

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CLEARCORRECT OPERATING, LLC,
Petitioner,

v.

ALIGN TECHNOLOGY INC.,
Patent Owner.

Case IPR2025-00816
Patent 11,369,456 B2

Record of Oral Hearing
Held: July 31, 2026

Before KEVIN F. TURNER, KRISTINA M. KALAN, and
CYNTHIA M. HARDMAN, *Administrative Patent Judges*.

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The above-titled matter came on for hearing Monday, July 31, 2026, commencing at 9:00 a.m. PDT, at the Western U.S. Patent and Trademark Office, 26 South Fourth Street, San Jose, California.

P-R-O-C-E-E-D-I-N-G-S

9:00 a.m.

JUDGE TURNER: Okay. Well, we'll go ahead and get started. Good morning, good afternoon. This is an oral hearing for IPR2025-00816 involving U.S. Patent 11,369,456 B2. I am Judge Turner, and I'm joined by Judges Hardman and Kalan. For the benefit of the judges and opposing counsel, as well as the court reporter, please identify yourself when you begin your argument and speak clearly into the microphone. Please do not speak when others are speaking, such as the judges speaking. We have the entire record, including the demonstratives. When referring to demonstratives, paper exhibits please do so clearly and explicitly by slide or paper number. Please bear in mind that the purpose of the hearing is to present your case based on the arguments and evidence of record. You may not introduce new evidence or arguments during an oral hearing. I note that there do not appear to be objections to the demonstratives. Is that correct? Okay.

Please note, we do not permit standing objections to be raised against opposing parties during their arguments. If an advocate believes that new evidence or arguments are being raised, he or she may make that known to the panel during the principal argument or rebuttal arguments. Please note the Petitioner and Patent Owner will both have 45 minutes of total argument time. Petitioner and Patent Owner may both reserve time for rebuttal or surrebuttal. Petitioner will go first, present its case. Patent Owner will follow with its opposition to Petitioner's case. And if there's any rebuttal from Petitioner, we'll hear it after Patent Owner's opposition, and finally we'll hear from Patent Owner any surrebuttal if requested. I will endeavor to provide each party with a five-minute warning through the use of the yellow

1 light during opening arguments and a two-minute warning during rebuttal
2 and surrebuttal through the yellow light.

3 Once the red light comes on, you should finish up your present
4 argument or let the panel know you wish to extend your arguments into
5 prearranged rebuttal or surrebuttal time if available. Please also note that
6 arguments raised during rebuttal, surrebuttal must be in response to
7 arguments raised by the opposing party, and neither party period should be
8 used to initiate new arguments. So we'll proceed to the party's appearances.
9 Who do we have on behalf of Petitioner?

10 MR. MCCAMMON: Thank you, Your Honor. This is Luke
11 McCammon for Petitioner ClearCorrect. And with me are Jason Stach and
12 Charles Collins-Chase.

13 JUDGE TURNER: Okay. You have 45 minutes. Would you like to
14 reserve time for rebuttal, and how much?

15 MR. MCCAMMON: Yes. Can I please reserve ten minutes?

16 JUDGE TURNER: Ten minutes. So 35 minutes principal. Okay.
17 And who's appearing for Patent Owner?

18 MS. THOMAS: Hello, Your Honor. This is Tasha Thomas
19 representing Patent Owner Align Technology. And with me is Matt Argenti.

20 JUDGE TURNER: And would you like to reserve any time for
21 surrebuttal?

22 MS. THOMAS: Yes, please. Ten minutes.

23 JUDGE TURNER: Ten minutes. Thanks. Okay. They can't quite
24 hear you, but they'll hear you when you come to the podium, I guess. Are
25 there any questions or any issues before we get started from either side?
26 Okay. Petitioner, you may begin when you're -- when you are both ready.

1 MR. MCCAMMON: Your Honor, can the panel hear me well now?
2 Great. Okay. Well, Luke McCammon on behalf of Petitioner. Thank you,
3 Your Honor. So first, I'd like to just briefly talk about the '456 patent, the
4 background of it. And particularly what it says it invented versus what it
5 said, what it doesn't claim to have invented. And the '456 patent is directed
6 to a computerized treatment planning system. The need it says it meets is to
7 increase automation of tooth movement treatment planning processes. It
8 says that automation reduces time and resources for this process. So
9 essentially, it sped things up by putting things on a computer. It talks about
10 certain treatments that are used for treating patients, but doesn't claim to
11 have invented any of those treatments. There's some discussion of collision
12 detection as well. And again, the patent doesn't claim to have invented
13 collision detection. Instead, it cites to a prior art patent, that's Chishti-876,
14 which is undisputed as prior art.

15 Looking at Claim 1, which is at issue for Ground 1, there are really
16 two limitations there in dispute. The identifying collision limitation and
17 whether there's a modification to the scheduled movement in response to
18 identifying. I've highlighted four limitations because the other two align
19 first back to their earlier arguments. So essentially those two pairs rise and
20 fall together. That's in Slide 4. Slide 5, there are two grounds at issue.
21 We'll talk about Ground 1 first. But I'd like to jump to Slide 7 first and just
22 have a brief overview of Chishti-511, which is the base reference for Ground
23 1. And Chishti-511, like the '456 patent, is an automated treatment planning,
24 computerized treatment planning system. It uses aligners and tries to design
25 and calculate aligners that will treat a patient's malocclusions. It starts with
26 defined paths. It gets a patient's scan of teeth, and then tries to calculate
27 clinically viable paths that don't result in a collision.

1 The next step on Slide 8 refers to step 170. And here is where the
2 aligners are calculated. This is a robust process that goes through a number
3 of sub-processes and iterates over time to try to calculate aligners that will
4 actually reach an appropriate treatment for the patient. Slide 9, this shows
5 Figure 6, which is a subpart of step 170. And this is the aligner shape
6 calculation. And we'd like to talk on Slide 10 about three particular parts of
7 this to start. First, there is step 604, which is shaping the aligner. It says the
8 FEA process. That's the finite element analysis, which in simple words is a
9 simulation. It simulates how the teeth will actually move when you put the
10 aligners on.

11 Now that you have the path defined, if you put the aligners on, what
12 forces will be applied to them? How will those teeth actually move when
13 those forces are applied to the teeth? And it will try to realize that they're
14 unexpected or deviations from the expected paths and account for those to
15 generate appropriate aligners. Step 2, if it can't do that, it will go to step 2 as
16 box 610 and relax certain constraints to widen its view and see if it can still
17 with certain revisions calculate particular aligners. And step 3, if that fails,
18 will go to a path redefinition process that we'll talk about a bit later. But
19 first I want to talk about --

20 JUDGE KALAN: Counsel, regarding step 620, which appears to take
21 place between your box 2 and box 3, are those "impossible movements"
22 discussed in 620 any part of the discussion here, particularly with respect to
23 collisions and/or conflict?

24 MR. MCCAMMON: I don't think so, Your Honor. Those refer to
25 movements for which there was not a rule that could account for them in
26 some of the finite element analysis process. I don't think either party raised
27 these impossible movements. Those will come into play for Ground 2, and

1 we can talk about that then. But I think for now, we're really cabined to
2 movements which are a little more typical. And so we'll be talking about the
3 right branch, to answer your question. So if we're looking at the finite
4 element analysis process or the relaxing constraints, there are a couple of
5 provisions or portions of the process that I think are particularly useful that
6 are shown on Slide 11. And what Chishti-511 tries to do is set up rules. If
7 there are rules that can take into place of what it expects to see, what it might
8 see from the simulation.

9 And things like, oh, the tooth moves slower than I thought it would. It
10 moved too -- it didn't get to the desired end position. It actually overshot the
11 desired end position. It went too far. Or the tooth actually goes in a
12 direction other than the desired direction. I wanted the tooth to go straight,
13 but it went left instead. And it will try to fix those as best it can. It will try
14 to add material to the aligner and fix them if it can. But there's a limit to it.
15 It recognizes there's some maximum amount of material it can add to the
16 tooth or different revisions it can make. And if we look back at Slide 10, we
17 can see that it will sometimes go on to that relaxing constraint stage. So it's
18 not always going to work that it can correct the deviations it sees in
19 simulations from this.

20 The next part talks about relaxing constraints, and it recognizes that
21 there are some constraints it can relax like changing the maximum rate of
22 displacement, the maximum force on a tooth, or desired end position of a
23 tooth. And again, it will try to correct this as best it can, but that may not be
24 possible. It may have to continue on. And our experts talked about how
25 these things you see in actual teeth movement when you're simulating actual
26 movement can result in collisions. I think there are a couple of notable clear
27 straightforward examples of that from what we see here. One in particular

1 talks about the tooth going in a direction other than the desired direction. If
2 you're going -- you want the tooth to go straight, it goes left or right instead.
3 If it intersects with another tooth, that, you can imagine that will cause a
4 collision if it can't fix it.

5 Another one is the moving past the desired end position. We use
6 analogy of driving a car and you're coming up on an intersection with a stop
7 sign. If you desire -- your desired end position to stop at the stop sign, well,
8 you take what you need it to do. But if you overshoot it and move into the
9 intersection, that could be a real problem. You might hit another car.

10 Another couple things with this, Align has argued, well, the -- let's
11 take an issue with the use of the word may. These may result in collisions.
12 And that really goes down to the reality of this treatment planning system.
13 It's meant to deal with different patients and treat any patient. And so
14 different patients will present different teeth, right? They'll need different
15 treatments. Some patients will need fewer teeth moved. Some will need
16 more moved. Some will have teeth moving further or shorter distances.

17 And so not all these deviations will cause a collision for one patient.
18 But over the course of patients, they certainly will. And just using the stop
19 sign example, again, if we're -- one driver shoots into the intersection,
20 doesn't stop at a desired position, and there are no cars coming, well, that's
21 not as big of an issue for him. He didn't collide with anything. But if there
22 is a car coming, he's going to collide with it. And just because some patients
23 don't have a collision, some do, that doesn't detract from this reference. It's
24 meant to treat different patients and different presentations for -- that they
25 might have of their need -- treatment needed.

26 Moving on to the next step, if neither of those were correctable, it still
27 has deviations in the simulation that it can figure out. It will go on to the

1 were any impossible movements required. And those, Your Honor, you
2 asked about this. Those are ones what -- if there are impossible movements,
3 those are ones that there were no rules for it. But the ones we're talking
4 about are where there were rules. You know, they had rules for, did it go the
5 wrong direction? Did it go in past the imposition? If there were, so if there
6 are rules for it, it's going to go into step 630 and realize, okay, well, let me
7 try to redefine these paths. See if we can redefine the path, get a new path to
8 get the teeth to where they need to go.

9 And one thing that -- so looking to next on Slide 13, this is where it
10 talks about that process a bit. First, it says that aligners may be unacceptable
11 for a variety of reasons. You know, we think that one of skill in the art
12 would recognize that includes collisions, but we recognize it doesn't say
13 specifically there about collisions. But it does say if they are unacceptable,
14 that you would transfer movements the process transfers control to path
15 definition process step 150 we saw earlier. And it will change the path in a
16 couple of ways. It can change segmentation, how the steps work out, or it
17 can change the path followed by the teeth on the way. But it's going to
18 change the path because it couldn't reach -- it couldn't figure out what it
19 needed to do because the deviations were perhaps too great.

20 One thing Align has said is the only thing you have to worry about is
21 collisions in step 150, because it has a collision-free path. You don't have to
22 worry about collisions ever after that. I think they're really overlooking the
23 realities of the simulation that takes place, because it recognizes you have
24 these situations where it overshoots the endpoint. It goes in the wrong
25 direction. It doesn't go far enough or fast enough. And when you have
26 different moving teeth moving at the same time, those can result in
27 collisions. And, sure, it will try to correct those, but if it can't, those are

1 situations where you would have a collision and need to correct it. And so
2 we think that collisions here are one of the unacceptable reasons. But even
3 recognizing it doesn't say explicitly here, it does recognize that you go back
4 to step 150. There's no dispute there that step 150 does look for a collision-
5 free path. It's going to look for collisions and avoid them there as part of its
6 process anyway.

7 JUDGE TURNER: Hold up just one second. Don't mean to interrupt
8 your flow.

9 MR. MCCAMMON: No, no.

10 JUDGE TURNER: We have a judge who's going to reconnect. Judge
11 Hardman --

12 JUDGE HARDMAN: Yes, I apologize. I'm going to exit out and
13 reconnect. I've been able to hear you fine, but I see my video's flickering,
14 which is -- appears to be -- probably distracting. So let me reconnect. I'll be
15 right back.

16 MR. MCCAMMON: Thank you, Your Honor.

17 JUDGE TURNER: The time is paused.

18 MR. MCCAMMON: I appreciate that.

19 JUDGE HARDMAN: Okay. I am back and, I think, ready to
20 proceed.

21 MR. MCCAMMON: Thank you, Your Honor. And that was a great
22 stopping point because I was about to transition anyway. So there are some
23 disputes about detecting collisions and where it's done in Chishti-511, but
24 we've not relied on only Chishti-511. Go to Slide 14, we rely on a three-
25 reference combination. We talked about Chishti-511. Chishti-876 isn't
26 really in dispute. It's used for a number of dependent limitations mostly.
27 Sachdeva, though, is one that we rely on for some of these limitations we've

1 been talking about. And I think it's appropriate to transition there to talk
2 about how it fits into the process we've already been discussing. So
3 Sachdeva --

4 JUDGE KALAN: So before you transition to the combination, Patent
5 Owner raises in their Sur-reply that -- they allege that you have pivoted from
6 the position you took in the Petition to a different position in the Reply
7 regarding reliance on Chishti-511. How would you -- first part of the
8 question, how would you characterize this pivot in your own words, and
9 second part, how would you characterize what you're doing as not a pivot?

10 MR. MCCAMMON: Sure, Your Honor. We don't believe we've
11 pivoted at all. And, you know, part of my presentation here after discussing
12 this combination will be to show how we actually were relying on this --
13 these portions all along and show that it's well supporting the petition. So if
14 I may, can we go through Sachdeva and talk about how they combine
15 together? And then I can show you the Petition where we've been relying on
16 these combinations in the same way throughout the proceeding.

17 JUDGE KALAN: Okay, I do want to hear about that. For sure.

18 MR. MCCAMMON: Absolutely. So, Your Honor, the Sachdeva is,
19 like I said, an automated treatment planning system. It's computerized as
20 well. And it starts with a direct path of movement for each tooth path, just
21 like Chishti-511 did. It will simulate movement based on each tooth's direct
22 path. So it's simulating movement for each tooth that's involved with this
23 process. And then based on that movement, it will look and see if a -- when
24 it says a conflict arises. And in particular, what it does there is it -- it makes
25 a determination as to whether a conflict in movement arose between at least
26 two teeth during the simulation. And in particular, it says movement of one
27 tooth, that tooth moves, interferes with the direct path of movement of

1 another tooth. That both of these teeth are moving in the simulation. And
2 one of the teeth can't obtain its desired position. It's being interfered with by
3 a tooth that it would collide with essentially. And that's what our expert has
4 testified about.

5 Now the next step is that -- so that's the first step. The first limitation
6 we said was in dispute. Identifying collision based on the schedule of
7 movement and the path. That's precisely what Sachdeva does. We think
8 that's taught here as shown in Slide 18. Next is what does Sachdeva do with
9 that information? Slide 19. It tries to resolve that conflict. And it
10 recognizes that -- yes, Your Honor?

11 JUDGE KALAN: I have a question about semantics. Conflict and
12 collision. If you could describe in relational terms or Venn diagram type
13 descriptions, which is broader, which is narrower? Is a conflict a broad
14 category encompassing collisions, or vice versa?

15 MR. MCCAMMON: Sure. So, no, I think the reference uses the
16 word conflict in different contexts. I think in this context, it's very clear that
17 it is referring to a collision based on what's discussed. I can jump ahead to
18 some discussion we have on that if we look at Slide 26. And this is talking
19 about the argument Align has. They say, well there's a stationary tooth. It
20 can't move because another tooth blocked its path. And therefore, it's not a
21 collision.

22 And so we don't think that's appropriate, and we don't think it's right
23 in this context. Here, like we talked about in Slide 27, you can see it
24 simulating the movement based on each tooth's direct path. It's seeing where
25 they're going to go, where the teeth are going to go, and what's going to
26 happen as a result. And when it talks about the conflict in step 44, it talks
27 about the movement of one tooth interferes with the direct path of movement

1 of another tooth, and it can't obtain its desired position. One's going to hit
2 the other tooth because they're blocking their way.

3 And then step 44 at the beginning of that part, it's not highlighted, but
4 it says it's looking at whether a conflict in movement arose between at least
5 two teeth. So again, I think it's -- you know, it -- it's stationary after they
6 modify the movement, because it realizes if one moves, it's going to hit
7 something. But that's why that is. And I think one of the -- another car
8 driving analogy I think is easy for me, they argue, well, one's blocking
9 another, so it's just not moving. But if there's a car blocking my path and I
10 hit it with my car, it's still a collision. I'm still colliding with it. And that's
11 what's going on here. And that's what's really at issue. And I think we have
12 a lot of evidence here that shows that this term conflict in this context is
13 talking about a collision. I think one of the most persuasive ones is on Slide
14 29. And that is another path --

15 JUDGE KALAN: Before you go on to that, there's no -- I'd just like
16 to confirm, there's no claim construction proposed of conflict or collision in
17 the proceeding before us.

18 MR. MCCAMMON: No there isn't, Your Honor. That's right. Yeah.

19 JUDGE KALAN: Thank you.

20 MR. MCCAMMON: And so in Slide 29 Sachdeva is -- has two
21 inventors, I believe Sachdeva and Rubbert. And there's another patent
22 Exhibit 1043 that is by some of the same inventors. It has the same
23 inventors and more. And it's prior art. It was filed in 2001, issued in 2003.
24 And it talks about the Sachdeva patent that we are relying on in this case.
25 And it says, "This collision --" this is on Slide 29. "This collision is detected
26 by suitable collision detection algorithms." And it gives an example of the
27 collision detections it's talking about. When the collisions are detected, the

1 user can be notified of the collision and resolve the conflict between teeth,
2 for example by selecting one tooth as a primary tooth, moving that tooth first
3 in an initial stage of treatment, and then moving another tooth in a secondary
4 stage of treatment.

5 That's exactly the example that Sachdeva gives for what it's looking
6 for and how it resolves the conflict or collision that we're relying on in the
7 reference. And in fact, it references that same patent that we rely on. It
8 says, "These features are described in the Sachdeva patent we rely on as part
9 of the reference." So Align says that -- yes, Your Honor.

10 JUDGE KALAN: How do you respond to Patent Owner's allegation
11 that Rubbert at this stage in the game is improperly relied upon?

12 MR. MCCAMMON: I don't think that's right, Your Honor. They say
13 it's gap filling or relying on new prior art reference. We're not relying on
14 this as prior art. We're relying on this to show how one of skill in the art
15 would understand the terms in Sachdeva. It's contemporaneous evidence.
16 It's written by those of skill in the art, and it shows that how one of skill in
17 the art would understand and interpret the type of collision that's disclosed in
18 Sachdeva prior art. That's what we're relying on it for. We're not gap
19 filling. We're not relying on a new reference. Instead, this shows how one
20 of skill in the art would interpret it. It's consistent with how our expert does
21 and how we've argued. And I think it's consistent all across the board. It's
22 just more evidence of how you would interpret a claim. It's no different than
23 providing additional evidence on claim construction if it were -- you know,
24 something were raised at that time.

25 JUDGE TURNER: This is Judge Turner. I'm game to try because I
26 think Judge Kalan's original question wasn't answered; so the Venn diagram

1 between the terms "collision" and "conflict," is it just a circle? Are they
2 pure synonyms? Are there differences?

3 MR. MCCAMMON: Well, there, there's no dispute, I think, if you
4 look at Slide 28, that in Figure 4, the Sachdeva refers to conflict for a single
5 tooth. And so that must be something different there, right? Because it is
6 looking at a single tooth rather than collisions between teeth. And it realizes
7 it can't do some movement it needs to do, and they'll extract the tooth
8 because there's no treatment for the patient. So I don't think we're saying it's
9 a circle, and I don't think we need to define conflict. All we need to do, I
10 think, here, is look at the type of behavior described in Sachdeva and that
11 we're relying on and ask, is that a collision detection or is it not? Kind of the
12 semantics between conflict and not, I think is not really as relevant here as to
13 what is the -- what's actually happening with the teeth? What is it looking
14 at? How's it detecting them? Is it looking at the movement between teeth
15 and seeing that there is something happening where something is going to
16 hit another one? I think that's a collision, which is all we really need to
17 show with the claims.

18 JUDGE TURNER: And I understand that, but both terms were used,
19 so humor me. Just you and I talking. Don't worry about the record. Can
20 you give me an example of a conflict that's not a collision?

21 MR. MCCAMMON: Well, my understanding of it would be that it's
22 fairly synonymous, but I recognize that the reference does refer to a single
23 tooth conflict. So I wouldn't term that at step 48 as a collision, but I
24 certainly would at step 44. So I think it's been used in different ways in the
25 patents. Maybe there's a conflict with the treatment planning, but what it's
26 looking for in step 44 is an incidence between the movement of the teeth it's

1 simulating and worrying that they're going to hit each other and how do we
2 resolve that, which is really what's at issue here.

3 JUDGE TURNER: Thank you.

4 MR. MCCAMMON: If I may jump back a bit to go over some
5 additional things. So, you know, at a high level, just looking at, let's say,
6 Slide 27, I apologize for jumping around a bit. This is still Figure 4. We see
7 that the conflict arose. It will try to resolve that conflict by delaying one
8 tooth. It will say, okay, well, we need to delay one tooth, the non-priority
9 tooth, because it's going to hit the tooth in front of it and move a priority
10 tooth first in front of it before moving the other one. I think there's some
11 additional evidence to show that this is the conflict -- or I'm sorry, a collision
12 in this case. And one of them additional is Slide 30, looking at the '456
13 patent. So we have our expert discussing how these two teeth would
14 normally move together, but a tooth needs to be delayed unless -- because
15 it's going to hit the tooth in front of it. And it's blocking it. And so one has
16 to be delayed while the priority tooth moves, and the other tooth moves at a
17 later date.

18 The '456 patent recognizes that that's avoiding collision in this context
19 in Claim 8. It talks about one way to avoid a collision is to delay initial
20 movement of the first of the dental objects. So it's delaying initial
21 movement. The first movement that you have of the tooth, it's not going to
22 move, because if it does move, it's going to cause a collision. That's exactly
23 what we have in the Sachdeva reference where it recognizes, hey, if this
24 non-priority tooth moves, it -- the moving paths are going to interfere. It's
25 going to strike the other tooth. And so we have to move the non -- the
26 priority tooth first to avoid that.

1 So let me get closer to your earlier question about the combination of
2 these. And if we look back at Slide 22, this again shows Figure 6 of the
3 Chishti-511 patent. And what we've argued in the Petition is that one of
4 skill in the art, looking at Sachdeva, would combine these in a way that
5 looks at whether the collisions are one of the unacceptable reasons. So it
6 says the aligners may be unacceptable for a variety of reasons. And this is
7 after Chishti-511 does simulation, realizes there are problems with going too
8 far, going in wrong directions. And as a result, it's going to recalculate its
9 path.

10 And Sachdeva, we already saw, has paths, simulates, realizes a
11 problem and corrects it with changing the paths or changing the
12 segmentation. So our combination has argued that one of skill in the art here
13 would look to collision identification, see if there's a collision, just like
14 Sachdeva does. And if there is, when it's redefining the path, like Chishti-
15 511 already says to do, then you would use a collision avoidance, just like
16 Sachdeva says to do. And so to your question earlier, if there's a pivot or
17 not, I don't believe there is at all.

18 And if we look to Slide 32, this is part of the Petition lined up against
19 Chishti-511 Figure 6. It talks about relying on when aligners are
20 unacceptable, the variety of reasons we talked about, the process transfers
21 control to a path definition process to redefine those parts of treatment path
22 having unacceptable aligners. So that's what we've relied on here. And then
23 if you look at Slide 32, I think we were very clear about how the
24 combination will work. It says that Sachdeva's collision identification
25 process would be an option for determining the acceptability of aligners. So
26 we saw that it says aligners can be unacceptable for a variety of reasons.
27 One of the ways you could do that, check for unacceptability, is look for

1 collisions. And it says even here, e.g. triggering whether a new aligner
2 should be calculated. Do we need to do a new calculation? Do we need to
3 go to the path definition process? And it even goes further at the bottom of
4 that. Oh, sorry. Slide 33 is what I meant.

5 I'll pause. Do you -- does anyone need me to repeat what I was just
6 talking about? I apologize for getting the wrong slide. And at the bottom, it
7 talks about how these would fit together as well. And it says, talks about the
8 software modifications involving triggering an aligner recalculation if the
9 collision's identified, which we already talked about with Sachdeva. And
10 then two, modifying Chishti-511's past definition process to include the
11 movement technique disclosed in Sachdeva as one option for changing tooth
12 motion.

13 So again, we've said in the petition, you would look to Sachdeva and
14 one of the reasons you would see if there are unacceptable aligners is, is
15 there a collision? These teeth are going in different directions, it's one thing
16 you need to rely on. And then we said you would also incorporate
17 Sachdeva's collision avoidance to modify the schedule movement if you
18 need to. You need to deal with collision. You can't just check for it. And
19 that's what we've relied on it for. So I don't think there is any pivot. I think
20 we've been very consistent. But if Your Honor has more questions, then I'm
21 happy to answer Your Honor.

22 I've been jumping around a bit, so let me just make sure that I hit
23 everything I wanted to on this ground. Why don't I move on to Ground 2,
24 unless there are more questions on Ground 1. Okay. If I'm going to jump to
25 -- oh, actually, sorry. I would like to stay on Ground 1, Slide 36. One
26 additional thing they've argued is about motivation to combine these two
27 references. And we think there is a clear motivation to combine and it

1 would've been obvious to do so for one of skill in the art. We talked about
2 these two references a bit, but they're both references that look at treatment
3 planning, automating it on a computer. They start with a tooth -- teeth path.
4 They simulate tooth movement. They look at what happens as a result of it,
5 and they iterate and adjust simulations based on that.

6 One thing that Sachdeva is very clear about is the need for collision
7 detection in that process. And so they -- they're both very much aligned in
8 the processes they're doing. I think if we look at Slide 37, Sachdeva is also
9 very clear in the abstract of its patent that it is talking about simulating
10 moving -- movement and planning for treatment -- patient treatment. And it
11 talks about determining whether a conflict exists. These are things that are
12 directly applicable to Chishti-511. And we spelled out in the Petition why
13 one of skill in the art would want to rely on something like Sachdeva.
14 Chishti-511 already talks about wanting to have clinically viable sequences
15 of two positions. And it says that means that they're free from collisions.
16 Sachdeva talks about how you're going to do that. You have to check for
17 collisions after simulations, and you have to avoid them. And you -- the
18 methods to avoid them. So this is something that's very compatible,
19 something that one of skill in the art would want to look to when designing
20 Chishti-511 or a system like it.

21 Looking to Slide 38, I -- we have a couple of excerpts here. I think
22 the Chishti-511 one is particularly relevant because it talks about the
23 applicability of Chishti-511's treatment planning process. One of the things
24 Align has said is, well, Sachdeva's limited to braces. You've never looked
25 there. We don't agree it's limited to braces. If you look at Sachdeva, it's
26 much broader, talks about treatment planning and collisions. And even the
27 field, it mentions it's a field of treating an orthodontic patient. It doesn't say

1 it's limited to braces. But even if it were, Chishti-511 says, look, there's
2 broad applicability here. Appliances include braces. They include brackets
3 and arch wires. They include polymeric shelves, which are aligners.

4 And so if Chishti-511, someone's designing a system, looking at
5 Chishti-511, they would look at multiple different types of systems to see
6 how they're operated, how they're created, how they plan treatments,
7 including braces, because it explicitly references that's something you would
8 want to look at, where there's applicability for its system. I think that is it
9 for Ground 1, unless there are any further questions.

10 JUDGE KALAN: I have a question on your Slide 24 where you talk
11 about Chishti-876, talking about collisions. Is that of any assistance to you
12 in stating whether or not the collisions are discussed here, even in the
13 absence of the word collisions in Chishti -- not absence, but indirect mention
14 of the word collisions in Chishti-511? Or is this something that's limited
15 because you only rely on Chishti-876 for certain limitations in elements of
16 Claim 1?

17 MR. MCCAMMON: That's right. We've only relied on it for certain
18 aspects. I've included this here for the concept of the fact that Chishti-511, it
19 is well known to kind of do an iterative process to check if there's a
20 collision, do your -- do the work you need to do like simulation and redefine
21 paths over time. You know, over time to do multiple passes at it. Chishti-
22 511, if we look at Slide 23 it talks about going back to the path definition
23 process, but then it'll go through. It'll go through repeatedly and figure out,
24 okay, well, do I need to refine anything? Do I need to change the path
25 again? I don't think there's any dispute that it'll iterate over time. And the
26 reason I have this is for Slide 25, which is the second two sets of limitations,

1 so you have to do another set of checking for collisions and modification of
2 the schedule of movement.

3 But there's been no dispute that there's an iterative process. Align just
4 said, if our arguments for the first two identifying and performing steps hold
5 up, then these are not met for the same reasons. So I don't think there's any
6 dispute here for that. We were just using that to show that there is kind of a
7 cyclical nature that's well known in that context.

8 JUDGE KALAN: Okay. Thank you. I don't want to keep you from
9 Ground 2.

10 MR. MCCAMMON: Thank you, Your Honor. Okay. Moving to
11 Ground 2, it is a ground that deals with a subset of claims and it -- the claims
12 there -- if I can move to Slide 41, the claims there recite certain different
13 types of movements that aren't in other claims. So Claim 10 is used here as
14 an example. It talks about moving a first tooth out of the -- away from the
15 route of another dental object. It needs to get out of the way so another tooth
16 can come by. And once that other tooth is -- goes to where it needs to go,
17 the first tooth can go to its final position or its previous position, depending
18 on the claim. Looking at Slide 42, we have the Becker reference. I
19 apologize for the graphic slide. You guys may -- you all may be used to it at
20 this point from the briefing. But it is helpful to, I think, illustrate what we're
21 talking about here.

22 And on the left, Becker is a textbook for treating orthodontic patients.
23 And here, it talks about different ways to treat patients. And this is one
24 that's discussed. And here, it's treating teeth movement on both sides of the
25 tooth -- of the mouth rather. We're focusing on the right just for simplicity.
26 We've annotated two of the teeth in red and blue. And you can see the red
27 tooth is blocking the blue tooth. It needs -- the blue tooth needs to go toward

1 the front of the mouth. So what it does is it moves the red tooth out of the
2 way. The blue tooth can slide on past it. And then once it's passed, the red
3 tooth rotates back and then towards final position at that point.

4 Now, there's no dispute that Becker teaches the particular movements
5 required by the Ground 2 claims. Instead, there are just two issues that have
6 been raised for this. One is a teaching away. Another is the applicability to
7 clear aligners. And so I'd like to touch on both of those. Now, we
8 recognize, Your Honors, that for Ground 2, the board had some reservations
9 about that ground, so I'd like to talk about that. I think on this fully
10 developed record now, it is more clear the strength of Ground 2 and the
11 failings of Align's objections against it, now that we have a full record on
12 this case.

13 In particular, one of the things that Align has relied on heavily is the
14 prior art IPR, the 444 IPR, arguing that's essentially dispositive here. And
15 we think that's not true for two very important reasons. One is the 444 IPR
16 dealt with the '444 patent. It's a related patent, but they had different claims.
17 And it specifically recited the term round-tripping. And the term round-
18 tripping in the '444 patent is defined as a particular set of movements. None
19 of the claims in the '456 patent recite that particular term. And so that was a
20 big focus of the proceeding before it. And some of these references that
21 were relied on there had a more generic discussion of round-tripping. It said
22 round-tripping generally. And the Board said, well, they don't disclose that
23 particular movement. But Becker does, and there's no dispute about that.

24 Another important issue is there's a different evidentiary record here.
25 Like I said, we have Becker to rely on here. And not only does Becker
26 disclose the movements, but it does -- it also shows and discusses that there
27 are situations where this may be the preferred line of treatment for patients.

1 So this is not just a throwaway line that you could do this particular
2 treatment. We have a textbook for showing how to treat orthodontic
3 patients. And it's talking about treating a particular type of malocclusion. It
4 says for these patients, this is the preferred line of treatment for them. We
5 also have Chishti-511, who talks about wanting the least amount of round-
6 tripping.

7 So we acknowledge that the state of the art talks about avoiding
8 round-tripping. And -- but Chishti-511 does say that sometimes round-
9 tripping is necessary. In our view, round-tripping is kind of a catch-all
10 generally used for indirect movement, of which Becker is a type. And the
11 '444 patent defines it in a very specific way, which isn't in these claims. It's
12 important though that we talk about what the full record discloses, what it
13 talks about. And there's no question that Chishti-876 also says to avoid
14 round-tripping. But that's entirely consistent with what Chishti-511 says in
15 our view, because Chishti-511 says you want the least amount of it as
16 possible. You want to avoid it, but it's sometimes necessary. Even Chishti-
17 876 says it's about avoiding moving a distance greater than necessary.

18 And I think when you put them in context, they recognize that, sure,
19 you want to avoid this if you can, but sometimes this type of movement is
20 required. It is necessary. And that's what Chishti-511 talks about, because it
21 says sometimes round-tripping is necessary to allow teeth to move past each
22 other. We saw the example with Becker. There was no way for that tooth in
23 red to move to -- the tooth in blue to move where it needed to go, unless the
24 red tooth moved out of the way. There's no treatment for that patient. That's
25 why Becker says it's the preferred line of treatment. That's why Chishti-511
26 says it's sometimes necessary. And that's why it -- although Chishti-876
27 says to avoid it, they recognize that you don't want to -- you want to avoid

1 doing it more than necessary, which I think is completely consistent across
2 the board.

3 There are a few specific things too that I think are particularly at issue
4 for Align. First, Becker. Becker does say -- is new evidence, and it says
5 that there are situations where it is the preferred line of treatment. If you
6 look in Align's papers, this is not mentioned once anywhere. You can look
7 in their Patent Owner Response. You can look in the Sur-reply. You can
8 look through their entire expert declaration. They don't even acknowledge
9 that Becker says it's a preferred line of treatment for patients. If you look in
10 their expert declaration, Chishti-511 says that it's sometimes necessary.
11 Their expert also doesn't talk about it being necessary at all. They -- she
12 only relies on Chishti-876. And for Chishti-876, she relies on that, I know
13 there's been some criticism of whether we address the teaching way of
14 avoiding in the petition.

15 And I posit that we have. You look at pages 15 to 17, pages 26 to 27
16 of the petition. We talk about how the general state of the art is we want to
17 avoid round-tripping. You don't want to do it if you can avoid it. And we
18 address that head on, which is the same teaching that's in Chishti-876. But
19 we've addressed the whole entirety of their art. We've shown, I think, why
20 looking at this in totality with a textbook for orthodontists, it says it's
21 preferred for some treatments. But Chishti-811 or 511, it talks about this
22 being sometimes necessary, especially where you need to have a tooth move
23 out of the way, like we see in Becker. And consistent with Chishti-876,
24 where you need to avoid it as best you can, but you can't always. The scope
25 of the art, as addressed by our expert, shows that this is something that one
26 would do in one of these systems. And that testimony's un rebuttable.

1 JUDGE KALAN: The concern I have with Chishti-876 is it's so
2 much more potent than some of the teaching away examples that we see. It
3 really has very strong language saying, don't do this. And although we're
4 looking at it here in your presentation as being balanced against the other
5 statements in the other prior art and the expert's testimony, it's still, it seems
6 like you're kind of poisoning the well. And if we -- if the other references
7 dilute it enough, perhaps the poison isn't there, but I'm still concerned by the
8 strength and potency of that statement in Chishti-876 and our ability to
9 simply rebuke that or disregard it in the context of the analysis of it.

10 MR. MCCAMMON: Sure. Your Honor, I think there are a couple
11 important points here that to distinguish this. First is that, you know, this
12 treatment here needs -- this patient needs to be treated. And so the only
13 treatment that's presented in the record that's been talked about how you can
14 treat this patient is Becker. Becker says it's a preferred line of treatment.
15 Even Chishti-511 --

16 JUDGE KALAN: What about an extraction, is that --

17 MR. MCCAMMON: Absolutely. So extraction is an option. But I
18 guess I think on the balance of the harms of whether you can -- you want to
19 extract the tooth or try to treat it and move it, especially when a reference
20 shows that it is treatable, that you can treat it without extracting it, that this
21 goes to the point of one of skill in the art would do that. They would try to
22 treat it before pulling the tooth out. We have evidence on that from our
23 expert. And I think that that's -- it's something that definitely needs to be
24 thought about here because you can always pull the tooth. You can't
25 straighten it out after you pull it. And that's really an important issue. And I
26 think another distinction point that we have here is that a lot of the cases we
27 see on teaching away, there's one teaching away.

1 There's some reference that has it, but that you don't have kind of the
2 tug and pull on both sides that you have here. And here you have a textbook
3 that says, for treating orthodontic patients, it says it's preferred. You have
4 this Chishti reference, which is, you know, invented by Chishti. He says it's
5 necessary. And then the same reference by the same inventor he says to
6 avoid it. And -- but he also says, I think it's important here, to move it a
7 distance greater than absolutely necessary.

8 So I think if you look in that context, even Chishti-511 recognizes it's
9 necessary sometimes. So if you look at those together, they recognize
10 together some movement like this is necessary. Don't do more than you
11 have to. And Becker will show you the way and show you the preferred line
12 of treatment. I think these harmonize together, and they do so in a way
13 where you can treat a patient, not pull their tooth. And so I think that really
14 distinguishes a lot of cases that are cited and that we have before us here.
15 Moving on --

16 JUDGE TURNER: You are into your rebuttal time. You have --
17 presently have seven minutes --

18 MR. MCCAMMON: Okay.

19 JUDGE TURNER: -- in your rebuttal. You're welcome to continue if
20 you -- but it will eat into that time.

21 MR. MCCAMMON: Okay. I would like to continue.

22 JUDGE TURNER: Okay. Go ahead.

23 MR. MCCAMMON: So I will try to be expeditious. The next issue
24 for Slide 48 is the applicability to aligners. And we talked about this a bit in
25 the -- we talked about this in the Petition and the Reply. And specifically,
26 we showed that there are ways to do this with aligners. Becker talks about
27 using elastics and Chishti is set up for that. I think there's an important point

1 here that we need to discuss, which is that Align's expert talks about there
2 being no evidence presented by Dr. Yadav that you can do this with aligners.
3 She just doesn't discuss it at all. And so there is evidence in the record
4 presented by Dr. Yadav. There's unrebutted testimony because she hasn't
5 addressed it. That's the same for the teaching references for Becker and
6 Chishti-511 on teaching away. She hasn't addressed those either. So that's
7 unrebutted testimony on whether the art as a whole teaches away, which I
8 think is an important distinction point probably for some of the cases we
9 have previously.

10 But looking at what Dr. Yadav's testimony is on Slide 49, he
11 recognizes that Chishti-511 is already set up to use attachments like the
12 elastic attachments we saw in Becker. It talks about the state of the art
13 confirming the use of attachments as in Becker, and it was known to use it
14 with aligners. And he also says that using this type of teaching, you could
15 use attachments to achieve the type of round-tripping in Becker with
16 aligners. And I think looking at some of the examples, Slide 50 is helpful.
17 We have in the top left Becker. And then we have from Exhibit 1016, the
18 Tuncay reference. It shows the different types of attachments you can use.
19 How they are attached and using elastics with aligners, just like we saw in
20 the Becker reference.

21 And if we move on to Slide 51, there are a couple references, Exhibit
22 1018, that talks about using progressive elastics with aligners. And it says,
23 "Using specific and aggressive repositioning of the worst-position teeth can
24 be accommodated -- can be accomplished while overall, the removable
25 aligner 20 is generally correcting the positions." So it says, you can correct
26 the worst position of teeth with aligners using elastics, which is consistent
27 with Dr. Yadav's testimony. Exhibit 1019 says, "Use of attachment devices

1 in combination with removable dental positioning appliances. And using
2 those, you can manipulate teeth as with conventional braces."

3 So we have here Dr. Yadav talking about how Chishti-511 is already
4 well-supported to use hardware attachments. We have him talking about,
5 here's the state-of-the-art where they use attachments just like Becker. He
6 said, using this teaching, you can accomplish Becker's technique. And
7 there's nothing at all in the record from Align's expert. Nothing. She just
8 says there's no evidence. There is. She just overlooked it. And I want to
9 make one final point on this which is that there's far more detail in the record
10 about how this is accomplished and how you can do it in the record from our
11 -- from ClearCorrect, than is in the '456 patent. The '456 patent just says to
12 do round-tripping. It says you want to move the tooth out of the way. Go do
13 it. Do it as the last resort. It doesn't say that it has to do anything special to
14 accomplish it. It doesn't say that it overcame challenges, or this is a difficult
15 problem. It just says to do it.

16 So there's far more teaching and disclosure in our arguments than are
17 even present in the patent. So Align's holding us to a much harder standard,
18 especially when there's no expert testimony on the other end of it.

19 And I know I'm almost out of time, but I want to touch on one final
20 issue that Align raised in their Sur-reply. They said, okay, well, even if you
21 did this with elastics and attachments, in Chishti-511, if you look down, this
22 is the impossible movements Your Honors were asking about and what, how
23 this is relevant. It says to add hardware in step 640. And they said, okay,
24 well, if you add hardware there, you're not going to redefine the path. So it's
25 not really relevant here. And they've made an improper assumption here,
26 which is that you will start with Becker's treatment and that you won't
27 redefine again. But, really, that's not what you would do.

1 Chishti-511 already says you only want to do this if necessary, and
2 will try other ways to treat this patient, such as Sachdeva's collision
3 [unintelligible], or other ways before you would use Becker. And I think
4 that's consistent with the claim analysis we have. If you look at Claim 8, it
5 talks about delaying initial movements. There's no dispute that Sachdeva
6 teaches that. That's what we relied on for Claim 8.

7 Claim 9 depends from Claim 8. And it says, well, if that didn't work,
8 why don't you try slowing or stopping? We rely on Chishti-876 for that.
9 There's no dispute that that also is taught by the reference. And then Claim
10 10 says, that didn't work and, basically, as a last resort, you try the -- what
11 we have in Becker. You moved the tooth out of the way and then you try it.
12 There's no dispute that Becker teaches that too.

13 And so the notion that you would go to Becker first and not redefine
14 these paths or not try to do something else first is inconsistent with kind of
15 the analysis we have in the petition. And it's inconsistent with Chishti-511
16 because he says you would only do this if necessary. That's what you would
17 do. You wouldn't want to do it first. You would try other things first.

18 And so, with that, I will save my remaining time for rebuttal, unless
19 there are any questions.

20 JUDGE TURNER: You'll have a minute-and-a-half.

21 MR. MCCAMMON: Thank you, Your Honors.

22 JUDGE TURNER: And you'll be taking the 35 minutes?

23 MS. THOMAS: Yes, please.

24 JUDGE TURNER: Okay. You can begin whenever you're ready.

25 MS. THOMAS: Good afternoon, Your Honors. My name is Tasha
26 Thomas on behalf of Align Technology. As I speak today, I'll be referring to
27 Patent Owner's demonstratives filed as Paper 36 in this proceeding.

1 Moving to Slide 2, we see representative Claim 1 of the '456 patent.
2 As Petitioner noted, the main dispute is focused on limitations 1[c] and 1[d].
3 And while not bolded on this slide, limitations 1[f] and 1[g] are also
4 disputed, but the -- for the same reasons that we'll be discussing in the next
5 few slides.

6 Turning to Slide 3, the petition's grounds are reproduced. There are
7 only two grounds. As you can see, both grounds involved Chishti-511 and
8 Sachdeva. And, as we'll discuss, these two references are at the heart of the
9 deficiencies of Petitioner's case.

10 Turning to Slide 4. So for elements 1[c] and 1[d], as you can see here,
11 the Petition relied on two alternative theories as to how the prior art
12 discloses the limitations. First, Chishti-511 alone teaches them. Second,
13 Chishti-511 in view of Sachdeva teaches them. As we explain in our
14 briefing, neither of these theories holds water. So I'm going to address them
15 in turn.

16 Turning to Slide 5, we see the petition's basis for saying that Chishti-
17 511 teaches limitations 1[c] and 1[d]. As we explained in our Patent Owner
18 Response, the Petition's analysis was based on a fundamental
19 misapprehension of how Chishti-511 works. In asserting that Chishti-511
20 teaches these limitations, the Petition cherry-picked different parts of the
21 reference.

22 One, the Petition cited to Chishti-511's determination of a clinically
23 viable sequence of tooth positions that do not result in a collision of teeth.
24 And, two, the Petition also cited to Chishti-511's description on when a new
25 aligner configuration will be calculated. That is, when the teeth motion is
26 not orthodontically acceptable or if an acceptable end position is not reached
27 by the teeth. The problem is that these cited disclosures relate to two

1 different steps of Chishti-511, a path determination step and aligner
2 calculation step. The issue --

3 JUDGE KALAN: I'm looking at this in the bottom right on your
4 Slide 5, where Chishti says that this does not result in a collision of teeth. Is
5 the collision -- using the word collision there inadequate because it's talking
6 about the wrong step, or is there some other distinct reason it's not doing the
7 job the Petitioner wants it to do?

8 MS. THOMAS: I would say it's focusing on a -- basically a
9 misapprehension. They're focusing on a step where collisions are assessed
10 by Chishti and the output is collision-free paths. And, after, that is used as
11 an input to the alignment calculation step. And I think it's very notable that
12 collisions are not mentioned during that step. What's happening there is it's
13 operating on collision-free paths.

14 But what we see is cherry-picking these two different parts of the step,
15 without recognizing that they're two separate modules, and coming to the
16 conclusion that, somehow, Chishti discloses collisions. And, as we'll see in
17 the next few slides, Chishti comes in and says, well, it may be true that
18 collisions are not talked about during the aligner of calculation step, but it
19 may happen during the aligner calculation step. So I think it's more -- it's
20 significant that Chishti-511 only mentions collisions when it comes to
21 actually determining the paths that the dentist wants the teeth to take from
22 their initial to final positions.

23 Does that answer your question? Move on to --

24 JUDGE KALAN: Yeah, it does, as to which bucket your collision
25 terminology applies to, but because collisions of teeth are such a bad thing
26 and so much to be avoided, and I know this is Petitioner's entire argument,
27 it's not explicitly, perhaps, stated in the way that it is in the claim. And it

1 would make no sense to adopt an alignment -- a treatment plan that does
2 generate a collision.

3 (Simultaneous speaking.)

4 MS. THOMAS: Oh, well, I will say Chishti's very clear -- Chishti-
5 511's very clear it resolves collision during the path determination step. The
6 next step is, can I make aligners that will actually move along that step?
7 You know, it's focused on how can I push the tooth along -- along a path I
8 already know is collision-free? And if I can't figure out an aligner that will
9 do it, I'll go back and I'll make new collision-free paths. There's a reason
10 Chishti never mentions collisions during the aligner calculation step, and it's
11 because collisions are, frankly, irrelevant during that step. It's focused on
12 making sure the aligner moves the tooth along the path within acceptable
13 clinical constraints.

14 JUDGE KALAN: Thank you. And then I guess that brings me to the
15 same question that I asked Petitioner's counsel about collision and conflict,
16 or orthodontically acceptable is another term that I was curious about. How
17 do those terms play together? Which is broader, which is narrower? Does
18 conflict encompass collision or are they synonymous?

19 MS. THOMAS: Well, I heard you mention two different terms,
20 orthodontically acceptable and conflict. Orthodontically acceptable does
21 show up in Chishti-511. So, if you don't mind, I'll talk about that first. And,
22 actually, I'll skip ahead, then, to our slide, Slide 9, which is on the screen
23 here. So we did see Petitioner mention orthodontically acceptable as a
24 reason for saying Chishti would be concerned with collisions when
25 calculating a new aligner shape. And a problem that, you know, when --
26 Petitioner actually doubled down on this in reply, an orthodontic treatment
27 plan that produces collisions between teeth is by definition not

1 orthodontically acceptable. And I think a problem with this is, kind of
2 indicative of Petitioner's case overall, cherry-picking favorable tight
3 language to the exclusion of what Chishti-511 actually says in its context.

4 And as we see here on this slide, Chishti-511 talks about
5 orthodontically acceptable only in the context of when it's determining when
6 am I going to calculate the new aligner shape? And it does so --it runs the
7 simulation and it's looking at the forces that the teeth went through and
8 where they ended up. And first, it says, hey, did I reach an acceptable end
9 position along my path segment? No. Okay, send it back. Let's come up
10 with a new aligner shape.

11 But if an acceptable end position is reached, the motions of the teeth
12 calculated by the finite element analysis are evaluated to determine whether
13 they are orthodontically acceptable.

14 Now, we pointed this out in our Sur-reply, when you actually look at
15 the context of it, we know then, for a fact, that orthodontically unacceptable
16 means something other than collisions. It doesn't include collisions. It's not,
17 by definition, something that includes collisions because it's only assessed
18 when the teeth have reached their end positions along the collision-free paths
19 that have already been identified. They've not collided. They got to their
20 endpoint.

21 I think -- I'd like to point out, I think it's very telling, we haven't heard,
22 despite orthodontically acceptable being mentioned in the Petition several
23 times, being relied on by the expert for concluding that Chishti-511
24 identifies collisions. And despite the excerpt that you see up top here from
25 the Reply, they don't even try to defend it here today. Kind of, you know,
26 forget about that, and mention a couple of the other arguments that they raise

1 in the Reply that also don't make sense when you consider Chishti-511 in its
2 context.

3 JUDGE KALAN: I have a question about that box where it says
4 motions orthodontically acceptable. Doesn't that imply that it's not asking
5 about the final position, but rather the motions taken to get to that position?

6 MS. THOMAS: So I think we -- so I think that's why we have that
7 top box up above it. We see Chishti mention that orthodontically acceptable
8 levels of force. So the motion is, is my tooth moving too fast? Then I have
9 set as a clinical constraint. Will it hurt the patient? You know, even though
10 it got to its end position, did it get there too fast that it's going to hurt? Or
11 did it cause too much patient discomfort? Did it do it too slow and now I'm
12 not, you know -- I'm making my patient wear the aligner for too long.

13 This is something that Dr. Valley touched on. When you actually
14 look at the context, it's more about the actual force effects. And that's why it
15 has a finite element analysis. The actual force effects of the motions of the
16 teeth going along these collision-free paths, are they within acceptable
17 clinical constraints?

18 JUDGE KALAN: If both of those motions cause a collision, I'm still
19 not making the connection between why orthodontically acceptable and
20 collisions are not --

21 MS. THOMAS: We know the motions don't cause a collision because
22 it's only assessed when the teeth reach an acceptable end position along a
23 segment that has already been determined to be collision-free for all the
24 teeth on that treatment stage. So why would the motion cause a collision --
25 even though all of teeth reach their end position, why would a collision
26 happen when you're assessing orthodontically acceptable? What about the
27 motions of the teeth?

1 And I think that's -- that's why Dr. Valley said, no, it doesn't actually
2 mean that. If you need to think about it logically, the teeth have reached
3 collision-free paths, and this is why Chishti only mentions collisions once.
4 And when it resolves it, I am the path determination step. The aligner
5 calculation step is something entirely different. It's assessing a different
6 thing. Can I get the aligners to move my teeth along these collision-free
7 paths in a way that is acceptable, as a dentist, for my patient?

8 JUDGE HARDMAN: Isn't it possible -- sorry, it's Judge Hardman.
9 Isn't it possible that the rate can be too fast, not only because it causes pain,
10 but because it gets the tooth to an endpoint or another position too quickly
11 and another tooth hasn't yet moved out of the space?

12 MS. THOMAS: Yeah. I'd like to actually turn to talk about that a
13 little bit in the context of what I have up here, Slide 10. Now, again, this is a
14 theory, this shift in or collisions may happen when we're looking at Chishti.
15 And one of the ones that they rely on is that the simulation will show that
16 teeth will deviate from their ideal paths and weakness, such as moving too
17 slow, too far short of the desired end position, too far past the desired end
18 position, or in a direction other than the desired direction.

19 And I think a problem with this logic that somehow collisions are --
20 that means collisions are important or would be something that Chishti-511
21 would be concerned about during the aligner calculation step is contradicted
22 by what Chishti-511 is doing in the context of this discussion.

23 And so we see on the right what they're referring to are these Rules 4,
24 5, 2. And they're an exemplary set of rules which divide -- defines changes
25 to be made to the aligner. So, for instance, if the motion of the tooth is too
26 slow, add that driving material, kind of speed it up a bit, right? I think
27 what's -- so, one, again, there's no rule here -- these are if/and statements.

1 There's no rule here about identifying collisions here. But I think what's also
2 important is it's assessed at the tooth level. So, because it's assessed at the
3 tooth level -- you know, earlier in this column, Chishti's describing how --
4 I've got an unacceptable aligner. How am I going to fix it in a way that it
5 becomes acceptable? Okay, now I'm going to look at each tooth. Did it
6 meet my criteria? That tooth did, let me iterate to the next tooth. Okay. Oh,
7 that tooth moved too slow. I've used my rules to move it. Then I iterate to
8 the next tooth and that tooth moved too fast. I'm going to use my rules to fix
9 it.

10 Again, there's no process in Chishti where he's talking about, what are
11 the interactions between teeth? And that's because he's already solved it.
12 He's solved it with collision-free paths. His goal is let me push that tooth
13 toward the collision-free path and in a way that meets clinical constraints.
14 This is why -- again, I think is indicative why Chishti only mentions
15 collisions in the path determination step.

16 JUDGE KALAN: I had a number of questions earlier, and thank you
17 for going through the orthodontically acceptable part, because that is
18 important. But the relationship of the terms conflict and collision, could you
19 address that? I asked the same question of --

20 MS. THOMAS: Yeah, sure.

21 (Simultaneous speaking.)

22 MS. THOMAS: So that relates to their alternative theory. So I'll
23 move to that. Okay. So I will go to Slide 13. So, yes, this idea is -- what
24 does it mean? Is conflict a collision? And I think I heard Petitioner say it is.
25 Although, recognizing it's not, because it's talked about in terms of a single
26 tooth. But we do know that it's undisputed what a collision means. Once
27 one moving tooth strikes against another. There's some movement involved.

1 Like, the actual movement of a tooth actually hits it. And, as Dr. Valley
2 explained, well, the problem is Sachdeva doesn't say what a conflict is.
3 Doesn't call it a collision. It doesn't, you know, say anything more. So
4 we've got to look to some of the examples that Sachdeva talks about in
5 terms of what, well, what does it mean? What does a conflict mean?

6 In the bottom left here, from Sachdeva, he gives you an example. The
7 lower tooth protrudes preventing the upper tooth from moving back. As Dr.
8 Valley explained, it's a blocking scenario, that tooth is no -- it's not moving.
9 It's not moving to strike against another tooth. No movement is possible
10 because they're blocking. And we think that's indicative to show that
11 Petitioner hasn't met their burden in showing that a conflict is a collision.

12 Is there any further questions? I can jump back.

13 JUDGE TURNER: This is Judge Turner. Just looking at Sachdeva,
14 the section, would that be a collision? Or would that -- is that just purely a
15 conflict?

16 MS. THOMAS: On the bottom left?

17 JUDGE TURNER: Upper and lower. Yeah. The bottom left.

18 MS. THOMAS: That is a conflict. But, as we explained in our
19 briefing, that is not a collision. It's a blocking. It's blocked. A boulder is up
20 against another boulder. You can't literally -- you can't move that boulder
21 because one boulder is in its way. It's preventing any movement. It's not
22 striking against it.

23 JUDGE TURNER: How does one boulder impinge upon another
24 without colliding? I guess maybe I -- maybe that's the part I'm missing.

25 MS. THOMAS: No movement happens at all when you're blocking.
26 You can't get anywhere.

1 JUDGE TURNER: Okay. I'm slightly mystified because I don't
2 know how you got there, then. I mean, just from the beginning of time,
3 there was, you know, just two boulders pressed against each other?

4 MS. THOMAS: I think at the start of treatment.

5 JUDGE TURNER: Okay.

6 MS. THOMAS: What Sachdeva was talking about, that the lower
7 tooth is protruding in a way that the upper tooth is abutting against it in a
8 way that you can't actually move the upper tooth at all. And as Dr. Valley
9 explained, that's really just giving you guidance on where to put your braces
10 first before you can actually move the upper tooth.

11 So, there's no striking going on. I think that's the distinction we're
12 trying to make. There's no moving tooth that strikes against another, at least
13 in this example, and the only example between teeth that Sachdeva gives.

14 JUDGE TURNER: Maybe I'm just a simple judge, because I don't --
15 unless my jaw's wired shut, it feels like the teeth have to -- you need to have
16 a collision. I mean, if my jaw's wired shut, they're just -- they're pressed
17 against each other and you're like, oh, there's no collision, but there is a
18 conflict. I just feel like I'm missing something. Maybe it's too difficult a
19 concept for me.

20 MS. THOMAS: No, I don't think that. I think --

21 JUDGE TURNER: Well, it's nice of you to say.

22 MS. THOMAS: There's definitely a -- there's a difference between
23 blocking -- we know movement needs to happen. And when you can't
24 actually move an object because something's blocking your way, you
25 wouldn't say it's colliding if things exist together next to each other.

26 JUDGE TURNER: Okay.

1 MS. THOMAS: Which is where this treatment is happening. Like, if
2 he's -- Sachdeva's not saying, oh, along the treatment path, they collide and
3 then prevents movement. It's if the lower tooth protrudes, preventing the
4 upper tooth from moving back. There's no movement involved.

5 JUDGE TURNER: Okay.

6 JUDGE KALAN: And is blocking the same as conflict or is blocking
7 the same as collision or is that completely backwards in your presentation of
8 the terminology?

9 MS. THOMAS: I think the issue in this case is assessing whether
10 Petitioner has met its burden in showing that a conflict is a collision. And
11 what can we do to understand what a conflict is? Because a conflict --
12 they're two different words. What can we do to understand what a conflict
13 is? Well, we go to the examples of Sachdeva and we understand, well,
14 conflict is a blocking scenario, but we know that's not a collision because
15 one moving tooth must strike against another. And so we're kind of left,
16 like, how can a conflict be a collision, absent conjecture and hindsight?

17 Any further questions?

18 JUDGE KALAN: Back to 1[c] earlier, collision doesn't actually
19 happen. It's all prospective. It's all calculatory. And I guess if I'm doing all
20 this in a modeling context and I'm identifying a collision, I mean, it could be
21 one tooth moving into another tooth. It could be two teeth bumping
22 together. I know you're trying to distinguish them. It just doesn't seem like
23 there's -- I'm having trouble understanding, based on the record we have
24 before us, why a conflict and a collision aren't closer than you say they are.

25 MS. THOMAS: Well, we know a situation where things are blocking
26 one another, like when no movement is possible, can't be a collision. So,
27 you know, logically, then, if all we know about a conflict is it includes

1 blocking scenarios, how can we go from that and say conflict equals
2 collision?

3 JUDGE KALAN: If one tooth keeps moving into the blocking tooth
4 that will cause a collision.

5 MS. THOMAS: They can't move at all. It's blocked.

6 JUDGE KALAN: If it's -- okay. If two things are right next -- in that
7 boulder scenario that you were just presenting. There are two boulders right
8 next to each other. One is blocking the other. But I was thinking, I guess,
9 more of the sense of one boulder is in the way of another boulder that might
10 be moving. That would be blocking and a collision and a conflict?

11 MS. THOMAS: Perhaps. We do know that a conflict -- I think we all
12 agree, a conflict needs one moving tooth to strike against another. Right?
13 So, some actual movement needs to happen. Like you said, the boulder's
14 rolling down and hits the other boulder in its way, there's one moving
15 boulder that strikes against another. If they're abutting each other and no
16 movement is possible, we know that falls outside a collision. It's no longer
17 any movement is possible.

18 JUDGE HARDMAN: Do you have a definition of collision in the
19 specification?

20 MS. THOMAS: I'll have to check, but I do know there's discussions
21 of collisions and obstructions. And so we do know a collision is different
22 from an obstruction. So a collision isn't just anything involving teeth not
23 being able to get to where they go. The '456 patent uses different
24 terminology.

25 JUDGE HARDMAN: The parties here didn't do any claim
26 construction though of the claim term collision, correct?

1 MS. THOMAS: There has been no briefing on claim construction of,
2 you know, the scope of collisions.

3 So, let's see. Any other questions? I'd like to move on to kind of what
4 we alluded to earlier. That'd be Slide 7. I do think, kind of indicative of
5 Petitioner's case, we see sort of the shift in what they mean by what -- where
6 Chishti's teaching collisions is happening. Chishti-511. Or even being
7 concerned about collisions.

8 You know, in the petition, we saw them point to the path definition
9 process as identifying collisions and, from there, weaved it in with the
10 aligner calculation step, which is different. And after pointing that out, that
11 that was -- those were two different steps, there was a misapprehension in
12 the art here, we see a shift.

13 You know, on the right-hand side of the slide, Petitioner backpedaled
14 in reply. You know, it's no longer the system identifies unacceptable
15 movements, including the result -- including those that result in a collision,
16 or that the path definition will be performed in response to identifying a
17 collision. It's, well, we can pick out some other parts of Chishti and you can
18 imagine that they may lead to collisions. It may result in a collision.

19 In other words, Petitioner went from arguing that Chishti-511 actually
20 discloses collision detection, to saying that collisions could be involved as
21 an underlying cause of what Chishti-511 evaluates during its aligner
22 assessment. We think this is new argument, which is why we requested a
23 motion to strike. And while we were authorized to file a paper listing the
24 improper arguments, we think, respectfully, this doesn't address the concern
25 here. It's changing how the art is being read. And even though the change
26 in the art is -- Petitioner is shifting in its Reply, it's still advancing theories
27 that are in tension with Chishti-511.

1 I would like to --

2 JUDGE TURNER: I'll note -- this is Judge Turner -- that you have
3 about eight minutes. I think we'd like to hear something about Ground 2, as
4 well.

5 MS. THOMAS: Oh, okay. I would like to -- before I move to
6 Ground 2, I'd like to talk about kind of this proposal of inserting Sachdeva's
7 process into Chishti-511's aligner calculation process.

8 So, we see at the top of the petition, you know -- again, the Petition
9 seized onto this language in Chishti of determining clinically viable
10 sequence of tooth positions, and used that as motivation to turn to Sachdeva,
11 and said, well, it would provide implementation details for the features
12 disclosed in Chishti-511. Petitioner -- the problem here is that there are no
13 implementation details disclosed in Chishti of identifying collisions in the
14 step that they proposed putting Sachdeva, in the aligner acceptability -- the
15 aligner calculation step.

16 Moving on to Ground 2. So, Slide 8 -- Slide 18, sorry. So, Petitioner
17 has additional problems with Ground 2. As we saw, they would cite round-
18 tripping limitations, moving a dental object out of the way first, and then
19 moving it back into position. It's premised on the combination of Chishti-
20 511 in view of Chishti-876, Sachdeva, and Becker.

21 Moving on to Slide 19. A first issue with Petitioner's case is that
22 Chishti-876 teaches away from the type of movement shown in Becker. As
23 the Board found at institution, Chishti-876 discourages against the practice
24 of round-tripping. And this is not the first time the Board has made this
25 finding. In a previous IPR brought by the same Petitioner, the Board
26 reached the same conclusion.

1 Yet, despite being fully aware that the Board had already said that
2 Chishti-876 teaches away from round-tripping, the Petition materials never
3 addressed any of this. As the Board noted at institution, that is a deficiency
4 in the Petition case. It is also a deficiency that cannot be remedied during
5 trial.

6 I mean, they didn't even try. Despite submitting a reply declaration
7 from Dr. Yadav, he never addressed Ground 2. So the Petition, the case is
8 the same as it was at institution. And, in fact, it's even worse, as Dr. Valley
9 submitted testimony confirming that a POSITA would understand Chishti-
10 876 teaches away from Becker's movement.

11 And I think we heard Petitioner say that we never addressed Becker.
12 Dr. Valley did. She provided testimony agreeing that Chishti-876 teaches
13 away from the type of movement that Becker is showing when using aligner
14 systems like that taught by the Chishti patents.

15 Turning to Slide 20. An additional problem here, beyond the teaching
16 away, the Board recognized that the Petition provided no persuasive
17 evidence that using aligners to affect Becker's movement would be
18 appropriate or even possible. In fact, Dr. Valley explained that Becker's
19 round-tripping was only achieved through a complex, mechanically intricate
20 appliance. Basically, two artificial teeth attached to a palate arch with
21 multiple rubber bands attached to it to affect a very complex and what Dr.
22 Valley said was a very rare case. Petitioner has never provided plausible
23 evidence to support its explanation as to how Becker's round-tripping could
24 be carried over to the aligner context.

25 I think we heard that Petitioner argues that Becker shows you the way
26 to accomplish round-tripping, and it's in a preferred line of treatment. If he
27 shows you the way to move those teeth, it was with a complex, mechanically

1 intricate setup. Not an aligner, which, in the petition, they argued that an
2 aligner can affect the movement, and has now conceded that, well, you
3 would need elastics. But, even then, they haven't shown that even
4 something like adding a rubber band could affect a movement shown like
5 Becker. And I think Becker's figures really show that to be the case.

6 JUDGE KALAN: I think I agree with you on Becker's figures being
7 quite graphic. But I think the context of Chishti-511, Chishti recognizes that
8 it can be applied to conventional braces or shells. It's not limited to aligners.
9 So is that not enough to hold Becker in? If braces and aligners are all under
10 the umbrella of what Chishti can apply to, then is the problem different
11 because Becker is so -- for lack of another word -- medieval, and the aligners
12 that we're talking about are much less so? Is that a problem, in your
13 estimation?

14 MS. THOMAS: I believe Petitioner's case focused on aligners, so I
15 can't speak to any other implementations beyond aligners that Chishti may
16 talk about. But when we talk about aligners, Petitioner's like, add an elastic.
17 And even the cases where they show just add an elastic, it's not getting to
18 how Becker is at -- Becker's using something beyond elastics, you know?
19 And those elastics are even going through the teeth. So it's hard to imagine
20 how you would use an aligner in that context with just a rubber band
21 attached to it.

22 JUDGE KALAN: And is that Petitioner's situation, or is it just that
23 Becker is so different or is sort of impossible? How would you characterize
24 Becker within the combination?

25 MS. THOMAS: I would characterize it as Becker is so far afield, I
26 don't think there's evidence that a POSITA would've turned to Becker as
27 something as informing movement that would be accomplished in the

1 system like Chisti-511. You know, I think, you know, it moved the teeth in
2 a way that Petitioner could have mapped it to the claim, but without thinking
3 about very, very differences between the two. And as Dr. Valley explained,
4 the dentist would have seen that and would have seen it as a rare case that
5 requires very specialized equipment. And so why would a POSITA turn to
6 that in seeking solutions for a system like Chishti-511?

7 And if there's anything else, I'd like to reserve the rest of my time.

8 JUDGE TURNER: I don't hear any additional questions. You'll have
9 10 minutes for rebuttal.

10 MS. THOMAS: Thank you.

11 JUDGE TURNER: And, Petitioner, you'll be able to begin when
12 ready. I'm going to give you two minutes because I can't do a minute and a
13 half on my clock. So, use those extra 30 seconds wisely, I suppose.

14 MR. MCCAMMON: Thank you, Your Honor. I appreciate that. So,
15 to start, I'd like to start on Slide 12 of our presentation, our demonstratives,
16 and hit the argument that she had that everything's collision-free in Chishti-
17 511, so you don't really have to worry about collisions when you're doing
18 that. And she pointed out some analysis it does. What Align is assuming is
19 that everything works out. They're assuming that you can refix and
20 recalculate the aligner. They're assuming that the simulation worked out and
21 you can fix it. But this Figure 6 showed that's not always the case. You
22 have the simulation and you might have to go into the optional restraints for
23 relaxing. You try to relax the constraints, and you might have to go to
24 redefine the paths. So there will be teeth that you -- aligners you can't fix.

25 And that's our point, which is what happens to those outliers where
26 there is something that happens? She said, well, the rules are on tooth-by-
27 tooth cases. That doesn't -- that's not material. If you have one tooth, it goes

1 in the wrong direction and goes in front of another tooth, that's going to be a
2 collision.

3 We want to address the point she said that Valley did address Becker
4 where we said they didn't. What we said was Valley did -- for Ground 2,
5 Valley didn't address the part of Becker where it says preferred line of
6 treatment. She never addresses that language from Becker, which we rely
7 on, which is important to the teaching away.

8 Next, Valley also does say it's a rare case for this patient in Becker.
9 What she doesn't say is it's not possible to do it with aligners. She doesn't
10 testify to that. She doesn't say you can't do it. She says that you all have
11 presented no evidence. That's not true. We do present significant evidence.
12 And I agree with Dr. Kalan that -- or sorry, Your Honor Kalan, Judge Kalan,
13 that they're requiring bodily incorporation, which is not what's required here.
14 We don't have to show that they could be hooked together to make this
15 work.

16 I'd like to jump to Slide 4. And, Judge Kalan, you hit the nail on the
17 head with the prospective movement for Sachdeva and whether collision is a
18 conflict. Looking at this, it says, identify a collision based on the schedule
19 of movements and the respective treatment paths. Looking at Sachdeva in
20 Slide 7, and in the figure, that's what it does. It looks at where they're going
21 to go, simulates their paths. They're going to connect and that's what's going
22 to happen. And it doesn't say blocking anywhere. That's something they
23 made up. It isn't in the reference. It doesn't say they're touching. It just
24 says, I'm going to look at the paths. Do they interfere with each other?
25 There's a collision because of that.

26 And I understand I'm out of time. Thank you, Your Honor.

27 JUDGE TURNER: Thank you.

1 MS. THOMAS: Hello. So, I heard Petitioners say that Patent
2 Owner's explanation that Chishti-511 is not concerned with collisions during
3 the aligner calculation step assumes everything will work out. As we
4 explained in our Sur-reply, no, it doesn't. What Chishti-511 discusses is
5 determining collision-free paths and calculating aligner that will move those
6 teeth along the path.

7 Now, sometimes an aligner can't be calculated to move along those
8 paths. And what Chishti tells you to do is go back and create new collision-
9 free paths. Collision identification is not involved in this. And, actually, I
10 think you can see this from Chishti-511, at Claim 5, where he gives you an
11 example that calculating a new segmentation happens when you determine
12 that the forces that can be generated by the appliance on the then-
13 configuration of teeth is incapable of affecting the repositioning that is
14 represented. So, that is represented by the treatment segment
15 correspondingly applies that is not clinically acceptable. The aligner has to
16 push the tooth too hard to get it where it needs to go, and that's just not
17 acceptable. Let's redefine some paths and find some new collision-free
18 paths.

19 I'd also love to talk about kind of why -- to further add to why Chishti-
20 511 is not concerned with collisions, and why Petitioner's combination
21 doesn't make sense, is because Petitioner's proposal is to add looking for
22 collisions to Chishti-511, and it makes it inconsistent with Chishti-511's
23 goals and approach.

24 So, as I mentioned multiple times, Chishti seeks to find a workable
25 aligner design based on detecting various conditions, comparing the actual
26 effect of the aligner to the intended effect of the aligner. And -- but, yet,
27 Petitioner doesn't propose to do that for collision detection. We see that on

1 their Slide 33. They're triggering aligner recalculation of a collision as
2 identified and modifying Chishti-511's path definition process to include the
3 movement technique disclosed in Sachdeva.

4 In other words, they're skipping. They're skipping from the aligner
5 calculation step, tweaking the aligner to try to move it along the collision-
6 free path, but once a collision's detected, forget all that. Skip the bulk of
7 Chishti's step and go to path redefinition. They don't talk about any sort of
8 tweaks that you would make to the aligner. That's all ignored. You know,
9 so, a bulk of Chishti-511 is a reference about an aligner design process, yet
10 Petitioner's proposal negates the bulk of Chishti's process.

11 I think I heard Petitioner talk about, well, of course if you have one
12 tooth -- and even though Chishti is assessing kind of the changes to be made
13 to the aligner on a tooth-by-tooth basis, therefore, it's not concerned about
14 the interactions between teeth -- you know, the proposal is, well, of course
15 the tooth can overshoot it and hit another tooth. But, again, Chishti has
16 already solved that solution. He's focused on that one tooth, he pushes it
17 back to the collision-free path. So there doesn't need to detect the aligner --
18 what may happen to that tooth if from a path that Chishti doesn't even want
19 the tooth to take. The assessment is, how can I make that tooth go along my
20 path that I know is collision-free? So this is another reason why it doesn't
21 make sense to add collision detection to Chishti's aligner calculation step.

22 Any other questions?

23 JUDGE TURNER: Just one question. Claim 10 is directed towards
24 the use of an aligner, is that right?

25 (Pause.)

26 MS. THOMAS: Sorry, I want to answer your question accurately.

1 JUDGE TURNER: Okay. I mean, it was just brought up -- and the
2 reason I'm asking the question is because Dr. Valley didn't testify that it
3 couldn't be done from an aligner, but I think if Claim 10, which involves
4 round-tripping, involves an aligner, it seems like, you know, round-tripping
5 by an aligner has to be possible, I would think.

6 MS. THOMAS: Yes.

7 JUDGE TURNER: Okay.

8 MS. THOMAS: And I would say that -- if it's required --

9 JUDGE TURNER: Whether the prior art teaches or suggested is a
10 separate issue, but we're not saying that it's impossible to do it in an aligner.

11 MS. THOMAS: Sorry, we're not saying it's impossible to do it with
12 an aligner?

13 JUDGE TURNER: Well, Claim 10 required -- I'm assuming Claim
14 10 reads on the use of an aligner for the method. So, therefore, if Claim 10
15 requires round-tripping, per the acknowledgement, then I can use an aligner
16 in order to accomplish the method of Claim 10, I would think.

17 MS. THOMAS: Well, I would say that the claim -- I'm having trouble
18 finding the limitation, but I would say if the claim requires the use of an
19 aligner, it would --- that makes it -- you would need to show that you would
20 even be able to accomplish the type of movement shown in Becker with an
21 aligner.

22 JUDGE TURNER: Okay. I'm not sure that answers, but you don't
23 have to answer --

24 MS. THOMAS: Yeah.

25 JUDGE TURNER: I ask my questions and, you know, it's fine. I
26 don't have anything else. Let me poll the panel. Are there any additional
27 questions anyone has?

1 JUDGE KALAN: Nothing further.

2 JUDGE TURNER: Okay.

3 MS. THOMAS: Thank you.

4 JUDGE TURNER: Thank you. The case is submitted. And we'll go
5 off the record and see if the court reporter needs any clarifications or
6 spellings.

7 (Whereupon, the above-titled matter went off the record at 1:32 p.m.)

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