doesn't mean that a lateral view is required. These implants wouldn't actually be required to satisfy this limitation when a plan is used either.

At bottom, what Petitioners are really trying to do here is read out the interior portions of the lip osteophytes parts of this limitation. They don't get these requirements as a meaning. They are misconstruing this limitation as a general inter-fit limitation that is sized to inter fit between these bones instead of giving meaning to all words in the claim.

But again, the limitation, as I think Your Honor alluded to earlier, that the base plate be configured to fit primarily between interior portions as opposed to posterior portions of the lip osteophytes, as opposed to just any portion between the interior or superior surfaces of the vertebral.

Their second new argument is addressed on Slide 60. And it, too, should be rejected because it's improper new argument that was not included in the Petitions. Again, the embodiment that Petitioners relied upon in arguing that those limitations were satisfied, that the implant depicted in Fraser Figure 1, has the transverse element.

So in reply the Petitioners shifted their argument and first made a connection between Fraser's disclosure that the transverse elements were optional in this particular configurative limitation.

I'll note that on Slide 59 when they cited this, this disclosure in Fraser, they did not include any citations to the Petition because this limitation, they didn't discuss that disclosure with respect to this limitation. And I'll also point out that as previously discussed, Mr. Drewry testified that even without the transverse element, a person of ordinary skill would have recognized that essentially the end plate would fit between the interior and posterior portions of the disc space. Only that wouldn't be said that the implant was primarily or mainly configured to fit on one portion versus the other.

So Petitioners included, as was discussed earlier, this brand new illustration in their Reply, which is shown on the left here that purports to show an embodiment of the Fraser implant without the transverse screws. And the shape of this implant is completely irrespective of there's no pictured embodiment of Fraser (inaudible) and Petitioners used this speculative drawing to offer a false positon down to a tenth of a square millimeter, purporting to show that this embodiment that they just made up is bigger in the front than it is at the back. And as Your Honor also noted, that a readily apparent column of this drawing, the plate portion, as Your Honor recognized is larger in Petitioner's drawing versus the drawing figure that was actually included in Fraser Figure 1. And the shape of the bumped out portion behind the plate is again completely speculative. There's no specification for why it has this particular shape.

So unless Your Honors have any additional questions regarding this limitation, I'll move on to the next deficiency in the 264 Petition.

So turning now to Slide 61. All of the challenged claims from the 537 patent also require that the claimed base plate have one or more bone screw

holes or bone screws that open or extend towards the side surfaces of the vertebral bones. And for simplicity I'll refer to this as the side surface bone screw orientation limitation.

And the bottom line here is that neither Fraser embodiment, whether it's the two-piece or the fused implant embodiment satisfies this limitation.

Turning to Slide 62 first. Petitioners provide and apply a single construction for side surface vertebral bone. Mainly they state that a side surface is superior or inferior surface of the bone excluding the lip osteophyte and corner of the bone. So to this construction to the extent that a bond screw is oriented towards the corner vertebral bone or the lip osteophyte it would not be oriented towards the side surface of the bone. And that's just what happens here.

Turning to Slide 63, Petitioners rely exclusively on Fraser Figure 8 in their Petition, to show the orientation of the bone screws and the Fraser implant is inserted between vertebral bones. They argue that the green bone screw is orientated towards the side surface of the left vertebral bone, and that the purple bone screw is oriented towards the lip osteophyte of the right vertebral bone after it's been rotated within a tab of Fraser's plate from 20 degrees from the midline of the implant to 60 degrees from the midline of the implant.

The problem for Petitioners is that both the unmodified green bone screw and the modified purple bone screws are shown in their own named figures as entering and thus being oriented toward the same respective elements. They're both shown as entering the corners of the bones. This means that neither the green bone screws nor the purple bone screws are oriented toward a side surface of the bone in Petitioner's construction.

Turning now to Slide 64, the reason for this is that Petitioner's only proposed changing the angle of the bone screw hole. Petitioners did not propose changing the location of either the entry location of either the green or purple bone screws where they enter the vertebral bone.

We're now looking at Slide --

JUDGE WOODS: Mr. Van Tassel, I apologize for interrupting, but if I could ask a question. I admittedly struggle with this argument and this is why. I think the claims require that the screws extend partially to the side surface, correct? And it's honestly, you know, the screw's going to have some diameter to it, right? It's not insignificant.

And for example if you look at, let's refer to Slide 64 of your demonstrative, to the left I understand that your point is that these screws only enter the corner, but I'm not sure that we can discern that from this figure. I mean to me it looks like it's discerning, it's entering from the corner as well as the side surface. So to me it seems that that structure would satisfy the limitation. Am I missing something?

MR. VAN TASSEL: Your Honor, I don't believe you're missing something. I guess we just share different views of where the green screw is entering. In my perspective I see it as entering the corner of the lip. And it's their burden to show where it is and where it's entering. And they didn't show it here. I guess it's ambiguous as to where the green bone screw enters the bones, and they have not met their burden to show that it is entering at least partially the side surface as opposed to just going through the corner of the bone.

JUDGE WOODS: Okay. Thank you.

MR. VAN TASSEL: So on Slide 62 I just want quickly to again in response to Patent Owner's identification of this additional defect in the Petition, Petitioners again switched their position to add new argument. The first is that the effect of bending the tabs would inherently alter not just the entry angle but also the entry location. And second, that Petitioner's own speculative depiction of a Fraser like implant between bones that they created out of whole cloth essentially, is somehow more accurate than the figure actually included in Fraser Figure 8. I'm showing the impact between bones and we trust the figure that was exclusively relied on in Petitioner's Petition.

As shown on Slide 66, as Mr. Drewry testified, the unmodified green screw and the modified purple screw in the annotated version in Figure 8 that are included in the Petition answer like I mentioned, the vertebral bones. Effectively the same or same mirror of location, through the corner of the bones. Petitioners don't argue to the contrary in their Reply. Petitioners don't argue in their Reply that Figure 8 clearly shows that the green screw, for example, goes through the side surface.

So Petitioners don't show, in other words that there's any material effect on the location of the bone screws. Entry locations due to any effect from any of the tabs on base plate 20. And the problem with Petitioner's argument is that what we're really looking here at is the green bone screw. So even if Petitioner's argument were correct that the entry location of a screw would be altered when one bends the tab, that effect with the location of the purple bone screw, not the entry location of the unmodified green bone screw.

So we turn to Slide 67. To address this issue, as in the Reply, Petitioners show a depiction of a Fraser-like implant between bones and then boldly assert that it's more accurate, that the figure is actually included in Fraser showing implant between bones. In addition to being improper argument it should be given no weight, Petitioner's argument is simply not credible on its face. Again, they relied exclusively on Fraser Figure 8 in the Petition to show the placement of the Fraser implant between the vertebral bones and then the orientation of the bone screws for an implant so placed.

The Petition makes no arguments, extends no evidence, but relies on different placement of the Fraser implant for one that relies on the variability of shapes or the orientation of the vertebral bones as Petitioners now argue. Petitioner's argument was simple, albeit it be mistaken, it was that Fraser Figure 8 showed that the green bone screw was oriented toward the side surface and the modified purple bone screw is oriented toward a lip osteophyte. That's it.

They can't now take the position to address a hypothetical different placements of the implant within differently shaped or oriented vertebral bones. They didn't argue anything, no argument in the Petition that relied on anatomical differences of the bone. It's just in their Reply where they introduced these new arguments.

And finally, this new argument only got in this newly introduced figure is also inconsistent that they're relying some Figure 8 and arguing that Institution should not be denied under Section 325(d).

In kind of arguing, trying to stave off discussion or denial Petitioners argue that the examiner failed to consider and overlooked Fraser 106's disclosure of the specific location of the plate, bones, and screws compared

to the vertebrae. In other words, they treated Fraser Figure 8 as a definitive representation how the implant and bone screws would be implanted with respect to the vertebral bones.

So turning now to, unless Your Honors have additional questions regarding this limitation, we can move on.

JUDGE WOODS: No questions.

MR. VAN TASSEL: Great. So if we could now turn to Slide 68. And this suggests the difference or deficiencies of the 264 Petition and Grounds 4 and 5, Petitioners proposed modifying Fraser in view of Michelson.

And these grounds should be rejected for two reasons. One is Petitioner has failed to describe the proposed combination with sufficient particularity, and two, Petitioners failed to provide sufficient motivation to combine these two references.

So first, as discussed, starting on Slide 69, Petitioners failed to describe the proposed combination of Fraser in view of Michelson with any particularity. Instead Petitioner simply lists various claim elements such as a screw retainer, and then match them to the disclosure found in Michelson without describing the proposed combined implant as a complete whole. And in doing so Petitioners acted improperly treat these elements as just a collection of disparate limitations.

And the problem with Petitioners' approach is that it ignores or at least fails to address or account for the downstream ripple effects caused by their proposed limitations. This is just adding and imaging the screws changed in Michelson. To be clear, Patent Owner's argument is not that a POSITA would not have been able to make these modifications or combine

these elements, it's that Petitioners have not met their burden to describe the proposed modified intent as a whole with the requisite particularity.

And thus Patent Owner and the Board quite frankly can only speculate as to whether the implant as modified, would indeed satisfy all the claim limitations, including those that were only an unmodified implant most relied upon. And can only speculate as to whether the implant would actually head the warnings included in both references against affixing hardware interiorly outside of the space.

An example of that is depictured on Slide 70 where we note, that the expert notes, that there would be significant compatibility concerns with using Michelson's screw retainer with the independently-angled tabs in Fraser plate 20.

And if you turn to Slide 71 and look at Michelson's figure on the right, the reason for this is that in Michelson the retaining plate is recessed, whereas it would not be even in Petitioners belatedly included figures describing how these modifications might have been made, in the first time they included it in their reply.

So as discussed and summarized on Slides 72, Petitioners also failed to provide adequate motivation to combine Fraser with Michelson. And unless the Board has any specific questions about these inadequacies, we'll rest on our briefing on these points and I will move on to the next limitation.

JUDGE WOODS: If I could ask one question so to give Michelson a little bit of attention here. So I mean largely isn't your argument more of one of bodily incorporation? Wouldn't a skilled artisan, you know, reviewing these references, know, they would have known how to modify Fraser's 106 base plate to include that anti-back out mechanism taught by

Michelson, and wouldn't they be motivated to do so so that they could use toggle screws in Fraser's device so that it would allow the bones to subside or settle while at the same time preventing the screws from backing out?

MR. VAN TASSEL: To answer your question, no. Our argument is not one of bodily incorporation. Again, all we believe, we never have taken the position that a person of ordinary skill would not have been able to make these modifications or combine these elements. Our argument is that these proposed modifications as a whole were not described with sufficient particularity. So while a POSITA might have thought to take the bone screw retention plate from Michelson and use it with Fraser, the implantation of exactly how that was accomplished, or would be accomplished, while avoiding these kind of pitfalls that are described in the patent, simply wasn't described by Petitioners in the Petition. It was only in the Reply when they first described these modifications that they kind of addressed these potential ripple effects with any particularity.

JUDGE WOODS: Okay. Thanks.

JUDGE JESCHKE: I have one question about, on Slide 71 here, you have on the left annotated Figure 8 from Fraser, you have two arrows that point to area outside of disc space, and the point above is, you know, the idea of not having structure in this area outside of the disc space. But maybe I'm not understanding, but there isn't any structure there. So what's the, I'm not sure if I understand the point there: There's no structure left of the red line or in the areas that you highlighted in blue. So what do I miss understanding from this annotated version?

MR. VAN TASSEL: My apologies. This figure is designed to show that an additional lead line pointing to where the screw retainer is as well.

So the blue retainer area there outside of the disc space. And that was not the point that we were trying to make, and we are contrasting that with the Michelson's disclosures, I mean to give 29 in which it goes completely recessed within the face of the entry.

JUDGE JESCHKE: So that was the point that I questioned.

MR. VAN TASSEL: Unless there are further questions I'll move on. So if we could turn to now Slide 73. Here Petitioners assert that the continuous sides of the Fraser infused implant embodiment are the lateral tabs which are claimed in Claim 10. Petitioners are wrong. Their argument here is just basically an attempt to rewrite the claim language to equate tabs to the sides.

So as described on Slide 74 in the related 265 case on the Board authority that notice that Petitioners have failed to show that the fusion cage side tabs. In the Reply it noted that Petitioner still didn't offer any evidence or arguments explaining why these portions identified by Petitioner to tabs, as to your proper understanding of that term. And so all Petitioners state is that Patent Owner doesn't explain why these portions identified by Petitioners are tabs. So in addition to being wrong as a matter of fact, Petitioners recommend also can only suggest that Patent Owner bears or shares Petitioner's burden on this issue.

The fact is that Petitioners offer no evidence either in the Petition or in their Response that would alter the Board's decision or previous conclusion that these structures are tabs.

JUDGE WOODS: If I could ask, Mr. Van Tassel, what is a tab, if you could define it for us?

MR. VAN TASSEL: Sure. I believe we do so in our Response. But it is a, I'm paraphrasing here. I don't have the exact language in front of me. But it's a projection, something that kind of extends outward, and I hesitate to paraphrase too much more than that. But it's not a continuous side that connects the front portion of a structure to the back portion of a structure. There's no sort of end there, free floating portion that's outlined.

So I summarize on Slide 75 of the only evidence that we offer is summarized here so after you look at it I'm sure on Paragraph 146 what we call a tab or what the exposed tab is Mr. Drewry's Declaration there, the term, we pointed out how tabs on sides are used in the 537 patent to describe different types of structures and I think, Your Honor, I alluded to this point earlier. Even if I identified sides perform a similar function to the claim lateral tabs, Petitioners still failed that they're affixed a meaning to the term "tab." Just to note they performed the same sort of functions.

Unless you have additional questions regarding that term I'll move on.

JUDGE WOODS: No questions.

MR. VAN TASSEL: So on Slide 76 now we note that Petitioner has also misidentified the bottom surface or Michelson implant. So looking at the figure presented there, so the given top surface being identified as the left most outwardly facing surface of the implant, which is labeled as surface four of four, Michelson's (inaudible). A person of ordinary skill would have recognized that the bottom surface of this peripherally enclosed implant to have been the opposite right-most outwardly facing surface of the implant, which is labeled as surface 402.

A person or ordinary skill in the art would not have recognized the internal surfaces that were marked in green in the Petition as the bottom surface of this contained structure as a whole.

So as noted on Slide 77, this distinction is important for Claim 24 because it requires that the bottom surface of the base plate have bone screw holes extending to it and no bone screws pass through the actual bottom surface of the implant on its posterior.

So as noted on Slide 78, just kind of showing, putting a little color to this. For similar Fraser fused implant embodiment Petitioners admit that the rear most surface of the combined implant made on a surface 14 could also be the claimed bottom surface.

So circling back to you what my colleague was discussing earlier as discussed on Slide 79, Petitioners' misidentification of the bottom surface of the Michelson and Fraser (fused) implants is just further evidence that these implants are not plates. A plate has external outwardly facing top and bottom surfaces. And I'll note in this instance Petitioners have either misunderstood or misrepresented Paten Owner's argument. They claim that under Patent Owner's position the bottom is the base plate embodiment disclosed in 537 would be the posterior most portions of the shown tabs. And this is simply not so. And in fact Patent Owner expressly stated what was the balance of this base plate disclosed in 537 matter. It's the bottom surface of the primary and secondary elements in figures which are which is shown right here and that are labeled 26 and 31. So because this is a closed base plate in the 537 patent's a plate and it's unlike the Michelson and Frasier fused implants, these surfaces opposite the top surface they contact the bone graft feature on this embodiment are external. They are outwardly

facing, they're not internal surfaces like those identified in green, like the fully enclosed implant shown on the left.

I'll move on to the next set of slides, unless Your Honors have any additional questions here. Great.

So if we turn to Slide 81, this presents an overview of the additional deficiencies found on the 274 Petition. Petitioner challenges claims, particularly in the 4 patent.

And my colleague, Mr. Knight, will address the first handful of these defects.

MR. KNIGHT: Good afternoon, Your Honors. So I'll cover the first two deficiencies of the 274 Petition. If you turn to Slide 82. Claims 2 through 5 require that a first bone screw is introduced into a first bone at the corner of the bone. And Claims 6, 7, and 16 require that a first bone screw is introduced in a lip osteophyte. Now one point of clarification here. A lip osteophyte may be in a corner of the bone to the extent that may not be clear in the parties' briefing. It also implies that by Petitioner's mapping of Michelson's implant 400 to meet claim limitations.

Turning to Slide 83. So Petitioners argue that the bones screws used with Michelson's implant 400 would enter the corners of the bone and/or the lip osteophyte when 1, the bone screw is inserted at a 75 degree angle from the midline of the implant, and 2, the bone screw holds in implant 400 are shifted toward the superior/interior surfaces of the implant. Now one additional point of clarification here. What you see here is Petitioner's placement of the implant 400 from Michelson between the two vertebral bones.

Figure 24 in Michelson only shows implant 400 irrespective of placement. In Petitioner's marked up of the implant 400 where it is flush with the interior surfaces of the adjoining vertebral bones, this depiction is not anywhere in Michelson. You won't find it. And it makes sense as it is factually inconsistent with Michelson's description of implant 400.

So if we could turn to Slide 84. In fact Michelson teaches that opposite, and requires that implant 400 would need to be significantly recessed. You'll find that on Page 16 of Michelson. Now based on those express teachings of Michelson, the implant would instead be recessed towards the posterior end of the vertebral bodies. And in that configuration, as show in the middle diagram from our Response, nowhere does the bone screw enter into either a corner of the bone or the lip osteophyte.

Now we can quibble about how recessed the implant might be, but the point that Patent Owner was trying to make in that diagram is that the only way that you achieve the claim range of the bone screw insertion is if you use the corner of the bone or the lip osteophyte, as this implant is flush to the interior surfaces of vertebral bodies. And Michelson teaches this, expressly the implant 400 does not.

Now there's no implicit suggestion in Michelson that a person of ordinary skill would have set the implant 400 is flush with the interior surface of vertebral bodies. Petitioners in their Reply and in arguing here today suggest that because there's other embodiments in Michelson where the implants are flush that so too would implant 400 be. But the problem with this is that Petitioners, they don't rely on these other embodiments to disclose those limitations. They only rely on implant 400.

And the configuration of the other embodiments differ from implant 400 in material respects. One that may or may not bear on the placement of those implants in the vertebral space.

And in any event the configurations of the disc placement of the other embodiments, on which Petitioners do not rely, do not overcome the express teachings in Michelson to significantly recess implant 400.

Now you also heard today from Petitioner that claim every depicted embodiment in Michelson shows that the implant is flush with the anterior surfaces of the vertebral bones. But there is no depiction of implant 400 in the disc space in joining vertebral bodies in Michelson. And in any event, recessing of implant 400 is confirmed by Michelson 635. And that's shown on the right diagram of Slide 84.

Now Michelson counters --

JUDGE JESCHKE: Counsel, why should we be concerned with what Michelson 635 is if your position is that the actual other embodiments in Michelson 045, in other words the one that's relied on by Petitioner, should not be considered?

MR. KNIGHT: That's a very good point, Your Honor. It was just to illustrate a point that was made by the Petitioners that it is, they did it in every single embodiment, you know, discloses that this flushness between the implant and the interior surfaces and thus implant 400 does. They're making a suggestion there that it should be flush there in any event. We just wanted to show that there was a similar type of a device doing implant 400 and in Michelson 635. That implant, as seen on Figure 7A is recessed, and that recession -- I'm sorry, Your Honor --

JUDGE JESCHKE: I was just going to say it doesn't appear to be as recessed as the version of Michelson's Figure 24 that he's depicting in the middle of Slide 84. So, you know, even if it is halfway between, I guess my question to you on that would be I didn't see response in the Surreply on Petitioner's point about how in the world would screw 442 in Figure 24 in for example the annotated version in the middle here, how would that be inserted in the relative configuration that you show there? In other words that's 75 degrees above the mid-line, how could that even be physically put in that way?

MR. KNIGHT: You are correct, Your Honor, that that wasn't directly addressed in the Surreply. That being said, we do mention in the Surreply a couple things that bear on that particular question. One is that implant 400 Michelson teaches that it is significantly recessed within the disc space. And then two, Michelson's implant 400 also teaches that it supports a range of bone screw angles that is inclusive of that 75 degrees. It is actually impossible to reconcile the fact that Michelson's implant 400 supports that 75 degree bone insertion angle and also be significantly recessed.

JUDGE JESCHKE: So let's talk about the significantly recessed part. So what page is that discussion on?

MR. KNIGHT: It's on Page 16 of Michelson.

JUDGE JESCHKE: Okay. So I remember you were making a point about in the alternative the trailing end could be convex in order to conform with the contour of the anterior vertebral body in order to fit in close approximation thereto. That makes it sound as if in that alternative, which is still a disclosure of Michelson, that the structure, the trailing end 402 that is, is going to conform to the anterior vertebral body in order to sit in close

approximation to. That to me makes it sound as if it is very close to the interior portion.

Am I not reading that correctly? Why am I mistaken there?

MR. KNIGHT: Your Honor, you're absolutely correct there, but the one point that I would mention there, and it goes similarly to some of our discussions about the other embodiments in Michelson is that's an alternative embodiment, that is not the embodiment that Petitioners relied upon in their mapping.

JUDGE JESCHKE: Okay. And what is your support for that, that the alternative is somehow excluded from their citations to Michelson Page 16? Is there something that you can point to that supports that?

MR. KNIGHT: They relied on the flat based embodiment 400. And that is not the alternative that's disclosed in Michelson.

JUDGE JESCHKE: Okay. I mean that discussion on Page 16 is Figures 21 to 29, which is, it talks literally in the sentence before that is talking about implant 400. And the sentence I quoted is talking about implant 400. So I'm confused about how that's a different aspect. But maybe it's not for you to discuss, maybe it's something that Petitioner could address in their remaining time, so I don't want to take up any more of your time on the issue.

MR. VAN TASSEL: Your Honor, if I could jump in very quickly. This is Joe Van Tassel.

JUDGE JESCHKE: Okay.

MR. VAN TASSEL: To answer your question, it's my understanding that Fraser, I'm sorry, in Michelson on Page 16, it is discussing an

alternative embodiment to embodiment 400 that has a differently shaped trailing end. So trailing end is labeled in the figures as 404.

JUDGE JESCHKE: Yeah, I think it's a typo, right?

MR. VAN TASSEL: No, trailing end refers to the end that is trailing when you insert it internally. So the leading end is 402, so that's the first thing that goes in.

JUDGE JESCHKE: Right. I see it but I can't, the sentence that we're talking about in the alternative, actually refers to trailing end 402, which the previous sentence refers to as trailing end 404.

MR. VAN TASSEL: Right.

JUDGE JESCHKE: Correct? Okay.

MR. VAN TASSEL: Yes. So in implant, the primary embodiment, that's as shown in say Michelson Figure 24, the trailing end 404 is shown as being flat. And in the alternative, Michelson is teaching, we believe, that you can have a convex or sharpened curved surface, that alternative embodiment would be contoured to the top surfaces of the vertebral bones without the need for the implant to be significantly recessed.

We interpret that disclosure as stating that the unmodified or the primary embodiment that has the flat surface would be significantly recessed when inserted.

JUDGE JESCHKE: I see, I see your point. Okay.

MR. VAN TASSEL: Thank you, Your Honor.

MR. KNIGHT: Thank you, Mr. Van Tassel. So turning to Slide 85. I just wanted to take a moment to discuss the bone screw angle with respect to Claim 2. You heard today Petitioners making the shifting argument that Petitioners are now relying on Michelson's teaching of a particular range of

angles now for the first time. If you go to Pages 30 through 31 of the Petition on its issue with respect to Claim 2. Petitioner points to the 75 degree angle at any other part of the range. So this is new argument that we want to make the Board aware of.

Moving on, the Petitioner's proposed modification of moving the bone screw locations in implant 400 comes from Michelson's implant 600 embodiment. But similar to other discussion that my colleague mentioned today, Petitioners, they don't provide any reason for why a person of ordinary skill would have borrowed from implant 600. It's not in their Petition or their Reply. Now ostensibly it appears that their only justification for doing so is to accommodate a 75 degree insertion angle that they offer in the Petition. But that can't be enough because Michelson discusses that implant 400 already accommodates a bone screw inserted in angles up to 75 degrees.

So in the interest of time I will move on to Slide 87 unless the Board has any questions at this time.

Okay. So on Slide 87, Claims 19 and 20 of the 234 patent, these limitations, they require introducing of bone graft to the side surface of the first and second vertebral bodies prior to insertion of the base plate. The claim captures the very aspect of a plate, as Mr. Milch discussed earlier. It requires that a bone graft be inserted into the disc space first, followed by the base plate.

Now a few points here. Michelson's implant 400, it has that leading end 402, which is at the bottom of the orange shaded implant, and a trailing end 404 at the top of the same implant. Now this limitation cannot be met by Michelson because it's a ring structure so it's past the bone graft material.

No matter how insertion occurs, the leading end 402 of the implant will enter the disc space between the side surfaces before the bone graft does. And even under the most charitable interpretation, as long as the bone graft is introduced at the same time as implant 400, because again it's acting and surrounded by the walls of implant 400. There's just not a way for implant 400 to be introduced after the bone graft. Which confirms, in Michelson's implant is not a fixation plate, as understood in the 234 patent.

Now Petitioners, they recognize this issue in their briefing and they tried to skirt-around it by claiming the introduction of bone graft may only occur before Michelson's implant is fully inserted. In other words, according to Petitioners, the bone graft has to enter the disc space before the trailing end 404 does. That simply doesn't square up with the claim language, it'd rewrite Claim 19. The claim language does not --

JUDGE JESCHKE: Doesn't it make sense that insertion would require full insertion of something? Why shouldn't that be the understood meaning of it? It doesn't say partial either. So why should we have not understood the insertion of the base plate to mean the full insertion? Does that make sense?

It doesn't say anything in front of insertion. It doesn't say partial, it doesn't say full. You're saying that full is rewriting it, but essentially you're asking for a different understanding of the word insertion. And I'm trying to understand. Is there something in the specifications that supports your proposed understanding of insertion here?

Whoever can answer. I don't mean to put you on the spot. Whoever is the right person.

MR. VAN TASSEL: Yes, the fact that -- this is Mr. Van Tassel. Sir, if it's a base plate as opposed to the ring like structure for the Michelson implant. So the fact that it's been for a bone graft that's a solid block, for example. You insert that into the disc space and then because the embodiment of the base plate described in the 234 patent is a plate, you would insert the plate over that. And so the bone graft material's inserted prior and then it's covered up by the plate. One can do that with the fully enclosed version of the implant and the Michelson implant. The bone graft is inserted, and we're getting down to fractions of seconds here, but it would be inserted in essence concurrently with the base plate. It's not inserted prior to.

JUDGE JESCHKE: Okay. Thank you.

MR. KNIGHT: Okay. If the Board doesn't have any further questions, I'll turn it over to Mr. Van Tassel to address the additional deficiencies of the 274 Petition.

MR. VAN TASSEL: Thank you. Thank you, Your Honors. If we could now turn to Slide 88. We'll go through these relatively quickly. Okay. Claim 22 and its dependent claims recite what "bone screw retaining" means. This is a function term. Petitioners identify and assert that the corresponding structure can only adjust a retaining plate and a set screw or one or more screws with heads that are overlap at least a portion of one or more bone screws.

And as shown on Slide 89, the issue here is straightforward. They identify lot 462, that's the corresponding structure. Then this is described as a disc with a threaded sidewall. And this structure is neither a retaining plate and a set screw because it's a single unitary structure and it's not one or

more screws with heads that overlap at least a portion of one or more bone screws. It's not a screw with a head it's just a threaded disc sort of thing.

Unless the Board has any questions about this limitation I'll move on.

On Slide 90 then, Claims 18 and 31 further require that the base plate have at least three bone screws that are covered by a single retaining plate. Petitioners assert that it would be obvious to use the retaining plate of another Michelson implant to cover the four bone screws and a Michelson implant 400 embodiment.

And as shown on Slide 91, the issue is here is similar to what I previously discussed earlier to the combination of Fraser and Michelson (inaudible). It's that the Petition failed to describe with particularity the proposed modifications to the Michelson implant to describe in detail as a combined whole. So the problem with that is that one cannot tell what downstream ripple effects there might be with such an inarticulately proposed sort of combination or described modification. So Petitioners failed to satisfy the burden here, described that the proposed combination with sufficient particularity, and the Board should reject the Petitioners related attempts to kind of fill in this gap.

So unless the Board has additional questions with respect to this limitation, we'll move on.

JUDGE WOODS: No. Just to let you know, Mr. Van Tassel, you have about one minute left before you start working into the 20 minutes of surrebuttal time.

MR. VAN TASSEL: Okay. I'll keep on plugging away and it won't take long to get through the rest of this.

On Slide 92 Claims 20 and 32 require that the base plate include first and second tabs, and is similar to what we discussed earlier, Petitioners identified the particular sides of the Michelson implant. And that's simply insufficient to show that the structures would be considered tabs by a person of ordinary skill in the art. Also as previously discussed.

I'll move on to the next limitation unless there's specific questions.

We can hop to Slide 94. The proposed combination of Michelson and Fraser have the same or quite similar issues to those that were previously discussed with respect to a combination of these reference for the 537 patent. And again, the issues are that the Petitioner fails to describe these combinations with sufficient particularity and failed to provide an adequate motivation to combine.

Unless the Board has any specific questions for these particular failings, we'll move on.

JUDGE JESCHKE: No, I think we understand the positions for most of the rest of the issues for the 274 petition. I think if you want to move to the 265 that might be a good place to spend your time.

MR. VAN TASSEL: Great. So why don't we hop to Slide 101 then. And Slide 101, the argument here sort of, you know, follows the same beats as the other deficiencies previously discussed for the means of preventing movement limitation. On Slide 102 the deficiency here, there's defect in the Petition that they simply failed once again to describe the proposed combination as a complete over all modifications, and account for the downstream ripple effects that could flow from these proposed modifications.

I'll hop to Slide 105 regarding the inter-fit limitation.

JUDGE JESCHKE: Yes, I did have a question about this one. So I'm trying to understand. So this right here on Slide 105 is the construction laid out in the Petition in 265. And it kind of has two parts. The idea of being sized to fit completely in between and then the part of allowing partial sharing of the weight. Obviously that's a shortened version of them. But it seems as if the Patent Owner here is saying that the second part, the bear or share weight part is not satisfied, my question to you is do you agree that it is a requirement, the requirement to share weight of this inter-fit limitation, or are you just arguing that Petitioner should be held to their own construction from the Petition? Which one of those two options is it?

MR. VAN TASSEL: I believe both. We believe that it does require, based on the disclosure and specifications that it is required to bear or share weight.

JUDGE JESCHKE: I guess I'm trying then to understand why for example if you look at a distinction between the 234 and the 537 patent one says "size to have an inter-fit between the first and second adjacent bones bodies", and the 537 patent uses the term "bearing weight." So if inter-fit requires bearing weight, why was a different phrase being used?

MR. VAN TASSEL: I don't think I can answer that question. I can't speak for why, but as you possibly suspect, these use different terms.

JUDGE JESCHKE: I'm not really asking you that, to answer for them. It's more why should it be understood differently I guess, may be different phrasing of it, is the way I guess I would look at it. Is bearing and sharing weight, and I asked that obviously because Petitioner doesn't maintain that construction, as of the Reply, and I think it's your position that they shouldn't be allowed to kind of change that. But I guess I'm just trying

to understand why that requirement is there in your view. Or if that's not really your view that it should be there, but just that Petitioner hasn't shown it met.

MR. VAN TASSEL: Okay. I don't want to belabor the point. I'm not prepared just sitting here to give fully, to go through why we think it should be there. But the bottom line is that we used their construction and basically held to them.

JUDGE JESCHKE: Okay. That's fine.

MR. VAN TASSEL: So I'll turn it back over to my colleague, Mr. Knight, to address the lateral extent limitation.

MR. KNIGHT: Thanks Mr. Van Tassel. I don't think that we need to belabor the point here with lateral extent. We will rely on our papers for that particular limitation. And if the Board doesn't have any additional questions, we will reserve the remainder of our time.

JUDGE WOODS: I have no questions. So with that I calculate that you have approximately 15 minutes left for surrebuttal.

MR. KNIGHT: Yes, I believe that's right, Your Honor.

JUDGE WOODS: Okay.

MR. SHERWIN: This is Scott Sherwin for Petitioners. And I'll at least start taking the lead unless we have any questions from Your Honors.

JUDGE WOODS: Okay. Well I calculate that Petitioner has about 13 minutes left for rebuttal. And so please proceed when you're ready, and we'll start the clock once you begin.

MR. SHERWIN: Thank you, Your Honor. So the first point I want to raise is the "base plate" term. We got to remember the term that we're construing in "base plate," the base has to have some meaning in that term.

It's not simply the term "plate." A person having ordinary skill in the art would pick up these patent, they might have some concept in their head of what the word "plate" means, but that's not the claim term. The claim term is "base plate." And what would that person of ordinary skill in the art do? They would go look at the specification, the intrinsic evidence to determine, what is a "base plate?"

And what is a base plate? We have to look at the preferred embodiment. That's the only embodiment of a base plate, how is it shaped, is it shaped like a flat plate of steel? No, absolutely not. And any construction that excludes the preferred embodiment simply cannot be the right construction. Particularly given the fact that there are no plates, there are no flat plates depicted anywhere in the two challenged patents being described as the base plate. The only thing depicted is this U shape, this saddle-shaped device.

So Patent Owner's argument that we now have to somehow narrowly limit this term to some specific geometric shape that's a flat plate of steel, it's simply contrary to the way a person of ordinary skill in the art would look at the claims and the intrinsic evidence.

JUDGE JESCHKE: Mr. Sherwin, I mean it is still the lateral tabs requirement, which is what makes the otherwise perhaps flat structure U-shaped, is not actually for the 234 patent, it is not required until some of the dependent claims. So, for example, for independent Claim 1, that requirement for the lateral tabs is not there until Claim 20. So wouldn't it still include the possibility of a flatter structure without those lateral tabs on there?

MR. SHERWIN: But it can never be construed in a way that would exclude them. I mean we have to look at the embodiment, right? The embodiment says it's got tabs 60, nubs 66, and they are included. They are integral, they are part of the device. That's the embodiment. So if we come up with a construction that completely exclude that we're literally coming up with construction that is contrary to the intrinsic evidence. That cannot possibly be right. That's not what the law tells us we do as part of claims construction.

We have to put on our hats of the person of ordinary skill, we have to look at the intrinsic evidence, and we can't be contrary to the intrinsic evidence. I know that they have a lot of intrinsic evidence, using just the word "plate." Nothing in intrinsic evidence of the word "base plate," it's just the word "plate." That can't change with the intrinsic evidence, they can't change the figures and the imagines that this patentee chose to use and chose to disclose.

So unless you have any other questions, I know I have limited time, so I'd like to move to the next issue. Do you have any questions, Your Honor?

JUDGE JESCHKE: No questions.

MR. SHERWIN: So next I'd like to move to Figure 3. We had this discussion about the gap. Is there a gap, what does that gap mean, did that gap somehow impact this discussion of a spacer? And I'd like to direct our attention to the reference itself. After all that's what we're focusing on, that's Exhibit 1001.

And first I'd like to take a look at Column 6, starting at about Line 37. What does the reference tell us? It says in use, the lateral tabs 60 extend

around the bone graft 12 to prevent lateral shift of the graft and control subsistence at adjacent vertebra as they set during healing.

And I think, Judge Woods, I think you brought this point up earlier. Aren't the lateral tabs really just there to hold the bone graft block? Yes, of course they are. And we admit that, that's exactly what the specification says. But that's not all the specification says. The specification also explicitly says they're there to control subsistence. And the specification goes on. It's not the only reference.

Let's also go down to Column 7, lines --

JUDGE WOODS: If I could too, and I think we have to be very careful in like reading it. So let's go back to that particular, and I apologize, my working file is just enormous right now. Could you read for me that particular disclosure in that exhibit one more time?

MR. SHERWIN: Sure, I'll read it again. The lateral patent 60, oops, I'm sorry. Got the wrong part. Starting at 37.

JUDGE WOODS: Okay.

MR. SHERWIN: In use, the lateral tab 60 extend around the bone graft 12 to prevent lateral shift of the graft and control subsistence of adjacent vertebrae as they set during hearing. Do you want me to go on, Your Honor?

JUDGE WOODS: Well, I would like to just share, when you read that this is my understanding, this is how I interpret it. By maintaining that bone graft in its desired position, right, those lateral tabs keep them from shifting laterally. That is how it's controlling the subsidence between the two adjacent vertebral bodies. It's not that the tabs themselves necessarily provide the weight bearing support between the two vertebral bodies. I

understand that there's disclosure they make contact, but I think that's what's desired is that bone graft material that is, you know, can be rigid, that actually provides that vertical support, that weight-bearing support.

MR. SHERWIN: Your Honor, I can see how even if this section I just pointed to isn't crystal clear, let me direct you to the next section.

That's in Column 7, starts at line 55. And again, I'll read that for you in case you're not able to pull it up. So this is a quote "If the base plate 20 includes lateral tabs 60 with nub 66, the nubs will also share in the weight bearing during settling of the vertebral bodies. Specifically, as the vertebral bodies move towards each other during settling, the pointed nub 66 will contact and slowly enter the vertebral body 16 to a limited extent. This contact can help in controlling the rate of settlement." The reference cannot be more clear on this issue. Those tabs and nubs are absolutely specifically disclosed as being spacer, as being a device that controls the amount of distance between your two vertebral bodies. That's what the reference says. There's no other way to read it.

Unless Your Honor has any other questions, I'd like to move to the next point.

JUDGE WOODS: No, thank you.

MR. SHERWIN: I'd like to address the weight bearing issue of Fraser in particular. I know we've discussed that quite a bit for the Fraser reference as two-piece embodiment. And, Judge, once again, I believe you had some questions. You specifically asked us, can you point to me something in the intrinsic record, walk me through why there's weight bearing here. And that's exactly what I want to do.

So if we could pull up Fraser, that's Exhibit 1007, please.

JUDGE WOODS: Okay, I'm there.

MR. SHERWIN: And we can start with Figure 8. I'll give everyone a moment to get there. I know it's tough to jump around a little bit. So again, that was Fraser, Exhibit 1007. And I'm looking at Figure 8.

JUDGE WOODS: Okay.

MR. SHERWIN: Figure 8, again, the intrinsic evidence, so something that we have to rely upon, we have to factor in, we cannot exclude the intrinsic evidence when we're talking about what Fraser teaches and discloses. What does it show us?

It's a cut-away view of that implant in the two vertebral bodies. And what do we see in that cut-away view? 66, that's the interior surface of the base plate, of the plate. And what is it showing? At the very top and the bottom those screws are going into the bones. The bones are literally, in this image, touching the screws.

And what would be around those screws? We know from disclosure, there's the tabs and the screw holes. Now they're not shown here because it's in a cut-away, but we literally have an image of the bones themselves contacting the screws and the base plate. The only way these two bones, when they start to compress together or somehow magically not compressing the front plate, is if they were just compressing the back on the posterior side.

But any time those bones start compressing and there's any source of force on those bones on the front side, on the anterior side, this image right here is showing it, it's showing exactly where there's making contact. And that's not all.

JUDGE WOODS: If I could. So, I think this is an interesting point, too, and if we could address Grounds 4 and 5 in Michelson. So how are those screws actually, how do they mate with the base plate? What if they're toggle screws, right? I think in the proposed combination with Michelson you proposed that you could make them toggle screws so that they would toggle or move freely within that base plate to allow the bones to subside. And so you would then need an anti-back out mechanism and so the proposal is to use Michelson's back out mechanism. Which honestly makes sense to me.

And I think that highlights the problem here is that those screws, you know we don't know how much contact there is between those bone screws and the base plate, we don't know if it's a tight fit, if it's a toggle fit. We know they're polyaxial screws so they come in at different angles. We don't know that when they're tightened if they are, you know, if there's a slot or if there's sides that there's a certain amount of interplay. There's a lot of assumptions we just have to make in order to come to the conclusion that indeed this bears some weight.

And if we look at the explicit teachings of Fraser, it actually teaches that that, I believe it teaches that it's just there to keep that space, the body from migrating outwards. And so, excuse me, that's -- if you could point me to something within the actual written description that would be more helpful.

MR. SHERWIN: Yes, Your Honor, I'll do that right now. Let's go to Column 2, let's start at Line 34. And I want to talk through exactly how there's a base plate and how there's screws and how they all interact together and how based under physics 101, this has to bear weight.

So Column 2, Line 34. I'll read the quote for you in case you can't pull it up quick. "The cage further includes a plate 20 that is amenable with the body 10, titanium or carbon fiber composites are suitable materials for the plate." So now we know what our plate is. We know that our plate is made out of this incredibly strong material, titanium or carbon fiber.

What about the screws now was the next question you asked. Column 3, Line 19. What kind of screws? The screws are of the "locking type" so they cannot back out of the holes in the plate. So we don't have any assumptions here, Your Honor. Respectfully, I would say Fraser in the, we'll sit on this point. You've got a screw, it's in the bone, the bone and screw don't move relative to each other. You've got a screw in a bone that screw is a locking type, it does not move relative to the plate. And you've got a plate made out of titanium. In short, once this thing is implanted, everything is fixed rigidly with respect to each other. If that bone moves, the screw has to move. If the screw moves, that plate has to be under compression, some sort of force has to be placed on it.

You cannot have any other way in Fraser. Fraser makes it clear that those screws are in there, they are locking screws. And when the force of that bone starts compressing down, that spinal column starts to compress, the bones are pushing on that screw, they're pushing on the tabs of that plate. And those screws are locked in there, they cannot move, they cannot slide, they cannot toggle, they are locking screws. They are tight with that plate and that compressive that pushes on that plate, that's exactly what Mr. Sherman was talking about. That's why you get that bending force if they are pushing down on that plate.

They're not simply sliding any sort of direction, they're not sort of freely moving with respect to the plate, that's contrary to Fraser. Fraser says explicitly they are locking screws so they cannot back out of the holes.

JUDGE WOODS: Okay. So I think there's something, we have to be -- like what is your understanding of a locking screw?

MR. SHERWIN: A locking screw is a specific type of screw that is designed so that it cannot translate along its axis if it gets pressure. So when that bone starts to compress, you could have that screws start to twitch, start to back out, start to move along its axis. A locking screw won't allow that because it's double threaded, typically. I suppose there's other types of locking screws. You can't do that, it is fixed relative to the plate. It's as if the screw and the plate have become fixed relative to each other. That's why you don't need one of those locking plates in the back, those anti-back out plates. You don't necessarily need that. If you have a locking screw, the screws themselves will not move relative to the plate. So when that bone is pushing on the screw, it is pushing on the plate.

And as we know, the bone itself touches the plate as well. So we've got the bone pushing in two different ways. Bones directly on the plate, which is made out of titanium, obviously that's going to bear weight. And we've got the bone pushing on the screw, and the screw can't move relatively to the plate.

These are explicit disclosures in Fraser. We're not assuming anything here, this is in Fraser.

JUDGE WOODS: Well I don't want to belabor the point. I think I'll have to look at Fraser 106 more carefully. So, I have no further questions.

MR. SHERWIN: Okay. Understood. Does anyone else have questions on this, Your Honors, or should I move on to my next? I recognize we only have probably a minute left.

So just quickly Your Honors, I know I only have a minute here. I'd like to take a look real quick at Patent Owner's Slide 74. There was a question earlier today about whether our expert, Mr. Sherman, you know, somehow made up a design of Fraser 106 without those transverse elements, that maybe he, you know, misconstrued it, maybe he didn't do it quite the right way.

Take a look at Patent Owner's Slide 74. It's got the face plate in there, all described in orange, all colored in orange. All we're saying is you get rid of the transverse elements. And if you remove those two transverse elements look at the shape that you end up with. That's exactly the shape that we have in our Slide 76. We don't necessarily have to pull it out just now, I just wanted to point out on the record, be very clear. Mr. Sherman did not make anything up, he wasn't trying to bend the rules here. Look at how thick that area is between the very interior front of the plate and where the end of that sort of semi-circle orange is.

Mr. Sherman did not lie, he didn't make anything up, he didn't bend the rules, he just simply removed the two, in this depiction, vertical straight transverse elements. That's all he did to come up with his embodiment. And I think that would be an accurate representation of it.

So, Your Honors, I recognize I'm out of time so I will happily stay on to answer any questions. But I don't want to go over my time anymore and make any affirmative arguments without your permission.

JUDGE WOODS: I have no further questions.

JUDGE JESCHKE: I also don't have any.

MR. SHERWIN: Thank you, Your Honors. To the extent you have questions, please let us know.

JUDGE WOODS: All right. Mr. Milch, you have 15 minutes to present your surrebuttal arguments. Please begin when you're ready.

MR. MILCH: Thank you, Your Honor. I don't think I'll need much of the time. Your Honor, a couple of points with respect to base plate. The Petitioners never previously argued that the disclosed base plate in the 234 and 537 patents is not plate shaped. That's a new argument that we just heard on rebuttal.

Frankly, and with respect to the weight bearing element, in deference to Mr. Sherwin, the issue here, just like their expert, Petitioner's expert, they're ignoring the presence of the fusion cage patent, and that's the only element in Fraser that's described as bearing any weight.

With respect to the locking screws -- and further on that point, I guess it dovetails into the locking screws. While they're considered locking screws, they say they just won't back out. It doesn't say that they can't move. I think we talked about this earlier, we just don't know. And Fraser doesn't say exactly how those screws function, and there's no testimony in the record, no evidence in the record of how those screws function and how the forces would be parted other than Mr. Sherman's testimony that we talked about earlier. Again, ignoring the fact that the tabs bend, you know, relative to the rest of the plates and the fact that it might be titanium again, we discussed this earlier, the tabs can freely bend. There is just simply no testimony beyond that at this point.

I'm just going to check my notes real quick, Your Honor. With respect to the tabs issue, I think we addressed that. You know, as far as the tabs are concerned, when the plate is inserted to the extent that the plate includes any tabs, they don't perform the function of a spacer unless they actually engage the bone. I think we'll rely on the earlier argument and our papers for the balance of that argument, Your Honor, unless there are any questions.

JUDGE WOODS: I have no questions.

JUDGE JESCHKE: I had one question, Mr. Milch. And it relates to the -- I'm trying to understand kind of whether and why we should use any of what the Petitioner has described as new matter. In other words you have additional 30 or so columns that are in the 537 patent, to understand the term "base plate." And in your Response in the 265 case at least, there was a very lengthy footnote that you all included, this is at Page 10 if it helps if you're pulling it up. And you cite to this *Sinorgchem v. ITC* case.

And I'm trying to just, what I'm trying to understand is we've had a lot of discussion here today about, you know, should we take some of these additional, I think you described as unclaimed embodiments from the 537 patent into account when we consider the term "base plate." And in that footnote that I'm referencing, here's the statement before the cite to *Sinorgchem*. It says "New subject matter in a child's CIP patent may be used to construe claim terms shared between the child CIP," here the 537, "and the parent patents," in other words here the 234, "provided the disclosures do not broaden the scope of the claim terms within the parent patent."

And you cite to footnote 5 in that *Sinorgchem* case. When I looked at that case it seems to at least kind of say the opposite. And I realize this is a little bit deep in the weeds for a surrebuttal, but I just wanted to raise the issue and make sure I understand your position. That footnote, the second part of it, says that additional examples included in the specification of the continuation in part application that led to the later patent cannot alter the meaning of the term as it appears in the parent patent.

So what I'm trying to understand is, should we, when we're considering the meaning of the term "base plate," should we care at all about what is in essentially those, you know, Columns 9 through whatever it is, 40, of the 537 patent?

MR. MILCH: Yes, Your Honor, absolutely. And the terms need to be construed similarly across the patent family. And so the --

JUDGE JESCHKE: That's a different issue though. Should we just take into consideration the first eight columns that is common between the two? And we could still come to an agreed upon, if you will, construction between the two without considering the added matter in the CIP, you know, the 537 patent? In other words it doesn't conflict with the idea of construing similarly across these two patents to not consider the additional disclosures in the 537. Right?

MR. MILCH: Okay. Could you repeat that, the very last part of your question, Your Honor?

JUDGE JESCHKE: Certainly. So your point was that we have to construe the term the same across the 234 and 537 patent. I agree, and that's how we did it. But that doesn't say one way or the other whether we need to consider what is in Columns 9 through whatever it is, 30, the new material,

or the added disclosures that are in the downstream patent, the 537 patent. And so what I'm trying to understand is your point here in this footnote that I read seems to say we should consider that stuff as long as it doesn't broaden the scope, but the footnote seems to say that we shouldn't consider the additional examples if it alters it. So why are we considering these additional disclosures at all if it may potentially alter what would be the agreed-upon disclosure from the common disclosures between the two patents? Does that, I realize that's a lengthy --

MR. MILCH: I appreciate that. Thank you very much for clarifying there. And I think, I'm not fully prepared to brief this entire issue on why.

JUDGE JESCHKE: I understand.

MR. MILCH: But I think to the extent that the additional disclosures are consistent and they help clarify the construction I think they can be useful. I don't know that they necessarily change the construction. At the end of the day I think that the Board can reach its conclusion regardless of whether it includes that additional matter, given a, the construction that the Board has proposed and Petitioners have adopted, as well as Patent Owner's proposed construction.

So I think there's room to reach that construction with or without that additional matter at this stage, given these proceedings. So it doesn't maybe answer your question, "Do you need to?" And again, on the fly I probably don't want to answer that question, I think you probably -- I'm sorry.

JUDGE JESCHKE: I was just saying I bring that issue up because in the Reply Petitioners say that new matter cannot change the meaning of base plate.

They cite to this *Goldenberg* case which you distinguish I think correctly that it's a slightly different issue. It actually dealt with two somewhat unrelated patents whereas in the DI here we actually asked. We pointed out, admittedly in a footnote, but, you know, if you all wanted to address the issue it was there in Footnote 10 at least for the 265. But it was kind of nestled down at the end, I realize. But it's something that I only bring up because we have talked quite a bit about some of those additional disclosures and I just wanted to understand, you know, how much to take those disclosures into consideration. That's all. So.

MR. MILCH: And, Your Honor, we do think that they're important and they're instructive in terms of the proper construction of the term and again, our position all along has been that those disclosures are relevant. And it is different than the *Goldenberg* case, as you pointed out. And we do think again that they can certainly, you know, clarify or crystalize the interpretation of the term "base plate," based on that additional disclosure.

JUDGE JESCHKE: Okay. Thank you.

MR. MILCH: Your Honors, if there's nothing further.

JUDGE WOODS: I have no further questions. APJ Scanlon, do you have any further questions.

JUDGE SCANLON: No further questions.

JUDGE WOODS: APJ Jeschke?

JUDGE JESCHKE: I have none, thank you.

JUDGE WOODS: All right. Well that concludes our hearing. And with that we are adjourned. But before anyone leaves, our court reporter, Mr. Mahoney, will likely have questions for you regarding spellings,

etcetera. So please if you could stay on the line and answer any questions that he may have.

(Whereupon, the proceedings at 4:43 p.m. were concluded.)

IPR 2020-00264 (Patent 9,713,537 B2)
IPR2020-00265 (Patent 6,984,234 B2)
IPR2020-00274 (Patent 6,984,234 B2)

PETITIONER:

Dion M. Bregman
Jason C. White
Scott D. Sherwin
James Kritsas
MORGAN, LEWIS & BOCKIUS LLP
dion.bregman@morganlewis.com
jason.white@morganlewis.com
scott.sherwin@morganlewis.com
james.kritsas@morganlewis.com

Timothy Devlin
Stephanie Berger
DEVLIN LAW FIRM LLC
td-ptab@devlinlawfirm.com
sberger@devlinlawfirm.com

Jeffrey Costakos
Matthew W. Peters
FOLEY & LARDNER LLP
jcostakos@foley.com
mpeters@foley.com

PATENT OWNER:

Erik B. Milch
Frank Pietrantonio
Jennifer Volk-Fortier
Joseph Van Tassel
Dustin M. Knight
COOLEY LLP
emilch@cooley.com
fpietrantonio@cooley.com
jvolkfortier@cooley.com
jvantassel@cooley.com
dknight@cooley.com