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Transcript of Glenn Vallee, Ph.D.

Date: April 4, 2025

Case: Trove Brands, LLC -v- CamelBak Products, LLC (PTAB)

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TROVE BRANDS, LLC,

Petitioner,

v.

CAMELBAK PRODUCTS, LLC,

Patent Owner,

IPR2024-01137

Patent 10,676,255

REMOTE DEPOSITION OF

GLENN VALLEE, PH.D.

April 4, 2025

Reported by: Brooklyn E. Schweitzer, RPR, CRR

Job No.: 577875

Pages: 1 - 129

1 Deposition of GLENN VALLEE, Ph.D.,
2 conducted virtually.

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5 ** ALL PARTIES ATTENDED REMOTELY. **
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8 Pursuant to Notice, before Brooklyn E.
9 Schweitzer, Registered Professional Reporter,
10 Certified Realtime Reporter, and Notary Public in
11 and for the Commonwealth of Pennsylvania.
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P R O C E E D I N G S

GLENN VALLEE, Ph.D.,

was called, and having been duly sworn,
testified as follows:

EXAMINATION

BY MR. MUDD:

Q Good morning, Dr. Vallee.

A Good morning to you.

Q Could you state your name for the record,
please?

A Glenn Vallee.

Q And you've been retained as an expert
witness in this matter by the petitioner, Trove
Brands, correct?

A Correct.

Q And where do you currently reside?

A I'm in Westbrook, Connecticut.

Q And who is your current employer and
what's your current occupation there?

A My current employer is Western New
England, and my position is associate professor
and chair of the mechanical engineering

1 department.

2 Q Since we're taking this deposition
3 remotely via Zoom, can you confirm whether there's
4 anyone else there with you in the room?

5 A I am alone.

6 Q And have you brought anything with you to
7 your deposition today?

8 A I have.

9 Q What have you brought with you?

10 A Okay. Would you like me to list what I
11 have, or is that easiest, or --

12 Q You know, is it all documents of record in
13 this proceeding?

14 A Exactly. Things like my old declaration,
15 the patent at issue here, and I have -- I have
16 paper binders here. I have, for example, the
17 petition for review, the patent owner's
18 preliminary response, decision-granting
19 institution's decision of the granting institution
20 of the inter partes review. I also have all the
21 patents I referred to as well.

22 Q And by that, you mean the prior art

1 references?

2 A Correct.

3 Q Okay. Do you have any materials with you
4 that are not already of record in this proceeding?

5 A I do not believe so. I think everything I
6 have with me is on the record.

7 Q Okay. And have you brought any notes or
8 anything like that with you?

9 A No.

10 Q Okay. You had your deposition taken
11 before, correct?

12 A Correct.

13 Q And that's been about how many times
14 total?

15 A It will -- it's about 19 with respect to
16 patent litigation. This would be No. 19, I
17 believe.

18 Q Okay. I'll quickly go through some ground
19 rules just to confirm we're on the same page.
20 I'll be asking questions. You'll be answering
21 those questions like we've been doing.

22 Is that fair?

1 A That is fair.

2 Q And if I ask a question you don't
3 understand, will you please let me know so I can
4 try to rephrase it?

5 A I will.

6 Q And so if you answer a question, I will
7 assume you've understood it; is that fair?

8 A Fair enough.

9 Q And you understand the testimony you're
10 giving today is under oath and it's the same oath
11 as if you were testifying in a court of law?

12 A I understand.

13 Q Is there any reason today such as
14 medications or illness or otherwise that would
15 prevent you from testifying truthfully and
16 accurately today?

17 A No.

18 Q Okay. We'll try to take regular breaks,
19 but if you need a break sooner, you know, at any
20 point in time, please just let me know. I'll just
21 ask that you answer any pending question. Is that
22 fair?

1 A Fair enough.

2 Q Great. What'd you do to prepare for
3 today's deposition?

4 A Well, I reviewed all the documents that I
5 have with me. I had a meeting with Trove counsel
6 to review those documents. That's basically it.

7 Q Okay. You didn't do anything else besides
8 that to prepare?

9 A No. It was all document reviewing and
10 meetings, as I said, with counsel.

11 Q Okay. Did you have discussions with
12 any -- anyone other than Trove counsel in
13 preparing for your deposition today?

14 A No.

15 Q Okay. And in preparing for today, did you
16 review any documents that were not already of
17 record in this proceeding?

18 A I do not believe so. I think everything I
19 reviewed, as I said earlier, was on the record.

20 Q Okay. Thank you.

21 All right. I'm just going to do like we
22 did last time and share with you the exhibits via

1 the chat. So I'm dropping into the chat to you
2 Exhibit 1001.

3 (Exhibit 1001 was marked for
4 identification and is attached to the transcript.)

5 A I see it. And as I did before, if it's
6 okay with you, I generally rely on paper copies,
7 but I'll bring all these up as we discuss them.

8 And that's the '255 patent, correct?

9 Q Yes, that's correct. Exhibit 1001 is the
10 '255 patent.

11 And you understand that to be the patent
12 at issue in this proceeding that Trove has
13 challenged; is that right?

14 A That is correct.

15 Q And you've reviewed the '255 patent before
16 and are familiar with it; is that right?

17 A Correct.

18 Q And it's your understanding that this
19 patent has been subject to a re-examination such
20 that some of the claims have been amended or added
21 to via a reexamination certificate; is that right?

22 A That is correct.

1 Q Okay. I'm dropping into the chat now
2 Exhibit 1002, which I'll represent is a
3 reexamination certificate for the '255 patent.

4 (Exhibit 1002 was marked for
5 identification and is attached to the transcript.)

6 Q Are you familiar with Exhibit 1002?

7 A I am. And I have that open now.

8 Q And so it's your understanding that by
9 referring to both 1001 and 1002 that there --
10 there are two independent claims in the '255 with
11 those being claims 1 and 20; is that right?

12 A That is correct.

13 Q And so the current operative versions of
14 claims 1 and 20 are what show up in the
15 reexamination certificate, Exhibit 1002; is that
16 right?

17 A That is correct.

18 Q And so when doing your analysis of those
19 claims, you -- you relied on the language that
20 appeared in the reexamination certificate,
21 correct?

22 A That is correct.

1 Q Okay. You've offered opinions in this
2 case regarding the patent ability of claims of the
3 '255 patent as amended by the reexamination
4 certificate, correct?

5 A That's right.

6 Q And I'm dropping into the chat
7 Exhibit 1003.

8 (Exhibit 1003 was marked for
9 identification and is attached to the transcript.)

10 Q You understand this proceeding to be IPR
11 2024-01137 regarding the '255 patent, correct?

12 A That is correct.

13 Q And Exhibit 1003 is a copy of your
14 declaration that you've submitted in this IPR; is
15 that correct?

16 A That is correct.

17 Q And on Page 138 of this exhibit, is that
18 your signature?

19 A 138? That is my signature.

20 Q And this report contains all the opinions
21 you've rendered in this IPR; is that right?

22 A That is correct.

1 Q Did you author this declaration?

2 A I did.

3 Q And do you stand by all of your opinions
4 set forth in this declaration?

5 A I do.

6 Q Are there any opinions you wish to revise?

7 A Not that I am aware of, no.

8 Q And are you aware of any mistakes or
9 errors in this declaration you'd like to correct?

10 A No. There are just -- one thing I came up
11 with -- just bear with me for a second. It
12 happens to be in a heading of a table.

13 Okay. On Page 18, we'll start there. I'm
14 on Paragraph 36.

15 Please let me know if you can't hear me
16 because my desk for reading with the lamp is on my
17 left, so I'll try to speak up.

18 So Paragraph 36, it says, independent
19 claim 1 of, there should be a space after the 1.
20 I know it's not significant, but I did find it.

21 And then the table on Page 189, the
22 heading says claim 5. It should be claim 1

1 because obviously I list on the left column is
2 claim 1. And that's for the table that continues
3 on Page 20 and 21, and those are the only mistakes
4 that I found.

5 Q Okay. Great. Thank you.

6 You haven't arrived at any other opinions
7 in this case other than those you've set forth in
8 your declaration; is that right?

9 A Correct.

10 Q Okay. On Page 8 of your declaration, you
11 state in Paragraph 10 that Appendix A to your
12 declaration is a copy of your curriculum vitae.

13 Do you see that?

14 A Did you say Paragraph 10? Yes, I see
15 that.

16 Q And so Appendix A to your declaration is
17 an accurate copy of your curriculum vitae; is that
18 right?

19 A Correct, and that's the CV that I -- in
20 the foreword was when I submitted this
21 declaration.

22 Q Have you updated your CVs since then?

1 A I did. There were several other cases
2 that I had, and then I actually changed the format
3 a little bit. But all information that's in
4 Appendix A is accurate.

5 Q Okay.

6 A It's just as of that date, July 1, I
7 believe.

8 Q Okay. And it -- there's a list of
9 publications and prior testimony in your CV,
10 Appendix A, accurate to the best of your
11 knowledge?

12 A Again, as of that date it was, but I have
13 additional testimonies afterwards.

14 Q Okay. Could you go to Paragraph 3 of your
15 declaration on Page 2?

16 A I'm there.

17 Q Does Paragraph 3 list all the materials
18 you reviewed in forming your opinions in this
19 case?

20 A Yes. I believe that is correct.

21 Q And are you aware of any additional
22 materials beyond what's listed in Paragraph 3 that

1 you reviewed in arriving at your opinions in this
2 case?

3 A Let's see. Well, this is -- this is a
4 comprehensive list, I believe.

5 Q Great. One addition to that. In
6 Paragraph 4, you say that you have reviewed and
7 considered the U.S. patent and trademark office's
8 file history of the '255 patent and the
9 reexamination of the '255 patent.

10 Do you see that?

11 A I do.

12 Q And you see that Exhibits 1011 and 1012
13 are excerpts of those histories; is that right?

14 A That's correct.

15 Q So even though you reviewed those
16 excerpts, I understand Paragraph 4 to be saying
17 that you also reviewed the entirety of those
18 histories as well; is that correct?

19 A That is correct. It's a very large
20 history. I have a binder here as well with the
21 file history. It weighs about five pounds.

22 Q Since the day you issued this declaration,

1 Exhibit 1003, have you reviewed additional
2 materials beyond those listed in your
3 declaration --

4 A Yes.

5 Q -- that you -- and specifically, I meant
6 in connection with this case?

7 A Yes. I believe, for example, the patent's
8 preliminary response, I don't believe that's on --
9 in Paragraph 3. That is not. And just bear with
10 me for a second.

11 I believe that's it. I don't think I have
12 that on July 1st.

13 Q Have you --

14 A I'm sorry. It couldn't be because we
15 responded to this, so --

16 Q Right. Have you reviewed -- so I
17 understand you to say you've reviewed CamelBak's
18 patent owner preliminary response in this
19 proceeding; is that correct?

20 A That is correct.

21 Q Have you also reviewed the board's
22 institution decision in this case?

1 A Well, I believe I cited that -- the
2 decision-granting institution of review. Yes.

3 Q Okay. So that would be an additional
4 document not referenced in your declaration since
5 it didn't exist at that time that you also have
6 reviewed in this case; is that right?

7 A Yes, I'm sorry. That is correct. Yes.

8 Q Okay. Have you formed any additional
9 opinions in response to reviewing either the --
10 CamelBak's patent owner preliminary response in
11 this case or the board's institution decision in
12 this case?

13 A No.

14 Q And I'm going to send you a couple more
15 exhibits.

16 The first one is Paper 6 in this
17 proceeding, which I'll represent is CamelBak's
18 patent owner preliminary response, and the next
19 one is Paper 9, which is the institution decision
20 in this proceeding.

21 Could you review Paper 6 and Paper 9 just
22 to confirm those are the -- you know, two

1 additional documents that you've reviewed in this
2 proceeding since the date of issuing your
3 declaration?

4 A Okay. So I'll look at the preliminary
5 response first.

6 (A discussion was held off the record with
7 the court reporter.)

8 A All right. I recognize Paper 6 as the
9 patent owner preliminary response, and I'll
10 download Paper 9, which is the decision.

11 Yes, and I recognize that as well.

12 Q Okay. Great. So beyond the patent owner
13 preliminary response in this case and the
14 institution decision in this case, are there any
15 other documents that you've reviewed since issuing
16 your declaration in this case that you -- you
17 believe could be relevant to your opinions in this
18 case?

19 A I do not believe so, no.

20 MR. PETERSON: Just to note, the binders
21 that I believe Glenn has has the Exhibits 2000 as
22 well. Just wanted to bring those to everyone's

1 attention.

2 MR. MUDD: You mean the 2000 series of
3 exhibits, the patent owner exhibits?

4 MR. PETERSON: Yes.

5 MR. MUDD: Okay. Great.

6 BY MR. MUDD:

7 Q Have you reviewed any documents yet filed
8 by CamelBak with regard to any patents related to
9 the '255 patent such as the '250 patent?

10 A The '250 patent? Was that -- that wasn't
11 a patent at issue when we last met, was it?

12 Q I'll represent it was not, no.

13 A No. The '250 sounds familiar. I'd have
14 to go through the records. That's a different
15 patent.

16 Q Right.

17 A I don't recall.

18 Q Yeah. I'll represent to you you've --
19 you've submitted a declaration in a separate IPR
20 proceeding regarding the '250 patent, but
21 CamelBak, you know, recently in March, filed some
22 papers with regard to that proceeding, and I was

1 asking whether you recall reviewing any of those
2 materials yet.

3 A I don't recall sitting here. Generally in
4 a situation like this, I focus on the '255 and put
5 everything else out of my mind. But that did
6 sound familiar, and that's because I submitted a
7 declaration. That's right.

8 Q Okay. Understood. Thank you.

9 Okay. Please, if you could, turn back to
10 Exhibit 1001, the '255 patent.

11 A Okay. I have a lot of windows open, so --
12 is that Exhibit 2 or Exhibit 1?

13 Q Exhibit 1, what's labeled as Exhibit 1001
14 in this proceeding.

15 A Okay. It's clear to me the best way to
16 proceed is to close all these windows.

17 Okay. 1003, the '255 patent. I have it
18 on the screen and I have it in paper form in front
19 of me.

20 Q Okay. Great. Thank you.

21 In connection with your analysis for this
22 case, did you develop an understanding regarding

1 the invention of the '255 patent?

2 A Yes, I did.

3 Q And what's your general understanding of
4 the invention of the '255 patent?

5 A Well, my general understanding is a lot of
6 it's laid out in the abstract here, but it's an
7 invention related to portable drink containers
8 where there's a removable cap; there is a handle;
9 there is a spout that rotates from a stowed
10 position to an unstowed position; and there are
11 various embodiments with the mouthpiece, for
12 example, that are -- with the user. It's
13 generally related to that area.

14 Q Gotcha. And --

15 A I'm sorry. If I said water bottle, I
16 meant a drink container.

17 Q Understood.

18 A People call them water bottles. Okay.

19 Q Would you agree that an aspect of the '255
20 patent is directed to a drink container having a
21 cap assembly in which a mouthpiece and pivotal
22 mount can rotate together about an axis between a

1 stowed position and a dispensing position?

2 MR. PETERSON: Objection; form.

3 A Well, I think what's stated in the claims
4 is a clear description of the invention, and
5 rather than go through the claims, I think I'll
6 leave the answer at that. It's specified in the
7 claims that's really the claimed invention.

8 Q Do you agree that an aspect of the '255
9 patent relates to an on/off valve in which a fluid
10 conduit is crimped to obstruct flow of fluid?

11 A Yes. For example, claim 1, one of the
12 last elements, discusses the main on/off valve
13 with components configuration, et cetera. I don't
14 want to read all of this into the record, but --
15 and one of the claims discusses the -- has the
16 flexible tube, and then the end of that claim
17 talks about the main on/off valve is closed when
18 the tube is crimped, and when it's open, the tube
19 is not crimped. So I'll agree with that. Sure.

20 Q Okay. Great. If you could, turn to
21 column 1, line 42 of the '255 patent.

22 I'm sorry. Line 40, roughly.

1 A I am there.

2 Q Actually, sorry. I meant like 43. Okay.

3 There's a sentence that begins, some
4 conventional drink bottles include a spout or
5 nozzle from which the drink fluid may be drawn
6 from the drink bottle without removing the cap of
7 the drink bottle. Conventional spouts include
8 straws and rigid spouts having an outlet through
9 which free fluid may flow. Other conventional
10 drink bottles require the cap to be removed to
11 prevent drink fluid to be removed from the drink
12 bottle.

13 Do you see that?

14 A I do.

15 Q Is your understanding of the '255 as
16 directed to drink bottles through which fluid may
17 be drawn from the bottle using a spout or nozzle
18 without requiring the lid to be removed from the
19 bottle?

20 A Yes. That is -- that is what's claimed.
21 Other than saying the lid is removable. So the
22 intent, I believe, is that the user takes a drink

1 while the cap is on the bottle.

2 Q So even though the lid is removable, the
3 user doesn't have to remove the lid to drink from
4 the bottle; is that right?

5 A Correct. The user can, but it doesn't --
6 it doesn't have to.

7 Of course the user has to -- I'm sorry.
8 The user has to remove the lid to fill it.

9 Q Sure.

10 A So, in other words, you can't drink from
11 it unless you can remove the lid to fill it.

12 Q In describing your understanding of the
13 '255 patent, you refer to it having a spout that
14 rotates from a stowed to an unstowed position; is
15 that right?

16 A I'm sorry. Are you saying I referred to
17 it in part of my declaration?

18 Q In your first answer when I asked about
19 the invention of the '255, you referred to a drink
20 bottle with a spout that rotates from a stowed to
21 unstowed position. You remember that?

22 A I do.

1 Q And I believe the patent refers to them as
2 a stowed configuration and a dispensing
3 configuration; is that right?

4 A That sounds right, yes.

5 Q And figure 1 of the '255 patent depicts a
6 stowed configuration while figure 2 depicts a
7 dispensing configuration; is that right?

8 A That is correct.

9 Q And in the dispensing configuration, the
10 mouthpiece is oriented such that a user may draw
11 fluid from the -- from the drink bottle through
12 the mouthpiece; is that right?

13 A Yes. In that configuration, the user can
14 put their mouth on the mouthpiece and take a
15 drink.

16 Q And the user would not be able to do so in
17 the stowed configuration shown in figure 1; is
18 that right?

19 A Again, well, assuming that we're talking
20 about the valving that's specified in the claim,
21 that is correct. In the stowed configuration, you
22 could not drink from it.

1 Q And you anticipated my next question.
2 When in the stowed position, a valve prevents
3 fluid from flowing through the tube to the
4 mouthpiece; is that right?

5 A I'm just referring to the claim here. I
6 believe it specifies that.

7 Okay. So it talks about the closed
8 configuration of the on/off valve, and that is
9 when it's in the stowed position. So that is
10 correct.

11 Q And this valve works by crimping the tube
12 or fluid conduit when in the closed or stowed
13 position, correct?

14 A That is correct.

15 Q Is it a purpose of this on/off valve that
16 can restrict fluid flow in the stowed
17 configuration to prevent the bottle from leaking
18 fluid when in the stowed position?

19 MR. PETERSON: Objection; form.

20 A I'm sorry. Could you repeat that just one
21 more time? I think there were two things in that
22 question.

1 Q Yes.

2 MR. MUDD: Ms. Schweitzer, would you be
3 able to read back my last question, please?

4 (Pending question was read back by the
5 court reporter.)

6 A Well, the claims are the same. It's
7 crimped to obstruct the flow of liquid. That
8 being the case, then, that is -- that is one of
9 the -- would be one of the benefits of this,
10 preventing leaks, for example.

11 Q And similarly, is a purpose of the ability
12 to rotate the mouthpiece between a stowed position
13 and a dispensing position to allow a user to drink
14 from the bottle without having to remove the lid?

15 A Again, I'm not sure I'd say it's the
16 purpose. I think it's a benefit of the
17 configuration, that when that happens and it's
18 uncrimped, it allows the user to draw the fluid --
19 to draw the liquid.

20 Q And one benefit of that is they don't have
21 to remove the lid; is that right?

22 A A benefit of what specifically?

1 Q Is it a benefit of being able to rotate
2 the mouthpiece between a stowed position and a
3 dispensing position that the user doesn't have to
4 remove the cap to take a drink?

5 A The silicone, when it's opened, when the
6 cap is on, then the user can take a drink through
7 the opening of the conduit. So that is a benefit.

8 Q And the benefit being that the user
9 doesn't have to remove the cap to take a drink,
10 right?

11 A Well, the user -- even if there wasn't
12 this on/off valve, the user still wouldn't have to
13 remove the cap to take a drink. If the valve
14 weren't present, the user still wouldn't have to
15 do that. In this design, it allows the user to do
16 that. So if that part of the invention weren't
17 there but the rest were the same, the user still
18 could take a drink without removing the cap.

19 Q Okay. But if the bottle could only be in
20 the stowed configuration, the user wouldn't be
21 able to take a drink, right, without removing the
22 lid, right?

1 MR. PETERSON: Objection; form.

2 A Yeah. So I believe you're asking that
3 if -- whether or not -- let me say it this way:
4 Whether or not there is that manual on/off valve
5 that actually contains the crimping, whether
6 that's there or not, if the -- I'll call it the
7 spout again, for lack of a better word. If the
8 spout is in the stowed position, it would be
9 difficult for the user to take a drink.

10 Why do I say difficult? I think
11 technically, if you tip the bottle upside down
12 when it's in the stowed position, you don't have
13 the valve, you could take a drink. It might be
14 messy, but you could take a drink because there
15 would be nothing without that valve to stop the
16 liquid from coming out, at least in this patent.

17 Q But like I said, it could have been
18 whether or not there's a bite-actuated valve on
19 the spout, right?

20 MR. PETERSON: Objection.

21 A I'm sorry. I was just referring, for
22 example, to claim 1 where it discusses that valve.

1 I don't think -- let's see.

2 Q Yeah, sorry. I apologize. I was just
3 referring to what's shown in figures 1 and 2,
4 which I believe depicts a bite-actuated valve. So
5 I just wanted to make sure that, you know, you
6 were comfortable your answer was complete since,
7 you know, my understanding is that if there were a
8 bite valve and you tipped the bottle, that it
9 couldn't leak unless, you know, there was force
10 applied to the bite valve.

11 A I'm sorry. I do realize you were
12 referring just to figure 1 and 2.

13 Well, if -- okay. Referring to 1 and 2,
14 there are embodiments where if the drink
15 container's flexible, you can just squeeze it, and
16 the liquid would come out. So you wouldn't
17 necessarily have to bite it in that configuration
18 to get the liquid to come out.

19 That being the case, I'd argue again that
20 even in the stored configuration without the
21 valve, the user could squeeze it or tip it and the
22 liquid could come out. It would be less

1 convenient, but that is possible.

2 Q Okay. But you would agree there is a
3 benefit to the ability to rotate the spout from
4 the stowed configuration to the dispensing
5 configuration, right?

6 A Some of that rotation makes it easier to
7 drink, which is a benefit.

8 I'll add, though, that even if you could
9 rotate it to a stowed configuration, with the
10 mouthpiece shown in the -- you could use this
11 effectively without stowing it, I guess is my
12 point.

13 Q Okay. If you could, turn, please, to
14 column 12 at line 20 of the '255 patent.

15 A Column 12. Okay.

16 And that was line 20? Okay. I am there.

17 Q Okay. It states, yet another illustrative
18 example of a suitable construction for a static
19 on/off valve 120 is a rotatable mechanism, in
20 which a portion of the fluid conduit upstream from
21 the internal chamber of the mouthpiece (such as
22 the inlet, outlet, or an intermediate portion of

1 the mount) is selectively obstructed until the
2 mouthpiece (and typically at least a portion of
3 the mount and/or fluid conduit) is rotated to a
4 position in which the obstruction no longer
5 prevents drink fluid from passing through the
6 fluid conduit.

7 Do you see that?

8 A I do.

9 Q So in this example, the mouthpiece rotates
10 via what it calls a rotatable mechanism to
11 implement the static on/off valve; is that right?

12 A I'm not sure exactly what embodiment this
13 is. I'll take a -- just a quick look for a little
14 context here.

15 Q I believe this is describing figures 26
16 and 27, just to help orient you.

17 A Yeah, that's exactly what I was looking
18 for.

19 Okay. So this is -- this is not an
20 embodiment that's claimed. This is a different
21 rotating valve. Let's see.

22 Q Why do you believe that's not embodied in

1 that claim?

2 A Well, there's not a crimped tube.

3 (A clarification was made by the court
4 reporter.)

5 A I'm sorry. I don't see any crimp in these
6 two embodiments. I think it rotates to simply
7 open up a passageway 156, and then when it's
8 rotated in the stowed position, that passageway is
9 no longer available. It's sealed by the O-link,
10 which I believe is 158.

11 Q Sorry. Give me just one second.

12 Okay. So I understand your point. You
13 were suggesting that in figures 26 and 27, there
14 is not a crimped fluid conduit; is that right?

15 A That's right.

16 Q And in figures 28 and 29, which also uses
17 this rotatable mechanism, there is a tube, 124,
18 and that does get selectively crimped; is that
19 right?

20 A That is correct, in figures 28 and 29.

21 Q Okay. So in figures 28 and 29, it's your
22 understanding there is still a rotatable mechanism

1 that allows the spout to rotate between a stowed
2 configuration and a dispensing configuration,
3 right?

4 A That is correct.

5 Q And you would use figures 28 and 29 to be
6 claimed embodiments, right?

7 A Well, that's -- I'm focusing on claim 1
8 here.

9 I really need to go to the specification
10 where it discusses figure 28.

11 Q Okay. That's fine. I don't need to do a
12 memory test with you on that.

13 Okay. Can we go to column 16, please, at
14 line 57?

15 A That was 57.

16 Q Yeah, column 16, line 57.

17 A Got it.

18 Q Where it states, figure 25 also
19 illustrates a nonexclusive example for a suitable
20 pivotal mounting mechanism for mount 100 with the
21 mount including lateral projections 150 that are
22 received into sockets 152 defined by portions of

1 the base 70 and handle 140 of the cap assembly.
2 The projections are rotatable within the sockets,
3 and thereby function as rotatable supports or
4 axles, upon which the mount and any attached
5 mouthpiece may be pivotally moved relative to the
6 base of the cap assembly such as between stowed
7 and dispensing configurations and/or otherwise
8 within the previously discussed range of
9 positions.

10 Do you see that?

11 A I do.

12 Q So it's correct, then, that the
13 projections 150 of the mount 100 rotate within the
14 sockets 150 -- sorry, the sockets 152; is that
15 right?

16 MR. PETERSON: Objection; form.

17 Q Let me go ahead and restate that since I
18 messed up that number.

19 A Sure.

20 Q So it's correct, then, that the
21 projections 150 -- and if you want, you can refer
22 to figure 25, if it's easier to look at the

1 picture.

2 A Yep. I'm there.

3 Q Okay. So the projections 150 of the mount
4 100 rotate within the sockets 152; is that right?

5 A That is correct. 150 rotates within 152.

6 Q And this rotation allows the mount and
7 detached mouthpiece to be moved pivotally; is that
8 right?

9 A Did you say the mount to be moved
10 pivotally?

11 Q Yes. This rotation allows the mount and
12 attached mouthpiece to be moved pivotally; is that
13 right?

14 A The -- in this design on figure 25, the
15 rotation about 150 moves it from the stowed to the
16 dispensing position.

17 Q And from the passage we just read, this
18 rotation allows for what it calls pivotal
19 movement, right?

20 A Correct. There are different forms of
21 pivotal movement in this design. The pivot axis
22 is 150.

1 Q Gotcha. So when the '255 patent refers to
2 pivotal movement, it's referring to rotational
3 movement, right?

4 A So this would be -- there would be some
5 kind of rotation about some axis or axes.

6 Q I'm sorry. Did you begin that answer with
7 yes?

8 A I believe I said it pivots around the
9 axis -- it specifies that it pivots around the
10 axis or axes. So in this design, I think I
11 testified before that it -- or it does rotate
12 around 150. I'll call it axis 150.

13 Q So when that passage refers to the --
14 refers to the fact that the mount and mouthpiece
15 may be pivotally moved, it's referring to the
16 ability to rotate about the axis 150, correct?

17 A That's what it says, correct. And, again,
18 per this design, that's what it was, in that
19 figure.

20 Q And so it's correct, then, that the
21 projections 150 define an axis about which the
22 pivotal mount and mouthpiece rotate; is that

1 correct?

2 A In this design, they do rotate around 150.

3 Q Okay. If you could please turn to
4 column 7 of the '255 patent. And specifically
5 line -- starting with line 33 where it says, an
6 example.

7 A Got it.

8 Q Okay. It says, an example of an
9 adjustably positionable mount 100 is shown in
10 dashed lines in figure 6, in which the mount and
11 attached mouthpiece are shown pivoted from the
12 dispensing configuration shown in solid lines to a
13 stowed configuration.

14 Do you see that?

15 A I do.

16 Q And if you could refer to figure 6.

17 A Okay.

18 Q So in figure 6, the pivotal mount 100 and
19 mouthpiece 72 are shown pivoting between a stowed
20 configuration shown by the dashed lines on the
21 left and a dispensing configuration shown on the
22 right; is that correct?

1 A Although that's not the claimed invention,
2 it is correct that -- again, the column under the
3 mount pivots from the right as shown in figure 6
4 to the dashed lines in the same figure.

5 Q When you're saying figure 6 is not
6 claimed, are you suggesting that -- is that
7 because it's not showing the crimped tube?

8 A Well, among other things, yes. It's not
9 showing the crimped tube. It also doesn't
10 indicate that's a removable couple specifically,
11 and --

12 Q You don't think that the mouthpiece is
13 shown as being removable even though it's shown as
14 a separate component?

15 A Well, I mean, we're talking about figure 6
16 itself. I don't think it discusses in figure 6,
17 in the specification, specifically how that is
18 removable from the bottle.

19 Let's see.

20 Q You don't understand figure 6 to be
21 showing a removable lid from a bottle?

22 A Well, I'd have to go through the

1 specification when it discussing that embodiment.
2 That's what I'm saying.

3 Q Do you see anything in figure 6 that is,
4 you know, inconsistent with or contrary to the
5 claimed invention?

6 A Let me see. Let me get a little context
7 here on that section when it discusses figure 6.

8 I guess my only point is I don't see a
9 handle -- I don't necessarily see some of the
10 things that are in what's claimed in that figure.
11 And I can go through it and pick some more out.

12 Q But in terms of showing a pivotal mount
13 and mouthpiece pivoting between a stowed
14 configuration and a dispensing configuration, that
15 would be consistent with what's claimed, right?

16 A Well, that one claimed element, having a
17 mouthpiece that's rotated from -- and I'm assuming
18 that's -- yeah, that that would be the stowed
19 position attached to a dispensing configuration.
20 I mean, it does that.

21 Q Okay. So figure 6 is at least consistent
22 with claim elements of the independent claims; is

1 that right?

2 A I mean, I think there are some claimed
3 elements that match it.

4 Q Okay.

5 A I can't pick the claim apart, but
6 specifically the crimping stuck out to me.
7 There's nothing in figure 6 or 7 or 8 -- well, 8
8 is a different one. Let's just say 6 and 7, I
9 think, go together. There's nothing in there that
10 talks about the crimping of the -- of the tube or
11 anything like that.

12 Q Okay. But you would -- going back to my
13 question, then.

14 So you would agree that in -- in figure 6,
15 the pivotal mount 100 and mouthpiece 72 are shown
16 pivoting between a stowed configuration shown by
17 dashed lines on the left and a dispensing
18 configuration shown on the right; is that right?

19 A Yeah. It shows a mouthpiece, not
20 necessarily the claimed invention, but it does
21 show that they stow to the left, rotate it
22 clockwise to a -- I'll call it an open position,

1 for lack of a better word, to the right.

2 Q And so it shows the mounted mouthpiece
3 moving pivotally above a pivotal axis in figure 6;
4 is that right?

5 A Well, it shows it rotating about -- it
6 doesn't really indicate what the axis is, but the
7 dashed circle, I think is what it's trying to
8 identify as where it rotates.

9 But 100 -- well, 72 and 100, that whole
10 assembly does rotate at, I'll call it that dashed
11 circle, from a stowed position to an open
12 position.

13 Q Okay. So you agree that the mount 100 and
14 mouthpiece 72 rotate about the axis defined by the
15 dashed circle in figure 6, right?

16 A Well, a circle doesn't really define an
17 axis. The reason I say that is one would have to
18 assume it's the center of the circle. It's not
19 always the center of the circle. Sometimes it's
20 offset to provide rotation and translation.

21 I'll say it does rotate about the dashed
22 circle.

1 Q Okay. So it rotates about the dashed
2 circle or the center of the dashed circle?

3 A Well, it doesn't say. For example, there
4 are other devices like cans where you think of a
5 circle and you offset the set of rotation, so you
6 get rotation translation. There's just not enough
7 information in that figure for me to say that.

8 So somehow it rotates about the dashed
9 circle. Whether it's the center of the dashed
10 circle or not, the specification really doesn't
11 point that out.

12 Q Okay. So you're comfortable saying it
13 rotates about the dashed circle?

14 A Yes, because the dashed circle does not
15 move in the figure.

16 Q Okay. So it's correct that in figure 6,
17 the mount and mouthpiece in figure 72 rotate about
18 an axis defined by the dashed circle; is that
19 right?

20 A No, because again, I don't have the
21 information on this. There's two positions all
22 the way -- I'll call it -- I'll assume that the

1 rotation shown to the right clockwise is at a
2 maximum and it shows -- and it shows it in the
3 outward configuration and the inward
4 configuration, but it doesn't say what happens in
5 between.

6 For example, if I took an axis of the
7 circle and raised it -- instead of being at the
8 center of the circle and up and to the left or
9 just went straight up, the thing could rotate up
10 and then back down. So the center of rotation
11 wouldn't be the center of that circle.

12 Q I'm not asking you about the center of the
13 circle. Sorry, Dr. Vallee. I think we've gone
14 down a rabbit hole here. It's a very simple
15 point: Does figure 6 show a rotational motion
16 around an axis of rotation?

17 A No. My answer is no because it doesn't
18 tell you where within the circle it rotates.
19 You'd have to assume that it's the center of the
20 circle, but you can get from the right -- closed
21 configuration to the stowed configuration in
22 different ways, depending on where exactly -- how

1 the circle rotates.

2 If it showed a cross, for example, in the
3 middle of the circle, it would be clear to me. It
4 just shows the circle in two positions.

5 Q The circle's only in one position, right?
6 The circle doesn't move, right?

7 A How do you know? It shows the circle in
8 the same position from the right to the left. But
9 does it -- but does it move in between there, I
10 guess is my point. If you don't know exactly
11 where the axis is, you don't know if -- let me
12 rephrase it.

13 If you took the outer most point on the
14 mouthpiece 72 and drew an ark from one of two,
15 you're assuming that the center of the ark is the
16 center of the circle. But if it's not exactly the
17 center of the circle, instead of a perfect ark,
18 that ark could be skewed slightly.

19 Q Okay. Dr. Vallee, I believe you testified
20 earlier that the pivotal mount 100 and mouthpiece
21 72 do rotate in figure 6, right?

22 A That's true. It does rotate.

1 Q And rotation does require an axis, right?
2 And specifically, rotation does require an axis of
3 rotation, right? By definition and physics?

4 MR. PETERSON: Objection; form.

5 Q Let me rephrase that question.

6 Rotation, by definition and physics,
7 requires an axis of rotation, right?

8 A That leads to one axis, yes.

9 Q Okay. So rotation as defined in physics
10 requires at least one axis of rotation, correct?

11 A Yes. That's correct.

12 Q And figure 6 does depict rotation,
13 correct?

14 A In the example I used, if the center of
15 the circle is offset to the left -- I'll say it
16 this way: There could be -- there could be
17 rotation, but there could also be a translation in
18 rotation. There could be different rotations.

19 I guess my only point was just looking at
20 that figure in two positions, you can't tell where
21 the axis of rotation is. I believe that -- that's
22 what I was -- what I said before.

1 Q Okay. All right. I think --

2 A I don't know where it is.

3 Q So in your opinion figure 6 does show
4 rotation; however, you believe it could also show
5 translation as well?

6 A Yes. That could be. That could be the
7 case. It's just not detailed enough.

8 Q Okay. Understood.

9 Okay. Let's go to -- take a look at
10 figure 7 briefly, if you'd like, and I'll just
11 note for you there is a -- there's an element
12 labeled 108, which we'll look at here in one
13 moment in the spec is referred to as an adjustment
14 joint 108. It calls it an adjustment joint 108, a
15 joint 108 that can take the form of a pivotal
16 joint.

17 So I just want to draw your attention to
18 108, and then let's -- let's turn to column 7,
19 line 49 of the spec.

20 A Okay. I'm there.

21 Q Okay. And it states, another illustrative
22 example in the cap assembly 14 that includes a

1 mount or drink spout 100 that is pivotal within a
2 range of positions or configurations relative to
3 the base of the cap assembly is shown in figure 7.
4 As shown, the cap assembly includes an adjustment
5 joint 108, which is somewhat schematically
6 illustrated. As illustrative examples, the
7 mouthpiece, and at least a portion of the mount,
8 may be coupled to the base of the cap assembly by
9 a joint (and/or valve) 108, such as may take the
10 form of a pivotal joint, a ball joint, or other
11 suitable structure that provides for adjusting the
12 angular and/or rotational orientation of the mount
13 relative to the base of the cap assembly.

14 Do you see that?

15 A I do.

16 Q So is it correct that the joint 108 may be
17 what it calls a pivotal joint?

18 A If that's what it says, correct.

19 Q And as a pivotal joint, it says it may
20 provide for adjusting the angular and/or
21 rotational orientation of the mount.

22 Do you see that?

1 A I do.

2 Q Do you understand that to be describing
3 rotation?

4 A Specifically when it says ball joint,
5 that's more specific to me. Okay? Again, without
6 specifying exactly where the axis of rotation is,
7 I think -- I thin the figure's just leaving off
8 the fact that you can have translation and
9 rotation. But I agree when it says pivot -- what
10 did it call it again? -- yeah, a pivotal joint.

11 So it pivots about that joint, so it
12 rotates about the joint. Just without
13 specifically specifying an axis of rotation, as
14 I've discussed before, I think it also allows that
15 you could rotate and translate. That's all.

16 Q Okay. So at a minimum, there is rotation,
17 but there could also be translation as well, is
18 what you're saying?

19 A Correct.

20 Q Okay. Okay. I'm very briefly going to
21 turn -- hopefully -- so I'm going to put a
22 document in the chat that hopefully it transfers.

1 I think it's 25 megabytes.

2 A That's on the hairy edge.

3 Q It's -- it sounds like you have a physical
4 copy of it, so I think we should be okay, but I
5 just sent to you what's called Part 2 of
6 Exhibit 2001 in this proceeding, and it's -- so
7 it's a portion of the reexamination file history,
8 and I specifically want to go to Page 637 using
9 the page numbering that's been branded in the
10 bottom right of the document.

11 A Okay. This isn't opening for me, and I
12 don't want to click so much. So if you can just
13 find that specific excerpt from the file
14 history --

15 Q Well, if you have -- do you have
16 Exhibit 2001 --

17 MR. PETERSON: Jason, I think it's
18 actually in the Part 1 document, if I'm not
19 mistaken. So that'd be Exhibit 2001 Part 1, and
20 then there's Part 2s. And Part 2 has Page 1 to --

21 MR. MUDD: Because it's in -- it's in
22 Part 2 of mine, but --

1 MR. PETERSON: Maybe it was just a
2 mislabeling here. It doesn't matter. Like you
3 said, the page number at the bottom should be good
4 for us.

5 BY MR. MUDD:

6 Q And this may be in the excerpt, too. I
7 just don't have the page number. So --

8 A So which page number would it be, then,
9 Jason?

10 Q Well, it's -- it's 637 in Exhibit 2001.
11 This is that ten-pound binder.

12 Okay. Is this -- 631?

13 Q 637.

14 A 637. Okay.

15 So the top, I have kind of a grainy figure
16 of McDonough, I believe it is? Am I in the right
17 place?

18 Q No. It should be -- it should be figure 7
19 from the '255 patent.

20 A Okay. I'm with you. And it starts --
21 okay. Yes. Figure 7.

22 Just to make sure, the paragraph above

1 says independent claims 1 and 20; that's how it
2 starts?

3 Q Yes.

4 A All right. Success. I have that.

5 Q Okay. Great. And I'll just represent to
6 you that this -- this is a response to some
7 rejections from the patent office and the
8 reexamination, and the patent owner is making some
9 statements in response to those rejections.

10 A So these are statements in that paragraph
11 from the patent owner, correct?

12 Q Yes.

13 A Okay.

14 Q Okay. And I'll start at the top of that
15 section where it says, independent claims 1 and
16 20, as presented herein, recite that the resilient
17 mouthpiece is pivotal about an axis defined by the
18 pair of lateral projections as the pair of lateral
19 projections rotate within the pair of sockets.
20 This is shown, for example, in figure 7 of the
21 application.

22 Do you see that?

1 A I do, and that's the same figure 7 in the
2 patent itself, correct?

3 Q Yes, that's correct. However, it's been
4 annotated by the patent owner, as you can see.

5 Do you see the annotations?

6 A I do, yes. It's a little grainy, but I
7 think I can make them out.

8 Q And I think I believe the annotations show
9 within the circle of the pivotal joint or joint
10 108 is the word axis.

11 Do you see that?

12 A I see that, yes.

13 Q And then there is -- there's a circle
14 drawn overlaid on figure 7, and it says pivotal
15 about axis.

16 Again, in annotations from the patent
17 owner. Do you see that?

18 A I do.

19 Q And there are two lines along the radius
20 of the circle for the two positions depicted of
21 the mouthpiece and mount in figure 7.

22 Do you see those lines on the radius?

1 A You're talking about the ones that go
2 from -- they begin where it says axis and then
3 extends to the circumference, correct.

4 Q Yes.

5 A Yes. Okay. I see it.

6 Q Okay. And it says in the next sentence,
7 as shown above, the mouthpiece 72 is pivotal about
8 an axis.

9 Do you see that?

10 A I do. And as I looked at this dashed
11 circle where it says axis, it actually looks like
12 the axis is not at the center of the circle. It
13 looks like it's skewed to the left.

14 Q So you're saying the annotations are
15 slightly off?

16 A I'm just saying what I see in the figure.
17 It looks like they drew it off-center.

18 Q Okay.

19 A This is kind of like I was discussing when
20 we were discussing figure 6 earlier where it may
21 not be the center of the circle.

22 Q But is it your understanding that the

1 patent owner here is attempting to convey that
2 there is rotational motion occurring about an axis
3 of rotation in figure 7?

4 MR. PETERSON: Objection; form.

5 A It says at the bottom of Page 19,
6 mouthpiece 72 is pivotal about an axis defined by
7 the pair of lateral projections as they rotate,
8 but it doesn't show the lateral -- lateral
9 projections.

10 Q I think you're just assuming that there
11 would be projections in there that it's rotating
12 about.

13 A Yeah. You can't really tell from the
14 figure. But it says mouthpiece is pivotal about
15 an axis. Where that axis is -- again, it seems
16 like that axis seems to be a little off-center of
17 the circle, but that's what they indicate the axis
18 is.

19 Q So when the claims used the term pivotal
20 about an axis, do you understand that to mean
21 rotational about an axis of rotation?

22 A I think that's correct. It pivots about

1 an axis. Again, about an axis, at least one.

2 Q Okay. If you could now turn back to the
3 language of claim 1 of the '255 patent, which you
4 can find if you need it in the reexam certificate
5 Exhibit 1002.

6 A Are we all set with the --

7 Q Yeah, I believe so. Yes.

8 A Okay. It will still be here if you need
9 it.

10 Q Okay.

11 A Okay. Back to claim 1. I'm there.

12 Q Okay. So if you could go to the
13 limitation reciting a pivotal mount --

14 A That's online 41?

15 Q Yes.

16 A Okay. I'm there.

17 Q It recites a pivotal mount coupled to the
18 cap assembly base for pivotal movement relative to
19 the cap assembly base, the pivotal mount
20 comprising a mount outlet wherein the pivotal
21 mount includes a pair of lateral projections,
22 wherein the cap assembly base defines a pair of

1 sockets into which the pair of lateral projections
2 extend.

3 Do you see that language?

4 A I do.

5 Q And then if you go to the next limitation,
6 it recites, a resilient mouthpiece engaged with
7 the mount outlet and removably coupled to the
8 pivotal mount for pivotal movement with the
9 pivotal mount relative to the cap assembly base
10 wherein the resilient mouthpiece is pivotal about
11 an axis defined by the pair of lateral projections
12 as the pair of lateral projections rotate within
13 the pair of sockets.

14 Do you see that?

15 A I do.

16 Q Would you agree that the lateral
17 projections define an axis of rotation as the
18 lateral projections rotate within the pair of
19 sockets?

20 MR. PETERSON: Objection; form.

21 A The mouthpiece is the pivotal mount as is
22 defined pair of lateral projection. So, yes, the

1 resilient mouthpiece pivots about the axis defined
2 by a pair of lateral projections.

3 Q So would you agree that the lateral
4 projections define an axis of rotation as the
5 lateral projections rotate within the pair of
6 sockets?

7 A Yes. It is an axis of rotation.

8 Q And the mouthpiece is pivotal about this
9 axis of rotation, correct?

10 A Yeah. Again, it says it's pivotal about
11 an axis of rotation. Not only the -- it doesn't
12 single out the axis of rotation; that there is an
13 axis of rotation.

14 Q And specifically it's the axis of rotation
15 we just established in the prior question which is
16 the axis of rotation defined by the pair of
17 lateral projections, correct?

18 A Correct. So one of those axes has to be
19 the axis defined by the pair of lateral
20 projection.

21 Q And the mouthpiece engages in pivotal
22 movement with the pivotal mount about this axis of

1 rotation defined by the lateral projections,
2 correct?

3 MR. PETERSON: Objection; form.

4 A Yep. It says that pivotal movement with
5 the pivotal mount relative to the base -- we've
6 just been through this -- mouthpiece is pivotal
7 about an axis.

8 So it says the mouthpiece engaged with the
9 mount outlet coupled -- removably coupled to the
10 mount with pivotal movement pivots about an axis
11 defined by the lateral projection.

12 Q Okay. So is it correct that the
13 mouthpiece engages in pivotal movement with the
14 pivotal mount about the axis?

15 MR. PETERSON: Objection; form.

16 A Yes. The mouthpiece pivots about an axis
17 defined.

18 Q And this pivotal movement of the
19 mouthpiece about an axis is rotational movement,
20 correct?

21 A I guess it has to have a rotational
22 component because it says pivotal.

1 Q And specifically, it has to have a
2 rotational component about an axis defined by a
3 pair of lateral projections, correct?

4 A It has to be pivotal about at least one
5 axis. It doesn't say -- it's not restrictive in
6 the sense of it says the axis, there will only be
7 one axis involved. It says an axis.

8 So you are correct when it says at least
9 one of the axes has to be defined by the pair of
10 lateral projection.

11 Q And so it has to have a rotational
12 component about at least an axis defined by the
13 pair of lateral projections, correct?

14 MR. PETERSON: Objection; form.

15 A No, incorrect. It has to -- at least one
16 axis has to be defined by those lateral
17 projections.

18 MR. PETERSON: Jason, just a note. I
19 think we've been going about an hour and a half.

20 MR. MUDD: Okay. Thanks. Yeah, I think
21 I'm close to getting to the end of this line of
22 questions, so we should be getting close to a good

1 stopping point, if that's all right.

2 MR. PETERSON: That's great.

3 MR. MUDD: Okay.

4 BY MR. MUDD:

5 Q Dr. Vallee, as a principal of physics, for
6 motion of an object to be rotational motion about
7 an axis of rotation, the distance between the
8 object and the axis of rotation has to be
9 maintained constant for at least some period of
10 time, correct?

11 MR. PETERSON: Objection; form.

12 A I think it's more accurate to say that the
13 component of the motion of the object must be at a
14 fixed radius. You can have -- you can have -- you
15 can have general plain motion where something
16 rotates, it can do all the things while it rotates
17 as well.

18 What do I mean by that? For example, if
19 you look at the -- let's say the solar system.
20 Okay? Let's say the earth has a round orbit
21 around the sun. Okay? Just for the sake of
22 discussion. Let's say it goes in a circle, okay,

1 and let's say we're discussing the path of the
2 moon. Okay?

3 So the moon goes around the earth. Right?
4 And it's center of rotation is around the earth,
5 by it's also center of rotation around the sun.
6 Right? One would argue the moon doesn't go around
7 the sun.

8 So when I talk about one axis at least,
9 there could be more than one axis. So you could
10 have a point of the motion that has a rotation
11 about one point, but that doesn't preclude other
12 rotations around a point, a different point.

13 So to answer your question, a component of
14 rotation, if it's pure rotation in a circular
15 path, would have a constant distance from the
16 center of rotation for a circular path. Because
17 you can rotate in a noncircular manner.

18 It reminds me -- I used to play T-ball
19 with my son, and they'd have those balls connected
20 to a string that goes around a pole. Did you ever
21 see those? The idea was that it was -- it was a
22 batting aid, a trainer. So as you hit the ball

1 around the pole, the ball rotates around the pole,
2 but the string gets shorter, so it rotates around
3 but not in a fixed -- fixed radius.

4 Q So you said that for rotational motion, a
5 component of it must be at a fixed radius, right?

6 A Right. For the instantaneous motion,
7 there'd be a fixed radius.

8 Q Because otherwise, if there was not a
9 fixed radius maintained, the motion would become
10 translational rather than rotational, right?

11 MR. PETERSON: Objection; form.

12 A That's why I said -- that's why I said at
13 an instant, you could have a rotational component
14 and a translational component. You could have two
15 rotational components or more than that to a
16 motion. But if you pick individual ones out for a
17 circular path, the radius of curvature would be
18 constant.

19 Q And so what's your understanding of
20 translational motion?

21 A When you have core motion: up, down, left
22 right, in a plain, on an angle. Okay?

1 Translation of rotation, you can actually have
2 an -- translational motion would be in a plain --
3 we're talking about rigid body motion, which I
4 think is applicable here, general plain motion,
5 which is the most general motion, can be
6 rotational where it rotates about a point, for
7 example, it could be translational where it moves
8 in a plain, a combination of the two, or two
9 individual rotations.

10 Q Okay. When claim 1 recites that the
11 mouthpiece is coupled to the pivotal mount for
12 pivotal movement with the pivotal mount and also
13 recites that the mouthpiece is pivotal about an
14 axis defined by the pair of projections, do you
15 understand that to mean that the mouthpiece must
16 pivot in the same direction as the pivotal mount?

17 MR. PETERSON: Objection; form.

18 A Well, where specifically in claim 1 are
19 you? Because that sounded like familiar claim
20 language.

21 Q Yeah, yeah. It was the two elements we
22 just read from, the pivotal mount limitation and

1 the resilient mouthpiece limitation.

2 And my question is when it requires that
3 the mouthpiece be coupled to the pivotal mount for
4 pivotal movement with the pivotal mount --

5 A Mm-hmm.

6 Q -- about an axis, do you understand that
7 to mean that the mouthpiece and pivotal mount
8 pivot in the same direction?

9 MR. PETERSON: Objection to form.

10 A I'm sorry. I don't think it's that
11 specific. It's simply that they have to be -- the
12 mouthpiece has to be connected to the point where
13 it pivots about somehow. It doesn't necessarily
14 have to be the same direction. Like my moon and
15 earth analogy, right, we all know the moon goes
16 around the sun. It has to because the earth goes
17 around the sun, but it doesn't necessarily go in
18 the same direction. In general it does, but as it
19 goes around the earth, it may not.

20 So I don't think it's that restrictive. I
21 think it has to be connected to a point where it
22 goes on, where it travels on.

1 Q So you're using that example of the
2 pivotal joint 108 in figure 7 we had looked at
3 earlier, it's your view that the claims would
4 allow the pivotal mount and the mouthpiece to
5 rotate in opposite directions about that joint
6 108?

7 A Well, the joint 108 in figure 7 was just
8 one -- I'll call it one arm, spout, one spout.
9 Okay? In that example, there's only -- there's
10 only one piece. Right? But if you had two
11 different axis of rotation, that may not be the
12 case.

13 Again, the earth and the moon, if we're
14 talking about the moon, it rotates about the sun
15 and the earth. So there's a moon going around the
16 sun that also rotates around the earth.

17 Q But in -- in claim 1, the mouthpiece is
18 coupled to the pivotal mount, right?

19 A That just means it's connected somehow to
20 the pivotal mount.

21 Q So because it's connected, it's got to
22 pivot in the same direction, right?

1 A Well, again, the moon analogy, it doesn't
2 have to pivot in the same direction. It could be
3 the opposite direction. My knowledge of astronomy
4 is limited. I know the moon is in a synchronous
5 orbit, but I'm not sure the direction, but let's
6 say if we're looking down at the solar system and
7 the earth is traveling counterclockwise, the moon
8 could be traveling clockwise about the earth while
9 moving counterclockwise around the sun.

10 So its motion has a clockwise and a
11 counterclockwise component. And, again, I'm not
12 sure that the earth and the moon actually -- the
13 rotation is in that direction, but just as an
14 example of three spheres, the sun, the moon, and
15 the earth. They could travel in opposite
16 directions.

17 Q Is it your opinion in claim 1 that the
18 mouthpiece could be pivoting toward the stowed
19 position while the pivotal mount is pivoting
20 toward the dispensing position?

21 A Well, it depends on how the mouthpiece is
22 designed. The claims don't specify exactly how

1 it's designed. Is it one piece? Is it two
2 pieces? It doesn't say that. It says there is a
3 mount, there is a mouthpiece that could sit -- a
4 resilient mouthpiece, and it's connected to a
5 pivotal axis, but it doesn't --

6 Q They're connected to each other, right?

7 A Yeah, somehow. It doesn't say directly.
8 It's just connected. It has to be connected,
9 otherwise it wouldn't rotate around it. Right?
10 It just says that it's connected. It doesn't say
11 how.

12 Q But the -- the axis that's recited --
13 strike that.

14 The mouthpiece and the pivotal mount both
15 have to pivot about the recited axis, right?

16 A One component of the rotation has to be
17 about the axis.

18 Q For both the mouthpiece and the pivotal
19 mount, correct?

20 A Correct, just like the moon, again,
21 rotates about an axis about the sun. But it
22 doesn't say it has to be connected directly. It

1 just has to be connected somehow.

2 So, so long as it's connected and it moves
3 around, I think it satisfies the claim. But it
4 doesn't say -- I mean, it doesn't restrict, for
5 example, linkage. It just doesn't say.

6 Q So I just want to make sure I understand.
7 It's your view that the claim would allow for the
8 mouthpiece to be pivoting toward the stowed
9 position while the mount is pivoting toward the
10 dispensing position?

11 A I -- yes. It depends on how it's
12 designed. They're not mutually exclusive. They
13 could be both. They could rotate clockwise and
14 counterclockwise, depending on how it's designed.

15 Q Can you imagine a design sitting here
16 right now that would do that?

17 A Sure. (Inaudible) for one.

18 Q I'm sorry?

19 A Nakajima for one, that I talk about in my
20 declaration. Right? There's a linkage that
21 connects the mouthpiece to the center that can --
22 I can give you the figure to help you explain.

1 Q That's okay. I think we're getting close
2 to a break. I don't think we need to jump into
3 Nakajima yet. But I think I understand what
4 you're -- what you're saying.

5 Okay. Okay. This is a good time to take
6 a break. Is ten minutes good?

7 A Can we make it 15 just so I can grab a cup
8 of coffee?

9 Q Sure, sure. No problem.

10 (A recess was taken.)

11 BY MR. MUDD:

12 Q Okay. Welcome back, Dr. Vallee.

13 Okay. I'm going to need you to turn back
14 to that giant binder with the reexam file history
15 again, but we're just going one page from where we
16 were.

17 A Okay.

18 Q So we're going to Page 638.

19 A Okay. I'm there.

20 Q Okay. And I want to talk about the
21 McDonough reference that was discussed in the
22 reexamination. On this Page 638, you understand

1 this to be showing figures 2 and 3 of McDonough?

2 A Correct.

3 Q Now, the -- the straw -- and specifically
4 the tip of the straw which is portion 16, it moves
5 in an upward and downward fashion and not -- and
6 is not pivotal about an axis, correct?

7 MR. PETERSON: Objection; form.

8 A Well, where it's -- I think McDonough's
9 very specific on how the straw's connected. My
10 copy is very grainy, but I think the part that
11 rotates is 20. I think it's 20. And if the
12 shaded portion is the mouthpiece, there's a
13 portion of that mouthpiece that intersects 20. So
14 it rotates. It depends on which part of the
15 mouthpiece we're talking about.

16 Q I'm talking about the portion labeled 16
17 on the -- on the straw or mouthpiece.

18 A So that's the shaded portion, correct?

19 Q I believe so, yes.

20 A Yeah. I can't tell if it's 16 or 18. I
21 think it's the shaded portion. So what I'm saying
22 is the bottom of the shaded portion -- excuse

1 me -- is connected directly to that point, so it
2 just rotates. But the top, for example, closer to
3 the No. 18, that seems to go -- it rotates down to
4 the left, I think, is what it looks like in this
5 figure.

6 So it depends on which part of it you're
7 referring to.

8 Q Okay. So you're saying the -- the bottom
9 of the shaded area of the straw does rotate about
10 that axis labeled -- I believe it's 30; is that
11 right?

12 A Yes. 30 is circled, I guess, which seems
13 to be the axis of rotation, so yes. The bottom
14 portion of the shaded mouthpiece rotates about
15 that.

16 Q But the top portion of the shaded straw
17 near where the reference number I believe 16 is
18 does not rotate about 30; is that right?

19 A Well, that seems to rotate and translate
20 down into the left. The orientation seems to
21 change a bit. So if I drew -- it's hard -- if you
22 look at my pen as the mouthpiece, let's say that's

1 the mouthpiece, it seems to -- the whole
2 mouthpiece seems to move down and to the left and
3 rotate a little bit. So it's general plain
4 motion. It translates and rotates, just going by
5 those two figures, figure 2 and 3.

6 Yeah. It seems to change angle as it goes
7 down. So there's a rotational component and a
8 translational component.

9 Q Okay. So does the top portion of the
10 shaded straw near the number 16 pivot about the
11 axis 30?

12 A It's very difficult to see with these two
13 small grainy photos, but it seems to, as I said
14 before, translate -- rotate or pivot and
15 translate. It seems to do both.

16 Q If you still have Paper 9 handy, which is
17 the institution decision, and you go to Page 14 of
18 that, there's a clear representation of McDonough,
19 figures 2 and 3.

20 A Great. Let's see. Decision-granting
21 institution of the party review. That's what I
22 have, correct?

1 Q Yes.

2 A And you said page -- did you say Page 2?

3 Q No, Page 14.

4 A You are correct. Much better figure.

5 Okay. Thank you.

6 Okay. So I'm there.

7 Q Okay. One second.

8 So going back to -- so looking at Page 14
9 of Paper 9 showing figures 2 and 3 of McDonough,
10 so I believe you -- well, let me just ask you: So
11 is it your opinion that in McDonough, the top
12 portion of the straw where the -- near where the
13 numeral 16 appears, is it your opinion that that
14 portion is pivotal about access 30 in McDonough?

15 A Based on the limited information of
16 McDonough in the figure, it looks like there's the
17 motion of straw -- of the mouthpiece -- I'll call
18 it mouthpiece 60 tends to be rotational about 30,
19 and there is a translational component.

20 But it's really unclear, and I did review
21 McDonough. I believe it was part of the file
22 history, but I don't recall McDonough being very

1 specific on exactly how the straw is held in 20,
2 so it's very difficult to say.

3 So I guess my answer is it appears that it
4 rotates and translates, but there's really not a
5 lot of information in McDonough to nail it down as
6 to exactly how that moves. McDonough was just
7 designed, I believe, so that the straw stays more
8 or less upright so liquid doesn't spill out of it
9 if the container is put on its side or something
10 like that. I don't remember him going into detail
11 on exactly what the motion of that is. He just
12 says it's basically generally up in there.

13 Q Okay. If it would help, so McDonough
14 itself actually is of record, so I'll drop into
15 the chat Exhibit 2008.

16 (Exhibit 2008 was marked for
17 identification and is attached to the transcript.)

18 Q If you could confirm that that is
19 McDonough.

20 A Yes, it is.

21 Q Okay.

22 A The figures are nice and clear, too.

1 Okay. So I have it.

2 Q Okay. Do you see what's labeled
3 element 35?

4 A Which figure?

5 Q In -- it would be in figure 2 because it
6 looks to be -- yeah, the number disappears in
7 figure 3 or is not labeled in figure 3.

8 A Okay. I see it. 35.

9 Q So -- then if you go to Paragraph 21 of
10 McDonough.

11 A Got it.

12 Q We don't have line numbers, but there's a
13 sentence that refers to element 35. It's about
14 halfway down. It says, straw-positioning No. 28.

15 Do you see that sentence?

16 A Yep, I got it.

17 Q So it says, straw positioning No. 28
18 preferably includes a downwardly extending arm 35
19 that has a recess 36 defined at its distal end for
20 receiving the flexible straw 14. When the straw
21 positioning mechanism 20 is in the second closed
22 position shown in figure 3, the flexible straw 14

1 will be bent into a horizontal S-shaped
2 configuration by the downwardly extending arm 35
3 so as to be crimped in a first location 44 and
4 also in a second location 46 that is adjacent to
5 the recess 36.

6 Do you see that?

7 A I do.

8 Q So is it your opinion that the downwardly
9 extending arm 35 is pivotal about access 30?

10 A Yes. Every part of that piece is pivotal
11 about 30. So 35 being part of -- I'm not sure if
12 20 is actually just that rigid piece that precedes
13 the straw, I think it is, but that rotates around
14 30.

15 Q And so would it be your opinion that the
16 portion of the straw -- well, actually, strike
17 that.

18 The arm 35 is not attached to the straw,
19 and instead, the straw can move relative to that
20 arm 35, right?

21 MR. PETERSON: Objection; form.

22 A I don't think it says that. We just read

1 that passage. Right? It just says it recedes it.
2 Where did we just see that?

3 I'm around the middle again where we
4 started. Preferably includes downwardly extending
5 arm 35 that has a recess defined in the distal and
6 forward receiver, the straw.

7 So they -- the straw goes into some recess
8 36, but it doesn't say how. I mean, does it slide
9 in there or is it rigid? It really doesn't
10 explain it, and I don't think the figure -- 36 is
11 only, I think, in figure 34, which kind of shows
12 the possibility that that's like an opening on
13 that face of component 28. I don't think it says
14 36 is any other figure.

15 So you really can't tell how it's
16 received. So we can't tell if the straw kind of
17 slides as it moves within that because you can't
18 see where 36 is really. It's difficult to see
19 when it's crimped. You really can't tell from
20 these figures. It doesn't go in any really
21 description.

22 Q So if you turn back to the reexam file

1 history, Exhibit 2001, and go to Page 636.

2 A Okay. Hold on. 636. Okay. I'm there.

3 Q And it says, the straw in McDonough passes
4 through opening 36 and is not engaged with the
5 opening 36. As shown in the annotated figure
6 below, the straw-positioning mechanism 20 does not
7 have a mount outlet and the first end 16 of straw
8 14 is not engaged with a mount outlet of the
9 straw-positioning mechanism 20.

10 And if you go to the next page -- no, I'm
11 sorry, the bottom of that same page, the next
12 paragraph, it says, additionally, as shown above,
13 the straw 14 in McDonough passes through the
14 straw-positioning mechanism 20, but it is not
15 coupled or removably coupled to the
16 straw-positioning mechanism 20.

17 Do you see that?

18 A Isn't that the petitioner's comment?

19 Q It's the patent owner's statement.

20 A Yes, I'm sorry. So that's the patent
21 owner. Okay.

22 Q And do you disagree with the patent

1 owner's statement as shown on Page 636 of
2 Exhibit 2001?

3 MR. PETERSON: Objection; form.

4 A I'm at the top paragraph on Page 636.
5 Okay? The straw passes through the opening 36. I
6 think that's correct because it says in the
7 patent -- is not engaged -- and is not engaged in
8 the opening 36. I don't understand that because
9 if it passes through, why isn't it engaged? So I
10 don't -- I don't understand why they said that.

11 Existing mechanism 20 does not have a
12 mount outlet. I'm not sure why they said that,
13 either. Does not engage with the mount outlet.

14 I mean, I think they're trying to compare
15 apples to oranges with this design and the '255
16 patent.

17 Q What about the next sentence? So you
18 disagree with the next sentence?

19 A Well, I think what -- what I'm saying is I
20 don't know why they -- I don't understand the
21 reason for that. Right? Without going through my
22 whole analysis of McDonough, at first glance, I

1 don't necessarily agree or disagree, but it seems
2 odd to me that they'd say at the top that it
3 passes through the opening but it's not engaged
4 with the opening.

5 Q And if we turn to the next sentence, they
6 say, additionally, as shown above, the straw 14 in
7 McDonough passes through the straw-positioning
8 mechanism 20, but it is not coupled or removably
9 coupled to the straw-positioning in mechanism 20.

10 Do you see that?

11 A I do.

12 Q And do you disagree with that?

13 A Well, I don't understand where they get
14 that from. When you read McDonough, it doesn't
15 really tell you either way. McDonough doesn't say
16 that it's not coupled or removably coupled. I
17 mean, if it's a slot, right, I don't understand
18 why -- if there's a slot, why can't you just pull
19 it in and out of the slot? He doesn't really give
20 you that information, so I don't know why they
21 come to that conclusion.

22 Q So if you go to -- back down to

1 Page 638 --

2 A Okay.

3 Q When you do the side-by-side of figure 2
4 and figure 3 on 638, can you see that the exposed
5 portion of straw that's shaded is longer in
6 figure 3 than in figure 2?

7 MR. PETERSON: Objection; form.

8 A I'm going to go back to my digital. I
9 can't tell if it's really longer or not because as
10 it forms, it starts out with kind of a curved
11 configuration in figure 2 where it curves up and
12 to the right, then it looks rather straight. You
13 can't really tell if it's longer or not.

14 Q It's your opinion you can't tell in
15 looking at figures 2 and 3 side by side whether
16 the exposed portion of straw's longer in figure 3
17 than figure 2?

18 A When you say exposed, you mean beyond
19 component 28, correct?

20 Q Correct.

21 A I see -- so looking at figure 2, and I
22 look at just below where the straw 14 fits into

1 that triangular region where 36 would be right at
2 the lower right, so I see a small little triangle
3 of shaded straw, if you will, below it. Okay?
4 Then I go to figure 3, and I still see a small
5 little piece of triangle to the lower left of
6 that.

7 Do you see where I'm talking about? It's
8 like where the -- I'll call it a mouthpiece where
9 16 couples with 14, I guess. 14 is the entire
10 straw, and 16 is a mouthpiece.

11 Now, if we take that, it looks like it
12 doesn't -- or maybe it does, because the triangle
13 in figure 3 is a little smaller. That's why I say
14 you really can't tell.

15 Q Which triangle are you referring to?

16 A I'm sorry. If we look at figure 2, and
17 you see where there's a line below the shaded
18 mouthpiece. I'm looking at the -- the patent
19 itself because the figure I have that's shaded on
20 Page 638 is so grainy. But if you look -- I see.
21 Yeah. There's a line that goes through it.

22 So I'm on the -- I'm on the McDonough

1 patent on figure 2, and do you see where it points
2 to 35?

3 Q Yes.

4 A You have an upper incline surface and
5 almost a horizontal surface behind it. It forms
6 kind of a triangle in 35 where the vertex of the
7 triangle is in the lower right.

8 Now, if you go -- so that's basically the
9 component -- the region 35 where it connects to
10 the straw, the mouthpiece, whatever.

11 And if you look just below that line of
12 35, you see a little triangle, which I take that
13 to mean it's part of that shaded -- I'll call it
14 mouthpiece 16, if that's the correct terminology.
15 Okay?

16 Q Mm-hmm.

17 A I see the same triangle down in figure 3,
18 but now that horizontal surface of 25 is almost
19 vertical. Do you see it? There's a triangle to
20 the lower left. That would imply that maybe the
21 straw doesn't slide. But are those triangles the
22 same size, I don't know. So I don't really have

1 enough information to tell you, and he doesn't
2 disclose how it's connected. Does it slide? Does
3 it not slide? Is it rigid? Is it not rigid? I
4 just don't know.

5 Q Okay. Can we turn back to the reexam file
6 history 2001? And specifically to -- let's see --
7 so let's start where we looked at before. Let's
8 start on Page 637. This is a portion -- this is
9 the page we looked at previously where the patent
10 owner annotated figure 7 of the '255 patent and
11 states that the mouthpiece 72 is pivotal about an
12 axis.

13 Do you see that on 637?

14 A I do.

15 Q Okay. And then if you turn to the next
16 page, 638, the patent owner argues that, however,
17 portion 16 of the straw in McDonough (mapped to
18 the resilient mouthpiece) is not pivotal about an
19 axis defined by the pair of lateral projections as
20 the pair of lateral projections rotate within the
21 pair of sockets, as required by the claims. This
22 is shown, for example, in figures 2 to 3 of

1 McDonough.

2 And as shown in the figures above, when
3 the straw-positioning member 20 is pivoted about a
4 pivotal axis, the end portion 16 of straw 14 is
5 pulled down towards. The end portion 16 of the
6 straw (mapped to the resilient mouthpiece) is not
7 pivotal about an axis defined -- excuse me --
8 defined by the pair of lateral projections as
9 required by the claims.

10 Do you see that?

11 A I do.

12 Q So is your understanding that the patent
13 owner is arguing that the end portion 16 of the
14 straw is not pivotal about a pivotal axis? Do you
15 see that?

16 A I do.

17 Q Okay. Applying that understanding that
18 the patent provided to the patent office of what
19 pivotal about a pivotal axis means, would it be
20 your understanding that pivotal about a pivotal
21 axis requires pure rotational motion as opposed to
22 a combination of rotational and translational

1 motion?

2 MR. PETERSON: Objection; form.

3 A I think that the patent owner's position
4 is that portion 16 of the straw is pulled
5 downward. It doesn't rotate. I believe that's
6 what their position is. And I don't know how they
7 can take that position, but that is their
8 position. I believe you are correct.

9 Q And why do you say you don't know how they
10 can take that position?

11 A Because to me, looking at the figures, the
12 mouthpiece does go up and down and translate, but
13 it also rotates as it goes down. And if member 35
14 as the figures in McDonough apply, okay, if 35 is
15 connected to -- again, I'll call it a mouthpiece.
16 I don't remember what it's called. Mouthpiece.
17 That's fine.

18 So if the mouthpiece is connected somehow
19 and is not specific, but I would discuss the
20 little triangle on 35 that seems to be present in
21 figure 2 of McDonough and three, then that part of
22 14 is connected and it rotates about 30. Any

1 other portion that also -- that moves up and down
2 and may change its angle is part of that
3 component, then it also has to rotate about 30.

4 That's why I don't understand how they can
5 make that statement.

6 Q So you're saying that the tip of the straw
7 has a rotational component because it's connected
8 to a portion of the straw that does rotate; is
9 that what you're saying?

10 A That's close. I mean, it's one component.
11 Okay? It's a different piece of the same
12 component. I'm trying to make arguance (sic) that
13 they have different motion. I'm not sure that's
14 appropriate. Okay?

15 Read what they said again. It's not --
16 end portion 16 is not pivotal about the axis. And
17 I don't necessarily agree with that because 16
18 comes -- I know you can't see the pen. 16 comes
19 down to the left. Okay? Because of where it is,
20 16 rotates about the axis and also translates.

21 So I'm not sure why they said that. I
22 don't know what they are -- what their rationale

1 for that is, because the change in inclination is
2 there's a rotational component.

3 Q And is it your view that the part of the
4 straw at the arm 35 engages in pure rotational
5 motion about the axis 30?

6 MR. PETERSON: Objection; form.

7 A It appears so. Again, it's hard to tell.
8 He doesn't give you any information. The little
9 triangle under 35 we've been discussing, it's
10 there in figure 2 and 3, but I don't know if it's
11 the same size. You really can't tell.

12 But if it's the same size and they are
13 more or less connected such that the straw doesn't
14 slide through 36, then that would rotate about 30,
15 whereas 16 is connected and also rotates, but it
16 has a translational component where it goes down
17 and to the left.

18 Q So if we're allowed to take the patent
19 owner at their own word as to what their claim
20 terms they wrote mean, then would you understand
21 their arguments with regard to McDonough to mean
22 that to be pivotal about a pivotal access requires

1 pure rotational motion about the axis?

2 MR. PETERSON: Objection to form.

3 A Well, I think you're simply trying to
4 justify the fact that McDonough doesn't justify
5 the claims. So they're arguing that 16 is not
6 pivotal because of the up and down motion.

7 Q And so do you understand patent owner to
8 be saying that to be pivotal about an axis, as
9 they use that term, means that it must be pure
10 rotational motion without a translational
11 component?

12 MR. PETERSON: Objection; form.

13 A I think they're trying to come up with a
14 definition of McDonough that they can argue does
15 not satisfy the claim here, because I discussed I
16 don't see how they can look at McDonough and make
17 that conclusion. I understand that they're trying
18 to say that McDonough doesn't satisfy it, but I
19 don't see a justification of how they can look at
20 McDonough and make that statement based on what we
21 just discussed. Description of how they connect,
22 et cetera.

1 MR. MUDD: Ms. Schweitzer, could you read
2 back my question, please?

3 (Pending question was read back by the
4 court reporter.)

5 THE WITNESS: With respect to McDonough, I
6 think that's what they're trying to argue.

7 Q Okay. Thank you.

8 So you can set aside the giant reexam
9 history. I'm hopeful we're done with it for
10 today, but don't hold me to it if you have to dig
11 it out again.

12 A I did all my reps today, so I'm good.

13 Q So we looked at, in claim 1, we've used
14 this term a lot today, and the term is a resilient
15 mouthpiece.

16 And my question for you is what is your
17 understanding of what a mouthpiece is?

18 A It's a component that is, you know, usable
19 to the person's mouth so that the fluid can get
20 from the conduit, from the container to the user.

21 Q Okay. Let's turn to -- I'm going to drop
22 it into the chat -- Exhibit 1004, which is an

1 English translation of the Nakajima prior art
2 reference.

3 (Exhibit 1004 was marked for
4 identification and is attached to the transcript.)

5 Q This is what you referred to as Nakajima
6 in your declaration, correct?

7 A Correct.

8 Q And you've analyzed this reference and are
9 familiar with it?

10 A I am.

11 Q Okay. If you could turn to Paragraph 82
12 of your declaration.

13 A Okay. I'm just going to grab a hard
14 copy -- I do have a hard copy of Nakajima, too.

15 Q Okay.

16 A Nakajima --

17 Q And I'm at Paragraph 82 in your
18 declaration.

19 A Okay. I found Nakajima.

20 Q Okay.

21 A Okay. Paragraph 82. So that would be
22 Page 45, correct?

1 Q Yes, that's correct.

2 A Okay. I'm there.

3 Q And in 82, you say, for example, Nakajima
4 discloses two structures that pivot to form a
5 pivotal mount.

6 Do you see that?

7 A I do.

8 Q And you say that the first is lid 4.

9 Do you see that?

10 A I do.

11 Q And then on the next page, you note that
12 leg pieces 21 are fixed to the underside of the
13 lid and pivot with the lid.

14 Do you see that?

15 A I do.

16 Q So the first structure -- strike that.

17 And then the second structure, you
18 mention, the next sentence, you say, the second
19 structure of Nakajima's pivotal mount is the arms
20 23 on the mouthpiece 2, which are rotatably fitted
21 to the leg pieces 21.

22 Do you see that?

1 A I do.

2 Q And then in the last sentence of that
3 paragraph, you say, thus, one of skill in the art
4 would have understood the combination of
5 Nakajima's lid 4 having leg pieces 21, and the
6 mouthpiece bracket arms 23 of mouthpiece 2 to
7 constitute a pivotal mount.

8 Is that correct?

9 A Correct.

10 Q And that's a correct statement of your
11 opinion of what constitutes the claimed pivotal
12 mount of the '255 patent in Nakajima?

13 MR. PETERSON: Objection to form.

14 Q Sorry. Did you say yes?

15 A Yeah.

16 Q And you stand by that opinion?

17 A I do.

18 Q And you've colored all these components of
19 the alleged pivotal mount pink in the annotated
20 versions of figure 2 and 3 on Page 46 of your
21 declaration, correct?

22 A That's right.

1 Q As you note in Paragraph 82, the arms 23
2 are actually part of what Nakajima calls
3 mouthpiece 2, correct?

4 A I'm just looking at Nakajima quickly.

5 Q And it may help you to go to Page 47 where
6 you have an excerpt of figure 1 that you've
7 annotated from Nakajima. And I know that you cite
8 to Paragraph 16 of Nakajima when you refer to the
9 arms 23 on the mouthpiece 2, so let's -- why don't
10 we look at Paragraph 16 of Nakajima, the third
11 sentence.

12 A I just got there.

13 Q Okay.

14 A So --

15 Q I'll go ahead and read it into the record.
16 A pair of leg pieces 21 and 21 (sic) are provided
17 on the underside of lid 4 in the protrusion 24 on
18 the arms 23 of the mouthpiece 2 is rotatably
19 fitted into a hole 22 at the bottom end of each
20 leg piece 21.

21 Do you see that?

22 A I do.

1 Q So you agree, then, that the arms 23 are
2 actually part of what Nakajima calls mouthpiece 2,
3 correct?

4 A They're definitely connected to the
5 mouthpiece. So I wrote in Paragraph 83 on
6 Page 46 -- let's see -- the mouthpiece extends
7 from the base of the bracket formed by arms 23.

8 So Nakajima says it's all -- the two
9 components, they're molded together into a
10 mouthpiece.

11 Q Okay. So when Nakajima refers to
12 mouthpiece 2, the arms 23 are part of that
13 mouthpiece 2, right?

14 A Yeah. They're connected to it. Yes.

15 Q Okay. And you just said molded as one
16 component?

17 A It could be. I'm not sure he specifically
18 says that. He doesn't really discuss the material
19 of the arms, but they're put together into one
20 piece.

21 Q Okay. And as we just read, Nakajima calls
22 it the arm 23 of the mouthpiece 2, right?

1 A That's what he says, yes.

2 Q Okay. And you contend that the portion of
3 mouthpiece 2 that is comprised of the arms 23 is
4 part of the claimed pivotal mount that you've
5 colored pink and is not part of the claimed
6 mouthpiece that you've colored green, correct?

7 MR. PETERSON: Objection; form.

8 A I go on later in my declaration to explain
9 how one in the art would go and form a mouthpiece
10 as a separate component for ease of cleaning and
11 things like that. So here in my declaration, I'm
12 talking about Nakajima -- okay. Before I made
13 this statement about what one would do, this claim
14 element is a -- yeah. This portion, we're talking
15 about just the pivotal.

16 So to answer your question, Nakajima lumps
17 them all into a mouthpiece because they think it's
18 formed in one component, but that component has
19 different pieces.

20 Q And so you contend that the portion of
21 mouthpiece 2 that's comprised of the arms 23 is
22 part of the claimed pivotal mount that you've

1 colored pink, right?

2 A Right. 23 is part of the pivotal mount.

3 Q And so arms 23 are not part of what you
4 contend is the claimed mouthpiece that you've
5 colored green, correct?

6 A It's connected to a mouthpiece. Whether
7 or not it's molded or fabricated as one piece to
8 the arms of 23 and the mouthpiece that actually
9 contacts your mouth is what I highlighted.

10 Q Okay. But when you identify what you
11 contend is the claimed mouthpiece that satisfies
12 the mouthpiece of -- of the '255 patent, you don't
13 include the arms 23 within that, correct?

14 MR. PETERSON: Objection to form.

15 A No. I discuss that -- just bear with me
16 for a second.

17 Q Yeah, sorry. I may have gotten ahead. So
18 we can turn to Page 50. Let me just rephrase it.

19 A Okay. Thank you. Page 87.

20 Q I'm sorry?

21 A I'm on -- I'm sorry. I'm on Paragraph 87
22 on Page 50. Okay? Where I discuss just what I

1 was alluding to. The figure -- the above figure
2 makes clear, in a two-component configuration,
3 overall design of Nakajima's mouthpiece into
4 bracket arms would remain essentially unchanged.

5 So just one second so I can just review
6 this section quickly.

7 Q Sure.

8 A Okay. So I'm on Paragraph 85 where I
9 discuss that that claim limitation, the resilient
10 mouthpiece engaged with the mount outlet and
11 removably coupled to the pivotal mount of pivotal
12 movement, the pivotal mount relative to the cap.
13 Okay?

14 And on Page 49 at the top, second
15 sentence, as I explained all this limitation would
16 have been obvious with Nakajima, in -- a person of
17 ordinary skill in the art. And then I go on to
18 explain why one would do that. So it's not
19 Nakajima's view of one skilled in the art.

20 Q Okay. And so with your annotations on
21 Page 50 of your declaration, you're intending to
22 color what you contend as the claimed mouthpiece

1 of the -- of claim 1, the '255 patent, green,
2 correct?

3 A Correct.

4 Q And so because you've colored the arms 23
5 pink, you're intending for the arms 23 to be part
6 of what you contend is the pivotal mount rather
7 than part of the mouthpiece that's colored green,
8 right?

9 A Correct, and that's what I explain in
10 Paragraph 86. Third sentence, I say, however, in
11 my opinion, it would have been obvious to one of
12 skill in the art to modify Nakajima to achieve
13 what I stated at the beginning of Paragraph 86,
14 the mouthpiece 2 and the arms are two portions of
15 a single component.

16 And then I go on to say Nakajima does not
17 disclose the mouthpiece can be removably
18 coupled -- so what I'm saying is one in the art
19 would understand to take Nakajima's mouthpiece and
20 simply make a resilient portion that's coupled to
21 the legs 23, and then I go on to illustrate why
22 that would be, why one would do that.

1 Q Okay. Okay. If you could go back to
2 Paragraph 84, please.

3 A Okay.

4 Q And if you could, go to the second
5 sentence which starts on the next page, Page 48.
6 And in that sentence you discuss Nakajima's hinge
7 shafts 19 that are rotatably fitted into the
8 recesses 17; is that right?

9 A That is correct.

10 Q Now, you contend that the hinge shafts 19
11 constitute the claimed lateral projections that
12 define the claimed axis in claim 1; is that
13 correct?

14 MR. PETERSON: Objection; form.

15 Q I'm not trying to trick you. It's the
16 very last sentence of 84, Paragraph 84.

17 A Just got there. So that is correct.

18 Q Okay. So it is correct that the hinge
19 shafts 19 constitute what you contend are the
20 claimed lateral projections that define the
21 claimed axis in claim 1, correct?

22 A Correct.

1 Q Okay. And so is it correct that you
2 contend that the recesses 17 constitute the
3 claimed sockets?

4 A That's right.

5 Q And other than the hinge shafts 19, you
6 don't rely on anything else in Nakajima as
7 constituting the lateral projections that define
8 the claimed axis, correct?

9 A I believe that's correct. Just let me go
10 back here.

11 That's correct. That's the claimed axis.

12 Q Okay. If you could go to Paragraph 103.

13 A Okay.

14 Q And specifically in the second sentence,
15 you state, thus, the hinge shafts are a pair of
16 lateral projections that rotate within a pair of
17 sockets and thereby define an axis of rotation of
18 the pivotal mount (i.e., lid 4).

19 Do you see that?

20 A Let me just read that paragraph.

21 Okay. Yep.

22 Q And you label this axis of rotation in the

1 annotated version of figure 1 of Nakajima on
2 Page 58 of your declaration in black and name it
3 pivot axis; is that right?

4 A Correct.

5 Q So would you agree that a pivot axis is
6 synonymous with an axis of rotation?

7 A Yes. I say in the second to last
8 sentence, thus, the hinge shafts are a pair of
9 lateral projections that rotate within a pair of
10 sockets and thereby define an axis of rotation of
11 the pivotal mount. That's correct.

12 Q Okay. And on the next page, 59, you label
13 this same access of rotation defined by the hinge
14 shafts 19 as an axis of pivot; is that correct?

15 A That's right.

16 Q So an axis of pivot is also synonymous
17 with an axis of rotation, correct?

18 MR. PETERSON: Objection; form.

19 A Axis of pivot is the same as pivot axis,
20 and that's analogous with the axis of rotation of
21 the pivotal mount. Sure.

22 Q Okay. Thank you.

1 In the very last sentence of Paragraph 103
2 below that figure on 159, you state, thus,
3 Nakajima's mouthpiece pivots along the axis
4 defined by the hinged connection between the
5 pivotal mount and cap assembly base.

6 Do you see that?

7 A I do.

8 Q Did you perhaps mean to say pivots about
9 instead of pivots along?

10 A I mean, about would be just as
11 appropriate.

12 Q Okay.

13 A But you could say --

14 Q When you said pivots along, you meant
15 pivot about?

16 A Yes.

17 Q Okay.

18 A And I think I said along because you're
19 thinking of talking about an axis that it actually
20 goes beyond the natural structure -- you know,
21 it's --

22 Q I see.

1 A So I think "pivots about" would work just
2 fine as well. That's all.

3 Q Okay. Okay. Understood.

4 On Page 59 of your declaration, in the
5 annotated version of figures 2 and 3, what portion
6 of Nakajima's mouthpiece do you contend pivots
7 about the axis defined by the hinge shafts 19?

8 A Figures 2 and 3?

9 Q Yeah. It's the annotated figures --
10 they're figures 2 and 3 from Nakajima.

11 And so let me restate it. So on Page 59
12 of the annotated version of figures 2 and 3, what
13 portion of Nakajima's mouthpiece do you contend
14 pivots about the axis defined by the hinge shafts
15 19.

16 Q

17 A That's the entire mouthpiece.

18 Q And so des entire mouthpiece, do you mean
19 the entire mouthpiece 2? Is that what you mean?

20 A Well, it's -- if we talk about one in the
21 art would do it with, it's the green portion
22 pivots about that point, and the arms 23 and 24,

1 they all pivot about that axis, the pivot axis.

2 So it's everything.

3 Q Gotcha.

4 You drew a red ark with a dashed line on
5 Page 59 of your declaration. Do you see that?

6 A I do.

7 Q The red ark only extends to the arms 23 of
8 mouthpiece 2 and not to the portion you've colored
9 green for mouthpiece 2; is that correct?

10 A Well, I wasn't trying to use that -- I was
11 just trying to show the shape of the general
12 travel. I wasn't trying to -- excuse me -- pick a
13 point and say this specific distance was what
14 rotates.

15 As I said, there's the whole mouthpiece
16 opens. That ark just signifies generally a path
17 of travel. There's no significance in the length
18 of the ark. I could have drawn the ark farther
19 out, farther in. It was just to show, you know,
20 in general what the path is.

21 Q But the green portion of mouthpiece 2
22 doesn't actually travel along that red dashed ark

1 that you drew, correct?

2 A Again, I didn't draw the ark to indicate
3 any more than the shape of travel. Where I put
4 it, is not meaningful. I just drew an ark because
5 every point on that mouthpiece travels about the
6 pivot axis, because the pivot axis is the primary
7 access of location. There also happens to be a
8 secondary access that goes through pins -- I'll
9 call them pins 24, for example, but the whole body
10 has to rotate about that axis. So where you put
11 the end of the ark, it really doesn't matter. It
12 was just to indicate a shape, a shape of travel.

13 Q Just using your red-dashed ark as an
14 example, the wall 11 actually prevents -- strike
15 that.

16 Before I get to that, let me ask you this:
17 So figure 3, which is shown on the right of
18 Page 59 of your declaration, depicts the lid of
19 Nakajima in a fully open position, correct?

20 A It is open, correct.

21 Q And it's -- it's fully open in figure 3 on
22 the right, correct? Meaning the lid cannot open

1 farther than the right of figure 3 of Nakajima,
2 correct?

3 A That is correct.

4 Q And we can read real quick from
5 Paragraph 16 of Nakajima in the last sentence of
6 Paragraph 16, Nakajima says, when the lid 4 is
7 open to its maximum extent, the outer surface of
8 the lid comes into contact with the contact
9 portion 25 at the upper end of the rear wall of
10 the stopper body 1 as shown in figure 3.

11 Do you see that?

12 A I do.

13 Q So when Nakajima says the lid's open to
14 its maximum extent, it's saying the lid is fully
15 open and cannot go farther in figure 3, correct?

16 A That's correct.

17 Q Okay. So from figure 3, the position
18 shown in figure 3, the lid 4 can only rotate in a
19 counterclockwise direction towards the closed
20 position shown in figure 2, correct?

21 A Well, when you close the lid, it would
22 rotate counterclockwise. Correct.

1 Q So from the position shown in figure 3,
2 which you agreed is the fully open position, it
3 can only rotate in a counterclockwise direction,
4 correct?

5 MR. PETERSON: Objection to form.

6 A Correct, from position -- it can only --
7 from that position in figure 3, it can only rotate
8 counterclockwise.

9 Q When the lid 4 rotates counterclockwise
10 from the position shown in figure 3, the
11 mouthpiece portion you've colored green rotates in
12 a clockwise direction about a separate axis of
13 rotation that is not the axis defined by hinge
14 shafts 19, correct?

15 MR. PETERSON: Objection to form.

16 A The motion is always rotation -- it's a
17 combination of the rotation. It always has to
18 rotate around pivot axis 19, for the projection.
19 No matter where it is, it's always rotating about
20 that point, but it also, the secondary access of
21 rotation, is 24. So even though it may be
22 rotating, for example, when I close the lid from

1 position in figure 3, even though it may rotate
2 with respect to the pin 24 at that point, it still
3 is rotating about pin 19, but because it's
4 connected to pin 19, that's the analogy we
5 discussed earlier about the earth may rotate from
6 the top counterclockwise fashion. If the moon
7 rotates clockwise, it's still rotating about the
8 sun in the same direction. The mouthpiece always
9 has to rotate about 19.

10 And I'll add that the portion of the
11 mouthpiece -- well, I think that's -- I think that
12 says it adequately. It has to rotate around 19
13 because it's connected to 19.

14 Q Does any portion of mouthpiece 2 maintain
15 a fixed radius with respect to the hinge access
16 19?

17 MR. PETERSON: Objection; form.

18 A Well, it doesn't have to to still be
19 rotating about that. This is -- this is not a
20 fickle one-element rotation. This rotation
21 involves two axes. So with two axes, it doesn't
22 have to have any point on it with a fixed radius.

1 I think we discussed this earlier. The
2 simplest thing about a rotation where just one
3 object has one pivot point, rotates around a
4 circle, okay, is different than a rotation that
5 has two different components. Right?

6 The sum of the rotation of the mouthpiece
7 equals the rotation about the axis that goes
8 through 19 plus the rotation that goes through pin
9 24. It has to be the sum of the two. Therefore,
10 you can't just take the access about pin 19 out of
11 the picture. Then you have a different motion.
12 The motion is always the sum of the two, so both
13 have to be present. It has to be rotating about
14 that axis 19, and it has to rotate about 24.

15 MR. PETERSON: Jason, just a quick note:
16 It's about 1:30 on the East Coast, so when you
17 have a chance, if we could get ready for a lunch
18 break.

19 MR. MUDD: Okay. I mean, I'm getting
20 close to being done with the deposition, and so --

21 MR. PETERSON: I'll defer to Dr. Vallee to
22 how you're doing. I just wanted to mention that

1 because I know it's a little bit later on the East
2 Coast.

3 THE WITNESS: So if we're close, Jason, if
4 we just take maybe five minutes -- or ten minutes
5 and then come back and finish it up, that'd be
6 great. We don't need to take a lunch break.

7 MR. MUDD: Okay. Yeah, if you're good
8 with that, we can just wait until after. I mean,
9 yeah. I literally have, you know, less than a
10 page left in my outline. So --

11 THE WITNESS: Yeah. Let's just take five
12 minutes and then come back. We'll finish it up.
13 That sound good?

14 MR. MUDD: Yeah, sounds good.

15 THE WITNESS: Okay. See you in five.

16 (A recess was taken.)

17 BY MR. MUDD:

18 Q All right. Dr. Vallee, earlier in your
19 deposition we were discussing some principles of
20 physics, and I believe one of those, you said, was
21 that rotational motion by definition requires a
22 fixed radius between the rotating object and the

1 axis of rotation for at least some period of time,
2 correct?

3 MR. PETERSON: Objection; form.

4 A Well, again, that was correct for a simple
5 body rotation. That was for the simplest form of
6 rotation where you simply -- the pure rotation
7 where you simply have one pivot point and one,
8 I'll call it -- for a circular path is about a
9 fixed radius. But I believe I also said the
10 rotation doesn't necessarily have to be circular.
11 That is what I testified to.

12 Q Okay. You'd agree pure rotational motion
13 requires a fixed radius, correct?

14 A For -- yeah, for simple one, simple body
15 rotating a circle about a fixed point, it rotates
16 about a fixed radius.

17 Q And for a noncircular path, you would have
18 a combination of rotational motion and
19 translational motion, correct?

20 MR. PETERSON: Objection; form.

21 A I don't think that would necessary -- I
22 don't think that necessarily would be translation.

1 Maybe. There would be -- I think if it's
2 noncircular, there would have to be some
3 translation.

4 Q Okay. So would you agree with me, then,
5 that the green portion of Nakajima's mouthpiece
6 does not engage in pure rotational motion about
7 hinge 19?

8 MR. PETERSON: Objection; form.

9 A The mouthpiece engages in rotation about
10 19 and also rotation about 24. And the claims
11 merely state rotation. Actually, bear with me one
12 second, please.

13 That's pivotal. And -- it just says it's
14 pivotal. So it must pivot about an axis. Right?
15 And Nakajima does that. It pivots about an axis,
16 but then it has a secondary rotation as well.

17 Q Okay. Understood. That's not quite what
18 I was asking.

19 MR. MUDD: Ms. Schweitzer, could you
20 restate my question, please?

21 (Pending question was read back by the
22 court reporter.)

1 A And that's correct. It pivots about 19,
2 it rotates about 19, but because of axis -- that
3 goes through 24, it had that additional component
4 of rotation. If the patent owner told the patent
5 office and the world that McDonough was not
6 pivotal about an axis because it did not provide
7 for pure rotational motion about an axis, and we
8 accepted that statement, then the green mouthpiece
9 of Nakajima would not be pivotal about hinge 19,
10 correct?

11 MR. PETERSON: Objection; form.

12 A I disagree because McDonough is not the
13 same as Nakajima because McDonough was a floppy
14 straw where we can't tell if it slides through the
15 coupling position. That's just a different
16 invention.

17 This is a rigid linkage. Nakajima's a
18 linkage, and I don't view McDonough as a linkage.
19 That's basically a lateral arm that has a straw
20 connected and exactly what the cupping is and the
21 motion is. In Nakajima, the kinematics, a linkage
22 is two rigid bodies that rotate, and its -- you

1 know, the path is very clear.

2 So, no, I wouldn't agree with that. What
3 they say about McDonough I don't see really
4 relates directly to my arguments with Nakajima.

5 Q If pivotal about an axis is construed by
6 the board in this proceeding to require pure
7 rotation about hinge 19 in Nakajima, then the
8 green mouthpiece of Nakajima is not pivotal about
9 hinge 19, correct?

10 MR. PETERSON: Objection; form.

11 A I would ask to see the -- the -- what's
12 behind the board's decision. To my knowledge,
13 they haven't decided that, so I'd have to read
14 their decision and try to understand why they
15 decided that.

16 But in my mind, pivotal about an axis like
17 Nakajima, the mouthpiece is pivotal about that
18 axis 19 for all the reasons that we discussed.

19 Q Where you agree with the board's
20 construction or not, if the board did construe
21 pivotal about an axis to require pure rotational
22 motion about an axis, then Nakajima's green

1 mouthpiece is not pivotal about the axis defined
2 by hinge 19, correct?

3 MR. PETERSON: Objection to form.

4 A No. I mean, there is a component that's
5 rotational in Nakajima. Remember we said it's the
6 rotation of 19 plus the rotation about 20. So
7 there is a pure rotational component in that
8 assembly.

9 So even if they were to say that, I think,
10 you know, I could argue that Nakajima still
11 satisfies. But, again, they haven't said it yet,
12 and I haven't seen a decision. There's always a
13 pure rotational component in that linkage, the sum
14 of the motion and the sum of the motion of the
15 components in the linkage, and there's a pure
16 rotational component in that linkage.

17 Q And by pure rotational component in that
18 linkage, you're referring to the protrusions 24 of
19 arm 23, correct?

20 A Well, direction two, yes. 24 with respect
21 to 19, and then there's the mouthpiece with
22 respect to 24, for example.

1 Q Okay. Yeah, I understand your point that
2 protrusions 24 may engage in pure rotational
3 motion about hinge 19. That wasn't my question.

4 My question was the green mouthpiece of
5 Nakajima, as you stated earlier, never engages in
6 pure rotational motion about the axis defined by
7 hinge 19.

8 So if the board were to construe pivotal
9 about an axis to require such pure rotational
10 motion about 19, then Nakajima's green mouthpiece
11 would not satisfy that construction, correct?

12 MR. PETERSON: Objection; form.

13 A I don't think that's what I said. I think
14 what I said was that Nakajima's motion is the sum
15 of the two rotations we discussed. So it has to
16 be -- so Nakajima moves with pure rotation, no
17 doubt. It also moves with a secondary rotation.
18 Without the pure rotation component, it's not the
19 same motion.

20 Q Thank you, Dr. Vallee. I have no further
21 questions.

22 MR. PETERSON: So I know we discussed

1 hopefully wrapping up, but can we take another
2 break, and then return, and then I'll -- I will
3 note if we'll be asking any questions?

4 THE WITNESS: Fine with me.

5 MR. PETERSON: Okay. Give me five, ten
6 minutes.

7 (A recess was taken.)

8 EXAMINATION

9 BY MR. PETERSON:

10 Q Dr. Vallee, you discussed the concept of
11 pure rotation. Could you speak of it more on what
12 your understanding of pure rotation is in the
13 context of the physical 3D system?

14 MR. MUDD: Object to the form.

15 A So you're asking me to discuss
16 rotational -- pure rotation in three dimension.

17 Q In a three-dimensional system.

18 A Okay. So --

19 MR. MUDD: So same objection. Object to
20 the form of the question.

21 A Well, I think my discussion about the
22 solar system was, for all intents and purposes, a

1 three-dimensional example.

2 So we talked about the sun in the center.
3 That would be the main axis of rotation, and the
4 earth rotates around the sun. We'll assume a
5 circular orbit for everything.

6 So the earth rotates a fixed distance, and
7 the axis of rotation of the moon is just through
8 the center of the earth. The axis of rotation of
9 the moon is dependent on the location of the
10 center of the earth; therefore, the rotation of
11 the -- the pure rotation of the earth has to be
12 included into the motion of the rotation of the
13 moon.

14 So they both go around the sun. They may
15 take different paths for the -- if you say that,
16 for example, the mouthpiece of Nakajima is the
17 moon. Okay? Then the motion of the moon has to
18 be dependent on the rotation of the earth.
19 Therefore, the rotation of the moon depends on
20 what we'll call the pure rotation, which is simply
21 one body on one axis around the earth.

22 Does that answer your question?

1 Q So what -- what is your understanding
2 of "pure" in this context? What's meant by pure?

3 MR. MUDD: Object to the form.

4 A Pure is the simplest rotation where an
5 object moves about an axis with a constant
6 distance from the axis.

7 Q So in physical systems, are there
8 tolerances around components?

9 A Always, yes.

10 Q So what would be examples of components
11 that might have tolerances in physical systems?

12 A Any machine component is going to be
13 manufactured to a set of policies depending on how
14 it's manufactured.

15 If there are injection-molded parts,
16 typical small injection-molded parts, for example,
17 on the order of an inch or two, may have tolerance
18 of thousands, maybe even plus or minus 5,000s,
19 depending on what the material is. For a piece of
20 metal, might be plus or minus 1,000. Every
21 component has a different manufacturing tolerance.

22 MR. MUDD: Sorry. I'm going to object to

1 this line of questioning as outside the scope of
2 cross-examination, but go ahead.

3 Q So I'd like to link tolerances to pure.

4 Does the idea of tolerances in system
5 impact pure in your analysis?

6 MR. MUDD: Object to the form and
7 objection as outside the scope.

8 A Yeah. Pure -- I'm sorry. Pure rotation
9 is a hypothetical or theoretical quantity. Okay?
10 When an object gets out of code, if there were a
11 pure rotation -- let's say the simplest form would
12 be just a link. All right?

13 Let's say a Popsicle stick would be a
14 link, and I pin it at one point and it rotates.
15 Okay? The end of the link would depend on the
16 length of the link, which could vary with
17 temperature, which could vary with, as you say,
18 manufacturing tolerances, for example.

19 Pure rotation is a hypothetical quantity
20 that can never be realized, but to use that for a
21 conceptual relationship between an actual product
22 of component and theoretically how an object would

1 move around a fixed point.

2 I'm not sure if that's what you were
3 getting at, but --

4 Q Okay. No further questions.

5 RE-EXAMINATION

6 BY MR. MUDD:

7 Q I have some additional questions.

8 Okay. Dr. Vallee, using your example of
9 the sun, the earth, and the moon, as the moon
10 rotates about the earth and the earth rotates
11 about the sun, the moon never maintains a fixed
12 radius with respect to the sun, correct?

13 A The moon -- again, we're assuming circular
14 orbits, I think was the premise of that earlier
15 discussion?

16 Q Yes.

17 A No, I never said it did, I don't think.
18 But my point was that it still pivots about the
19 sun.

20 Q So you agree that the moon never maintains
21 a fixed radius with respect to the sun, correct?

22 A In the light of these claims, it doesn't

1 matter, but that is correct. I agree that the
2 moon -- it varies.

3 Q And so the moon never engages in pure
4 rotational motion about the sun, correct?

5 MR. PETERSON: Objection to form.

6 A Again, we discussed earlier, the claims
7 don't say pure rotation. They say they pivot, and
8 the moon certainly pivots around the sun.

9 But to your point, the earth would be in a
10 position of pure rotation, and the moon would be
11 in pure rotation about the earth, and the sum of
12 the moon's motion would be related to a pure
13 rotation, so there's a pure rotation to the moon's
14 motion and the secondary rotation about the earth.

15 Q But rotation is always defined about a
16 specific axis of rotation, correct?

17 A No. In the case of -- Nakajima or the
18 moon, rotation then has to be defined about two
19 axes, because it's a -- it's akin to a link. You
20 have to have the motion of both links so you can
21 analyze the motion of the object.

22 Usually they use vectors to do that. So

1 in kinematics, you would have to take the motion
2 of one link and then add it to the motion of the
3 secondary link, and that gives you the total.
4 Therefore, the secondary link of motion depends on
5 what we're calling pure rotation of the first.
6 It's built into it.

7 Q And so like the moon and the sun, the
8 green mouthpiece of Nakajima never maintains a
9 fixed radius with respect to hinge 19, correct?

10 MR. PETERSON: Objection; form.

11 A It still depends on pure rotation, but
12 because there's a secondary axis, there's no a
13 constant -- I'll call a distance from that
14 rotation because there doesn't have to be. It
15 still pivots. It still is in pure rotation
16 because it has a pure rotational component. It
17 just has a secondary component on top of that.

18 Q So the answer is yes, that the green
19 mouthpiece in Nakajima never contains a fixed
20 radius with respect to hinge 19, correct?

21 MR. PETERSON: Objection to form.

22 A Well, I think the answer is what I stated.

1 It doesn't maintain a fixed distance and it
2 doesn't have to as we read the claims.

3 Q Thank you, Dr. Vallee. I have no further
4 questions.

5 (Off the record at 2:04 p.m.)
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ACKNOWLEDGMENT OF DEPONENT

I, GLENN VALLEE, Ph.D., do hereby
acknowledge that I have read and examined the
foregoing testimony, and the same is a true,
correct and complete transcription of the
testimony given by me and any corrections appear
on the attached errata sheet signed by me.

(DATE) (SIGNATURE)

1 CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

2 I, Brooklyn E. Schweitzer, Certified Reporter
and Notary Public within and for the State of
3 Pennsylvania do hereby certify:

4 That Glenn Vallee, Ph.D., the witness whose
deposition is hereinbefore set forth, was duly
5 sworn by me before the commencement of such
deposition and that such deposition was taken before
me and is a true record of the testimony given by
6 such witness.

7 I further certify that the adverse party,
TROVE BRANDS, LLC, was represented by counsel at
the deposition.

8 I further certify that the deposition of
Glenn Vallee, Ph.D., occurred virtually on Friday,
9 April 4, 2025, commencing at 10:01 a.m. to 2:04 p.m.

10 I further certify that I am not related to
any of the parties to this action by blood or
marriage, I am not employed by or an attorney to
11 any of the parties to this action, and that I am
in no way interested, financially or otherwise, in
12 the outcome of this matter.

13 IN WITNESS WHEREOF, I have hereunto set my
hand this 9th day of April, 2025.

14 My commission expires:
15 May 20th, 2026.

16 

17 _____
18 Brooklyn E. Schweitzer, RPR, CRR
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A			
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