

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SRAM, LLC
Petitioner,

v.

FOX FACTORY, INC.
Patent Owner.

IPR2024-00216
Patent 8,550,223 B2

Held: March 7, 2025

Before MEREDITH C. PETRAVICK, WILLIAM V. SAINDON, and
FRANCES L. IPPOLITO, *Administrative Patent Judges*.

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The above-entitled matter came on for hearing Friday,
March 7, 2025, commencing at 1:00 p.m. EST, at the U.S. Patent and
Trademark Office, 600 Dulany Street, Alexandria, Virginia.

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

12:59 p.m.

JUDGE IPPOLITO: Good afternoon. This is the oral argument for IPR2024-00216. I'm Judge Ippolito, and as you can see, I'm joined by Judges Saindon and Petravick. Welcome to you all. As a reminder, this is a public hearing, with a public line.

And as set forth in our order, each side has 60 minutes of total time. Petitioner, you may reserve time for rebuttal. Patent Owner, you may reserve time for surrebuttal. We do try to provide time reminders, but please rely on the hearing room clock for keeping track of your own time.

During the presentation, please let us know what slide you're on. If you're sharing, that's wonderful, but we still need the slide number in our record for the transcript.

And with that, unless there are any other concerns or questions, I believe we can start with Petitioner. Petitioner, are you ready?

MR. HICKEY: Yes.

JUDGE IPPOLITO: And are you reserving any time for rebuttal?

MR. HICKEY: Yes. I'd like to reserve 20 minutes.

JUDGE IPPOLITO: Okay. So you will have 20 minutes reserved, and we do have time on that clock, so please go with the time you see there, to keep track.

MR. HICKEY: Great. Thank you. May it please the Board, my name is Michael Hickey. I'm here with my partner, Rick Walsh, on behalf of Petitioner, SRAM, LLC. Also with us here today in the hearing room is

1 Brian Gause, who is Sram's senior counsel at -- he's senior counsel at
2 SRAM.

3 We are here today with respect to U.S. Patent Number 8,550,223.
4 And we are asking this board to issue a final written decision, confirming the
5 unpatentability of claims 1 through 9, 11 through 15, and 19 of the '223
6 patent.

7 Moving to slide 2, if -- got a little connection issue. Okay. In our
8 view, to start, we really don't need to look far beyond the detailed analysis
9 that the Board already performed in its institution decision. It's clear that the
10 Board understood the claims of the '223 patent and the prior art that is cited
11 in the petition. The Board analyzed that prior art, and found that the claim
12 elements for the challenged claims were clearly found in Nakaya, as well as
13 other prior art, and then offered the parties a chance to develop the record
14 further.

15 Now, in response -- hold on. We have -- I apologize. Okay. In
16 response, Patent Owner did not really develop the record, whereas Petitioner
17 was able to get some key admissions from Patent Owner and its expert that
18 further confirm the unpatentability of the challenged claims.

19 Instead, what happened after the Institution Decision was that Patent
20 Owner changed its positions on claim construction, coming up with a new
21 construction of "bottom out cup," then asserting that another phrase needed
22 construction, when it didn't say so before.

23 Then Petitioner submitted testimony from Patent Owner's expert, Dr.
24 Slocum, who confirmed that Nakaya is in fact a damper, but inconsistently
25 added limitations to claims that weren't there. For example, Dr. Slocum

1 tried to distinguish the prior art based on things that were not found in the
2 claim, like whether the damper was used in a bicycle or a motorcycle,
3 whether the damper fluid was oil, not air, and even about amounts of or
4 degrees of damping that were purportedly required. As this Board knows,
5 an expert cannot change the plain meaning of the claims or what the prior art
6 clearly discloses on its face.

7 If we move to slide 3 -- I don't know why the -- I'd like to briefly go
8 through what is not in dispute, and what is known in the prior art. Because
9 patents are intended to promote innovation, if they're not new or non-
10 obvious, they obviously should not be granted.

11 So if we look at slide 3, we have what the patent owner admits. They
12 admit that prior art dampers, in fact, exist. That's shown in column 1, at
13 lines 21 through 48. If we move to slide 4, the '223 patent admits that
14 there's a bottom out condition. That bottom out condition is one where the
15 dampening piston becomes completely retracted due to compressive forces.

16 The '223 patent even admits bottom out cups. That's discussed on
17 page 5 at column 1, 65 through column 2, line 9, where it describes a prior
18 art shock absorber with an additional piston located at an end of the piston
19 shaft and designed to enter a completely closed cup-shaped member. That is
20 a bottom out cup.

21 So in summary, if we turn to slide 6, what was known before the '223
22 patent? Well, of course, prior art shock absorbers, prior art shock absorbers
23 with dampers, with fluid dampers, with compression and rebound damper
24 chambers, with bottom out cups, with bottom out pistons, with fluid flow

1 paths that connected bottom out cups to damper chambers, and in fact,
2 adjustable fluid flows and fluid flow paths.

3 Now, if you look at the '223 patent, that's the one point that the patent
4 owner claims is inventive over all this prior art, that there are adjustable
5 fluid flow paths, adjustable fluid flows. In fact, that is shown in the prior art.

6 Turning to slide 7, what is it that the challenged '223 patent claims
7 have in common? Well, there's a damper that includes a bottom out cup. It's
8 shown here in pink, in Figure 3B of the '223 patent. In some claims, not all
9 claims, there's a bottom out piston, shown here in gold.

10 During the compression stroke, fluid can flow along a path -- here,
11 two paths, shown in blue -- between the bottom out cup and a compression
12 chamber shown in red. And the damping can be adjusted, and in some
13 claims, by an external adjuster, shown here in purple.

14 Now, the claims, the independent claims, are generally the same.
15 There are some slight differences. For example, looking at slide 8, there's a
16 damper for a shock absorber. The chamber's divided by a piston and a shaft
17 into compression and rebound portions. There is a bottom out cup, but it is
18 not specified that there is a bottom out piston.

19 And then we'll get into this claim construction issue briefly, but it
20 talks about a fluid flow path that is formed in the bottom out cup for
21 provided fluid communication from the cup to the compression portion of
22 the chamber. We believe the plain reading of that is not simply the path, the
23 structure, that provides that fluid communication, and it doesn't require
24 directional fluid flow.

1 If we turn to slide 9, this shows independent claim 11. Similarly, a
2 fluid damper. Again, the damper chamber being divided into a primary
3 compression and primary rebound chamber. A bottom out cup that is in
4 fluid communication with the damper chamber. Note here that there's no
5 required location for the bottom out cup.

6 If we turn back briefly to slide 8, it says that the bottom out cup is
7 formed at an end of the compression portion. Turning to slide 9, it just
8 specifies a bottom out cup. It doesn't require a location for it. And again,
9 we talk about an adjustable -- what's claimed is an adjustable fluid flow path.
10 And that fluid flow path provides fluid communication between the cup and
11 the primary compression chamber in a compression stroke of the damper.
12 That, again, doesn't require directional fluid flow.

13 Turning to slide 10, again, here, no bottom out piston, no required
14 location for the bottom out cup. Sorry. Sorry, this is slide 10. And we have
15 a situation here where it does have directional flow. It says that the fluid
16 flows from the bottom out cup to the compression chamber. So that's one
17 where we acknowledge, that's what's claimed, is directional fluid flow. So
18 again, slide 11, summarizing what the claims have in common.

19 Now, I want to be very clear. Slide 12. What is said by Patent
20 Owner? What Patent Owner says is that the '223 patent claims are directed
21 to a damping mechanism in a shock absorber for a vehicle suspension
22 system.

23 They cite the specification of the '223 patent, not the claims. And
24 they cite their expert. That Exhibit 2010, paragraph 42, is taken directly

1 from their expert's declaration. In other words, they're saying that the claims
2 require this to be a vehicle suspension system. But that is not the case.

3 Slide 13. What do the challenged '223 patent claims require? Do
4 they require shock absorbers or dampers for bicycles or vehicles only? No.
5 None of them do. Do any of them require oil-based dampers only? None of
6 them do. Do the challenged patent claims require a specific amount or
7 degree of damping? None of them do.

8 All this is important because these are the things that Patent Owner is
9 trying to distinguish the prior art -- trying to distinguish the prior art based
10 on things that don't appear in the claims. Do the challenged patent claims
11 require damping only at the end portion of the compression stroke? None of
12 them do.

13 Now, there are claims, claims 1 through 9, that have a restrictive
14 location for the bottom out cup. Claims 11 through 15 require bottom out
15 piston. Claim 19 requires directional fluid flow between the bottom out cup
16 and compression chamber. But none of the other claims do.

17 So if we look at slide 14, this is really kind of a structural comparison
18 between one of the embodiments in the '223 patent and embodiments that
19 are disclosed in key prior art references that are before you here today.

20 We have Nakaya's first and fourth embodiments. We have the Chen
21 prior art embodiment, and then the Gartner prior art reference. None of
22 these prior art references were disclosed to the Patent Office. They weren't
23 considered by the patent office.

24 And so what do we have? We have bottom out pistons that are
25 shown. We have bottom out cups that are disclosed in these references,

1 compared to the '223 patent. We have fluid flow paths, shown here in blue.
2 We have a compression chamber in each of these references, shown in red.
3 And even though not all the claims require an externally-adjustable valve, all
4 of the prior art references in fact have an externally-adjustable valve.

5 So the one point, the thing that, when the Patent Owner came before
6 this office and said, here's what distinguishes my invention from everything
7 else that came before -- we know about shock absorbers, we know about
8 shock absorbers with dampers, we know about bottom out condition, we
9 know about bottom out cup, we know about fluid flow paths. What is
10 different about my invention, says the patent owner, is adjustability.

11 And all of these references show that adjustability of the fluid flow
12 paths. It's not in dispute. In fact, ironically, of all the things that Patent
13 Owner and Patent Owner's expert offers to distinguish from the prior art,
14 adjustability is not one of them. That's not identified as a key feature.

15 JUDGE IPPOLITO: Counsel? Counsel, can I stop you for a second
16 and ask a question?

17 MR. HICKEY: Yes. Yes.

18 JUDGE IPPOLITO: I noticed in the Petition, for all the grounds, but
19 in particular, for your first ground, with Nakaya, is that the initial argument,
20 maybe the primary argument, was for this first embodiment that's shown in
21 slide 14.

22 Then later on, claim 11, you have what I believe is an updated version
23 of Figure 17 in your slide, another embodiment that's introduced into the
24 same ground, and that, is used for claim 13.

1 What I wanted to understand today is, how did you structure Ground
2 1? You have a 102, based on Nakaya, you have a 103 based on Nakaya, and
3 you've got a 103 based on Nakaya and some other things. But you also have
4 these two embodiments that you're relying on in the discussion. Are you
5 combining those in your Petition?

6 MR. HICKEY: Sure.

7 JUDGE IPPOLITO: What are you doing with these two
8 embodiments?

9 MR. HICKEY: Yeah, so I think both of these embodiments are
10 reflective of and individually anticipate the challenged claims. So we're not
11 combining those or saying that the first and fourth embodiments need to be
12 considered together.

13 Each of these embodiments shows the essential elements of the claims
14 that are disclosed, the one difference being with respect to claim 13, where
15 we have this debate about whether claim 13 requires one path, whether it's
16 the same path that's shown in claim 11, simply with the add-on that the
17 capacity of that fluid flow path is adjustable, or whether claim 13 is
18 separately claiming a second fluid flow path.

19 Our understanding, from the infringement contentions that were
20 propounded in the district court was that the patent owner was taking the
21 position that claim 13 -- and that the path that was shown in claim 13 and the
22 path that was shown in claim 11 were the same. And in fact, in an
23 infringement report, Dr. Slocum said that they were the same path, and
24 outlined them for both compression and rebound functions.

1 In the district court litigation, there were other problems that were
2 identified with claim 13, including a problem of indefiniteness, which we
3 obviously can't raise in this proceeding. But in that context, Dr. Wang
4 offered opinions about the first path, whether it was a second path, whether
5 it was indefinite, and indicated that to the extent that there were two paths,
6 that SRAM's accused products didn't infringe.

7 Now, here, in response, Patent Owner has said, these are in fact two
8 separate paths. And because they are two separate paths, you can't show
9 anticipation.

10 And because that was a wholly new argument that they hadn't said
11 before, and because, you know, we believe that it's really unfair under the
12 case law for them to say one thing in district court and then come here and
13 say something else -- but setting that aside, we then came -- even though the
14 fourth embodiment had already been identified in the petition, we further
15 identified that there were two fluid flow paths that were shown in the fourth
16 embodiment that would anticipate claim 13, based on Patent Owner's new
17 construction of that claim.

18 I'd note that the Patent Owner clearly knew how to use the term,
19 second fluid flow path, that's in one of the challenged claims, claim 9. It's
20 also in an unchallenged patent claim, claim 16, which is dependent on claim
21 13.

22 And so we think that, again, what Patent Owner said originally is what
23 they should be held to, that claim 13 is in fact the same path as claim 11, but
24 that it just has the additional feature of having a capacity that can be

1 adjusted. So that was a long answer, Judge, but hopefully I'm getting to
2 what you were looking for.

3 JUDGE IPPOLITO: I appreciate you being very thorough. But I do
4 want to return back to the question, so that it helps me understand what's in
5 your Petition.

6 MR. HICKEY: Sure.

7 JUDGE IPPOLITO: So when I get to claim 11, are you relying
8 alternatively on Nakaya? You marked it as the fourth embodiment, I'm not
9 sure what number that is, but the one in Figure 17 -- separately from the first
10 embodiment. And if you're doing that, and if that's correct, I would just
11 want to know where in the petition you've mapped out the elements of that
12 fourth embodiment to the limitations in the claims.

13 So for example, in claim 1, the focus is on this first embodiment. It's
14 mapped out. I can follow the reference numbers to where you've marked as
15 being correlated to the claim limitations. For claim 11, what I understand
16 you to be saying is that you've done that separately as an alternative for the
17 fourth embodiment, to handle claim 11 and claim 13. Is that correct?

18 MR. HICKEY: Yes. So turning to the Petition at page 42, 43 and 44,
19 when we're talking about the limitations of a bottom out -- well, strike that.
20 Let me go to page 41 of the Petition. It talks about a bottom out cup and
21 fluid communication with the damper chamber. And we identify the first
22 embodiment.

23 We also disclose that the fourth embodiment has a bottom out cup that
24 is in fluid communication with a primary compression chamber, a damper
25 chamber 81 and 82. And so those are separate. It's saying that Nakaya, first

1 embodiment, shows that limitation, and Nakaya, fourth embodiment, shows
2 that limitation.

3 For limitations 11C and 11D, which refer to the bottom out piston and
4 the damper having these different positions for that bottom out piston, on
5 page 43, we identify how the first embodiment reads on that. And then on
6 page 44, we identify how the fourth embodiment shows that.

7 When we get to the last limitation of independent claim 11, which is
8 the adjustable fluid flow path providing fluid communication between the
9 cup and the primary compression chamber and the compression stroke of the
10 damper, we identify the first embodiment on page 45, and then we say that
11 the fourth embodiment also shows what is set forth in that limitation of
12 claim 11. So each of the -- each of the first and fourth embodiments of
13 Nakaya independently disclose all of the elements of claim 11.

14 JUDGE IPPOLITO: I think I understand. So these are 102
15 arguments, based on these two embodiments. Right?

16 MR. HICKEY: That is correct, Your Honor. Yes.

17 JUDGE IPPOLITO: Okay. Thank you.

18 MR. HICKEY: Thank you. Well, and I welcome the questions. If
19 there's anything that needs to be understood, you know, I hope to be able to
20 do that. So if we look to slide 15, there's just a brief discussion about who
21 the background on the experts are. You know, our view on Dr. Slocum is
22 that he's offered conclusory, inconsistent, and contradictory testimony here
23 in the related litigation, nothing identified in his declaration specific to
24 design work and suspension technology or shock absorbers, whereas Dr.
25 Wang has 20 years' design and research experience regarding suspension

1 technology, and we think detailed testimony demonstrating invalidity.
2 Similarly, for Sram's in-house POSITA, Mr. Wesling has over 20 years of
3 experience in design and development of bicycle components, that includes
4 suspension systems.

5 So the Board asked the parties, after the institution decision, develop
6 the -- you can develop the record. You can come forward with additional
7 evidence to help us understand the prior art, compared to the claims of the
8 '223 patent.

9 So we have documentary evidence that was previously submitted. We
10 have some secondary prior art references that were previously submitted, a
11 couple of additional references that were really given for background, such
12 as the England prior art reference, because Dr. Slocum took the position that
13 we think was just without basis in fact that air dampers couldn't be used for
14 bicycles.

15 And England references shows that that in fact was the case. Air
16 dampers are used for bicycles, even though that's not an element of the
17 claim. So it's kind of, you know, in a certain sense, going down that rabbit
18 hole that we don't need to.

19 Also, Petitioner submitted materials, infringement contentions from
20 the related impending district court litigation, and as well as deposition
21 testimony reports and declarations. But at the end of the day, the evidence,
22 the additional evidence that came forward doesn't change the analysis. If
23 anything, it supports what was said in the petition originally. It enhances the
24 arguments that Petitioner has put forward.

1 And that documentary evidence was on slide 18. And for the record,
2 the slide about Dr. Slocum was slide 15. The slide about Dr. Wang was
3 slide 16. And the slide about Mr. Wesling was slide 17.

4 So I'd just like to briefly touch on the claim construction issues that
5 were raised in Patent Owner's Response for "bottom out cup" and then the
6 fluid communication issue. So initially, the Patent Owner had a very
7 different claim construction that the Board rightly rejected in institution.

8 And the Board determined that the plain and ordinary meaning of
9 "bottom out cup," in the context of the '223 patent, was simply a cup-shaped
10 feature, configured for providing dampening. And that's slide 19.

11 If we go to slide 20 -- hopefully -- we see that Patent Owner has
12 gotten rid of its latest construction -- gotten rid of its initial construction, and
13 come up with a new construction that focuses on dampening only at the end
14 portion of a compression stroke.

15 Now, we know, and it was set forth in the Board's institution decision
16 on slide 21, that claim 1 restricts the location of the bottom out cup, but not
17 claims 11 and 19. And in fact, no challenged claim requires the bottom out
18 cup to provide dampening or damping only at the end of the compression
19 stroke.

20 On the other hand, unchallenged claim 17 talks about doing
21 something at the end of a compression stroke of the shock absorber. So
22 clearly, the Patent Owner knew how to use those words. They didn't use
23 that for any of the independent challenged claims.

24 And we think that Patent Owner's latest construction, it contradicts the
25 claims and the specification, because damping occurs throughout the

1 compression stroke. It's not something that just happens at the end of the
2 compression stroke. And so, slide 22, we think that the Board should keep
3 what was the ordinary and customary meaning that it determined in the
4 institution decision.

5 JUDGE SAINDON: Counsel, could I jump in there?

6 MR. HICKEY: Yes.

7 JUDGE SAINDON: This is Judge Saindon. Looking at your slide
8 20.

9 MR. HICKEY: Yes.

10 JUDGE SAINDON: And I'm wondering, is the issue you have with
11 your characterization of Patent Owner's construction the word "only"?
12 Because on some level, bottoming out occurs at the end of travel of the
13 system, so I guess that part doesn't necessarily strike me as odd, but maybe
14 the "only," that it's only effective at that time?

15 MR. HICKEY: Yes. I think that would be the principal objection. It
16 is true that the bottom out cup provides dampening at the end portion of a
17 compression stroke. It in fact, though, provides some level of damping
18 throughout the compression stroke. So I understand the idea that the
19 bottoming out does occur at that end of travel. And so to be in a spot where
20 you're saying that it only occurs there, it's just -- it's not factually correct.
21 And I think if you look at the expert testimony from Dr. Wang and Mr.
22 Wesling, you'd see that.

23 JUDGE SAINDON: And Counsel, just to follow --

24 MR. HICKEY: Yes.

1 JUDGE SAINDON: Is this issue only relevant for one of the
2 grounds? And if so, which?

3 MR. HICKEY: Yes. I'm not entirely clear what the position of Patent
4 Owner is on this. I believe that their position would be that this was relevant
5 to Gartner.

6 JUDGE SAINDON: Okay. Thank you.

7 MR. HICKEY: Turning to slide 23, which is fluid communication
8 from the cup to the compression portion of the chamber, again, this is one
9 where, you know, initially, the Patent Owner didn't think that there were any
10 other terms that needed to be construed.

11 And when we look at -- what they now say is that directionality of
12 fluid flow is required. We think that that is an improper grafting of a
13 directional limitation. It ignores that claim 1 is claiming a fluid flow path,
14 not the fluid flow itself.

15 And when you're talking about a path, it's a bridge. It's two-way
16 communication. It's like a telephone wire. If you're talking about a path
17 between building -- from building A to building B, that is also a path that
18 goes from building B to building A. It's a structure that provides
19 communication, but it doesn't require that flow to happen.

20 In contrast, on slide 26, claim 19 claims directional fluid flow. And
21 interestingly, claim 11 claims the fluid flow path between the bottom out cup
22 and the compression chamber, another way of describing that structure of
23 the path, and Dr. Slocum admitted that that was not directional in flow.
24 Now, what I'd say is --

25 JUDGE IPPOLITO: Counsel?

1 MR. HICKEY: Yes.

2 JUDGE IPPOLITO: Counsel, let me stop you there. Maybe you were
3 about to answer my question, and I interrupted you before you did. Why
4 should we read this language in claim 1, which is different from claim 11
5 and also different from claim 19 -- why should we read this language in
6 claim 1 to mean the same thing as claim 11, which is between, not from and
7 to?

8 MR. HICKEY: Well, because that's the plain meaning. This happens
9 to be a situation where the plain meaning of these two different phrases
10 mean the same thing. They are synonymous when they are used with
11 respect to structure.

12 If you're talking about a path, a physical path that goes from point A
13 to point B, that path is also described as being from point B to point A. It's
14 the same path. And to say between, you're also describing that path, and in
15 this situation, it simply happens to be the case that they are synonymous.
16 And it does --

17 JUDGE IPPOLITO: So let me ask you --

18 MR. HICKEY: And if I could just add further, it doesn't change the
19 fact that the scope of claim 1 is still different than the scope of claim 11. So
20 from a claim differentiation standpoint, you're not rendering the two
21 independent claims -- one of the two independent claims superfluous.

22 JUDGE IPPOLITO: So if I'm understanding, what you're saying is
23 that as long as there's a pathway, we don't necessarily need to look at how
24 the prior art is teaching which direction the flow is actually moving, the

1 reference -- and I'm bringing this up because this is an issue in Chen, as
2 well. What direction is the fluid flow moving in?

3 And what I'm hearing you say is that as long as there is a pathway, it
4 doesn't matter if the reference teaches that the fluid flows in one direction or
5 the other. Is that correct?

6 MR. HICKEY: That's correct for claims 1 and 11. It's not true for
7 claim 19. Claim 19 requires directional fluid flow. Claim 11 does not, and
8 our view is that claim 1 does not, either.

9 Now, we think that claim 1 is still invalid, irrespective, because
10 Nakaya anticipates and shows that directional fluid flow, and that Chen --
11 even though Chen describes fluid flow that is going the opposite direction,
12 we think that in combination, if you were talking about claim 1 and you had
13 a construction of claim 1 that required directional fluid flow that Chen
14 couldn't satisfy, then Chen would satisfy that in connection with Deferme,
15 from an obviousness standpoint, and adding that adjustable piston that
16 allows fluid flow to go from the bottom out cup to the compression chamber
17 in the context of the compression stroke, moving forward.

18 JUDGE IPPOLITO: Thank you.

19 MR. HICKEY: So I'd like to move to Nakaya, which -- frankly, we
20 think we could kind of begin and end here. The Board recognized that
21 Nakaya disclosed a damper. That damper has a cylindrical body, light
22 green, shown here. There's a piston that's shown in gold. A compression
23 portion, shown in red. Rebound portion, shown in dark green. That's on
24 slide 30.

1 And slide 31 says that the damper uses air as a working fluid that
2 produces damping. Here's the thing. Patent Owner's expert admitted that
3 Nakaya was a damper, and tries to then, you know, explain away what
4 Nakaya expressly says about fluid flow with, really, some conclusory
5 statements, and no real contradictory evidence.

6 Here, in referencing Figure 20 of Nakaya, and talking about what
7 happens during the compression stroke of Nakaya, Dr. Slocum says, this
8 damper. He's talking about Nakaya. He's not talking about something else.
9 He's expressly calling Nakaya a damper. If we look at slide 33, here's Patent
10 Owner's Response at page 15, that Nakaya has damping, due to the use of
11 metered orifices for airflow.

12 Slide 34. Nakaya's a damper. They admit that if there was zero
13 damping, you couldn't walk, because the prosthetic would act as an
14 oscillator, that -- now, they try to minimize it. They try to say, oh, the
15 damping level's only a couple of percent at most. They say, i.e., just enough
16 so that you don't oscillate your leg. Well, that's the whole point of damping.
17 Damping is to dissipate energy to reduce oscillations.

18 And the fact that Nakaya has a spring -- springs and dampers, in
19 connection with shock absorbers, occur all the time. And so it has -- Nakaya
20 has a spring. It has a damper. That damper is critical to making sure that the
21 prosthetic works.

22 The fact that it's for a prosthetic limb -- you know, if the patent owner
23 had decided that they wanted to make this just for bicycles, or just for
24 motorcycles, they could have done so. They did not. They had the
25 opportunity, they could've done it as part of this IPR, to amend their claims.

1 They didn't do so. They kept it broad. And so Nakaya is a shock absorber
2 with a damper, in the same way that you see, you know, many other shock
3 absorbers for dampers that are outside the bicycle and vehicle space.

4 If we look at Dr. Wang, slide 35, he indicated that a POSITA would
5 understand from a visual inspection that Nakaya is a damper, that it provides
6 damping. And he doesn't use that word, damper, but he agrees that it's a
7 damper. Slide 36, the working fluid, air, is forced through the restrictive
8 components, and that is what is creating the damping.

9 Slide 37, Patent Owner's expert admits that there are no specific
10 amounts of damping that are required by the claims. He didn't attempt to
11 quantify that in Nakaya. The claims only require the damper to use fluid. It
12 could be air or oil. Patent Owner -- ultimately, their expert admitted that air-
13 based dampers existed. And so that's just, at that large level, that's one of the
14 principal things that you'll hear Patent Owner say, is that Nakaya's not a
15 damper. It is. It is. There's no question. Their expert admitted it.

16 Turning to slide 38, the Board recognized that Nakaya has a bottom
17 out cup and a piston. It has multiple fluid channels. Slide 39. Those are
18 shown in detail in the petition for the first embodiment and in slide 40 for
19 the fourth embodiment, showing the bottom out cup and the fluid flow paths.

20 Slide 41. The Board recognized the damper chamber of Nakaya, the
21 adjustable fluid flow path. Again, the point that they said that was so
22 different from the prior art, when they filed the patent, was this adjustability.
23 It's clearly shown here. There's no question about that.

24 Now, on slide 42, this is important. And I'm going into my reserved
25 rebuttal time, but I want to get through this. In Nakaya, the question was

1 whether, you know -- where was the air moving? And Nakaya expressly
2 talks about the fact that there are these increases in pressure, and in one
3 chamber versus another.

4 And so what happens when air increases in pressure at a faster rate
5 than the air in the compression portion? That air is naturally physically
6 going to move from the bottom out cup to the compression portion.

7 Now, Dr. Slocum -- I encourage you to look at Dr. Slocum's
8 Declaration at paragraphs 63 to 71. It's repeated in Patent Owner's Response
9 at Pages 27 to 31. Look at that Declaration. There's not a single reference to
10 the '223 patent itself. There's some annotated figures, but it's all Dr. Slocum,
11 you know, explaining what he thinks is happening in Nakaya. But he's
12 ignoring the language that expressly says what's happening in Nakaya.

13 In contrast, look at Dr. Wang's Declaration, his first Declaration,
14 Exhibit 1002, at paragraphs 56 to 57, and his second declaration, Exhibit
15 1019, at paragraphs 32 to 34. He has a reasoned, thoughtful discussion
16 about what Nakaya actually says. What it actually says, not speculation, not
17 conclusory testimony about what Dr. Slocum thinks is happening.

18 We talked about this before, Judge Ippolito, in terms of claim 13.
19 This is this issue about whether claim 13 is showing, you know, a second
20 path, the same path. I think we kind of went through that before. What I
21 would point to, past slide 43, on slide 44, is, you know, very specifically that
22 Patent Owner accused the very same structure of infringing claims 1 and 13
23 and relied on the same path in claims 1 and 13.

24 And then on slide 45, Dr. Slocum accused the same path of infringing
25 claims 1 and 13 in his expert report, and said it was the same fluid flow path.

1 Again, I note that the patent owner knows how to use the word second.
2 Claim 9 refers to a second fluid flow path. Claim 16, which is dependent on
3 claim 13, refers to a second fluid flow path. If they wanted to refer to a
4 second fluid flow path, they knew how to do it, and they should be held to
5 that.

6 But in any event, if you were to find that claim 13, even though it
7 adds the additional limitation of having a capacity that was adjustable, the
8 fourth embodiment of Nakaya shows two fluid flow paths. And those paths
9 can cross or share a portion, and remain two distinct paths.

10 Then I'd just briefly like to talk about our other grounds, because
11 again, I think that Nakaya is dispositive of all the claims, and look at Chen,
12 and Chen in view of Deferme, Kodama, as well as in combination of, you
13 know, Fox '751, you know, for these other claims.

14 You know, as the Board is aware, if we look to slide -- let's see.
15 We're on slide 51. Chen discloses a conventional suspension damper. It's
16 got a piston that divides that compression portion into -- divides into a
17 compression portion and a rebound portion. It has a bottom out cup, as
18 shown on slide 52. It has multiple fluid flow channels, on slide 53.

19 And I discussed this before, Judge Ippolito. Again, our view is that
20 claims 1 and 11 don't have a directional fluid limitation, that only 19 does.
21 And Chen -- if there's no directional fluid flow, it anticipates 11 and 1.

22 And if you find that there's a directional limitation, and we think, as
23 shown on slide 54, that Chen -- a POSITA would've been motivated to
24 modify Chen to have Deferme's means for adjusting the flow of fluid,
25 because it would've created a more versatile device. It would've given a

1 range of damping and spring values. And it would've been very easy to
2 combine, just structurally. On slide 55, you can see, you know, the
3 orientation of Deferme could've replaced what was kind of the standard
4 piston of Chen.

5 And that -- there's an argument by Patent Owner that we didn't set
6 forth what that motivation to combine was with Deferme. In fact, at Dr.
7 Wang's -- in his declaration, he sets forth the motivation to combine at
8 paragraphs 79 to 80. So we think that that is shown. And that structure, you
9 know, would have been the same, then, as what's in the '223embodiment.

10 If we look at slide 57, this is just to say, okay, you know, let's accept
11 Patent's Owner's argument for a second that Chen isn't a damper. Well,
12 combine it with Fox '751. It's the exact same damper architecture as the
13 '223patent. It was known. It didn't teach bottom out functionality.

14 Patent Owner already admits that bottom out condition was a problem
15 that was known. And Chen teaches a POSITA how to make a bottom out
16 cup, a bottom out piston, and a related adjustable fluid flow path, and a
17 blowoff valve. The fact --

18 JUDGE IPPOLITO: Counsel?

19 MR. HICKEY: Yes.

20 JUDGE IPPOLITO: Can I just stop you there really quickly?

21 MR. HICKEY: Yes.

22 JUDGE IPPOLITO: I'm trying to get a clear handle on how you
23 structure these grounds. And I apologize if I'm taking a step back here. So
24 when we look at this ground -- so we talked about Ground 2. You know,
25 you mentioned that --

1 MR. HICKEY: Yeah.

2 JUDGE IPPOLITO: -- you have a 103 for Chen combined with the
3 Deferme. And Ground 3, I don't see that. I see Fox with Chen. Am I
4 correct about that?

5 MR. HICKEY: Yes, that's correct. That's correct.

6 JUDGE IPPOLITO: Okay.

7 MR. HICKEY: So it's Fox, in view of Chen.

8 JUDGE IPPOLITO: And you're relying upon -- and you're relying
9 upon Chen for the bottom out cup features?

10 MR. HICKEY: Correct.

11 JUDGE IPPOLITO: All right. So without Deferme, then the flow
12 path in Chen still stands as it does in the direction that it's disclosed in Chen.
13 Is that correct?

14 MR. HICKEY: That is correct. But I believe --

15 JUDGE IPPOLITO: And that applies to, then, claim 19, as well,
16 which, I think we're all in agreement, requires a specific direction.

17 MR. HICKEY: That is correct. And I believe --

18 JUDGE IPPOLITO: We don't have Deferme in this challenge.

19 MR. HICKEY: That is correct.

20 JUDGE IPPOLITO: Okay. Just to make sure I'm clear. And Ground
21 -- and the next one, we do have, let's see, Fox, Chen, Nakaya or Kodama, for
22 claims 5 through 9. But again, we do not have Deferme in this one, as well.

23 MR. HICKEY: That is correct. And I should say that Kodama is kind
24 of an alternative to -- Kodama is an alternate to Deferme. It also has an
25 adjustable path system that would allow that flow to be adjusted.

1 JUDGE IPPOLITO: Thank you. I just wanted to make sure I
2 understood how it was structured.

3 MR. HICKEY: Yes. Yes. And I should be clear that I believe that
4 Kodama is also -- I'm paging through -- yes.

5 JUDGE IPPOLITO: There are specific places where Kodama comes
6 in.

7 MR. HICKEY: Correct.

8 JUDGE IPPOLITO: You know, in --

9 MR. HICKEY: Like dependent claim 4.

10 JUDGE IPPOLITO: But it's not -- exactly.

11 MR. HICKEY: Yes.

12 JUDGE IPPOLITO: But I did not read your Petition to say that
13 Kodama applied in combination as a whole to every single claim.

14 MR. HICKEY: Correct. It --

15 JUDGE IPPOLITO: It wasn't how I read your Petition.

16 MR. HICKEY: No. It was in limited use for very specific claims.
17 Okay.

18 JUDGE IPPOLITO: Thank you for clarifying that.

19 MR. HICKEY: Thank you. So lastly, Gartner, claim 5, to your point,
20 a combination with Kodama for claim 4 only. But we believe that Gartner is
21 anticipatory of claims 1 through 5, 19 and claim 9. That's slide 59.

22 Structurally similar, the biggest difference is, for Gartner, what you have is
23 you essentially have kind of almost like a kind of a two-piston form.

24 You have, on slide 61, piston 22, shown in gold, that divides the
25 damper into compression and rebound chambers. And then what happens is

1 that Gartner -- there's this secondary piston that is sitting in the bottom out
2 cup, which is shown in pink, and the piston will press down. It's not
3 attached. It's not formed on the moveable rod, as shown on claim 63. But
4 that's not a requirement of claims 1 and 19. It is something that's recited in
5 unchallenged claim 17.

6 And so, you know, our view is that that -- Gartner clearly shows that
7 during a compression stroke, that fluid flows from the bottom out cup to the
8 compression portion. It shows it even with black arrows, as if they were
9 thinking that this was going to be something that needed to be shown in the
10 future.

11 And so we believe that Gartner's anticipatory on those grounds. And
12 it provides a substantial increase to damping. And you know, even if you
13 had it near the end of the compression stroke, if that limitation were added,
14 you know, with respect to the claim construction, even if it was only, it does
15 in fact happen in Gartner. So we think that slide 65 -- that compression
16 region for Gartner's bottom out cup is the same as what's shown in the
17 '223patent.

18 So with that, slide 68, we respectfully request that the Board issue a
19 final written decision confirming the unpatentability of claims 1 through 9,
20 11 through 15, and claim 19 of the '223patent. Thank you, Your Honors.

21 JUDGE IPPOLITO: Thank you. And we'll say you have seven
22 minutes.

23 MR. HICKEY: Thank you.

24 JUDGE IPPOLITO: If you were planning to continue at that point.

25 MR. HICKEY: Hopefully it works better for you.

1 DR. BHATTACHARYYA: So true. Thank you.

2 MR. HICKEY: And here --

3 DR. BHATTACHARYYA: I'm not sure if I need the --

4 MR. HICKEY: Do you want the -- you don't want the clicker?

5 DR. BHATTACHARYYA: Probably not. Let me try --

6 MR. HICKEY: Okay. Okay.

7 DR. BHATTACHARYYA: Let me just try this, and I'll --

8 JUDGE IPPOLITO: And whenever you're ready, you can just let me
9 know how much time you'd like to reserve for surrebuttal. We can set the
10 clock.

11 DR. BHATTACHARYYA: Sure. Okay. I can start now.

12 JUDGE IPPOLITO: Go ahead.

13 DR. BHATTACHARYYA: Arpita Bhattacharyya for Patent Owner
14 FOX Factory. And I would like to reserve five minutes for surrebuttal.
15 Going to slide 2 of Patent Owner's demonstratives, the '223patent is directed
16 to a user-adjustable dampening mechanism. Both the title, the abstract, they
17 highlight that this technology that is disclosed in the '223patent is about the
18 dampening mechanism. And throughout the specification, as well,
19 dampening is underscored as a critical feature of the invention.

20 Slide 3. There are three independent claims in the '223patent, claims
21 1, 11 and 19. And the preambles of each of these independent claims recites
22 a damper. Some of them call for a damper for a shock absorber, and claim
23 11 recites a fluid damper.

24 The preambles' recitation of damper is limiting, because it is serving
25 as an antecedent basis for the elements damper chamber, compression stroke

1 of damper, in the body of the claim. And because it is providing that
2 antecedent basis for elements in the body of the claim, the recitation of
3 damper in the preamble is serving as a structural limitation. It is not a
4 statement of intended use. It is a limitation of the claim.

5 Slide 4. The key features of the '223patent are bottom out cup and
6 adjustable fluid flow paths that work in conjunction with the bottom out cup.
7 Petitioner has said that the novelty of the claims is all about just
8 adjustability. That is not correct. The novelty of the claims is the
9 interaction, the flow arrangements, between the bottom out cup and the flow
10 paths. And the claims very specifically recite specific flow directions, which
11 I will talk about a bit more in the next few slides.

12 So as slide 4 is showing, the bottom out cup, which is a key feature of
13 the '223patent, works in conjunction with the bottom out piston, which is
14 separate from the main piston of the damper. And it is attached to the end of
15 the piston shaft. And towards the end of a compression stroke, when the
16 bottom out piston engages the bottom out cup, dampening is increased,
17 because the piston shaft can now only progress further if the liquid, the fluid
18 -- damping fluid, in this case -- is forced out of the bottom out cup through
19 one of the two paths.

20 The '223patent describes two separate flow paths out of the bottom
21 out cup, into the compression chamber. The first flow path is the 301, and it
22 has a blowoff valve, which is essentially a pressure relief valve. If the
23 pressure in the bottom out cup reaches a certain preset threshold, then to
24 relieve that pressure, the blowoff valve will just be cracked open, and fluid
25 will rush from the bottom out cup into the compression chamber.

1 But in normal operation, the fluid from the bottom out cup will flow
2 from the bottom out cup to the compression portion of the damper chamber
3 through the other flow path, which has a user-adjustable metering valve.
4 And by adjusting the metering valve, you can adjust the capacity of fluid
5 flow. That is the amount of fluid that flows out from the bottom out cup to
6 the compression chamber. And by doing that, you can adjust the dampening
7 rate.

8 Slide 5. Slide 5 shows each of the three independent claims, 1, 11 and
9 19. And as is shown here with the highlights, each of the independent
10 claims recites a bottom out cup, and the independent claims also recite the
11 flow arrangement that I described earlier. It's a very specific flow path that
12 is described, which is the novelty of the claims, the specificity of this flow
13 arrangement.

14 I'm going to slide 6. The '223patent teaches fluid flow from the
15 bottom out cup to the compression chamber. This is very specifically and in
16 detail described in the '223patent. Both the flow paths are described in the
17 patent, the path with the blowoff valve, 300, and the other path, with the
18 metering valve 350. Fluid is flowing from the bottom out cup to the
19 compression portion of the damper chamber.

20 In the passage that is highlighted on slide 6 -- it is in column 5, lines 6
21 to 21 -- the '223patent states that in operation, the blowoff valve 300 and the
22 user-adjustable metering valve 350, operate independently of each other, but
23 each is designed to permit fluid to pass from the bottom out cup 275, to the
24 compression portion 222, of the chamber 220, in order to lessen the increase
25 in dampening effect.

1 And it goes on to say that this happens when the bottom out piston
2 250, engages the bottom out cup. That is during a compression stroke. The
3 '223patent specification could not be clearer about the direction of fluid
4 flow. It is from the bottom out cup to the compression portion of the damper
5 chamber.

6 Slides 7 and the next slide, slide 8, provides an agenda for our
7 discussion today, but it is also identifying the key points, why the Petition
8 has not shown unpatentability of the challenged claims. I won't read this,
9 slide 7 and 8 out, but it is here for reference.

10 JUDGE IPPOLITO: Counsel, can I just stop you there? So from this,
11 and from my understanding of what you've provided in the Patent Owner
12 Response and the Sur-reply, you don't actually propose a claim construction
13 for damper. Is that correct?

14 There's a discussion about that in the substantive arguments for
15 Nakaya, for example, about the actual challenge of anticipation or
16 obviousness. But in the claim construction, you didn't include a construction
17 for damper, or what it means to be a damper.

18 DR. BHATTACHARYYA: Your Honor, we believe damper should
19 get its plain and ordinary meaning, which means that it is damping
20 significant amounts of energy. That's what a damper does. And a person
21 skilled in the art would understand, just from the word damper, that it is
22 damping energy, which is the intended function of a damper. And it is
23 damping large amounts of energy to cushion impact from a shock. So we --

24 JUDGE IPPOLITO: Okay. So, for damper, there isn't -- for example,
25 I think, for bottom out cup, you said it was a term of art that doesn't have a

1 plain and ordinary meaning, but for damper, there is a plain and ordinary
2 meaning, and there's no term of art?

3 DR. BHATTACHARYYA: We do not believe a damper has a very
4 specific term of art. The dampers appear in many different technologies,
5 and a person skilled in the art will automatically understand what a damper
6 means and what the function of a damper is. Bottom out cup is more
7 specific to the type of shock absorbers in the vehicle suspension system that
8 is described in the '223 patent.

9 JUDGE IPPOLITO: Okay. So, you just said that damper is a feature
10 that would be understood across technologies. So why is it that Nakaya can't
11 disclose a damper?

12 DR. BHATTACHARYYA: Your Honor, so Nakaya is essentially a
13 bidirectional spring, and I can go into Nakaya and actually show -- if I may
14 turn on the ELMO?

15 JUDGE IPPOLITO: And the reason why I ask this is because I
16 understand your position regarding Nakaya, at least in this issue, to hinge on
17 what you believe damper means.

18 But a claim construction was not provided, and what you're asking us
19 to do is apply the plain ordinary meaning. And somewhere in that, you've
20 drawn a line from what a damper is and isn't, even though you just agreed
21 that damper can apply to multiple industries, across industries. I'm just
22 trying to understand, where is that distinction for you?

23 DR. BHATTACHARYYA: The distinction is that no matter in what
24 technology a damper is applied, across technologies, the purpose of a
25 damper is to dampen significant amounts of energy.

1 So, in the case of Nakaya, as Dr. Slocum has testified, yes, because of
2 the presence of the throttle valves, small amount of energy will be lost, will
3 be dissipated by the throttle valves. And he has testified that that would be
4 about just a few percents of the total energy, whereas a damper --

5 JUDGE IPPOLITO: When you said -- I'm sorry. I'm going to stop
6 you there, because I want to make sure I understand. You said significant
7 amount of damping. What is that -- what does that mean? Where is the line
8 for when something becomes a damper or doesn't damp, even if there is
9 some damping that happens?

10 DR. BHATTACHARYYA: So according to -- as Dr. Slocum has
11 testified, a damper will dampen tens of percentage of the energy. So tens of
12 percentage could be, like, 40, 50 percent, or even more, depending on how
13 efficient of a damper it is.

14 The reason that it's hard to draw a very fine line is that it depends on
15 the efficiency of the damper, it depends on the geometries, it depends on the
16 fluid that is being used. If oil is used as the damping fluid, you can have a
17 smaller damper.

18 Yes, there can be air dampers, but it is not volumetrically efficient, as
19 Dr. Slocum has testified. You will need a large volume of air to create the
20 same amount of damping. And that's why it is hard to say, okay, at 70
21 percent or -- where would you draw the line?

22 But the idea that the person skilled in the art would understand is that
23 every machine, every machine will lose some energy, because there's
24 nothing like a perpetual motion machine. Dr. Slocum has testified that

1 under the second law of thermodynamics, every device, including Nakaya,
2 will lose a few percentages of the energy.

3 But that does not mean that every machine is now a damper. A
4 person skilled in the art would understand that a damper is designed to
5 dampen large amounts of energy, and that could be 40 percent, 50 percent,
6 60 percent, depending on the geometry and the fluid used.

7 And again, throughout a ride, for instance, as the damping fluid heats
8 up, the amount of damping will decrease. So it could start out giving 80
9 percent damping, and as you're continuing to use it, and the fluid heats up
10 and it becomes less viscous, now the damping could decrease to 60 percent.

11 So it varies, and that's why he was hesitant to draw a line, because it
12 just varies from device to device and during the course of a device's use.
13 But the difference is, in Nakaya, it would be just a few percents, whereas, in
14 a damper, it is, like, tens of percents. And that's the distinction.

15 JUDGE IPPOLITO: And that is using the plain and ordinary meaning
16 of damper?

17 DR. BHATTACHARYYA: That's a plain and ordinary meaning of
18 damper. It's applicable across all industries. That's why we haven't
19 proposed a claim construction for damper. But it is just -- it's understood.
20 And Your Honor, Nakaya nowhere says that it is a damper, whereas it does
21 say it is a spring.

22 And I was going to use the ELMO, but I'm not sure if I can do that.
23 But I will try. I want to point Your Honor to the background of Nakaya. It
24 is at around lines 28 to 30, in column 1. Nakaya very specifically says that,
25 with respect to an air cylinder, which is what Nakaya uses, that with the use

1 of air cylinder, there can be obtained a repulsive energy after the knee is bent
2 to the maximum extent by the compressed energy generated by the
3 compression of air.

4 It specifically refers to compressed energy and repulsive energy. This
5 compressed energy is obtained by the compression of the air, and so now the
6 compressed air acts like an air spring. So you wouldn't have compressed
7 energy, and you wouldn't have the repulsive energy to push the knee back
8 up, the prosthetic leg up, if the energy's dampened.

9 As Dr. Slocum has testified, I mean, if Nakaya, or any prosthetic leg,
10 was dampening significant amounts of energy, that would be the amputee's
11 energy being wasted. It would be like walking in sand, in loose sand,
12 because you need that energy to be recovered and used later, back in the gait
13 cycle.

14 So Nakaya cannot be working as a damper. If it did, the whole
15 prosthetic limb system would not be -- would not work. Yes, because of the
16 presence of the throttle valves, a few percentage of energy will be lost, and
17 that prevents the leg from oscillating. But it is not essentially a damper.
18 Judge Ippolito, does that answer your question about the meaning of
19 damper?

20 JUDGE IPPOLITO: I understand your position. Thank you.

21 DR. BHATTACHARYYA: Now, going back to the claim
22 constructions, I'm on slide 10 now. Patent Owner has asked for a
23 construction of the bottom out cup. And Judge Saindon had earlier asked --
24 yes, this construction is just largely with respect to the Gartner ground,
25 which is the Ground 5.

1 And as Dr. Slocum has testified, with all of the other references,
2 there's at least some structure that looks like a bottom out cup, but with
3 Gartner, there is -- it doesn't even look like a bottom out cup, and that's why
4 he has argued that Gartner doesn't have a bottom out cup. And I'll get to that
5 in a little bit. But the Board had preliminarily construed bottom out cup as a
6 cup-shaped feature, configured for providing damping.

7 Now, Patent Owner agrees that the Board's construction of bottom out
8 cup may be sufficient to resolve the disputes in this IPR, but asks that the
9 construction be clarified to state that the bottom out cup provides damping
10 only at the end portion of a compression stroke.

11 And the reason Patent Owner has asked for the clarification only at
12 the end portion of the compression stroke is because, to distinguish the
13 bottom out cup from a damper chamber with the compression portion,
14 because a damper chamber by itself is also a cup-shaped feature that
15 provides dampening. But it is providing dampening throughout the
16 compression stroke, whereas a bottom out cup will provide dampening only
17 at the end portion of a compression stroke. And --

18 JUDGE IPPOLITO: Counsel, can I ask you to look at claim 1 and
19 also claim 17? And I understand claim 17 hasn't been challenged. But I do
20 want to look at the language of the claim in contrast, because it has come up
21 in the briefs.

22 So when I look at claim 1, just as an illustrative claim for the
23 challenged claim, the bottom out cup here doesn't have that language you've
24 added in for near the end of a compression stroke. We've talked about that

1 in the DI. Nor does it have the specific only near the end of a compression
2 stroke. So there isn't any language in there about that.

3 What we do have in claim 1 is this language for the fluid flow path
4 that does talk about the compression stroke, and it says, during a
5 compression stroke of the damper. But I want to look at that, and I also
6 want to look at claim 17, where we do have with respect to the second
7 piston,, at an end of a compression stroke of the shock absorber.

8 There isn't the only. But we do at least have here, at an end of a
9 compression stroke. So at least, you know, between claim 1 and 17, and
10 even within claim 17, we have the language for the blowoff valve, during the
11 compression stroke.

12 So what I'm trying to understand is, if we build this into the bottom
13 out cup, which does not expressly contain that language, how is that
14 consistent with the fact that there is language about the compression stroke
15 in your other claims that indicates there is a difference between the end or
16 during?

17 And in claim 1, we do have during a compression stroke. But we
18 don't have the end of the compression stroke. So help me try to figure out
19 how that's consistent with your argument.

20 DR. BHATTACHARYYA: So claim 1, when it uses the language,
21 during a compression stroke, it is talking about the flow paths. But if you
22 think about, what is a bottom out cup, the bottom out cup, as it is sitting
23 there, is just a cup with a volume of liquid in it. It becomes active only
24 when the bottom out piston enters and engages it. And that's when the
25 bottom out cup is providing dampening.

1 So that's why we have asked the bottom out cup be construed to
2 reflect that it is providing dampening only at the end portion of a
3 compression stroke. So it's the point about providing damping. It's not just
4 about liquid flowing through. It's not going to provide dampening unless the
5 piston engages it, which will only happen at the end of the compression
6 stroke when that piston enters the bottom out cup. And as we have shown
7 on slide 11, both parties' experts agreed that the bottom out cup is active,
8 only at the end portion of the compression stroke.

9 So the difference here is not just the flow paths that are existent
10 throughout a compression stroke. We are talking about, when does the
11 bottom out cup actually become active and provide dampening? So the
12 focus is on providing dampening only at the end portion of a compression
13 stroke. And the reason is to distinguish it from a damper chamber, which is
14 a cup-shaped device, and provides dampening throughout the compression
15 stroke, if that makes sense.

16 JUDGE IPPOLITO: Well, look at claim 17, then. This language is, a
17 second piston, formed at an end of a shaft or moving into standing
18 engagement with a bottom out cup at an end of a compression stroke of the
19 shock absorber. That language is there. But it is not in claim 1. So, in
20 claim 17, is that redundant? Does it also recite the bottom out cup?

21 DR. BHATTACHARYYA: Yeah, it does. And in claim 17, you get -
22 - it's providing more specificity. It's explaining in more detail what I would
23 say is the plain -- it's how a POSITA would understand a bottom out cup,
24 that a bottom out cup does become active when the piston enters it, which
25 would happen at the end of the stroke.

1 JUDGE IPPOLITO: Okay. Thank you.

2 DR. BHATTACHARYYA: And as I was saying, as slide 11,
3 Petitioner's expert, Mr. Wesling, agreed during his deposition that the
4 bottom out cup provides dampening at the end of the compression stroke, at
5 some point when you're almost fully compressed.

6 Petitioner's other expert, Dr. Wang, also testified that the bottom out
7 cup -- bottom out cups in general are activated towards the end of the
8 compression stroke, so that the damping is near the bottom out event. So
9 he's talking about activating the bottom out cup, which is what we are trying
10 to capture through the claim construction, the essence of what a bottom out
11 cup is. And Dr. Wang goes on to testify --

12 JUDGE IPPOLITO: Let me just stop you there. In claim 17, because
13 we have a bottom out cup, does that also mean that only near the -- only near
14 the end, at the end of a compression stroke? So even though it doesn't say
15 only near, in claim 17, you're adding that to all instances where we have
16 bottom out cup?

17 DR. BHATTACHARYYA: So we are talking about providing
18 dampening only at the end portion of the compression stroke. The bottom
19 out cup provides dampening only at the end portion of the compression
20 stroke, because that's when the bottom out cup becomes active.

21 And the claim 17 is talking about the piston entering the bottom out
22 cup at the end of the stroke. So, it's not exactly talking about providing
23 dampening. But it is a -- yes, at the end of the stroke, that's when the piston
24 will enter the bottom out cup.

1 But when we're talking about providing dampening, Patent Owner
2 believes it's correct to add the word dampening there, because the
3 dampening will only happen at the end of the stroke, when the piston enters.
4 Does that make --

5 JUDGE IPPOLITO: Thank you.

6 DR. BHATTACHARYYA: And just going back to the testimony of
7 Petitioner's expert, Dr. Wang, he further testifies that towards the end of the
8 compression stroke, the bottom out cup becomes active. And they have
9 included adjustable damping into the bottom out cup, which is active at the
10 end of the compression stroke, near the bottom out event.

11 So that's the main point of the definition of bottom out cup, is, when
12 does it actually become a bottom out cup? Otherwise, it's just sitting there
13 as a cup with fluid in it. It becomes active and functions as a bottom out cup
14 when the piston enters it.

15 JUDGE SAINDON: Counsel, if I could jump in here? This is Judge
16 Saindon. I can see your point about, the bottom out cup, its primary function
17 is to operate when the device is bottoming out. The issue I'm having is,
18 "only." This means never otherwise. And maybe 90 percent of the benefit
19 is when the piston is in the cup, because then it forces that one
20 communication path to be more active.

21 But I'm struggling to see how it precludes any other sort of dampening
22 at every other time. I'm struggling to see where that's coming out of the --
23 what you're pointing to. So, could you help me go from, okay, it generally is
24 going to only operate when you're bottoming out, to it only provides
25 dampening when you're bottoming out?

1 DR. BHATTACHARYYA: The point that we are trying to make is
2 that throughout the regular active cycle, fluid is going to just pass through
3 the open bore. It's not really providing the dampening effect until -- the
4 bottom out cup isn't, until the bottom out piston engages it.

5 That's when you get the real dampening effect, is when the bottom out
6 piston engages it, and is now pushing down on the liquid and forcing out of
7 one of the two paths. That's what we're trying to capture.

8 But even if we don't have the word only in there, I think Gartner can
9 still be distinguished, because Gartner doesn't have a bottom out cup. So I
10 understand, Your Honor, you are struggling with the word only, but even if
11 you strike the word only, it says it provides dampening at the end of the
12 stroke. Gartner does not disclose that, and maybe that's enough to resolve
13 the dispute here.

14 JUDGE SAINDON: Okay. And maybe when you get to Gartner, we
15 can go through that in detail.

16 DR. BHATTACHARYYA: Yes. Yes, Your Honor. Now, moving to
17 slide 12, the other term that Patent Owner is requesting construction on is
18 fluid flow from the cup to the compression portion of the chamber, which is
19 in claim 1. Patent Owner's position is that the from-to, from and to,
20 language in claim 1 provides directionality of fluid flow.

21 As Patent Owner's expert Dr. Slocum has testified, if there is fluid
22 flow in only the opposite direction, that is from the compression portion of
23 the chamber to the cup, and there is no fluid flow the other way, then there is
24 no fluid communication from the cup to the compression portion of the
25 chamber, as required by claim 1. And Schrantz's interpretation that this

1 limitation has no directionality, essentially reads the words from and to out
2 of the claim, and inserts the word between, which is actually the word that is
3 in claim 11.

4 Patent Owner agrees that claim 11 does not recite the direction of
5 fluid flow, because it specifically uses the word between. But claim 1 has
6 the words to and from in it, and those words, to and from, should be given
7 meaning. Otherwise, that claim language would just be rendered
8 meaningless.

9 Petitioner has also argued that the language, fluid communication
10 from the cup to the compression portion of the chamber, should just be
11 interpreted as a fluid flow. But if you look at -- the fluid flow path just as a
12 flow path with no directionality of fluid flow. But if we look at claim 1, it
13 already recites a fluid flow path from the bottom out cup. A fluid flow path
14 is already recited in there.

15 And then it goes on to say, for providing fluid communication from
16 the cup to the compression portion of the chamber. So it's specifically
17 requiring fluid to flow through that fluid flow path from the bottom out cup
18 to the compression portion of the chamber. And we are asking that that
19 language be given its meaning. Otherwise, the claim would be rendered
20 nonsensical, if we insert another fluid flow path word in there.

21 And as I discussed earlier, this is fully supported by the specification.
22 The specification throughout is talking about fluid flow from the cup to the
23 compression portion of the chamber, through the two flow paths 301 and
24 302.

1 JUDGE SAINDON: Counsel, if I could jump in? So, let's say I agree
2 with you that there has to be a capability for it to flow from one to the other.
3 I believe I heard from Petitioner that at least at some portions of the stroke, it
4 does flow in that direction. I believe it was Nakaya. But I don't know if you
5 wanted to respond to that?

6 DR. BHATTACHARYYA: Absolutely, Your Honor. Patent Owner
7 does not agree, because the claim requires that fluid flow, fluid flow from
8 the bottom out cup to the compression portion, to happen during a
9 compression stroke. That is recited in each of the three independent claims.
10 During a compression stroke.

11 And during a compression stroke, when this large piston is pushing
12 down on the fluid, fluid will flow from the compression portion of the
13 chamber to the bottom out cup. It's not going to flow the other way around.

14 Petitioner is conflating compression and rebound. And when it is
15 saying that during some portions, fluid will flow in the other way, they are
16 talking about rebound. Yes, in the rebound cycle, fluid could go in the --
17 will go in the other direction. But the claim requires fluid flow from the
18 bottom out cup to the compression portion during a compression cycle, and
19 neither Nakaya nor Chen discloses that.

20 JUDGE SAINDON: Okay, so just, again, to make sure I understand, I
21 thought I heard that at some portion of the stroke -- and I can't remember if it
22 was Nakaya or Chen -- that the claimed fluid flow would occur -- or at least,
23 what you're saying the claim requires, that there's a directionality -- then
24 once the piston gets into the cup, then the fluid goes not in the claimed
25 direction. I believe that's the case in Chen for sure.

1 My computer crashed, so I'm trying to get it back up. I think Nakaya
2 had a similar flow path. But anyway, so there could be a difference in the
3 compression stroke from before the cup is engaged with the piston, and
4 when it's higher up, and then when it actually enters the cup. Those could be
5 two different fluid flows.

6 DR. BHATTACHARYYA: But in the entire compression cycle,
7 Your Honor, fluid is going -- in Nakaya and in Chen, fluid is going from the
8 compression portion of the chamber to the bottom out cup, through the entire
9 compression cycle.

10 JUDGE SAINDON: Does not change.

11 DR. BHATTACHARYYA: That does not change.

12 JUDGE SAINDON: Okay.

13 DR. BHATTACHARYYA: It's only in rebound that fluid can go in
14 the opposite direction.

15 JUDGE SAINDON: Okay.

16 DR. BHATTACHARYYA: So moving to the Nakaya ground, I am
17 on slide 14 now. I just want to emphasize that Petitioner has alleged
18 anticipation of the independent claims 1, 11 and 19. Petitioner has not
19 asserted obviousness of any of the challenged claims based on Nakaya,
20 except claims 4 and 8. So for the independent claims 1, 11 and 19, it's only
21 an anticipation ground, based on Nakaya.

22 And Nakaya does not anticipate, because, first of all, we already
23 talked about, Nakaya does not disclose the damper limitation, which is in
24 each of the independent claims. Nakaya also does not disclose fluid flow
25 from a bottom out cup to a compression chamber, which is required by

1 claims 1 and 19, and lastly, Nakaya does not disclose a second fluid flow
2 path between the bottom out cup and the compression chamber, which was
3 required by claim 15.

4 So going to slide 15, as we talked earlier, Nakaya is directed to a
5 prosthetic device, and it is essentially an energy storage and recovery system
6 that aids in the forward motion of a prosthetic leg. That is, to propel
7 walking. Nowhere does Nakaya itself mention that Nakaya is a damper.

8 So, Petitioner has asserted an anticipation ground for the independent
9 claims. But Nakaya itself nowhere says that it is a damper. And as I
10 showed earlier, using the ELMO, in column 1, lines 20 to 30, Nakaya is
11 talking about compressed energy, repulsive energy, which indicates that
12 Nakaya is a spring.

13 And that is what Dr. Slocum, who is Patent Owner's expert, has
14 consistently and repeatedly testified, that Nakaya is essentially a spring, and
15 provides very minimal amount of damping, just a few percentages, because
16 of the use of the throttle valves. And that is common with any machine.
17 Any machine will lose some amounts of energy under the second law of
18 thermodynamics.

19 Going to slide 16, Petitioner has argued that Dr. Slocum, Patent
20 Owner's expert, has admitted Nakaya is a damper. That is incorrect. He has
21 given pages of deposition testimony, and a very detailed expert report. It's
22 in paragraphs 55 to 62 of his Declaration, in which it's explained at length
23 that a person skilled in the art would understand Nakaya to be a spring and
24 not a damper. He has consistently testified that Nakaya is not a damper.

1 Now, Petitioner has pointed to one snippet of a testimony where this
2 damper word appears, and is saying that, oh, Dr. Slocum admits Nakaya is a
3 damper. That could very well have been a transcription error. The PTAB
4 doesn't allow errata, so we couldn't correct that. But one little transcription
5 error cannot undo pages of deposition testimony in which Dr. Slocum has
6 consistently testified, Nakaya is not a damper. And he has done that in his
7 Declaration, as well.

8 I mean, Dr. Slocum has testified at length that, unlike Nakaya's part
9 does, a damper is not intended to propel a vehicle. It is intended to cushion
10 hard landings and bumps by dissipating energy. And this is in his
11 paragraphs 55 and 56.

12 He has also testified, in paragraph 59 of his declaration Exhibit 2010,
13 that if Nakaya was a damper, then the user would strain to walk, as it would
14 feel like walking or running in loose sand, which would defeat the purpose
15 of the Nakaya, which is designed to help the wearer of the prosthetic limb to
16 walk with the feeling of natural walking without a sense of incompatibility.

17 Moving to slide 17, Nakaya also does not anticipate, because it does
18 not disclose the fluid flow from bottom out cup to compression chamber, as
19 required by claims 1 and 19. So in Nakaya, air is flowing from the
20 compression chamber 821, to the chamber 822. So as slide 17 shows,
21 Nakaya essentially has two chambers, a rebound chamber 821, and a
22 compression chamber 822.

23 So during the early stage of compression, when the piston projection
24 1140, which is the alleged bottom out piston, is not engaged with the holes
25 1125 and 1127, as the piston is moving down, it's a large piston, it is

1 compressing air, and so the air will flow through the open bore into the
2 alleged bottom out cup, and out through the channel 102, back into the
3 rebound chamber, which is what is shown here.

4 And some very little amounts of air will flow through the throttle
5 passage 803. But air is going to follow the path of least resistance, so it is
6 going to flow from the compression chamber into the alleged bottom out
7 cup, out through the passage 102, into the rebound chamber.

8 Now, when the piston, the piston projection 1140, enters the alleged
9 bottom out cup, and basically seals it, now, the large piston 113, is still
10 coming down through the compression stroke. Right? It's still coming
11 down. It's a large piston. It is compressing air. Air now has nowhere else to
12 go. It's a highly compressed state. Air has nowhere else to go. It will go
13 through the throttle passage 803, into the alleged bottom out cup, out
14 through the passage 102, which has throttle valve 140, into the rebound
15 chamber.

16 So through all this entire compression cycle, as this piston is coming
17 down, it's creating pressure. Air will flow from the compression portion of
18 the chamber into the bottom out cup, and back into the rebound chamber.

19 Now, going to slide 19, Dr. Slocum, he has actually hand-drawn the
20 flow paths here. And this is -- Petitioner has criticized that none of this is
21 taught in Nakaya. It is actually taught. Nakaya actually describes the flow
22 path. Dr. Slocum has hand-drawn the flow paths to further explain what is
23 happening in Nakaya.

24 And if I could, I'm just going to use the ELMO again, here. So figure
25 7 shows the early stage of compression. It's showing the rebound chamber

1 81, and the compression chamber 82. And as I said, during the rebound,
2 during the compression stroke, air will go from the compression chamber
3 into the alleged bottom out cup, through the open bore.

4 There is also an opening through the shaft, and there is an X there,
5 because that flow path is only active during rebound. As you will see, there
6 is a check valve 91, there. That's a one-way check valve. And that becomes
7 active during rebound, and fluid goes through that passage in the opposite
8 direction, into the rebound -- from the rebound chamber into the
9 compression chamber.

10 Figure 8 shows the next stage of compression, where the projection
11 1140B is entering and sealing the alleged bottom out cup. At that point,
12 compression is still happening. And air will go through the throttle passage
13 803, into the bottom out cup, and out through the passage 102, into the
14 rebound chamber.

15 And Figure 9 shows the final stage of compression, where the
16 projection 1140 is at the very end of the alleged bottom out cup. There is no
17 air left in the compression portion of the damper chamber. And the last bit
18 of air in the bottom out cup is pushed back in the rebound chamber.

19 And now the knee is ready to go back up, rebound is happening, and
20 the same thing will happen in the opposite direction. The rebound happens
21 and the flow path is opposite. So, and during the entire compression cycle,
22 fluid is going from the compression portion of the chamber into the bottom
23 out cup, and out into the rebound chamber.

24 And Petitioner has argued that the air will flow into the compression
25 chamber to increase pressure there. That is not correct. That just doesn't

1 make any scientific or engineering sense, because as Petitioner's own expert,
2 Dr. Wang, has testified, the direction of flow depends on the pressure
3 differential. So, fluid will flow from a region of high pressure to a region of
4 low pressure.

5 So as the piston is coming down, it creates compression, it's creating a
6 lot of pressure. Air has nowhere to go but for the compression portion of the
7 chamber into the bottom out cup. So as Dr. Wang has further testified, flow
8 doesn't increase pressure. Flow does not create pressure. Pressure creates
9 the flow. And air will go from the region of high pressure to region of low
10 pressure.

11 Going back to slide 18, this is again -- this is supported by Nakaya.
12 So as Dr. Slocum has testified -- and this is shown in slide 18, and it is in Dr.
13 Slocum's declaration, Exhibit 2010, at paragraph 76 -- the pressure in
14 chamber 821 increases because of the downward motion of the piston, and
15 the resistance to airflow provided by the throttle valve 824. As such, air
16 flows out of the chamber 821, into the chamber 822, because of the
17 increased pressure in chamber 821.

18 And Nakaya, in column 9, lines 24 to 29, says that, on the other -- if
19 we look at, on the other hand, at a stage where the bending degree of the
20 knee is increased, and the second chamber 82, is divided into two, which is
21 actually shown in Figure 8, the constant throttle valve 140, increases the
22 pressure in chamber 822, which is the bottom out cup, and the throttle valve
23 824, increases the pressure in the chamber 821.

24 So, Nakaya is saying that the pressure in chamber 822, the bottom out
25 cup, is increasing. And so, fluid will go from that high-pressure region

1 through the passage 102, into the rebound chamber. And similarly, pressure
2 is increasing in chamber 821, which is the compression portion of the
3 damper chamber, and because of that increased pressure, air will flow from
4 the compression portion of the chamber to the alleged bottom out cup. So,
5 it's all there in Nakaya.

6 And you know, Dr. Slocum is not making it up. I mean, he -- and I
7 just want to mention that Petitioner has criticized Dr. Slocum's credentials.
8 Dr. Slocum is a professor of mechanical engineering at MIT, with years of
9 precision engineering experience. He can look at the Nakaya and explain
10 how the flow path works. And it is consistent with what Nakaya teaches.

11 And I also want to mention that nowhere has Petitioner challenged
12 that Dr. Slocum does not qualify as a POSITA. It's not there in their papers.
13 They say that he does not have specific experience with suspension systems
14 or shock absorbers, yet they're applying references that are not limited to
15 suspension systems, and have criticized Patent Owner for saying that the
16 '223 patented invention is about suspension systems in a vehicle.

17 So there is inconsistency there in what Petitioner is saying. They
18 want the definition of POSITA to be limited to suspension technology, yet
19 they're saying that the claims in the patent is not limited to a suspension
20 technology.

21 And moving to slide 20, I also want to mention that Nakaya does not
22 disclose a second fluid flow path, as required by claim 13. If you look at
23 claim 13, claim 13 specifically says, the damper of claim 12 further
24 including a fluid flow path formed between the cup and a primary
25 compression chamber, wherein the capacity of that fluid flow path is

1 adjustable. The further including language is critical here. It is specifically
2 reciting that the flow path of claim 13 is separate and independent from the
3 flow path of claim 11.

4 And in fact, Petitioner's expert, Dr. Wang, in his expert report, admits
5 that claim 13 requires a second separate flow path. His report says, with
6 respect to noninfringement, that the accused shocks do not infringe claim 13,
7 because the accused shocks do not include a second adjustable flow path.
8 So, there cannot be a further flow path formed.

9 Claim 13 requires a second fluid flow path wherein the capacity of the
10 fluid path is adjustable, in addition to the flow path of claim 15. So like,
11 Petitioner now, with respect to ability, is saying, oh, it can be the same flow
12 path. But again, under Becton, Dickinson, Kyocera and that line of case
13 law, if the claim recites two elements separately, the presumption is that they
14 are separate elements.

15 And in Nakaya, however -- and now I'm on slide 21 -- with respect to
16 the first embodiment, there is no doubt that there is only one flow path
17 between the bottom out cup and the compression portion of the chamber.
18 And that's what Petitioner is relying on for both claims 11 and claim 13.

19 In the petition, Petitioner again also relied on, for the fourth
20 embodiment of Nakaya, a single flow path between the compression print of
21 the chamber and the bottom out cup. But with respect to this fourth
22 embodiment, as well, this auxiliary path that Petitioner relies on in its reply,
23 actually -- it's not there in the petition, it's a new argument that they raise in
24 their reply -- that this auxiliary connector between the two portions of the
25 bottom out cup -- that auxiliary connector is somehow a second flow path.

1 But the claim requires a flow path between the bottom out cup and the
2 compression portion of the chamber. And here, fluid is going from between
3 the two parts of the bottom out cup.

4 And this is made very clear in Nakaya. There is no fluid flow from
5 the upper portion of the bottom out cup to the compression portion of the
6 chamber. Like, fluid is always going from the compression chamber to the
7 bottom out cup. And Nakaya specifically says that the upper portion of the
8 bottom out cup is -- there's only one throttle passage that is throttling it.

9 There is the respectively language in Nakaya, and this is in Nakaya's
10 column 10, lines 45 to 50, where it says that, with respect to chamber 4822A
11 and 4822B, which are defined in a stage where the bending degree of the
12 knee is increased, the throttle valves 4824A, 4824B, which are provided in
13 these chambers, respectively take the role of throttling -- the term respective
14 here is important, because what Petitioner is saying is that flow from the
15 bottom out cup will go through two throttle valves into the compression
16 chamber, but Nakaya says that each chamber is throttled by only one valve.

17 So Patent Owner's flow path is consistent with Nakaya, that the
18 passage that is shown in red on slide 21 is just connecting the two portions
19 of the bottom out cup.

20 I want to quickly turn to Chen, and I am on slide 23 now. Chen very
21 clearly describes that there is no fluid flow from the bottom out cup to the
22 compression portion of the chamber during a compression stroke. In Chen,
23 fluid flows from Chen's Hydraulic Cylinder 8 to the accommodating cavity
24 84, through Flow Way 86.

1 I mean, the language in Chen is extremely clear. Chen, in Page 1,
2 says that, when the projecting post 821, which is the alleged bottom out
3 piston, fits into the accommodating cavity 54, to block the same, at this time,
4 the oil in the hydraulic cylinder 8, can only flow through the small diameter
5 flow way 86, into the accommodating cavity 84, and then flow out from the
6 oil outlet 85.

7 So Chen explicitly says that the fluid flow is from the compression
8 portion of the chamber into the alleged bottom out cup, out through the
9 outlet 85. And so flow way 86, it does not meet the requirement of claims 1
10 and 19.

11 Going to slide 24, the combination of Deferme with Chen does not
12 solve the problem with Chen, because Deferme is only a bidirectional piston.
13 So even if you switched out Chen's piston with Deferme's piston, all you are
14 getting is flow between the compression portion of the chamber to the
15 rebound side.

16 So, the claim requires flow from bottom out cup to the compression
17 portion. And Petitioner nowhere provides any discussion of how that's
18 going to happen, even if you use Deferme's piston, because Deferme is only
19 teaching flow between the compression and the rebound sides.

20 Also, Deferme's piston doesn't provide adjustable fluid flow. Deferme
21 says that you can change fluid flow by changing out the tuning disks, but
22 that's a production manufacturing floor step. Like, you cannot adjust
23 Deferme's piston. You have to take apart the entire piston to change out two
24 tuning disks. That's not the adjustability that the claims are talking about.
25 So the combination of Deferme doesn't solve Chen's problems.

1 Going to slide 25, Chen also does not -- Petitioner also has not
2 explained, provided any motivation or reasonable expectation of success
3 with the combination of Deferme with Chen. I mean, Deferme is a better
4 piston, but it does -- but it doesn't solve the problems of Chen that Patent
5 Owner has identified.

6 Moving to slide 26, claim 11 requires the bottom out piston to be
7 formed on the movable rod, which is the piston's shaft, but in Chen, as you
8 can see, the extension 821, it extends from the main piston 81. It is not
9 connected to the movable rod at all. It is connected to the piston. There's no
10 connection with the piston shaft. So, it is not formed on the movable rod.
11 This is another reason why independent Claim 11 is not anticipated or
12 rendered obvious by Chen.

13 And finally, I'm going to slide 27. With respect to claim 13, again,
14 Chen does not disclose a second fluid flow path between the bottom out cup
15 and the compression portion. If you look at the petition, at pages 71 and 73,
16 it shows that Petitioner is referring to the same flow way 86 for both claims
17 11 and 13. But claim 13, as we discussed earlier, requires a separate, second
18 flow path. And Petitioner's only relying on 86, the flow way 86.

19 Now, Chen does have another flow way, 87, and I saw that Petitioner
20 has colored that in some of their slides. They did not rely on flow way 87 in
21 their Petition or in their Reply at all. It just shows up -- it is showing up in
22 their slides.

23 So I just want to mention that flow way 87 becomes active only
24 during rebound, and both parties' experts have testified that flow way 87 is
25 only applicable during rebound. During rebound, fluid from the reservoir

1 reenters through outlet 85, goes into the accommodating cavity 84, and also
2 fluid is coming from the rebound chamber through the vent 823.

3 So, if pressure in the accommodating cavity increases, at that point,
4 the flow way 87, has a check valve 88. That check valve will open, and
5 fluid will go from the accommodating cavity into the compression portion of
6 the chamber. But that's only going to happen during rebound. It doesn't
7 happen during compression. And as I said, Petitioner did not rely on it in
8 their petition.

9 Moving to slide 29, with respect to --

10 JUDGE IPPOLITO: Counsel, I just want to let you know that you're
11 in your rebuttal time.

12 DR. BHATTACHARYYA: Yes, Your Honor. I'm just going to
13 quickly move through the last few slides. And I just want to mention that
14 Fox '751 -- it's a typical damper. It does not disclose a bottom out cup, so it
15 does not overcome the deficiencies of Chen.

16 And with respect to Ground 4 -- this is on slide 31 -- the combination
17 of Nakaya and Kodama, with respect to Fox '751 and Chen, also does not
18 solve the problems in the petition, because Petitioner has not identified a
19 motivation to combine the oil-based shock absorbers of Nakaya and Kodama
20 with the -- sorry.

21 Nakaya and Kodama are air-based prosthetic devices, and there is no
22 explanation of why or how a POSITA would combine these oil-based
23 systems of Chen and Fox '751, which are oil-based dampers, with these air-
24 based prosthetic systems of Nakaya and Kodama. So there is a huge gap in

1 the petition as to the motivation to combine, and reasonable expectation of
2 success.

3 And there's also no explanation of how the rebound system that is
4 already present in Fox '751 and Chen would actually work in conjunction
5 with the elements of Nakaya and Kodama. There's no explanation in the
6 petition on that.

7 And then quickly moving to the Gartner ground, which is Ground 5 --
8 and I am on slide 34 -- as we discussed earlier, Garter, it doesn't have a
9 bottom out cup. What Petitioner is referring to is the compression volume
10 460, which is the compression chamber of the internal shock absorber.

11 So, Gartner refers to the compression volume 460.4, as the
12 compression chamber of the internal shock absorber 400. So, there is an
13 external shock absorber 420, and there is an internal shock absorber 400, and
14 they work in series. And so, what Petitioner is referring to as the bottom out
15 cup is actually the compression chamber of the inner shock absorber.
16 Nowhere does it mention that it is a bottom out cup.

17 And going to slide 35, we had discussed the claim construction. If the
18 Board agrees with Patent Owner's construction that the bottom out cup is
19 active at the end of the compression stroke, just only at the end, or just at the
20 end -- nowhere does Gartner mention that this compression volume 460.4, is
21 active at the end of the compression stroke. There is no mention of that
22 there. So even that's an independent reason why Gartner does not anticipate
23 the claims. And I know my time is up, so I'm just going to stop right here.

24 JUDGE SAINDON: If I could jump in and ask a question here? If
25 you don't mind extending a little bit.

1 DR. BHATTACHARYYA: Sure.

2 JUDGE SAINDON: I have a question on Gartner. I'm looking at
3 your slide 34. It's hard to see, but you said that the compression chamber
4 460, is not a bottom out cup. It is a somewhat cuplike shape. I'm
5 wondering, what is the implication? Why is it not a bottom out cup? What
6 does a bottom out cup have that this structure doesn't have?

7 DR. BHATTACHARYYA: So that's where we -- if you go into the
8 construction, the construction says that, even if we don't use the word only,
9 right, it is -- that it would be providing dampening at the end portion. And
10 so as Petitioner has admitted, the Gartner system provides dampening
11 throughout the compression cycle. And so that's where the distinction
12 comes in.

13 And I also want to point out that Petitioner has raised an anticipation
14 ground. It's not an obviousness ground. And I agree that literal support is
15 not needed in the specification. But here, Gartner calls that compression
16 volume 460.4, as the compression chamber of the shock absorber. So, there
17 is no support at all in Gartner for an anticipation ground. It does not call it
18 out as a bottom out cup. And then there is also the claim construction issue
19 that I raised.

20 JUDGE SAINDON: So, to follow up, and hopefully so that I can
21 understand more -- so as we have a compression stroke, the amount of
22 dampening, basically, provided by the compression chamber is invariant. Is
23 that what you're saying?

24 It's not that it suddenly increases when we get to the end, and the
25 different portions start -- again, this drawing that I have isn't one of the

1 colored ones, so it's hard to see what's going on here. But my impression
2 was that at some point, there was a bottom out piston, or alleged bottom out
3 piston, that fit into another structure. And are you saying that that is not the
4 case? Or are you saying that, as a result of that, the amount of dampening
5 isn't changed, based on the fluid flows?

6 DR. BHATTACHARYYA: And this is something that Petitioner has
7 admitted, that the amount of dampening keeps happening. With Gartner,
8 Gartner actually doesn't have a bottom out piston, which is why Petitioner
9 has not asserted Gartner against claims 11 to 15, is that it is just -- it is just
10 like a regular shock absorber that is there, that will be providing dampening
11 throughout the stroke.

12 So unlike in the '223 patent, which had the bottom out piston, and the
13 bottom out piston now enters and increases the dampening, Gartner works in
14 a different way, because it is a shock absorber. It's a miniature shock
15 absorber that is working in series. So, it is in series with the outer, main
16 shock absorber, as Dr. Slocum has testified, because there is, in series -- like,
17 one will lead to the other, basically.

18 JUDGE SAINDON: Okay. I think I understand. Thank you.

19 DR. BHATTACHARYYA: Thank you, Your Honor.

20 JUDGE IPPOLITO: Counsel, let me just make sure I understand.
21 You're saying that there's no bottom out piston in Gartner, but there isn't one
22 recited in your claim 1, either.

23 DR. BHATTACHARYYA: Yes. Yeah, I agree, Your Honor. And
24 that's why we are not arguing that, as a point for patentability. I just wanted

1 to mention that that is recited in claim 11, which is why Petitioner has not
2 asserted Gartner against claim 11.

3 I was just trying to explain that Gartner functions and operates in a
4 way that is different from the '223patent. And it could be providing
5 dampening throughout the stroke, whereas with the '223patent, the
6 dampening increases when the bottom out piston enters and basically
7 activates the bottom out cup.

8 JUDGE IPPOLITO: Thank you.

9 DR. BHATTACHARYYA: Thank you, Your Honor. And I
10 appreciate the slightly extra time. Thank you.

11 JUDGE IPPOLITO: Counsel, you have, as a reminder, seven minutes
12 left of your total time.

13 MR. HICKEY: Okay. Thank you, Your Honors. With respect to
14 Gartner, even the title of Gartner is about bottoming. It is addressing this
15 bottom out condition. We acknowledge there's not the bottom out piston,
16 which is in claim 11. Patent Owner says that it operates differently. It has
17 the same structure and operation that's set forth in claims 11 and 19. That's
18 why it anticipates.

19 With respect to Nakaya, Judge Saindon, you were asking the question
20 about Nakaya and the fluid flow from the bottom out cup to the compression
21 chamber. I just want to make very clear that Nakaya does disclose fluid
22 flow during the compression stroke from the bottom out cup to the
23 compression chamber. That's in our petition for claim 1 at paragraph 92, for
24 claim 11, at paragraph 108 of our petition, and for claim 19 at paragraph
25 116.

1 Dr. Wang's declaration -- the second declaration, Exhibit 19 at
2 paragraph 32, specifically calls out that Nakaya's first embodiment does this
3 function, and he restates at the end, in the specific construction disclosed in
4 Nakaya's first embodiment, Nakaya has the bottom out cup increasing in
5 pressure at a faster rate than the compression portion, and as a result, air will
6 move from the bottom out cup to the compression portion.

7 On paragraph 33, he points out that Dr. Slocum doesn't provide any
8 support or explanation for his interpretation of Nakaya's written description
9 and figures. He provides no support for his statement about this flow, and
10 that to the contrary, a POSITA would understand that although what Dr.
11 Slocum states may be true in other embodiments in Nakaya, depending on
12 the sizing and configuration of the various features, Nakaya states, in
13 column 9, at lines 24 to 29, that air will be forced into the chamber A21,
14 from the bottom out cup A22. Dr. Slocum's red arrows in the figures on
15 Page 28 of the Response are incorrect, and without support in Nakaya. And
16 there's further discussion about that in Dr. Wang's Declaration.

17 Also want to make clear, there was deposition testimony, with respect
18 to Mr. Wesling and Dr. Wang. If you read that deposition testimony,
19 clearly, it doesn't say that it's only -- that the bottom out cup is only activated
20 at the end of the compression stroke. It didn't say that in the deposition
21 testimony. And in fact, at paragraph 10, Exhibit 1019 of the second Wang
22 Declaration, Dr. Wang specifically calls out that the bottom out cup is
23 providing damping throughout the compression stroke. It's not only at that
24 spot.

1 There were a number of questions about the plain and ordinary
2 meaning of damper, even though a construction hadn't been previously
3 proposed. I heard kind of a variety of constructions, that it was significant
4 amounts of energy, that there were tens of percentages, that there were 40,
5 50, maybe 60 percent.

6 If we look at paragraph 26 of Dr. Wang's original -- his second
7 declaration, he said that the plain and ordinary meaning of a damper is most
8 accurately described as a device that provides damping. Now, maybe there's
9 a bit of a tautology there, with respect to that definition. But as Patent
10 Owner admitted, this is across technologies. This isn't limited to vehicles.

11 And to be clear, I did not say that the claims were not about
12 suspension technology. They are about suspension technology. They're just
13 not limited to vehicle suspension technology. And there hasn't been a
14 different definition of a POSITA that was proposed, so the Board can
15 evaluate the experts in that regard.

16 But if Dr. Wang says, without a doubt, Nakaya meets this definition,
17 where air is used both as the -- as both the energy storage mechanism and
18 the damping fluid. They admitted that the oscillations in this prosthetic limb
19 have been dampened enough so that you can walk properly. That's the
20 whole point of having the bottom out cup technology in Nakaya. It is to
21 provide damping. It is a damper.

22 I'd like to go -- I don't know if this will -- just looking at claim -- well,
23 I'm not going to use my time. If we look at claim 13, where we're talking
24 about this fluid flow path, again, looking at claim 16, the damper of claim
25 13, further including a second fluid flow path within the bottom out cup and

1 the compression portion. You shouldn't be able to go to court and say one
2 thing, say the opposite here. That's not fair. That's what they did with the
3 claim construction, and that's what they did with these flow paths.

4 The last thing that I would like to show is from Petitioner's response.
5 And it's page 1 of their response. They have said, each of the challenged
6 claims of the '223 patent recites, among other things, a damper, a bottom out
7 cup, and fluid flow paths between the bottom out cup and the compression
8 portion of the damper chamber.

9 But the four primary references asserted in the petition, Nakaya,
10 Chen, Fox '751, and Gartner, failed to disclose or suggest these critical
11 features of the '223 patent claims. We've gone through this. That's just not
12 true. That's incorrect. The damper, the bottom out cup, those fluid flow
13 paths, are shown in the prior art.

14 We think that they are shown sufficiently to invalidate and render the
15 challenged claims unpatentable. And I thank the Board for its time and
16 consideration of this matter.

17 JUDGE IPPOLITO: I thank you all for your presentations, and for
18 answering our questions. I'm just going to check really quickly to make sure
19 my panel members don't have any remaining questions.

20 Looks like we're good. This has been very helpful. We appreciate
21 you coming in today and speaking with us. And with that, we'll consider the
22 case submitted, and we are adjourned. Please do stay after and address any
23 questions our court reporter may have regarding spellings or anything else.
24 Thank you very much.

25 DR. BHATTACHARYYA: Thank you, Your Honor.

1 MR. HICKEY: Thank you, Your Honors.
2 (Whereupon, the above-entitled matter went off the record at 3:09
3 p.m.)

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