

1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD

3 -----
4 FOX FACTORY, INC.,
5 Petitioner,
6 v.
7 SRAM LLC,
8 Patent Owner.
9 -----

10 Case No. IPR2024-00491
11 U.S. Patent 10,328,993 B2
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16 REMOTE VIDEOTAPED DEPOSITION OF T. KIM PARNELL
17 Monday, December 23, 2024
18
19
20

21 Reported By:
22 Lynne M. Ledanois, CSR 6811
23 Job No. 7060692
24

25 PAGES 1 - 122

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4 FOX FACTORY, INC.,

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10 Case No. IPR2024-00491

11 U.S. Patent 10,328,993 B2
12 -----

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15 Videotaped deposition of T. KIM PARNELL,
16 taken in Sunnyvale, California, commencing at 9:37
17 a.m., on Monday, December 23, 2022 before Lynne
18 Ledanois, Certified Shorthand Reporter No. 6811
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I N D E X O F E X A M I N A T I O N

Examination by:	Page
Ms. Bhattacharyya	6, 117
Mr. Hickey	108

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I N D E X O F E X H I B I T S

Deposition	Description	Page
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Exhibit 1023	United States Patent No. 5,273,301	29
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Monday, December 23, 2022

9:37 a.m.

T. KIM PARNELL,

having been duly sworn, testified as follows:

EXAMINATION

THE VIDEOGRAPHER: Good morning. We are going on the record at 9:37 a.m. on December 23rd, 2024.

Please note that this deposition is being 09:37 conducted remotely using virtual technology. Quality of recording depends on the quality of camera an internet connection of participants.

What is seen from the witness and heard on screen is what will be recorded. Audio and video 09:37 recording will continue to take place unless all parties agree to go off the record.

This is media unit one of the video-recorded deposition of Dr. Kim Parnell taken by counsel for petitioner in the matter of Fox 09:37 Factory Inc. versus SR a.m. LLC filed until the United States patent an strayed Mark office. Case number IPR 202,400,491.

My name is Shawna Hynes representing Veritext Legal Solutions and I'm the videographer. 09:38

1 The court reporter is Lynne Ledanois from the firm 09:38
2 Veritext Legal Solutions.

3 I'm not related to any party in this
4 action nor am I financially interested in the
5 outcome. 09:38

6 If there are any objections to proceeding
7 please state them at the time of your appearance.
8 Counsel and all present will now state their
9 appearances and affiliations for the record beginning
10 with the noticing attorney. 09:38

11 BY MS. BHATTACHARYYA:

12 Q Good morning everyone and what from the
13 Finnegan law firm on behalf of ((on behalf of
14 petitioner Fox Factory with me is my colleague XZ?

15 MR. HICKEY: Good morning my name is 09:38
16 Michael Hickey I'm with the law firm of Lewis Rice
17 representing SRAM LLC the patent owner and the
18 witness Dr. Parnell.

19 Also with me it is my colleague from Lewis
20 Rice Michael about your bin. 09:39

21 BY MS. BHATTACHARYYA:

22 Q Good morning, Dr. Parnell.

23 Sorry to do this so early in the
24 deposition, but Lynne, I don't think the realtime is
25 working. 09:39

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1 (Recess taken.) 09:39

2 THE VIDEOGRAPHER: We're back on the

3 record. The time is 9:44.

4 BY MS. BHATTACHARYYA:

5 Q Dr. Parnell, you have been deposed 09:44

6 previously; correct?

7 A Yes.

8 Q I deposed you about ten days ago in

9 another IPR matter; right?

10 A Yes, that's correct. 09:45

11 Q And since you're familiar with how the

12 deposition is going to proceed today, I will not go

13 through the regular set of instructions.

14 But do you have any questions before we

15 start? 09:45

16 A No.

17 Q Do you understand that you're under oath

18 to answer my questions truthfully and completely?

19 A Yes.

20 Q Are you under the influence of alcohol or 09:45

21 any medications that would prevent you from

22 answering my questions truthfully and completely?

23 A No.

24 Q Where are you testifying from today,

25 Dr. Parnell? 09:46

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1 A From my home office in Sunnyvale, 09:46
2 California.

3 Q Is there anyone else with you in your home
4 office?

5 A My wife is here and there is no one else in 09:46
6 my office here.

7 Q Your wife is just in the house, not in the
8 office; right?

9	A	That's correct.
---	---	-----------------

10	Q	What have you done to prepare for your	09:46
11		deposition today?	

12 A I primarily have worked on reviewing my
13 declaration, reviewing the '993 patent and reviewing
14 references associated with my declaration.

15	Q And by reviewing references associated	09:46
16	with your declaration, which references do you mean?	

17 A There is a whole list of references that are
18 cited in my declaration.

19 Q Do you recall the names of the references
20 that you reviewed and which refreshed your 09:47
21 recollection?

22 A I do.

23	Q	Can you state those?
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24 A Some of the references that I related --

25 that I reviewed were associated with other prior 09:47

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1 patents such as Denk, Moechnig, Valat and I believe 09:47
2 there were some others also, Schroeder -- I may not be
3 coming up with all the reference names but the ones
4 associated with my declaration.

5 MS. BHATTACHARYYA: Just for benefit of 09:48
6 the court reporter, I'm going to spell out some of
7 those references that Dr. Parnell mentioned. Valat
8 is V-A-L-A-T, Moechnig is M-O-E-C-H-N-I-G and Denk
9 is D-E-N-K.

10 Q Did you talk to anyone in preparation for 09:48
11 your deposition today?

12 A Yes.

13 Q Who did you talk to?

14 A I talked to counsel for SRAM.

15 Q Who specifically? 09:49

16 A Mr. Michael Hickey and Mr. Michael Durbin.

17 Q Did you speak to any other counsel for
18 SRAM in preparation for your deposition?

19 A No.

20 Q Did you talk to anyone at SRAM in 09:49
21 preparation of your deposition?

22 A No.

23 Q Did you talk to anyone at SRAM prior to or
24 during the preparation of your declaration?

25 A No. 09:49

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1 Q And when did you meet with Mr. Michael 09:49
2 Hickey and Mr. Michael Durbin to prepare for the
3 deposition today?

4 A The most recent time was Friday,
5 December 20th. 09:50

6 Q And for how long?

7 A I believe it was approximately three hours.

8 Q Did you meet with Mr. Hickey and
9 Mr. Durbin prior to Friday, December 20th to prepare
10 for your deposition? 09:50

11 A Yes.

12 Q And when were those times when you say you
13 met multiple times?

14 A December 19th also.

15 Q That was the only other time you met? 09:50

16 A I believe so. Occasionally we would have
17 calls at other times, but those were the primary
18 times.

19 Q And for how long did you meet on
20 December 19th? 09:51

21 A Also approximately three hours.

22 Q What materials did you review to prepare
23 your declaration?

24 A In terms of my declaration specifically?

25 Q Yes. 09:51

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1 A Really at one point or another, all of the 09:51
2 cited documents in this matter. I can start out with
3 the '993 patent, the petition by Fox Factory in this
4 matter, some of the prior art references that we've
5 talked about. Like I said, I believe that's a partial 09:52
6 list.

7 Declaration of Dr. Slocum and deposition
8 of Dr. Slocum. Those are things I can think of here
9 at this point.

10 But again, it's all the documents that are 09:52
11 referenced in the case.

12 Q Dr. Parnell, I introduced into the marked
13 exhibit folder the '993 patent, which was previously
14 marked as Exhibit 1001, as well as your declaration
15 that was submitted in this proceeding, which was 09:52
16 previously marked as Exhibit 2021.

17 Do you see those?

18 A Yes.

19 Q Would you mind opening up your
20 declaration, which is Exhibit 2021. 09:53

21 A All right. I have it open.

22 Q Let's go to Paragraph 16 of your
23 declaration.

24 A Yes.

25 Q In Paragraph 16 you state that "In 09:53

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1 reaching the conclusions set forth herein, I 09:53
2 examined and analyzed all the exhibits and papers
3 filed in this Inter Partes Review."

4 Do you see that?

5 A Yes. 09:54

6 Q Do you agree that you reviewed all the
7 exhibits submitted by petitioner Fox Factory and
8 patent owner SRAM in this proceeding?

9 A Yes.

10 Q Let's go to Paragraph 57 of your 09:54
11 declaration, which is Exhibit 2021.

12 A What is the paragraph number again, please?

13 Q Fifty-seven.

14 A Yes. I'm at Paragraph 57.

15 Q Dr. Parnell, do you have experience in the 09:55
16 design of vehicle components?

17 A Yes, over my career I've worked on areas of
18 that type.

19 Q Can you be a little more specific and tell
20 me what do you mean by "areas of that type"? 09:55

21 A Over my career it spanned a number of
22 different types of applications, automotive
23 applications, failure analysis of a variety of types
24 of components, small vehicle applications.

25 A lot of my -- a lot of my career and 09:56

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1 projects have involved simulation aspects, looking 09:56
2 at, again, either design aspects or analysis of
3 failures or incidents associated with products.

4 Q Dr. Parnell, I'm not asking you about your
5 work related to failures. 09:56

6 My question was: Do you have experience
7 with the design of vehicle components, meaning have
8 you designed any vehicle components in your career?

9 A Yes, some of my work falls into that area
10 also. Many times associated with analysis of 09:56
11 failures, there is an aspect of redesign or modifying
12 design.

13 Q Can you give me some examples of vehicle
14 components where you have consulted on redesign or
15 modifying design? 09:57

16 A Aspects such as crashworthiness aspects,
17 tubular structures associated with trucks are one
18 area, evaluated those types of structures and
19 developed models associated with those -- with tubular
20 structures. 09:58

21 Also things that I have worked on in terms
22 of teaching at Santa Clara University, I was
23 involved with helping students with design aspects
24 for small vehicles.

25 Q Can you give some examples of the tubular 09:58

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1 structures associated with trucks that you had 09:58
2 consulted in about redesigning or modifying design?

3 A Yes. One area is associated with
4 auxiliary -- I would call them auxiliary support
5 structures, roll cage types of structures that add 09:58
6 additional strength and additional load capacity to
7 the vehicle.

8 Q What type of vehicle components related to
9 small vehicles did you help with redesigning or
10 modifying design? 09:59

11 A I was faculty advisor on some of the student
12 projects such as the SAE Formula Hybrid Project that a
13 large team of students undertook while I was at Santa
14 Clara.

15 Also had some development with another 09:59
16 small vehicle that was called the Mini Baja
17 competition. Those were areas that I worked on and
18 assisted students in design.

19 Q What is the Formula Hybrid Project,
20 Dr. Parnell? 10:00

21 A It was design and development of a vehicle
22 that had -- that had propulsion system that was --
23 that was hybrid in nature. It had both internal
24 combustion and it had electrical motor drive. So it
25 had batteries and things -- batteries to provide 10:00

Page 15

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1 |      electrical power to the vehicle.                                10:00
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2 Q Would it be fair to say that it's like a
3 small car?

4 A It's a small -- it's a small vehicle. Yes.

5	Q	It's a small four-wheeled vehicle; right?	10:00
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6	A	Yes.
---	---	------

7 Q And what is the Mini Baja project that you
8 worked on?

9	A Somewhat similar to that, another	
10	small-scale vehicle.	10:01

11 Q So is it fair to say that you have some
12 redesign aspects related to trucks and small
13 four-wheeled vehicles in your career?

14 A Those are some of the areas that I have
15 worked in over that time -- well, a variety of 10:01
16 different things have come up.

17 Q Have you done any work related to the
18 original design of vehicle components?

19 MR. HICKEY: Objection, form.

20 THE WITNESS: Probably the areas that I 10:02
21 was trying to describe have been most were redesign
22 aspects.

23 The small-scale vehicles that we were just
24 talking about, those were original design
25 applications. 10:02

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1 BY MS. BHATTACHARYYA: 10:02

2 Q And those small-scale vehicles that you
3 worked on, those were in the context of
4 undergraduate research projects at Santa Clara
5 University? 10:03

6 A Yes.

7 Q Do you have any experience in the design
8 of vehicle components for two-wheeled vehicles like
9 bicycles and motorcycles?

10 A My experience in that area would, I guess, 10:03
11 more closely fall into categories of review of
12 designs.

13 Q What type of designs related to components
14 for two-wheeled vehicles have you done?

15 A Well, associated with these other vehicle 10:04
16 projects, for example, there was also an earlier --
17 there was also an earlier project that involved
18 bicycles.

19 We reviewed that design in terms of
20 looking at understanding experience with tubular 10:04
21 structures.

22 Q But you have not designed any components
23 for two-wheeled vehicles like bicycles and
24 motorcycles; correct?

25 MR. HICKEY: Objection, form. 10:04

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1 THE WITNESS: Again, some of the aspects 10:05
2 I've described I worked on are applicable in
3 two-wheeled vehicles also, but my focus, my
4 application was more associated with four-wheeled
5 vehicles. 10:05

6 BY MS. BHATTACHARYYA:

7 Q So you do not have any experience in the
8 design of vehicle components for two-wheeled
9 vehicles like bicycles or motorcycles; correct?

10 MR. HICKEY: Objection, form, asked and 10:05
11 answered.

12 THE WITNESS: Yes, as I've said, I design
13 components that involve aspects of tubular
14 structures. Those are ones that certainly come up
15 in bicycles and motorcycles, two-wheeled vehicles of 10:06
16 that type.

17 So my applications were in other areas,
18 but the structures have similar or common aspects.

19 BY MS. BHATTACHARYYA:

20 Q What type of tubular structures that you 10:06
21 may have designed for trucks and other small
22 four-wheeled vehicles that are similar to the
23 tubular structures in two-wheeled vehicles like
24 bicycles and motorcycles?

25 A Again, it includes aspects like frame 10:06

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1 structures and joining of frame structures, looking at 10:07
2 connections involving welds, for example.

3 Q But those aspects that you've analyzed
4 were for four-wheeled vehicles like trucks and small
5 cars; correct? 10:07

6 A Ones that I was specifically looking at I
7 can think about in terms of past projects were in
8 areas like that.

9 I'm just pointing out that there is a lot
10 of commonality or similarity of structures and 10:07
11 manufacturing assembly types of technology there.

12 Q You do not have any experience in the
13 design of vehicle suspension technology; correct?

14 A I have had some projects that did deal with
15 suspension technology, you know, outside of the ones 10:08
16 that we've just been describing.

17 Q Can you specify what projects that you
18 worked on that relate to vehicle suspension
19 technology?

20 A Sitting here today, I can think of 10:08
21 automotive applications, particularly structures in
22 the suspension that were associated with sheet formed
23 component structures and joining of those structures.

24 Q Those are suspensions for trucks that you
25 worked on? 10:09

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1 A No. One that I am thinking about was 10:09
2 automotive component related associated with failure
3 of automotive component design.

4 Q My question to you was about suspensions.
5 Are you saying you worked on analyzing the failure 10:10
6 of -- strike that.

7 When you say you worked in analyzing the
8 failure of an automotive component design, do you
9 mean the failure of a suspension system?

10 A Yes, one that I can think of was a 10:10
11 suspension system component and then assessment of
12 design change, design modification associated with it.

13 Q And this was a suspension system for a
14 four-wheeled vehicle?

15 A Yes. 10:10

16 Q Have you ever -- strike that.

17 Do you have any experience in the design
18 of a suspension system for a two-wheeled vehicle,
19 for example, a suspension fork?

20 MR. HICKEY: Objection, form. 10:11

21 THE WITNESS: In -- just in terms of
22 components or technology that have similar aspects
23 in them, I don't think it was two-wheeled vehicles
24 specifically. But aspects of the structures, the
25 structural shape and forming and joining processes, 10:11

Page 20

1 those were the types of things that I point to. 10:11

2 BY MS. BHATTACHARYYA:

3 Q So you have worked on aspects that are
4 similar to the design of a suspension system for a
5 two-wheeled vehicle but you have not directly worked 10:12
6 on the design of a suspension system for a
7 two-wheeled vehicle; correct?

8 A Yes. My work is on things that I can think
9 of were technologies that are also similar. Their use
10 of composite materials, for example, those are 10:12
11 frequently utilized in making lightweight structural
12 components for two-wheeled vehicles.

13 Q In Paragraph 58 of your declaration which
14 is Exhibit 2021, you say, "I have had extensive
15 experience in the design of vehicle components 10:13
16 and/or like technology as of 2014."

17 Do you see that?

18 A Yes.

19 Q What do you mean by "like technology"?

20 A For example, some of the things that we were 10:13
21 talking about, structures in one area, the tubular
22 structures, for example, joining of those structures,
23 manufacturing of and composite material applications,
24 those are some of the areas that I put into the
25 category of like technology, technologies that apply 10:14

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1 in multiple areas. 10:14

2 Q Dr. Parnell, who prepared your declaration
3 which is marked as Exhibit 2021?

4 A I did my declaration. I also worked on it
5 with counsel to come to a final version. I've been 10:16
6 involved with the full aspect of the declaration
7 itself.

8 Q Who prepared the first draft of the
9 declaration?

10 A We started out with what I'll call more of 10:16
11 an outline or template, I guess, to work with. That
12 initial -- that initial template of the report came
13 from counsel.

14 Q And the -- and by counsel, you mean
15 Mr. Hickey or Mr. Durbin? 10:17

16 A Primarily worked with Mr. Durbin.

17 Q Would it be fair to say that Mr. Durbin
18 sent to you a first draft which was in the form of
19 an outline and you revised aspects of it?

20 A Yes, it was a starting point that we worked 10:17
21 from.

22 Q Approximately how many hours did you spend
23 preparing your declaration?

24 A Specifically on the declaration, I think I
25 have had approximately 100 hours that have been billed 10:18

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1 on the project thus far. I believe associated with 10:18
2 the declarations, maybe -- I'm estimating from memory,
3 maybe 60 hours, something like that.

4 Q Let's go to Paragraph 29 of your
5 declaration. 10:19

6 A What is the number again?

7 Q Twenty-nine.

8 A Fifty-nine?

9 Q Twenty-nine.

10 A Paragraph 59, Page 28? 10:19

11 Q No, Paragraph 29.

12 A Twenty-nine, all right. I misunderstood
13 you. All right.

14 Q In the fourth sentence in Paragraph 29 of
15 your declaration, you say, "For the steerer tube, 10:20
16 fore-aft loads are typically more significant than
17 lateral or vertical loads."

18 Do you see that?

19 A Yes.

20 Q At the time the '993 patent application 10:20
21 was filed in December 2014, a person skilled in the
22 art would have known that for a bicycle steerer
23 tube, the loads in the fore-aft plane of travel is
24 greater than loads experienced in the lateral
25 direction? 10:20

Page 23

1 MR. HICKEY: Objection, form. 10:20

2 THE WITNESS: I mean, this was part of the
3 innovation associated with '993. Prior art steerer
4 tubes had been things that were cylindrical and
5 uniform thickness. There had been applications like 10:21
6 that.

7 There had been other applications like are
8 specified in the Moechnig patent where there they
9 were -- the prior art was suggesting that lateral
10 loads were the ones to deal with primarily for other 10:21
11 benefits.

12 BY MS. BHATTACHARYYA:

13 Q Does Moechnig say anywhere for a bicycle
14 steerer tube, lateral loads are greater than the
15 loads in the fore-aft plane of travel? 10:21

16 A Moechnig indicates that there is benefit in
17 putting higher strength -- higher strength and
18 stiffness in the lateral direction and somewhat less
19 stiffness in the fore-aft direction, that there were
20 benefits associated with that type of arrangement. 10:22

21 Q But Moechnig does not say that the steerer
22 tube experiences greater loads in the lateral
23 direction compared to the fore-aft plane of travel;
24 correct?

25 MR. HICKEY: Objection, form. 10:22

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1 THE WITNESS: I believe from my recall of 10:23
2 Moechnig, it was that there was benefit to min --
3 reducing the stiffness in the fore-aft direction.

4 And that there was benefit associated with that in
5 terms of how loads were transferred to the rider. 10:23

6 BY MS. BHATTACHARYYA:

7 Q I understand that, Dr. Parnell.

8 I'm asking you: Does Moechnig teach
9 anywhere that in a bicycle steerer tube, the loads
10 experienced in the lateral plane is higher than 10:23
11 loads in the fore-aft plane of travel?

12 MR. HICKEY: Objection, form.

13 THE WITNESS: Moechnig indicated the
14 benefit in dealing with the stiffness laterally,
15 that it had benefits associated with the feel, the 10:24
16 responsiveness of steering.

17 It was really prior art that taught that
18 that was the way to go, that that was the way to
19 utilize the design.

20 BY MS. BHATTACHARYYA: 10:24

21 Q Are you aware of other prior art
22 references that teach to increase strength and
23 stiffness in the plane of travel of a steerer tube?

24 A This was really a part of the significance
25 or the innovation associated with the '993. Other 10:25

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1 prior art steerer tubes had different ways of dealing 10:25
2 with strength and stiffness and in some cases for
3 different reasons than in terms of what they taught
4 and what they suggested as the best solution.

5 Q Dr. Parnell, are you saying that the 10:25
6 inventors of the '993 patent discovered for the
7 first time that for a steerer tube, the fore-aft
8 loads are greater and more significant than lateral
9 loads?

10 A I mean, the '993 patent came up with that 10:26
11 focus on the fore-aft loads as being beneficial to put
12 greater stiffness there. It was different from what
13 was in the prior art.

14 Q I'm asking you: Did the inventors of the
15 '993 patent discover for the first time that in the 10:26
16 bicycle steerer tube, the loads in the fore-aft
17 plane of travel are greater than loads in a lateral
18 plane?

19 MR. HICKEY: Objection, form.

20 THE WITNESS: I think I would put it in 10:27
21 terms of benefit of putting forth stiffness into the
22 fore-aft direction as being the benefit.

23 BY MS. BHATTACHARYYA:

24 Q At the time the '993 patent application
25 was filed in December 2014, those skilled in the art 10:27

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1 would already have known that a bicycle steerer tube 10:27
2 experiences greater loads in the plane of travel
3 than in a lateral plane; correct?

4 MR. HICKEY: Objection, form, asked and
5 answered. 10:28

6 THE WITNESS: But that the prior art had
7 different focuses, different aspects that they
8 focused on in terms of their solutions, like
9 Moechnig looking at the lateral stiffness as being
10 the one to increase and to reduce the fore-aft 10:28
11 stiffness.

12 BY MS. BHATTACHARYYA:

13 Q I understand that Moechnig teaches to
14 increase compliance in the fore-aft plane of travel.
15 My question to you is different. 10:29

16 At the time the '993 patent application
17 was filed in December 2014, those skilled in the art
18 would already have known that a bicycle steerer tube
19 experiences greater loads and stresses in the plane
20 of travel than in the lateral plane; correct? 10:29

21 MR. HICKEY: Objection, form.

22 THE WITNESS: I don't know if it was so
23 much recognized magnitude of loads, but certainly
24 these other prior art patents taught other benefits,
25 other things that they focused on for benefits. 10:30

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1 So it was different from what came in the 10:30
2 '993 patent and the focus of the '993 patent.

3 BY MS. BHATTACHARYYA:

4 Q Dr. Parnell, I'm not asking you about the
5 focus of the '993 patent or the Moechnig reference 10:30
6 or any other reference.

7 My question is very simple: At the time
8 the '993 patent application was filed in December
9 2014, those skilled in the art would already have
10 known that a bicycle steerer tube experiences 10:30
11 greater loads and stresses in the plane of travel of
12 the bicycle than in the lateral plane; correct?

13 MR. HICKEY: Objection, form, asked and
14 answered.

15 THE WITNESS: I'm not sure that was 10:31
16 recognized in these other prior art applications
17 like Moechnig. They had a different focus, a
18 different benefit that they were looking at.

19 So whether they were larger or not, there
20 were certainly none of the prior art references that 10:31
21 taught putting more thickness, more wall thickness
22 in the plane of travel.

23 There was like Moechnig that were
24 elliptical-shaped steerer tube and uniform
25 thickness. There were others that had other focuses 10:31

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1 than -- in terms of strength that was more uniform 10:32
2 around the entire periphery.

3 And, of course, the more basic prior art
4 reference that was just basically a cylindrical tube
5 constant thickness without any additional 10:32
6 reinforcement.

7 BY MS. BHATTACHARYYA:

8 Q Dr. Parnell, do you consider yourself a
9 person skilled in the art in the field of art
10 related to the '993 patent technology? 10:32

11 A Yes, I do.

12 Q So as a person skilled in the art, you
13 would have known by December 2014 that a bicycle
14 steerer tube faces greater loads and stresses in the
15 plane of travel of the bicycle compared to the 10:32
16 lateral plane; correct?

17 A Well, what I was trying to describe is what
18 was the focus of prior art. I don't know if you would
19 say that they had a recognition of the magnitude of
20 loads, but they certainly had recognition of other 10:33
21 specific benefits that they wanted to achieve in these
22 prior art ones.

23 And I think the '993 turned to a different
24 focus and it did turn to a focus of dealing with
25 these loads in the fore-aft direction which are 10:33

Page 29

1 higher than. 10:33

2 Q Dr. Parnell, I'm not asking about the
3 focus of prior art. I'm asking about the knowledge
4 of a person skilled in the art.

5 Do you understand the difference between 10:34
6 prior art and the knowledge of a person skilled in
7 the art?

8 A Yes, I think so.

9 Q Okay. So by the time the '993 patent
10 application was filed in December 2014, a person 10:34
11 skilled in the art would have had the knowledge that
12 a bicycle steerer tube faces greater loads and
13 stresses in the plane of travel of the bicycle
14 compared to the lateral loads; right?

15 MR. HICKEY: Objection, form, asked and 10:34
16 answered.

17 THE WITNESS: It would not come from any
18 teaching or aspects of the prior art. I'm not sure
19 how much was recognized prior in terms of magnitude
20 of loads. 10:35

21 But it was certainly other things, other
22 things that were focused on -- other benefits that
23 were focused on in those prior patents and that
24 would have been -- that would have been part of what
25 a person skilled in the art would be aware of would 10:35

Page 30

1 be what came before and the reasons associated with 10:35
2 their particular solutions.

3 BY MS. BHATTACHARYYA:

4 Q Are you telling me, Dr. Parnell, that you
5 have not come across any piece of prior art that 10:36
6 teaches that a bicycle fork or a bicycle steerer
7 tube faces greater loads and stresses in the plane
8 of travel of the bicycle compared to lateral loads?

9 MR. HICKEY: Objection, form.

10 THE WITNESS: I don't recall seeing 10:36
11 anything that made that determination in terms of
12 relative magnitude of loads.

13 But as I mentioned, ones that indicated
14 benefits to a different orientation of stiffness or
15 a different way to deal with stiffness or strength 10:37
16 at the intersection between the steerer tube and the
17 crown, what aspect was -- were the -- the benefit or
18 the focus of their solutions in some of these other
19 patents.

20 BY MS. BHATTACHARYYA: 10:37

21 Q Dr. Parnell, I just introduced an exhibit
22 which was previously marked as Exhibit 1013 into the
23 marked exhibit folder. It is a patent to Mario
24 Galasso. The patent number is 8,366,130.

25 Do you see that? 10:38

Page 31

1	A	Yes.	10:38
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2 Q Would it be okay if I refer to
3 Exhibit 1013 as the Galasso reference?

4	A	Yes. I think so.
---	---	------------------

5 Q Have you studied the Galasso reference 10:38
6 previously?

7 A I've seen this reference. I don't recall --
8 well, I don't think I referenced it in my declaration,
9 but I've seen the reference at least.

10	Q	Have you read the reference?	10:39
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11 A I recall seeing it. It was not one that was
12 a primary focus that I saw in the petition or in terms
13 of my declaration in response to petition.

14 Q But in Paragraph 16 of your declaration,
15 you said that you examined and analyzed all of the 10:40
16 exhibits and papers filed in this inter partes
17 review.

18 Do you recall saying that?

19	A	Yes.
----	---	------

20 Q And this Galasso reference is an exhibit 10:41
21 that was previously filed by petitioner in this IPR
22 proceeding; correct?

23 A It's one of the exhibits. I don't recall
24 where it was referenced in the petition, but I see
25 it's listed as one of the exhibits. I don't think I 10:41

Page 32

1 referenced it in my declaration in response. 10:41

2 Q So is it fair to say you did not study the
3 Galasso reference; right?

4 A I reviewed it, but nothing -- I did not do a
5 really in-depth analysis on it. It was not cited in 10:41
6 the petition as I recall, but -- and so it was not a
7 part of the primary focus of my declaration.

8 Q Let's go to Column 2 of the Galasso
9 reference and in particular let's go to Column 2
10 starting at Line 45. 10:42

11 Let me know when you're there.

12 A Column 2, Line 45?

13 Q Yes.

14 A All right. Yes.

15 Q The Galasso reference discloses, starting 10:43
16 at Line 45 of Column 2, that "Some embodiments
17 disclosed herein provide a fork chassis that is
18 tunable for stiffness. One aspect of stiffness
19 where selective tuning is advantageous is front
20 (fore) to back (aft) and up to down (e.g., fore and 10:43
21 aft in Figure 2A as directions 34 and 35
22 respectively, and up and down directions in Figure 1
23 and others as 34, 35 respectively) bending, or
24 'beam' stiffness."

25 Do you see that? 10:44

Page 33

1	A	Yes.	10:44
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2 Q And further below that, the Galasso lists
3 the components of a fork chassis and the fifth
4 component listed there is "the steering tube."

5	Do you see that?	10:44
---	------------------	-------

6	A	Yes.
---	---	------

7 Q So the Galasso reference, which is prior
8 art to the '993 patent, teaches tuning of stiffness
9 in the fore and aft plane for a fork chassis
10 including the steering tube; correct? 10:45

11 A I see that in the disclosure here. I would
12 want to see how it was referenced in the petition.

13 I don't recall this being a part of the
14 arguments or grounds associated with.

15 Q Are you aware that the Galasso reference 10:46
16 was cited by the examiner during the prosecution of
17 the '993 patent?

18 A I don't recall that during the prosecution.

19	Q Did you study the prosecution history of	
20	the '933 patent, Dr. Parnell?	10:46

21 A Yes, I did look at the history.

22 Q But you do not recall that the examiner
23 cited the Galasso reference and discussed portions
24 of the Galasso reference during the prosecution of
25 the '993 patent? 10:46

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1 A As I sit here today, I don't recall how it 10:46
2 was referenced in the history. It's something I would
3 have to look at.

4 Q When was the last time you reviewed the
5 prosecution history of the '993 patent? 10:47

6 A It was during the process of writing my
7 declaration.

8 Q But you do not recall the examiner
9 discussing the Galasso reference during the
10 prosecution of the '993 patent; right? 10:47

11 MR. HICKEY: Objection, form, asked and
12 answered.

13 THE WITNESS: I don't recall how it was
14 cited. I do recall other prior art reference like
15 Moechnig was cited during prosecution. But I don't 10:47
16 remember how this one was evaluated.

17 BY MS. BHATTACHARYYA:

18 Q We'll go through that. But let's just
19 talk about the Galasso reference's teachings.

20 Let's go to Figures 2 and 2A of the 10:47
21 Galasso reference. Let me know when you're there.

22 A I'm on Page 3, it has Figures 2 and 2A.

23 Q Okay. As we read earlier, the directions
24 34 and 35 refer to the fore and aft plane. And I
25 will represent to you that the numerical indicator 8 10:49

Page 35

1 is referring to the fork tube. 10:49

2 Now, as shown in Figure 2A of the Galasso
3 reference, the fork tube has maximum thickness in
4 the fore-aft plane; correct?

5 MR. HICKEY: I'm going to object to the 10:49
6 form and refer to -- and referencing what the
7 numerical indicator 8 refers to as mischaracterizing
8 the document.

9 MS. BHATTACHARYYA: Mr. Hickey, that was a
10 speaking objection, if you can please refrain from 10:50
11 doing that.

12 Q Dr. Parnell, if you don't want to accept
13 my representation, if you want to look at the
14 Galasso reference and confirm for yourself that the
15 numeral 8 refers to the stanchion tube of the fork. 10:50

16 And stanchion is spelled
17 S-T-A-N-C-H-I-O-N.

18 A Let me try to look at it and get oriented
19 with the components here.

20 Q Dr. Parnell, what are you reading? 10:54

21 A I'm trying to identify the components that
22 are shown here.

23 Q I can refer you to Column 4 of the Galasso
24 reference starting around Line 20 that talks about
25 Figures 2 and 2A. 10:54

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1 A I need to try to more carefully line up the 10:56
2 components here and the terminology that they are
3 using. I don't think I can answer your question until
4 I try to lay things out more carefully.

5 Q Are you refusing to answer questions about 10:56
6 the Galasso reference?

7 MR. HICKEY: Objection, mischaracterizes
8 testimony.

9 THE WITNESS: I'm just saying I would want
10 to try to more carefully understand the component 10:56
11 designations and -- that are shown here in the
12 figure, just a quick look. There are some that I
13 don't -- that I'm not sure if I understand their
14 orientation.

15 BY MS. BHATTACHARYYA: 10:57

16 Q In Figures 2 and 2A of the Galasso
17 reference, the numerical 8 is referring to the
18 stanchion tube of the bicycle fork; correct?

19 MR. HICKEY: Objection, form,
20 mischaracterizes the document. 10:57

21 THE WITNESS: I'm sorry, where were you
22 reading again?

23 BY MS. BHATTACHARYYA:

24 Q Let's go to Column 4 of the Galasso
25 reference, starting at Line 20. And I'll read into 10:58

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1 the record. 10:58

2 "In one embodiment, shown in Figure 1 of
3 the present application, the stanchions 8 are held
4 in the lower triple clamp 7 and the upper triple
5 clamp 20. Referring to Figures 2 and 2A, while the 10:58
6 inner diameter of the stanchions 8 is circular, at
7 least a portion of the length of the stanchions has
8 an elliptical outer surface. As shown in Figure 2A,
9 the stanchion 8 is positioned in relation to lower
10 triple clamp 7 such that the major elliptical axis 10:58
11 (refer to Figure 3) of the stanchion 8 is
12 substantially aligned with the forward 34 and aft 35
13 directions of the bicycle or motorcycle."

14 Do you see that?

15 A Yes. 10:59

16 Q Now going back to Figure 2A, which is on
17 Page 2, the stanchion tube 8 has greater thickness
18 in the fore-aft direction than in the lateral
19 direction; correct?

20 MR. HICKEY: Objection, form. 11:00

21 THE WITNESS: Were you reading that here
22 in Column 4?

23 BY MS. BHATTACHARYYA:

24 Q I'm showing you Figure 2A.

25 A I'm trying to understand what defines the 11:01

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1 tube major axis shown here. 11:01

2 MR. HICKEY: Counsel, is there a question
3 pending?

4 MS. BHATTACHARYYA: Yes.

5 Q Dr. Parnell, if you want me to repeat the 11:02
6 question again, I can.

7 But I think you -- even though you had
8 testified that you had studied all of the exhibits
9 submitted by petitioner, you don't seem to have ever
10 read the Galasso reference. 11:02

11 So can you answer the questions I'm asking
12 based on my representation of what the different
13 numerical indicators mean?

14 MR. HICKEY: Objection, form,
15 argumentative, mischaracterizes testimony. 11:03

16 THE WITNESS: I'm still trying to be sure
17 that I understand some of the designations here.

18 BY MS. BHATTACHARYYA:

19 Q Dr. Parnell, I will ask you to assume some
20 of these designations, okay? 11:03

21 In Figure 2A, the number 8 represents the
22 stanchion tube of the fork and the arrows 34 and 35
23 show the fore-aft travel direction. Okay? Can you
24 assume that?

25 MR. HICKEY: Objection, form. 11:04

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1 THE WITNESS: So which designation are you 11:04
2 saying for the stanchion tube?

3 BY MS. BHATTACHARYYA:

4 Q Eight.

5 A Eight being the overall tube. 11:04

6 Q Are you there with me, 8 is the tube and
7 34 and 35 are the fore-aft travel direction?

8 A Right. And then I'm trying to see what
9 constitutes the boundaries, the surfaces of the
10 tube -- what are you saying that the inner surface -- 11:05

11 Q As we read earlier in Column 4, the inner
12 surface of tube 8 is circular and the outer surface
13 is elliptical.

14 Do you see that?

15 A All right. Yes. 11:05

16 Q Tube 8 as shown in Figure 2A of the
17 Galasso reference has greater thickness in the
18 fore-aft direction as compared to the thickness in
19 the lateral direction; correct?

20 MR. HICKEY: Objection, form. 11:06

21 THE WITNESS: Based on what you're
22 describing, if the elliptical surface is the outer
23 surface and the circular the inner surface that
24 you're indicating, then yes, that would indicate a
25 greater thickness in the direction 34, 35. 11:06

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1 BY MS. BHATTACHARYYA: 11:06

2 Q And the greater direction in the fore and
3 aft direction 34 and 35 would result in greater
4 stiffness and strength in the fore and aft direction
5 of the tube; correct? 11:06

6 MR. HICKEY: Objection, form.

7 BY MS. BHATTACHARYYA:

8 Q Strike that. Let me ask the question
9 again.

10 The greater thickness of tube 8 in the 11:06
11 fore and aft direction would result in greater
12 stiffness and strength for the tube in the fore and
13 aft direction; correct?

14 MR. HICKEY: Objection, form.

15 THE WITNESS: That would typically be the 11:07
16 case.

17 MR. HICKEY: Counsel, we've been going
18 more than an hour. I want to see if there is a good
19 time for a break.

20 MS. BHATTACHARYYA: Let me finish my 11:07
21 questions about the Galasso reference and then we'll
22 take a break.

23 Q Let's go to Column 4 again of the Galasso
24 reference and specifically to the paragraph starting
25 at Line 46. 11:08

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1	A	Which column?	11:08
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2	Q	Column 4, Line 46.
---	---	--------------------

3	A	All right.
---	---	------------

4	Q The Galasso reference says in Column 4	
5	starting at Line 46, "In one embodiment the cross	11:08

6 section for the stanchion tube 8 in the critical
7 region is non-round. One example of a suitable
8 noncircular or non-round cross section is shown in
9 Figure 5A. The stanchion 8 includes a 'lobe' or
10 beam web 100 (running axially along a length of the 11:08
11 stanchion but not shown) which enhances axial
12 banding stiffness of the stanchion 8 along plane 105
13 (plane 105 shown as line 105 and extending into and
14 out of the page)."

15	Do you see that?	11:09
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16	A	Yes.
----	---	------

17 Q Later in Column 8, starting at Line 53,
18 Galasso says, "In many circumstances contemplated
19 herein, the terms fore 34 and aft 35, as used
20 herein, also apply to 'up and down' respectively 11:10
21 because the plane, for example, 105, that extends
22 front (fore) and back (aft) also extends up and down
23 relative to a vehicle."

24	Do you see that?
----	------------------

25	A	I'm looking for where you started there,	11:10
----	---	--	-------

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1 Column 8 and Line -- 11:10

2 Q Line 53.

3 A Yes, I see that.

4 Q Galasso is referring to the plane 105 as a

5 plane extending in the fore-aft travel direction; 11:11

6 correct?

7 A Let me try to find 105 here.

8 Q You can refer to Figure 5A on Page 5. And

9 that shows the plane 105.

10 A Right. 11:12

11 Q Are you at Figure 5A, Dr. Parnell?

12 A I was looking at 5A, yes.

13 Q Figure 5A again shows the fork tube 8.

14 Do you see that?

15 A Yes, I see 8 indicated there. It looks like 11:13

16 a different cross section.

17 Q Figure 5A of the Galasso reference shows

18 that the fork tube 8 has greater thickness in the

19 direction aligned with the fore-aft plane 105;

20 correct? 11:13

21 A It looks like a different cross section

22 being shown here.

23 Q Different from what?

24 A From what we were looking at in Figure 2A.

25 Q Yes, I agree. But Figure 5A shows a 11:14

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1 different cross section but it is still showing a 11:14
2 greater thickness of the tube in the fore-aft plane;
3 correct?

4 A It's showing -- it's showing the major axis,
5 that the major axis is larger, which we already knew. 11:14

6 Q Dr. Parnell, do you want me to repeat the
7 question?

8 A Let me see if I can find 31 and 32 here.

9 Q I can represent to you that 31 and 32
10 represent the bushings. 11:16

11 A So this is a different section, a different
12 embodiment. All right. What is your question again,
13 please?

14 Q In the embodiment shown in Figure 5A of
15 the Galasso reference, the fork tube 8 has greater 11:16
16 thickness in the fore-aft plane 105; correct?

17 MR. HICKEY: Objection, form.

18 THE WITNESS: Yes, based on what I'm
19 seeing here in Column 8.

20 BY MS. BHATTACHARYYA: 11:17

21 Q And Galasso is prior art to the '993
22 patent; agreed?

23 A Yes. If it was considered in prosecution, I
24 would need to look at what was considered with this
25 reference then. 11:18

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1 Q So at the time the '993 patent application 11:18
2 was filed, there were prior art references like the
3 Galasso reference that taught those skilled in the
4 art to have fork tubes with greater thickness in the
5 fore-aft plane of travel of the bicycle; correct? 11:18

6 MR. HICKEY: Objection, form.

7 THE WITNESS: I need to look at how it was
8 considered in prosecution. If this was part of the
9 prosecution history, then there would be some aspect
10 here that is different or above what is shown here. 11:19

11 BY MS. BHATTACHARYYA:

12 Q That is not my question, Dr. Parnell.
13 I just asked you: At the time the '993
14 patent application was filed, there were prior art
15 references, for example, this Galasso reference that 11:19
16 we're discussing, that taught those skilled in the
17 art to have fork tubes with greater thickness in the
18 fore-aft plane of travel of the bicycle; correct?

19 MR. HICKEY: Objection, form.

20 THE WITNESS: This appears to show that. 11:20

21 BY MS. BHATTACHARYYA:

22 Q Are you done?

23 A I think it does show that. I think it would
24 be important to look at the history and see how it was
25 evaluated and maybe there's more than what I'm seeing 11:21

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1 here from the figures. 11:21

2 BY MS. BHATTACHARYYA:

3 Q We can get to that. But sitting here
4 today, after we've gone through the Galasso
5 reference, you agree that the Galasso reference 11:21
6 teaches to have greater thickness of the fork tube
7 in the plane of travel; correct?

8 MR. HICKEY: Objection, form,
9 mischaracterizes the document.

10 THE WITNESS: It appears to, but there may 11:21
11 be more to it than what I'm seeing in the portions
12 that we've discussed.

13 MS. BHATTACHARYYA: Okay. We can take a
14 break now.

15 THE VIDEOGRAPHER: This marks the end of 11:22
16 Media Number 1. Off the record. The time is 11:22.

17 (Recess taken.)

18 THE VIDEOGRAPHER: This marks the
19 beginning of Media Number 2 in the deposition of
20 Dr. Kim Parnell. We're back on the record. The 11:37
21 time is 11:37.

22 BY MS. BHATTACHARYYA:

23 Q Dr. Parnell, during the break that we just
24 took, did you talk to counsel about the testimony
25 that you've given so far or the testimony that 11:38

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1 | you're about to give in this deposition? 11:38

2	A	No.
---	---	-----

3 Q Dr. Parnell, I uploaded the prosecution
4 history of the '933 patent into the marked exhibit
5 folder. And the prosecution history was previously 11:38
6 marked as Exhibit 1002.

7	Do you see that?
---	------------------

8	A	Yes.
---	---	------

9 Q Before we took a break, you asked to see
10 how Galasso was applied by the patent examiner 11:38
11 during prosecution, so I'm going to take you there.

12 Let's go to PDF Page 39 of the prosecution
13 history. You'll see the page numbers at the bottom
14 of the page.

15	A	All right.	11:39
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16 Q Do you see an office communication from
17 the patent office that was dated August 10th, 2018?

18	A	Yes.
----	---	------

19 Q If we go to Page 2 of this office action,
20 you'll see that at Column 4 -- and this is on PDF 11:40
21 Page 41 -- the examiner rejected several claims of
22 the '993 patent application as unpatentable over
23 D'Aluisio in view of Galasso. D'Aluisio is
24 D-A-L-U-I-S-I-O.

25	Do you see that?	11:40
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1	A	Yes.	11:40
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2 Q And I'll represent to you this is the same
3 Galasso reference U.S. 8,366,130 that we have
4 previously discussed in this deposition prior to
5 taking the break. Okay? 11:41

6	A	Okay.
---	---	-------

7	Q	On Page 3 of the office action, which is	
8		PDF Page 42, the examiner says, "D'Aluisio shows	
9		different types of profiles (Figures 1A and 6C) of	
10		the body, however he does not show a thickness of	11:41
11		the wall at any point in the lower section of the	
12		body varying as a function of the cross-sectional	
13		angle of the point relative to the plane of travel,	
14		the wall thickness being at a maximum in the plane	
15		of travel of the bicycle."	11:41

16	Do you see that?
----	------------------

17	A	Yes.
----	---	------

18	Q	Examiner continues to say, "However,	
19		Galasso discloses a vehicle suspension comprising:	
20		A tube (8) with a thickness of the wall at any point	11:42
21		in a section of the body varying as a function of	
22		the cross-functional angle of the point relative to	
23		the plane of travel, the wall thickness being at a	
24		maximum in the plane of travel of the vehicle (see	
25		Figure 2A)."	11:42

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1 Did I read that correctly? 11:42

2 A Yes, I believe so.

3 Q So the examiner applied the Galasso
4 reference for the limitation of the independent
5 claims reciting that a thickness of the tube wall 11:43
6 varies as a function of the cross-sectional angle
7 and the thickness being at a maximum in the plane of
8 travel of the bicycle; correct?

9 MR. HICKEY: Objection, form.

10 THE WITNESS: If I'm reading this 11:43
11 correctly, the paragraph above is exactly part of
12 the independent claim of the '993 patent.

13 BY MS. BHATTACHARYYA:

14 Q I'm asking you about what the examiner
15 said with respect to Galasso. 11:44

16 MR. HICKEY: Objection, form.

17 BY MS. BHATTACHARYYA:

18 Q Do you want me to repeat the question,
19 Dr. Parnell?

20 A Yes, please repeat it. 11:44

21 Q During the prosecution of the '933 patent,
22 the patent examiner specifically referred to
23 Figure 2A of Galasso and said that Galasso discloses
24 a vehicle suspension comprising a tube 8 with the
25 thickness of the wall at any point in a section of 11:45

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1 the body varying as a function of the 11:45
2 cross-sectional angle of the point relative to the
3 plane of travel, the wall thickness being at a
4 maximum in the plane of travel of the vehicle;
5 correct? 11:45

6 A Yes, that's what is stated here.

7 Q So the examiner read Galasso and
8 understood Galasso to be teaching a fork tube 8
9 where the thickness varies and the thickness of the
10 tube is at a maximum in the plane of travel of the 11:45
11 bicycle; correct?

12 MR. HICKEY: Objection, form.

13 THE WITNESS: That's what is shown in this
14 section.

15 BY MS. BHATTACHARYYA: 11:46

16 Q So you agree that the examiner read
17 Galasso and understood Galasso to be teaching a fork
18 tube 8 where the thickness of the tube wall varies
19 across the cross section and the thickness of the
20 tube wall is at a maximum in the plane of travel of 11:46
21 the bicycle; correct?

22 MR. HICKEY: Objection, form.

23 THE WITNESS: That's what is shown here.
24 I want to see if there's more because the paragraph
25 above states, "however, he does not show a thickness 11:47

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1 of the wall at any point in the lower section of the 11:47
2 body varying as a function of the cross-sectional
3 angle of the point relative to the plane of travel,
4 the wall thickness being at a maximum in the plane
5 of travel of the bicycle." 11:47

6 BY MS. BHATTACHARYYA:

7 Q That paragraph is referring to the
8 reference D'Aluisio; right?

9 A It's saying that D'Aluisio does not show
10 that. 11:48

11 Q Exactly.

12 A I believe that's ultimately a part of the
13 independent claim then of the '993.

14 Q So the examiner is saying that the
15 D'Aluisio reference does not teach that limitation 11:48
16 but Galasso discloses that limitation; correct?

17 MR. HICKEY: Objection, form.

18 THE WITNESS: That's what is shown here.

19 As I said, I believe the statement above, if I
20 recall correctly, we can look at the independent 11:49
21 claim of the '993, I believe is exactly what was
22 allowed in the independent claim.

23 BY MS. BHATTACHARYYA:

24 Q Are you sure about that, Dr. Parnell, that
25 that limitation was why the claims were allowed? 11:49

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1 MR. HICKEY: Objection, form. 11:50

2 THE WITNESS: I don't know that it's why
3 the claims were allowed. But I can look and compare
4 the language.

5 BY MS. BHATTACHARYYA: 11:50

6 Q Dr. Parnell, let me ask the question here.

7 The examiner says that D'Aluisio does not
8 disclose that a thickness of the wall at any point
9 in the lower section of the body varies as a
10 function of the cross-sectional angle of the point 11:50
11 relative to the plane of travel, the wall thickness
12 being at a maximum in the plane of travel of the
13 bicycle. However, Galasso discloses that
14 limitation; correct?

15 MR. HICKEY: Objection, form, asked and 11:50
16 answered.

17 THE WITNESS: That's what I see here at
18 this point in the prosecution history.

19 BY MS. BHATTACHARYYA:

20 Q Let's go to the response that was filed by 11:51
21 SRAM's counsel in response to this office action by
22 the patent examiner. That starts at PDF Page 21.

23 Let me know when you're there.

24 A Right. I'm on Page 21.

25 Q Okay. So PDF Page 21 of the prosecution 11:52

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1 history, which is marked as Exhibit 1002, there is 11:52
2 the response to the office action dated August 10,
3 2018.

4 Do you see that?

5 A Yes. 11:52

6 Q If we go to the remarks section of the
7 office action response, you'll see that in response
8 to the office action, SRAM amended certain claims,
9 specifically Claims 1, 11, 14, 18 and 23.

10 Do you see that? 11:53

11 A So this is PDF Page 24?

12 Q Yes. In fact, Dr. Parnell, it's a very
13 short response. I'll let you read this whole page
14 and the short paragraph that is on PDF Page 25 and
15 then I'll ask you my questions. 11:53

16 Let me know when you're done.

17 A Yes, I've read those two pages.

18 Q In response to the patent examiner's
19 rejection of the claims of the '993 patent
20 application in view of Galasso, SRAM did not respond 11:55
21 at all to the teachings of the Galasso reference;
22 correct?

23 MR. HICKEY: Objection, form,
24 mischaracterizes the document.

25 THE WITNESS: It says here at this point, 11:56

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1 right after the paragraph that you read, "Applicant 11:56
2 respectfully traverses the rejections and requests
3 reconsideration of the claims, the specification,
4 and the drawings in view of the present amendments
5 and the following remarks." 11:56

6 And then in the next paragraph it refers
7 to "Applicant thanks the Examiner for the indication
8 that Claims 2-5, 7-9, 11-16, 18, 19, 22-25 and 27-29
9 contain allowable subject matter. Claims 1, 14 and
10 18 have been amended into independent form and 11:57
11 include, respectively, limitations of Claims 2, 14
12 and 18 indicated as allowable."

13 Then it goes on with specific comments on
14 those claims, "Since Claims 1, 14 and 18 include
15 indicated allowable content, Claims 1, 14 and 18, as 11:57
16 well as Claims 3-5, 7-9, 11-13, 15-17, 19-21, 23-25,
17 27-29, and 31-40 which depend therefrom, are
18 allowable over the provided references.

19 Accordingly, applicant respectfully submits that all
20 pending rejections are rendered moot, and that the 11:58
21 claims as now presented are currently in condition
22 for allowance."

23 BY MS. BHATTACHARYYA:

24 Q In the comment section that you read, did
25 SRAM or its counsel disagree anywhere about the 11:58

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1 examiner's finding based on Galasso that Galasso 11:58
2 teaches a fork tube 8 where the thickness of the
3 tube is greater in the plane of travel than in the
4 lateral plane?

5 MR. HICKEY: Objection, form. 11:59

6 THE WITNESS: Not in this page, but the
7 aspect of the claims that were allowed that the last
8 section -- I'm just reading from a hard copy here of
9 '993.

10 The body formed by a wall, a thickness of 11:59
11 the wall at any point in the lower section of the
12 body varying as a function of the cross-sectional
13 angle of the point relative to the plane of travel,
14 the wall thickness being at a maximum in the plane
15 of travel of the bicycle. 12:00

16 So that's a part of independent Claim 1
17 that was allowed ultimately.

18 BY MS. BHATTACHARYYA:

19 Q And that part of independent Claim 1 is
20 taught by Galasso according to the patent examiner; 12:00
21 correct?

22 MR. HICKEY: Objection, form,
23 mischaracterizes the document.

24 THE WITNESS: I'm not an attorney or a
25 patent attorney, but I look at this as a portion of 12:00

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1 the claim that was allowed, so I suspect there is 12:00
2 more to evaluate here.

3 BY MS. BHATTACHARYYA:

4 Q You should have evaluated this before you
5 submitted your declaration; correct, Dr. Parnell? 12:00

6 MR. HICKEY: Objection, form,
7 argumentative, mischaracterizes the testimony.

8 THE WITNESS: The file history is a
9 document that I reviewed.

10 BY MS. BHATTACHARYYA: 12:01

11 Q And you have no idea whether the claims of
12 the '993 patent were allowed; right?

13 MR. HICKEY: Objection, form,
14 argumentative, mischaracterizes testimony.

15 THE WITNESS: It's a 348-page document, so 12:01
16 there's more.

17 BY MS. BHATTACHARYYA:

18 Q What more do you want to look at,
19 Dr. Parnell?

20 A I believe there is more related to that 12:01
21 claim element that I indicated there.

22 Q I will represent to you that nowhere in
23 this 348-page prosecution history that SRAM or
24 SRAM's counsel disagree with the patent examiner
25 that Galasso teaches a fork tube that has varying 12:02

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1 wall thickness and the thickness of the wall being 12:02
2 at a maximum in the plane of travel. Okay?

3 MR. HICKEY: Are you asking him if he
4 agrees with your representation --

5 MS. BHATTACHARYYA: No, I'm asking -- 12:02

6 MR. HICKEY: -- or just that you are
7 making a representation?

8 MS. BHATTACHARYYA: I'm making a
9 representation and I'm asking him to accept my
10 representation. 12:02

11 MR. HICKEY: Okay. I'm going to object to
12 the form and I'm also going to object to the
13 characterization of the file history.

14 BY MS. BHATTACHARYYA:

15 Q Dr. Parnell, you said you had reviewed the 12:02
16 prosecution history.

17 Can you point me to anywhere in this
18 prosecution history where SRAM or its counsel
19 disagreed or contended that Galasso does not teach a
20 fork tube with varying thickness and the thickness 12:03
21 being at a maximum in the plane of travel?

22 MR. HICKEY: Objection, form.

23 THE WITNESS: As I sit here today, I don't
24 recall if there's any other reference there. It's
25 just what I indicated that it's a part of the 12:03

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1 independent claims that were allowed. 12:03

2 BY MS. BHATTACHARYYA:

3 Q And earlier we established that the patent
4 examiner cited Galasso for the limitation in the
5 independent claims which states that a thickness of 12:03
6 the wall at any point in the lower section of the
7 body varying as a function of the cross-sectional
8 angle of the point relative to the plane of travel,
9 the wall thickness being at a maximum in the plane
10 of travel of the bicycle; correct? 12:04

11 MR. HICKEY: Objection, asked and
12 answered.

13 THE WITNESS: Yes, we looked at that
14 reference, that notation.

15 MS. BHATTACHARYYA: I'm trying to 12:07
16 introduce an exhibit but Exhibit Share is not
17 working. Can we go off the record?

18 THE VIDEOGRAPHER: Off the record. The
19 time is 12:07.

20 (Recess taken.) 12:07

21 THE VIDEOGRAPHER: We're back on the
22 record. The time is 12:16.

23 BY MS. BHATTACHARYYA:

24 Q Dr. Parnell, I introduced an exhibit
25 marked as Exhibit 1023. 12:16

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1 (Whereupon, Exhibit 1023 was marked for 12:16
2 identification.)

3 BY MS. BHATTACHARYYA:

4 Q It's in the marked exhibit folder. It's
5 Patent Number 5,273,301 and the inventor is Gary G. 12:17
6 Klein.

7 Do you see that?

8 A Yes.

9 Q Let's go to paragraph -- strike that.
10 Let's go to Column 4 of the Klein 12:17
11 reference, that's K-L-E-I-N. In particular, let's
12 go to Column 4 to the paragraph starting at about
13 Line 21.

14 MR. HICKEY: I'm going to object at this
15 point, counsel, because this is not currently an 12:17
16 exhibit in Fox's petition and is not referenced in
17 Dr. Parnell's declaration. So I consider it to be
18 outside the scope of this deposition.

19 BY MS. BHATTACHARYYA:

20 Q Dr. Parnell, you can answer. Let's go to 12:18
21 Column 4 starting at Line 21. Let me know when
22 you're there.

23 A Yes, I've not seen this document referenced
24 before.

25 Q That's fine. I'm going to read to you a 12:18

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1 paragraph of the Klein reference, which is 12:18
2 Exhibit 1023 starting at Column 4 at about Line 21.

3 "In the front forks, the normal loading
4 includes some torque loads and some side loading.
5 The heaviest loads will come from vertical bumps or 12:19
6 head-on impact and/or braking forces. Both vertical
7 and longitudinal forces stress the front fork at a
8 fore-aft cantilever bending motion."

9 "In a simple analysis, it appears that
10 increasing the strength of the fork blades and 12:19
11 steerer fore and aft cantilever would be the correct
12 approach."

13 Do you see that?

14 A Yes.

15 MR. HICKEY: Again, I object to this as 12:19
16 outside the scope of the IPR, Fox's petition and
17 Dr. Parnell's declaration.

18 MS. BHATTACHARYYA: Mr. Hickey, that's a
19 speaking objection. You can just object to it in
20 one word as allowed by the rules. 12:19

21 MR. HICKEY: Well, it's outside the scope.
22 That's more than one word.

23 MS. BHATTACHARYYA: Okay. You can just
24 say outside the scope, that's your objection. You
25 can stop at that, Mr. Hickey. 12:20

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1 Q Dr. Parnell, do you see the paragraph that 12:20
2 I just read?
3 MR. HICKEY: Objection, outside the scope.
4 THE WITNESS: I have not seen this
5 document before or seen it referenced. 12:20
6 BY MS. BHATTACHARYYA:
7 Q Can you read the paragraph that I just
8 read?
9 MR. HICKEY: Objection, outside the scope.
10 BY MS. BHATTACHARYYA: 12:21
11 Q Are you reading the reference,
12 Dr. Parnell?
13 A I am, but I don't think I can comment on a
14 document that I haven't seen before.
15 Q The paragraph that I just read, Klein 12:21
16 teaches that "increasing the strength of the fork
17 blades and steerer fore and aft cantilever would be
18 the correct approach."
19 Did I read that correctly?
20 MR. HICKEY: Objection, outside the scope. 12:21
21 BY MS. BHATTACHARYYA:
22 Q Dr. Parnell, you can answer.
23 A As I said, it was not a document I've seen
24 before. I didn't see it referenced in your petition.
25 Q I'm not asking you, Dr. Parnell, to 12:22

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1 comment on the whole document. 12:22

2 I'm asking you: This Klein reference has
3 the words that says that "Both vertical and
4 longitudinal forces stress the front fork at a
5 fore-aft cantilever bending motion. In a simple 12:22
6 analysis, it appears that increasing the strength of
7 the fork blades and steerer fore and aft cantilever
8 would be the correct approach."

9 Those words appear in the Klein reference;
10 correct? 12:23

11 MR. HICKEY: Objection, outside the scope,
12 asked and answered.

13 THE WITNESS: As I said, it was not a
14 document I have seen before.

15 BY MS. BHATTACHARYYA: 12:23

16 Q Are you refusing to answer the question
17 because it is a document you have not answered --
18 studied before?

19 MR. HICKEY: Objection, form,
20 argumentative, misstates his testimony. 12:23

21 BY MS. BHATTACHARYYA:

22 Q Dr. Parnell, I'm asking you: Can you read
23 the words in the patent? Those are in English;
24 right?

25 MR. HICKEY: Objection, outside the scope. 12:23

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1 MS. BHATTACHARYYA: Mr. Hickey, are you 12:24
2 instructing Dr. Parnell to not answer because you're
3 objecting to something being outside the scope?

4 MR. HICKEY: Counsel, I'm making my
5 objections. I'm not going to engage in a colloquy 12:24
6 with you.

7 BY MS. BHATTACHARYYA:

8 Q Dr. Parnell, you can answer my questions.
9 Otherwise, I'll have to keep this deposition open
10 and you'll have to reappear for a deposition. 12:24

11 Your counsel has not instructed you to
12 not -- not to answer, so you have to answer my
13 questions. Okay?

14 MR. HICKEY: He's already answered.

15 MS. BHATTACHARYYA: He has not answered my 12:24
16 question.

17 THE WITNESS: I've answered that it's not
18 a document that I have seen before or referenced in
19 your petition, the petition by Fox.

20 BY MS. BHATTACHARYYA: 12:24

21 Q That is not my question, Dr. Parnell.

22 My question is: This Klein reference that
23 I have put in the record here and marked as
24 Exhibit 1023 has the words "Both vertical and
25 longitudinal forces stress the front fork at a 12:25

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1 fore-aft cantilever bending motion. In a simple 12:25
2 analysis, it appears that increasing the strength of
3 the fork blades and steerer fore and aft cantilever
4 would be the correct approach."

5 Those words appear in the Klein reference; 12:25
6 correct?

7 MR. HICKEY: Objection, outside the scope,
8 asked and answered multiple times.

9 THE WITNESS: Those words appear in this
10 document that I have not seen before. 12:25

11 BY MS. BHATTACHARYYA:

12 Q You've studied all of the other exhibits
13 that were submitted along with Fox's petition;
14 correct?

15 A Yes. 12:25

16 Q Are you aware that -- strike that.

17 You have studied the Denk prior art
18 reference; correct?

19 A Yes.

20 Q I have introduced Denk into the marked 12:26
21 exhibit folder and it was previously marked as
22 Exhibit 1006.

23 A Do you want me to go to the Denk reference?

24 Q I'm asking you: Have you reviewed Denk?

25 A Yes. 12:26

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1 Q Are you aware that in a patent application 12:26
2 that SRAM filed in China, the Chinese patent office
3 has rejected the claims of that Chinese application
4 that has claims that are substantially similar to
5 the claims of the '993 patent over the Denk 12:27
6 reference?

7 MR. HICKEY: Objection, form, outside the
8 scope.

9 THE WITNESS: I'm not aware of any details
10 of a Chinese prosecution or application. 12:27

11 BY MS. BHATTACHARYYA:

12 Q So you were not aware that in China, that
13 the Chinese patent office repeatedly rejected the
14 claims of the Chinese patent application over Denk?

15 MR. HICKEY: Objection, form, outside the 12:27
16 scope, asked and answered.

17 MS. BHATTACHARYYA: Just for the record,
18 Mr. Hickey, this is not outside the scope. The
19 reexamination decision from the Chinese patent
20 office is in the record. It's Exhibit 1004. 12:28

21 And Dr. Parnell has already testified that
22 he has studied all of the exhibits that were filed
23 by petitioner Fox.

24 So you can quit with those outside the
25 scope objections. 12:28

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1 THE WITNESS: I don't recall reading a 12:28
2 Chinese prosecution history, if that's what you're
3 referring to.

4 BY MS. BHATTACHARYYA:

5 Q You earlier testified that you read all of 12:28
6 the exhibits; correct?

7 A Yes, I'm just saying I don't recall the
8 details of that one.

9 Q Okay. But you did review it; is that what
10 you're saying? 12:29

11 MS. BHATTACHARYYA: I just introduced
12 Exhibit 1004 into the marked exhibit folder. It's
13 the reexamination decision from the China National
14 Intellectual Property Administration.

15 Q Do you recall reviewing this document, 12:29
16 Dr. Parnell?

17 A Yes, I just don't recall specific details of
18 it. But if it's 1004, it's a document that I had
19 reviewed.

20 Q Let's go to Page 3 of this document which 12:30
21 lists the claims of the Chinese patent application
22 and in particular I'll let you go ahead and read
23 Claim 1.

24 Let me know when you're done reading
25 Claim 1. 12:31

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1 A Yes. 12:32

2 Q Claim 1 of the Chinese patent application
3 which is discussed in Exhibit 1004 is substantially
4 the same as Claim 1 of the '993 patent; correct?

5 MR. HICKEY: Objection, form. 12:32

6 THE WITNESS: It's similar. I see some
7 words that are different. But it is similar, yes.

8 BY MS. BHATTACHARYYA:

9 Q Let's go to Page 9 of this document,
10 Exhibit 1004. And I'm referring to the page numbers 12:33
11 that off the document that are in the bottom of the
12 page.

13 A So Page 9 of 30?

14 Q Yes. Let me know when you're there.

15 A Yes, I'm there. 12:34

16 Q The Reference Document 3, DE19629740A1, is
17 the Denk reference that is used by petitioner Fox in
18 its petition; correct?

19 A Yes, I believe that is the Denk reference.

20 Q Is it okay if I refer to Reference 12:34
21 Document 3 as Denk?

22 A Okay.

23 Q So in the first full paragraph of Page 9
24 of Exhibit 1004, the Chinese patent office states,
25 "However, Reference Document 3," which is Denk, 12:35

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1 "discloses that the wall thickness of a bicycle 12:35
2 frame tube is at a maximum in the direction of
3 Line 25 (see Figure 1C), and the bicycle frame tube
4 has the greatest strength in this direction."

5 Do you see that? 12:35

6 A Yes, I see that. I have to look at
7 Figure 1C then.

8 Q Go ahead, read the Denk reference
9 available to you.

10 A I'm coming back to the Chinese document, 12:37
11 Exhibit 1004. Sorry, give me the page number there
12 again.

13 Q Page 9.

14 A All right. What is your question?

15 Q So the Chinese examiner referred to the 12:38
16 Denk reference as disclosing that the wall thickness
17 of a bicycle frame tube is at a maximum in the
18 direction of Line 25 as shown in Figure 1C of Denk;
19 correct?

20 A That's what is shown here, yes. 12:38

21 Q And you agree that Denk teaches that;
22 correct?

23 MR. HICKEY: Objection, form.

24 THE WITNESS: Based on my review of Denk,
25 my understanding, first off, Denk doesn't disclose a 12:39

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1 steerer tube in any sense. It's really focused on 12:39
2 frame components, bicycle frame components, and
3 vertical loads associated with gravity.

4 BY MS. BHATTACHARYYA:

5 Q That is not my question, Dr. Parnell. 12:39
6 I'm asking you -- and the examiner --
7 Chinese examiner is not saying that either.

8 The Chinese examiner has said that Denk
9 discloses the wall thickness of a bicycle frame is
10 at a maximum in the direction of the line, see 12:39
11 Figure 1C, and the bicycle frame tube has the
12 greatest strength in this direction; right?

13 MR. HICKEY: Objection, form.

14 THE WITNESS: But the prior sentence says,
15 "The technical issue actually solved is how to 12:40
16 maximize the strength of the steerer tube in a
17 traveling plane."

18 So that seems to be what the Chinese
19 examiner is referring to here.

20 BY MS. BHATTACHARYYA: 12:40

21 Q Exactly. But you -- why don't you read
22 the sentence after that starts with "On this basis."

23 And I will represent to you that the
24 Reference Document 1 is the Schroeder reference,
25 which is part of the record here. 12:40

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1 Let me know when you're done reading the 12:40
2 sentence that starts "On this basis."

3 A All right. I've read it.

4	Q	So the Chinese patent office has said that	
5		"those skilled in the art are motivated to apply the	12:41
6		technical feature of Reference Document 3," which is	
7		Denk, "to the steerer tube of Reference Document 1,"	
8		which is Schroeder, "so that the wall thickness of	
9		the tube can be at a maximum in the traveling plane	
10		of the bicycle."	12:41

11	Do you see that?
----	------------------

12	A	Yes.
----	---	------

13	Q	And the Chinese patent office then goes on	
14		to say, "Therefore, it is obvious to those skilled	
15		in the art to obtain the technical solution	12:42
16		protected by the claim by combining Reference	
17		Document 3," that is Denk, "with common knowledge of	
18		the art based on Reference Document 1," that is	
19		Schroeder, "so the claim does not comply with the	
20		provision of Paragraph 3, Article 22 of the Patent	12:42
21		Act regarding inventiveness."	

22	Do you see that?
----	------------------

23	A	Yes.
----	---	------

24 Q According to the Chinese patent office,
25 those skilled in the art would have been motivated 12:42

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1 to apply the teaching of Denk that the frame tube 12:42
2 has maximum thickness in the plane of travel to the
3 steerer tube of Schroeder; correct?

4 MR. HICKEY: Objection, form.

5 THE WITNESS: That's what is stated here. 12:43

6 BY MS. BHATTACHARYYA:

7 Q Let's go to Page 10 of Exhibit 1004.

8 Towards the very bottom of the third
9 paragraph on Page 10 of Exhibit 1004, the Chinese
10 patent office in their reexamination decision 12:43
11 states, "It is common knowledge in the art that the
12 steerer tube of a bicycle bears the greatest
13 strength in a traveling plane. Therefore, in order
14 to enhance the strength of the steerer tube of a
15 bicycle, those skilled in the art, under inspiration 12:44
16 by Reference Document 3," which is Denk, "can apply
17 the wall shape of the tube of Figure 1C to Reference
18 Document 1," which is Schroeder, "so that the wall
19 thickness of the steerer tube is at a maximum in the
20 traveling plane of the bicycle, which is obvious to 12:44
21 those skilled in the art."

22 Do you see that?

23 A Yes.

24 Q In your declaration you have not disagreed
25 with the assertion of the Chinese patent office that 12:45

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1 it is common knowledge in the art that the steerer 12:45
2 tube of a bicycle bears the greatest strength in the
3 traveling plane; correct?

4 MR. HICKEY: Objection, form.

5 THE WITNESS: In my declaration, I looked 12:45
6 at this as being the Denk reference with no
7 disclosure of a steerer tube, all being associated
8 with frame components, and other prior art
9 references as you cited, ones like Moechnig and
10 Valat. 12:46

11 BY MS. BHATTACHARYYA:

12 Q Dr. Parnell, again, I'm asking you about
13 what the Chinese patent office in this reexamination
14 document said. I'm not asking you about Denk.

15 Nowhere in your declaration have you 12:46
16 disagreed that it is common knowledge in the art
17 that the steerer tube of a bicycle bears the
18 greatest strength in a traveling plane; correct?

19 MR. HICKEY: Objection, form.

20 THE WITNESS: In my declaration I wrote 12:47
21 that the prior art that I was considering in the
22 various sections of my declaration did not teach a
23 maximum thickness in the traveling direction for a
24 steerer tube.

25 There were other teachings that were there 12:47

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1 in the prior art that was considered. 12:47

2 BY MS. BHATTACHARYYA:

3 Q Dr. Parnell, do you understand that
4 general knowledge or common knowledge in the art can
5 extend beyond what references are presented in a 12:47
6 petition?

7 MR. HICKEY: Objection, form.

8 THE WITNESS: It needs to be associated
9 with, though, the documents and the issues that are
10 being described, that there needs to be some 12:48
11 motivation to consider and --

12 BY MS. BHATTACHARYYA:

13 Q And does that motivation have to be
14 specifically stated in the prior art references?

15 MR. HICKEY: Counsel, can you let 12:48
16 Dr. Parnell -- I'm not sure if he was finished with
17 his answer or not.

18 BY MS. BHATTACHARYYA:

19 Q Were you done, Dr. Parnell?

20 A I was just trying to say that I think that 12:48
21 what you're searching for, you're looking for is that
22 the prior art references are relevant to the issues
23 that are being described.

24 You can't just pluck them out of the air,
25 there needs to be a motivation to consider and to 12:49

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1 combine those. 12:49

2 Q And does the motivation to consider and
3 combine those have to be specifically stated in the
4 prior art reference?

5 MR. HICKEY: Objection, form. 12:49

6 THE WITNESS: Well, I think that it does
7 need to be relevant to the -- it considers some of
8 the same issues that are being discussed. That's
9 one reason I said that Denk doesn't disclose a
10 steerer tube at all. 12:50

11 It's all associated with a different type
12 of tubing components in the bicycle frame and
13 associated with vertical loading.

14 So there's other -- there's aspects there
15 that are important, I think. 12:50

16 BY MS. BHATTACHARYYA:

17 Q Does vertical loading not affect the
18 steerer tube for a bicycle fork?

19 A As I wrote, I think the vertical loading is
20 less significant or relevant to the steerer tube, 12:50
21 then, because of its orientation but that loads --
22 primarily fore-aft and lateral loads and torques are
23 the key loads -- the key components to consider for a
24 steerer tube.

25 Q Is vertical loading the only type of 12:51

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1 loading being discussed in the Denk reference? 12:51

2 A In the Denk reference it said fairly --
3 fairly explicitly that it was focused on vertical
4 loads associated with weight and associated with how
5 those loads were applied to bicycle frame components. 12:51

6 Q Denk also says that its teachings can be
7 applied to the tubes of a bicycle fork; correct?

8 A It mentioned the stanchions or the fork
9 tubes that hold the -- that are attached to a steering
10 wheel -- that attach to the wheel at one end and to 12:52
11 the crown at the other end, that those are more like
12 frame components than in terms of how they are loaded.
13 They are loaded at the bending at the ends of each
14 one.

15 Q Are those words that appear in Denk or are 12:52
16 you just reading those into Denk?

17 A No, I think it was discussed in Denk that
18 stanchions were considered or were similar to.

19 Q Let's go to Column 4 of Denk, which is
20 Exhibit 1006. 12:53

21 (Discussion off the record.)

22 BY MS. BHATTACHARYYA:

23 Q Dr. Parnell, are you at Column 4 of Denk?

24 A Yes.

25 Q Denk at Column 4 in the fourth paragraph 12:53

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1 teaches, "Thus, the lightweight component for 12:53
2 bicycles is suitable for practically all tubular
3 components, i.e., top tube, down tube, seat tube,
4 head tube, fork tubes, rear wheel stay, seat posts,
5 handlebars, handlebar stem, and the like." 12:54
6 Do you see that?
7 A Yes.
8 Q So Denk says that the lightweight
9 component that it teaches is applicable for all
10 tubular components of a bicycle; correct? 12:54
11 MR. HICKEY: Objection, form,
12 mischaracterizes the document.
13 THE WITNESS: It actually says,
14 "practically all tubular components," and it very
15 explicitly did not list a steerer tube. 12:54
16 When we're talking about the stanchions
17 or -- those are like the fork tubes that are listed
18 here.
19 But there is no teaching in this
20 application associated with a steerer tube. 12:54
21 BY MS. BHATTACHARYYA:
22 Q But Denk says it can be used for
23 practically all tubular components, including fork
24 tubes; correct?
25 A Including fork tubes, yes. 12:55

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1 Q And the steerer tube is a tubular 12:55
2 component of a fork; correct?

3 MR. HICKEY: Objection, form.

4 THE WITNESS: It's a tubular component,
5 but it's quite different in terms of how it's 12:55
6 loaded. It's loaded at the ends, at the crown and
7 at the handlebars and it's loaded at the bearings in
8 the head tube.

9 So it's got a different type of loading
10 arrangement. 12:55

11 BY MS. BHATTACHARYYA:

12 Q A steerer tube is a key component of a
13 bicycle fork; correct?

14 A It's a key component, yes.

15 Q And the steerer tube is a tubular 12:56
16 component of a bicycle; correct?

17 A It is a tubular component, but it's a fairly
18 specialized one in terms of how it's loaded and other
19 design considerations and that it's -- it's not
20 discussed here or in this reference at all as I read 12:56
21 it.

22 Q Does Denk say anywhere, don't use the
23 teachings of the Denk reference for a steerer tube?

24 A It does not teach applying the reference to
25 a steerer tube. 12:56

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1 Q And it doesn't teach away from using the 12:57
2 teachings of the lightweight tubular component to a
3 steerer tube; correct?

4 MR. HICKEY: Objection, form.

5 THE WITNESS: I think it does teach away 12:57
6 from that given these components that are listed
7 here specifically and the discussion in Column 2
8 with regard to the type of loading, the vertical
9 loading associated with weight, that sort of thing.

10 I think it does. It shows a different 12:57
11 application and it doesn't include a steerer tube.

12 BY MS. BHATTACHARYYA:

13 Q But Denk at Column 4 says, "the
14 lightweight component for bicycles is suitable for
15 practically all tubular components," then lists fork 12:58
16 tubes and at the end says "and the like"; correct?

17 A Fork tubes are the stanchions, the part that
18 comes from the crown and to the front wheel then. So,
19 again, it's different. The steerer tube is different.

20 Q Okay. Does Denk -- 12:58

21 MR. HICKEY: Counsel, can Dr. Parnell
22 finish his answer if he -- I'm not sure if he was
23 complete or not.

24 BY MS. BHATTACHARYYA:

25 Q Dr. Parnell, did you complete your answer? 12:58

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1 A I think I did in that I view the steerer 12:58
2 tube as being different from what is being described
3 here in the Denk reference in terms of the specific
4 components and in terms of the importance of vertical
5 load, weight loads. 12:59

6 Q Does the Denk reference define fork tubes
7 as just the stanchion tubes anywhere?

8 A I think that the fork tubes as stanchion
9 tubes is the common knowledge within this type of
10 bicycle application, that fork tubes and stanchion 12:59
11 tubes are basically the same.

12 Q Does Denk say anywhere that fork tubes
13 means stanchion tubes and not steerer tubes?

14 MR. HICKEY: Objection, form, asked and
15 answered. 01:00

16 THE WITNESS: It definitely does not say
17 steerer tube anywhere in the Denk reference.

18 BY MS. BHATTACHARYYA:

19 Q Dr. Parnell, please answer my question.
20 Does Denk say anywhere that fork tubes 01:00
21 means stanchion tubes only and not steerer tubes?

22 MR. HICKEY: Objection, form, asked and
23 answered.

24 THE WITNESS: Out of all the types of
25 tubes that are listed, the steerer tube is not 01:00

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1 listed. And fork tubes are understood, known to be 01:00
2 associated with the stanchions.

3 BY MS. BHATTACHARYYA:

4 Q Dr. Parnell, does Denk say anywhere in the
5 reference that by fork tubes, it means stanchion 01:01
6 tubes alone and not the steerer tubes of the fork?

7 MR. HICKEY: Objection, form, asked and
8 answered.

9 THE WITNESS: I mean, you're asking for
10 the negative of a list basically. Again, I read 01:01
11 these components, these are all like frame type
12 components and they list the importance of the
13 vertical loads, the gravity or weight loads on these
14 components.

15 The steerer tube is different, it has 01:02
16 different loading that's important for it.

17 BY MS. BHATTACHARYYA:

18 Q Dr. Parnell, we can do this for hours and
19 the court reporter has to go on a break, so I'm
20 going to ask you again and you can say whatever you 01:02
21 want.

22 Does Denk teach anywhere that by fork
23 tubes, it means only stanchion tubes and not steerer
24 tubes?

25 MR. HICKEY: Objection, form, 01:02

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1 argumentative, asked and answered. 01:02

2 THE WITNESS: I've tried to explain my
3 reasoning or my understanding with regard to fork
4 tubes, what they mean, what they include, that the
5 fork tubes are attached to the crown and attached to 01:02
6 the front wheel at the other end.

7 They're more of a bending load, bending
8 component from the crown and at the front wheel at
9 the other end and they see loading predominantly
10 associated with vertical loading. 01:03

11 BY MS. BHATTACHARYYA:

12 Q Dr. Parnell, I'm not asking you for your
13 understanding.

14 You have read the Denk reference; correct?

15 A Yes. 01:03

16 Q Does the Denk reference say anywhere that
17 by the term "fork tubes," Denk means only stanchion
18 tubes and not steerer tubes?

19 MR. HICKEY: Objection, form,
20 argumentative, asked and answered for like the fifth 01:03
21 or sixth time.

22 MS. BHATTACHARYYA: Mr. Hickey, this is
23 not a proper objection for an IPR proceeding.

24 MR. HICKEY: Well, counsel, you're asking
25 the same question again and again, he's giving his 01:04

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1 answer and -- 01:04

2 MS. BHATTACHARYYA: Mr. Hickey,
3 Dr. Parnell is not giving me the answer. He can
4 answer, but he's giving me his understanding of
5 Denk, which is not my question. 01:04

6 My question is: Does Denk teach anywhere
7 that by fork tubes, it means only stanchion tubes
8 and not steerer tubes?

9 MR. HICKEY: Okay. I understand he's not
10 giving you the answer that you want. 01:04

11 MS. BHATTACHARYYA: No, no, no.
12 Mr. Hickey, can we just stop this? You're giving
13 speaking objections and I said we can keep doing
14 this. I'm going to keep asking my question and
15 Dr. Parnell will have to answer. Okay? 01:04

16 MR. HICKEY: And he can answer, he has
17 already answered, counsel, repeatedly.

18 MS. BHATTACHARYYA: Mr. Hickey, can you
19 just please stop? Can you stop instructing the
20 witness what he can and cannot do and stop 01:04
21 suggesting answers?

22 MR. HICKEY: I'm not suggesting answers.
23 I am not instructing the witness on any answers.
24 I'm simply reciting what is apparent and what has
25 been done. 01:05

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1 You keep asking the same question again 01:05
2 and again. You say that you're not asking for his
3 understanding. He's here as an expert for his
4 testimony and you're asking him about the teachings
5 of Denk. He's given his answer. 01:05
6 MS. BHATTACHARYYA: I'm not asking for his
7 understanding of Denk, which can be very
8 self-serving. And there are others who have
9 understood Denk very differently, other who are
10 skilled in the art like Dr. Slocum, the examiner in 01:05
11 the China patent office.
12 So I'm not asking for Dr. Parnell's
13 understanding of Denk. I'm asking --
14 MR. HICKEY: You're asking him for what
15 Denk teaches. That's his -- 01:05
16 MS. BHATTACHARYYA: No.
17 MR. HICKEY: -- understanding. Let's move
18 on. Counsel, ask the question again and he can give
19 his answer and I'll make my objection.
20 MS. BHATTACHARYYA: Yes, you can, just 01:05
21 quit with the speaking objections. If you listen to
22 the questions, I am not asking him what Denk
23 teaches, I'm asking him whether Denk says it, okay,
24 in its words in the written text.
25 I think you can understand that and 01:06

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1 Dr. Parnell understands it too. So I will ask my 01:06
2 question again.

3 MR. HICKEY: Okay. Before we get there, I
4 want to correct that on the record because that is
5 false. You said: Does Denk teach anywhere that by 01:06
6 fork tubes, it means only stanchion tubes and not
7 steerer tubes?

8 So you did ask him what it was teaching.

9 MS. BHATTACHARYYA: I will repeat my
10 question. I'm reading my question from the 01:06
11 realtime. Okay?

12 Q I asked: Does the Denk reference say
13 anywhere that by the term "fork tubes," Denk means
14 only stanchion tubes and not steerer tubes?

15 So I said "say anywhere," I did not use 01:06
16 the word "teach."

17 MR. HICKEY: You said teach previously.

18 MS. BHATTACHARYYA: I may have, but I
19 changed my question because I know the game that
20 Dr. Parnell is playing and your objections. 01:07

21 MR. HICKEY: That is improper
22 argumentative characterizing what Dr. Parnell is
23 doing by answering the question honestly. Go ahead,
24 ask the question that you want to ask, counsel.

25 MS. BHATTACHARYYA: Okay. I will do that 01:07

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1 and please don't interfere. If you have an 01:07
2 objection, just make the objection and we can move
3 on. Okay?

4 Q Dr. Parnell, does Denk say anywhere in the
5 text or in the drawings of the reference that by 01:07
6 "fork tubes," it means only stanchion tubes of the
7 forks and not the steerer tube of the fork?

8 MR. HICKEY: Objection, form, asked and
9 answered.

10 THE WITNESS: Again, my understanding of 01:08
11 fork tubes are that they are the stanchion tubes.
12 My understanding is that there is no steerer tube
13 listed here in this listing of components that are
14 applicable or that Denk is considering. I think --

15 BY MS. BHATTACHARYYA: 01:08

16 Q But Denk --

17 A I think even Dr. Slocum said that fork tubes
18 were stanchions.

19 Q I'm not asking you what Dr. Slocum said.

20 I'm asking you: Does Denk say in the 01:08
21 document that by "fork tubes," it means only
22 stanchion tubes and not steerer tubes?

23 MR. HICKEY: Objection, form, asked and
24 answered.

25 THE WITNESS: I don't know how to say it 01:09

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1 differently. Again, steerer tube is not listed 01:09
2 here. It's not -- and it has a different type of
3 loading on it.

4 When I read it, I think of fork tubes or
5 stanchion tubes. 01:09

6 BY MS. BHATTACHARYYA:

7 Q That is your understanding; correct? But
8 Denk does not say that fork tubes are stanchion
9 tubes; correct?

10 MR. HICKEY: Objection, form, asked and 01:09
11 answered.

12 And, counsel, I'm just going to ask, we've
13 asked for a break for some time, so -- and you keep
14 asking the same question. I'm not sure what the
15 point is. 01:09

16 MS. BHATTACHARYYA: It's in the rules, I
17 have questions in this line of topic and I'll have
18 to keep asking if Dr. Parnell is not going to answer
19 my question.

20 MR. HICKEY: He is answering your 01:09
21 question, counsel.

22 MS. BHATTACHARYYA: No, he's --

23 MR. HICKEY: Counsel, can we take a break
24 and --

25 MS. BHATTACHARYYA: Are you asking me to 01:09

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1 stop my line of question to take a break? 01:10

2 MR. HICKEY: No, go ahead, continue with
3 your line of questions.

4 MS. BHATTACHARYYA: Yes.

5 Q Denk says that the lightweight component 01:10
6 can be used for fork tubes; correct?

7 A That's one of the components that's listed
8 here, yes, in the bicycle frame type components.

9 Q And does Denk say anywhere that the
10 lightweight component for the bicycles can only be 01:10
11 used for the stanchion tubes?

12 A It gives this listing of components and
13 there is not a -- steerer tube is not listed anywhere
14 in the Denk reference.

15 Q The steerer tube is a tube off the bicycle 01:10
16 fork; correct?

17 MR. HICKEY: Objection, asked and
18 answered.

19 THE WITNESS: It's a tube that's mounted
20 in the head tube that is listed here. And it's 01:11
21 attached to the crown at one end and it's attached
22 to a handlebar stem at the other end, handlebars.

23 BY MS. BHATTACHARYYA:

24 Q The steerer tube is a tubular component of
25 a bicycle fork; correct? 01:11

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1 MR. HICKEY: Objection, asked and 01:11
2 answered.

3 THE WITNESS: It is a tubular component.

4 BY MS. BHATTACHARYYA:

5 Q The steerer tube is a tubular component of 01:11
6 a bicycle fork; correct?

7 MR. HICKEY: Objection, form, asked and
8 answered.

9 THE WITNESS: Well, I guess I have to ask
10 what you mean by "fork." 01:11

11 BY MS. BHATTACHARYYA:

12 Q This is my deposition, Dr. Parnell. I ask
13 the questions.

14 A Okay. Then I've tried to answer with my
15 understanding of the components that are here in this 01:11
16 front portion.

17 Q The steerer tube is a tubular component of
18 a bicycle fork; correct?

19 MR. HICKEY: Objection, form, asked and
20 answered. 01:12

21 THE WITNESS: It's a tubular component
22 depending -- I guess depending on how you are going
23 to define fork, that might be relevant, but fork is
24 not -- only fork tubes are listed here.

25

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1 BY MS. BHATTACHARYYA: 01:12

2 Q And I'm not asking you about Denk. I'm
3 asking you if the steerer tube is a tubular
4 component of a bicycle fork; correct?

5 MR. HICKEY: Objection, form, asked and 01:12
6 answered.

7 THE WITNESS: It's one part of this setup
8 in a bicycle that's associated with steering and
9 with handling fore and aft loads. It's not a fork
10 tube, though. 01:13

11 BY MS. BHATTACHARYYA:

12 Q I'm not asking about fork tube.

13 I'm asking, Dr. Parnell: Is a steerer
14 tube a tubular component of a bicycle fork?

15 MR. HICKEY: Objection, form, asked and 01:13
16 answered.

17 THE WITNESS: It's a component here that's
18 mounted in the head tube that's listed here and
19 it's --

20 BY MS. BHATTACHARYYA: 01:14

21 Q Dr. Parnell, you can keep aside the Denk
22 reference. I'm not asking you about Denk.

23 I'm asking you a very simple question: Is
24 a steerer tube a tubular component of a bicycle
25 fork, yes or no? 01:14

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1 MR. HICKEY: Objection, asked and 01:14
2 answered.

3 THE WITNESS: I think I would characterize
4 a steerer tube as being one component of this
5 assembly that is mounted in the head tube that's 01:14
6 used to steer the bicycle.

7 Is it part of a fork? Then I guess what's
8 a fork? But I tried to list how it's attached here
9 and how it's -- what the assembly looks like.

10 BY MS. BHATTACHARYYA: 01:15

11 Q Dr. Parnell, let's go to your declaration,
12 which is Exhibit 2021.

13 MR. HICKEY: Counsel, again, I would ask
14 for a break. The court reporter asked for a break
15 probably about a half an hour ago. 01:15

16 MS. BHATTACHARYYA: I will take a break in
17 just two minutes. Let me finish. I have two more
18 questions.

19 Sorry, madam court reporter, I do need to
20 finish this line of question. 01:15

21 Q Are you in your declaration, Dr. Parnell?

22 A Yes.

23 Q Let's go to Paragraph 26 of your
24 declaration. Are you there?

25 A Yes. 01:16

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1 Q And the first line in Paragraph 26 of your 01:16
2 declaration says, "A steerer tube is a key component
3 of a bicycle fork."

4 Do you see that?

5 A Yes. 01:16

6 Q So in your declaration you said that the
7 steerer tube is a component of a bicycle fork;
8 correct?

9 A Yes, a component of a bicycle fork.

10 Q And a steerer tube is a tubular component 01:16
11 of a bicycle fork; correct?

12 A It is a tubular component.

13 Next paragraph, "Typically, a steerer tube
14 is a hollow tube that runs through the head tube of
15 a separate bicycle frame and is used to provide 01:16
16 steering for the bicycle fork."

17 Q But the steerer tube is a component of the
18 bicycle fork; correct?

19 MR. HICKEY: Objection, asked and
20 answered. 01:17

21 THE WITNESS: Yes.

22 BY MS. BHATTACHARYYA:

23 Q Let's go to Paragraph 28 of your
24 declaration. And here again you say, "Overall, the
25 steerer tube is an important component of any 01:17

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1 bicycle fork and related bicycle." 01:17

2 Do you see that?

3 A Yes.

4 Q Here again, in Paragraph 28 of your
5 declaration, you have stated that the steerer tube 01:17
6 is an important component of any bicycle fork;
7 correct?

8 MR. HICKEY: Objection, asked and
9 answered.

10 THE WITNESS: Of that overall bicycle fork 01:17
11 assembly that's made up of multiple components, yes,
12 it's an important component of.

13 MS. BHATTACHARYYA: We can take a break
14 now.

15 THE VIDEOGRAPHER: This marks the end of 01:18
16 Media Number 2. Off the record. The time is 1:18.

17 (Lunch Recess taken.)

18 THE VIDEOGRAPHER: This marks the
19 beginning of media Number 4 in the deposition of Dr.
20 Kim Parnell. We're back on the record. The time is 01:57
21 1:57.

22 BY MS. BHATTACHARYYA:

23 Q Welcome back, Dr. Parnell.

24 During the break, the lunch break that we
25 just took, did you talk to counsel about the 01:57

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1 testimony you gave prior to lunch or the testimony 01:57
2 you're about to give in this deposition?

3 A No.

4 MS. BHATTACHARYYA: Can we go off the
5 record for a second? I think realtime is not 01:58
6 working again.

7 THE VIDEOGRAPHER: Off the record. The
8 time is 1:58.

9 (Recess taken.)

10 THE VIDEOGRAPHER: We're back on the
11 record. The time is 2:01.

12 BY MS. BHATTACHARYYA:

13 Q Dr. Parnell, let's go to the Valat
14 reference, which is Exhibit 1007. I put it in the
15 marked exhibit folder. 02:02

16 A All right. I have it.

17 Q Have you studied the Valat reference,
18 Dr. Parnell?

19 A Yes.

20 Q When was the last time you reviewed it? 02:02

21 A Yesterday and prior to the deposition.

22 Q Let's look at Figure 3 of Valat.

23 A All right.

24 Q In Figure 3, Valat teaches adding
25 reinforcements such that the thickness of the 02:03

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1 steerer tube varies across the cross section of the 02:03
2 tube; correct?

3 MR. HICKEY: Objection, form.

4 THE WITNESS: It's showing different
5 potential configurations of internal ribs to 02:03
6 reinforce internal ribs in the inside of the steerer
7 tube.

8 BY MS. BHATTACHARYYA:

9 Q In Figure 3 of Valat, the thickness of the
10 steerer tube in the lower section of the tube where 02:04
11 reinforcements are added would vary as a function of
12 the cross-sectional angle; correct?

13 MR. HICKEY: Objection, form.

14 THE WITNESS: Yes, there is a variation
15 with the angle and Figure 3 shows multiple locations 02:04
16 of maximum thickness and with that rib
17 configuration.

18 BY MS. BHATTACHARYYA:

19 Q In the embodiment shown in Figure 3 of
20 Valat, the thickness of the steerer tube varies 02:04
21 across the cross section of the tube; correct?

22 MR. HICKEY: Objection, form.

23 THE WITNESS: It does vary, yes.

24 BY MS. BHATTACHARYYA:

25 Q And the thickness is maximum along the 02:05

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1 plane of travel of the bicycle as well as in the 02:05
2 lateral direction; correct?

3 A Yes, Figure 3 shows two different directions
4 with maximum thickness of the reinforcement ribs.

5 Q Let's go to the second column in the first 02:05
6 page of Valat. Let me know when you're there.

7 A All right. I'm there.

8 Q At the very bottom of the second column of
9 Valat, starting at about Line 102, Valat says, "As
10 shown in Figure 1, for example, a tube is chosen of 02:06
11 greater external diameter in the part 1 where the
12 reinforcements 2 are to be formed."

13 Do you see that?

14 A Yes.

15 Q In Figure 1 of Valat, it shows a steerer 02:06
16 tube that has a greater external diameter in the
17 lower section of the tube; correct?

18 MR. HICKEY: Objection, form.

19 THE WITNESS: My understanding from Valat
20 is that Figure 1 is a starting configuration before 02:06
21 a steerer tube is formed by swaging to put the ribs
22 into the tube. So Figure 1 is just a starting
23 configuration as opposed to a final steerer tube.

24 BY MS. BHATTACHARYYA:

25 Q But Figure 1 shows a tube configuration 02:07

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1 that has a greater external diameter in the lower 02:07
2 section of the tube; correct?

3 MR. HICKEY: Objection, form.

4 THE WITNESS: That's what I'm saying,
5 Figure 1 is not a steerer tube. It's an initial 02:07
6 configuration for -- to form a steerer tube with
7 swaging to go to the configuration shown in
8 Figure 2.

9 BY MS. BHATTACHARYYA:

10 Q Dr. Parnell, please listen to my question 02:07
11 carefully.

12 Figure 1 shows a tube configuration that
13 has a greater external diameter in the lower section
14 of the tube; correct?

15 MR. HICKEY: Objection, form, asked and 02:08
16 answered.

17 THE WITNESS: It shows a tube
18 configuration as a starting point, like I said.

19 BY MS. BHATTACHARYYA:

20 Q It shows a tube configuration that has a 02:08
21 greater external diameter in the lower section of
22 the tube; correct?

23 MR. HICKEY: Objection, form, asked and
24 answered.

25 THE WITNESS: Yes, this is before the 02:08

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1 swaging operation takes place as described in Valat. 02:08

2 BY MS. BHATTACHARYYA:

3 Q What is the swaging process used for?

4 A Well, in this -- in this case, it's used to
5 provide a mandrel on the inside of the starting 02:08
6 configuration here and to use that to form ribs
7 associated with that mandrel. So to form ribs on the
8 inside of the tube and to form, ultimately through
9 swaging, something that will give a constant external
10 diameter in Figure 2. 02:09

11 Q Is the swaging process the only way of
12 forming ribs on the inside of a tube?

13 A I don't know if it's the only one, but it
14 was the one that was described here in Valat for this
15 application. 02:09

16 Q As a person skilled in the art, would you
17 know if there are any other techniques that could be
18 used to create reinforcement ribs on the inside of
19 Valat's tube?

20 A I think swaging is maybe the most practical 02:10
21 or attractive way.

22 You might be able to get it with other
23 aspects like forcing a die into the tube to cut
24 ribs. That might be a way to achieve it, but it
25 seems like swaging is the preferred way as described 02:10

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1 in Valat. 02:10

2 Q Would you use swaging to create an inner
3 elliptical contour in the lower section of a tube?

4 MR. HICKEY: Objection, form.

5 THE WITNESS: Potentially it might be a 02:11
6 possible option to form that configuration, if that
7 was the shape of a mandrel.

8 BY MS. BHATTACHARYYA:

9 Q But you don't have to use swaging to
10 create an inner elliptical contour in a tube; 02:11
11 correct?

12 MR. HICKEY: Objection, form.

13 THE WITNESS: No, there's probably
14 multiple ways to achieve that.

15 BY MS. BHATTACHARYYA: 02:11

16 Q In the Valat reference, if you took the
17 tube configuration shown in Figure 1 but you did not
18 use swaging but you used some other technique to
19 create the reinforcements in the lower section of
20 the tube, the greater external diameter in the lower 02:12
21 part of the tube shown in Figure 1 would remain
22 intact; correct?

23 MR. HICKEY: Objection, form, calls for
24 speculation.

25 THE WITNESS: I think you come away with a 02:12

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1 different configuration than what's shown in 02:12
2 Figure 2. Figure 2 is the embodiment that's
3 described in Valat.

4 BY MS. BHATTACHARYYA:

5 Q I'm actually not talking about Figure 2 at 02:12
6 all.

7 If you took the tube configuration shown
8 in Figure 1 of Valat but you did not use swaging,
9 you used some other internal die mechanism to create
10 reinforcements in the lower section of the tube, 02:13
11 then the greater external diameter in the lower
12 section of the tube shown in Figure 1 would not
13 change; correct?

14 MR. HICKEY: Objection, form, calls for
15 speculation. 02:13

16 THE WITNESS: I mean, it would really
17 depend on exactly how you achieved that, how you did
18 that. It's not what's described here at least.

19 BY MS. BHATTACHARYYA:

20 Q I'm just asking you as a person skilled in 02:13
21 the art, would it be fair to say that if you did not
22 use the swaging process in the tube shown in
23 Figure 1 of Valat, the greater external diameter in
24 the lower section of the tube would not change;
25 correct? 02:13

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1 MR. HICKEY: Objection, form, calls for 02:14
2 speculation, asked and answered.

3 THE WITNESS: That's potentially true,
4 depending on the tooling and the process that you
5 used. 02:14

6 BY MS. BHATTACHARYYA:

7 Q So if you took the tube shown in Figure 1
8 of Valat and you used some machining process to
9 create an inner elliptical contour in the lower
10 section of the tube as shown in Denk, then the 02:14
11 greater external diameter in the lower section of
12 the tube would not change; correct?

13 MR. HICKEY: Objection, form, calls for
14 speculation.

15 THE WITNESS: You would need to do 02:15
16 something because my understanding of Figure 1 is
17 that it's basically a cylindrical inside diameter
18 here.

19 And then you've got a larger external
20 diameter for material to, in this case, force into 02:15
21 the ribs that were being produced.

22 BY MS. BHATTACHARYYA:

23 Q My question is: If you took the tubular
24 configuration shown in Figure 1 of Valat, did not do
25 anything to the greater external diameter of the 02:15

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1 tube but you used a machining process to change the 02:15
2 inner contour of the tube into an elliptical shape
3 by taking away material at some parts of the inner
4 circumference, then the greater external diameter of
5 the tube would not change; correct? 02:16

6 MR. HICKEY: Objection, form, calls for
7 speculation, asked and answered.

8 THE WITNESS: That might be true depending
9 on how you achieve that and the amount of material
10 that is there to work with. 02:16

11 BY MS. BHATTACHARYYA:

12 Q So if you took the tubular configuration
13 shown in Figure 1 of Valat, and you do not do
14 anything to change the greater external diameter in
15 the lower section of the tube, but you just used a 02:16
16 machining process to change the inner contour of the
17 tube into an elliptical shape, then it is possible
18 that the outer greater external diameter of the tube
19 will remain unchanged; correct?

20 MR. HICKEY: Objection, form, calls for 02:17
21 speculation, asked and answered.

22 THE WITNESS: It may be possible depending
23 on the specific dimensions.

24 You know, what is shown here in Figure 1
25 in this -- I would call it a preform or a starting 02:17

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1 configuration is that additional thickness is used 02:17
2 to force it to form ribs.

3 So now if you're going to take away
4 material, it would have to be evaluated in terms of
5 amount of material that could be taken away and, you 02:17
6 know, what you achieve on the finished part then.

7 BY MS. BHATTACHARYYA:

8 Q But assuming there is enough material that
9 is -- that can be taken away to create an inner
10 elliptical contour in the tube, then the greater 02:18
11 external diameter in the lower section of the tube
12 shown in Figure 1 of Valat would remain intact;
13 correct?

14 MR. HICKEY: Objection, form, calls for
15 speculation, asked and answered. 02:18

16 THE WITNESS: It's possible, it would just
17 need to be evaluated to see if those -- if that
18 configuration is feasible with the starting
19 configuration of Valat.

20 BY MS. BHATTACHARYYA: 02:18

21 Q Now, Valat teaches adding reinforcements
22 in multiple parts along the inner cross section of
23 the lower section of the tube; correct?

24 A Valat describes them as ribs on the inside.
25 It mentions a helical long pitch, meaning that they 02:19

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1 twist or rotate as they go forward. And that's kind 02:19
2 of the indication you see in Figure 2 like D, the
3 rib D, it's got a -- it's changing its orientation as
4 you go down the length of the tube.

5 Q But Valat teaches adding those ribs on the 02:19
6 inside in multiple locations along the inner cross
7 section of the tube; correct?

8 MR. HICKEY: Objection, form.

9 THE WITNESS: Correct. Valat indicates
10 adding the ribs and it indicates that the objective 02:20
11 of Valat is to get greater strength or reinforcement
12 all around the tube, the full 360 degrees that they
13 are trying to reinforce it all around that boundary
14 into the crown.

15 BY MS. BHATTACHARYYA: 02:20

16 Q Adding reinforcements all around the
17 boundary of the crown would increase the weight of
18 the tube compared to having reinforcements in just
19 one or two positions along the circumference of the
20 tube; correct? 02:20

21 MR. HICKEY: Objection, form.

22 THE WITNESS: I don't think that's
23 necessarily true.

24 What is described in Valat is forming the
25 ribs from what is shown here in the preform in 02:21

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1 Figure 1, it's not adding any material, but it's 02:21
2 forcing material into a mandrel where the mandrel
3 has the shape of the ribs that you're trying to
4 form, whether it's the ones that are right under
5 Figure 2 or they are ones like Figure 3 or Figure 4 02:21
6 or Figure 5.

7 It's not adding any material, but it's
8 kind of re -- repositioning material into the
9 mandrel.

10 BY MS. BHATTACHARYYA: 02:21

11 Q But if you removed some of the
12 reinforcement from some parts of the inner contour
13 of the steerer tube, then it would reduce the weight
14 of the tube; correct?

15 MR. HICKEY: Objection, form, calls for 02:22
16 speculation.

17 THE WITNESS: I'm not sure how you're
18 talking about removing material there.

19 BY MS. BHATTACHARYYA:

20 Q Just assume that some -- only half of the 02:22
21 reinforcements are there in the steerer tube, the
22 weight of that tube would be lower than a tube
23 having reinforcement all around the inner contour of
24 the tube; correct?

25 MR. HICKEY: Objection, form. 02:22

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1 THE WITNESS: I don't think it would if 02:22
2 you're talking about using the swaging process and a
3 mandrel as being described here.

4 That's not taking away material, that's
5 more repositioning material into the ribs. 02:23

6 BY MS. BHATTACHARYYA:

7 Q If you take the embodiment shown in
8 Figure 2 of Valat now to some machining process, you
9 removed some of the reinforcements from the inside,
10 then that modified Figure 2 embodiment will have 02:23
11 lower weight than the embodiment as shown in
12 Figure 2 of Valat; correct?

13 MR. HICKEY: Objection, form.

14 THE WITNESS: If you're taking away
15 material, it would have lower weight. It would go 02:23
16 against the objective of trying to achieve a greater
17 strength around the full perimeter, the full
18 360 degrees where it enters the crown.

19 BY MS. BHATTACHARYYA:

20 Q If your objective was to create a steerer 02:24
21 tube having lower weight, you could do that and the
22 objective of lower weight will be achieved; correct?

23 A If you're taking away material, you can have
24 lower weight than the starting point, than the point
25 before you're taking away that material. 02:24

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1 Q If you took the tubular configuration 02:24
2 shown in Figure 1 of Valat and you created an
3 elliptical inner contour in the lower section of the
4 tube as shown in Denk by taking away material, the
5 resulting steerer tube will have lower weight than 02:24
6 the tube shown in Figure 1 of Valat; correct?

7 MR. HICKEY: Objection, form, calls for
8 speculation.

9 THE WITNESS: I would think if you're
10 taking material than what's shown in Figure 1, if 02:25
11 you're taking away the material, you're reducing the
12 weight. It's just going -- not going with the
13 teaching of Valat or the objective of Valat to get
14 reinforcement around the full perimeter of the
15 crown. 02:25

16 It would be a different thing.

17 MS. BHATTACHARYYA: Can we take a quick
18 five-minute break? I might be pretty much done, but
19 I just want to check my notes.

20 THE VIDEOGRAPHER: Off the record. The 02:26
21 time is 2:26.

22 (Recess taken.)

23 THE VIDEOGRAPHER: We're back on the
24 record. The time is 2:35.

25

1 BY MS. BHATTACHARYYA: 02:35

2 Q Dr. Parnell, in Valat Figure 2 towards the
3 bottom, it's showing a cross-sectional image with
4 the ribs D, E, G and F.

5 Do you see that? 02:35

6 A Yes.

7 Q According to this cross-sectional image,
8 the inner contour of the upper portion of the tube
9 is circularly cylindrical; correct?

10 MR. HICKEY: Objection, form. 02:36

11 THE WITNESS: I think it may be
12 cylindrical. Not necessarily. I mean, from swaging
13 and the way the operation is performed.

14 BY MS. BHATTACHARYYA:

15 Q But the swaging process is just performed 02:36
16 on the lower section of the tube to create the
17 reinforcement ribs; correct?

18 A Yes, it really does not say anything about
19 the upper portion, what's happened there or how far it
20 goes. 02:37

21 Q Valat says that the ribs die off in the
22 tapering portion of the tube; correct?

23 A Yes.

24 Q So the inner cross section in the upper
25 section of Valat's steerer tube would be circular; 02:37

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1 correct? 02:37

2 MR. HICKEY: Objection, form.

3 THE WITNESS: That's what I said, it may
4 be circular. There's a possibility of deviating
5 from that a bit, but it may be circular depending on 02:37
6 how it's swaged, how it's formed.

7 BY MS. BHATTACHARYYA:

8 Q So Valat teaches starting out with a tube
9 that is circularly cylindrical both on the inside
10 and outside; correct? 02:38

11 MR. HICKEY: Objection, form.

12 THE WITNESS: Yes, in Figure 1.

13 MS. BHATTACHARYYA: No further questions
14 for Dr. Parnell.

15 EXAMINATION 02:39

16 BY MR. HICKEY:

17 Q Dr. Parnell, where in Valat does it say
18 that the inside of the tube is circular, or at least
19 the starting tube?

20 A I think it's just described here in the 02:39
21 second column around Line 57, it says, "Figure 1 shows
22 an axial section of the tube before the reinforcements
23 are formed and showing two of them in dotted lines."

24 I mean, here it doesn't say cylindrical.

25 Q So Valat is silent as to whether or not 02:40

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1 the interior of the starting tube is circularly 02:40
2 cylindrical; is that right?

3 A Yes, in this area.

4 Q What about the exterior of the starting
5 tube, is Valat silent on whether or not the exterior 02:40
6 of the starting tube is circularly cylindrical?

7 A Yes, I think so, as what I was saying it
8 could be cylindrical, but you could have deviation
9 from that after forming and potentially before.

10 It says that after forming, you'll have 02:41
11 the same external diameter over the whole length,
12 but that doesn't necessarily mean cylindrical.
13 That's possible. But it doesn't necessarily mean
14 cylindrical.

15 Q Previously in your deposition, you 02:41
16 discussed with counsel for Fox the Galasso reference
17 that was not relied upon for any grounds in the
18 petition. Do you recall that?

19 A Yes.

20 Q If you could turn to Exhibit 1013, the 02:41
21 Galasso reference, Column 4. If you go to Line 20.
22 Let me know when you're there.

23 A Yes, I'm there.

24 Q And at Column 4, Line 20 of the Galasso
25 reference it states, "In one embodiment shown in 02:42

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1 Figure 1 of the present application, the 02:42
2 stanchions 8 are held in the lower triple clamp 7
3 and the upper triple clamp 20."

4 Do you see that?

5 A Yes. 02:42

6 Q And that's referring to stanchions plural;
7 is that right?

8 A Yes.

9 Q And do you understand those stanchions to
10 be the fork tubes that you were previously referring 02:42
11 to?

12 A Yes, that's how I've referred to those as
13 being essentially synonymous or equivalent, stanchions
14 or fork tubes.

15 Q And so turning to Column 3, Line 12, do 02:42
16 you see a reference to U.S. Patent Number 4,878,558
17 that's incorporated herein by reference in its
18 entirety?

19 Do you see that?

20 A Yes. 02:43

21 Q And the Galasso reference further states
22 that with respect to this '558 patent, it describes
23 an embodiment of a motorcycle fork and corresponding
24 damage prevention covers for the inner tubes 9.

25 Do you see that? 02:43

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1	A	Yes.	02:43
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2 Q And it says, "That patent describes (and
3 Figure 1 herein shows by corresponding numbers) the
4 stanchion as outer cases 8 and the sliders as inner
5 tubes 9." 02:43

6	Do you see that?
---	------------------

7	A	Yes.
---	---	------

8 Q So do you understand the stanchions and
9 sliders to be, you know, inner and outer sliding
10 tubes, fork tubes? 02:44

11	A	That appears to be what is described here.
----	---	--

12 Q And it says that "That patent further
13 describes the upper and lower triple clamps as
14 'upper and lower brackets respectively 7 (or 20
15 Figure 1 herein) 7'." 02:44

16	Do you see that?
----	------------------

17	A	Yes.
----	---	------

18 Q And so turning to Figure 1 of the Galasso
19 reference, you see stanchions 8; correct?

20 This is a side view, so it just shows one 02:45

21 of the stanchions; correct?

22 | A All right. So we are at Figure 1.

23 Q Looking at Figure 1, is stanchion 8 the --
24 in Figure 1, is stanchion 8 the stanchion that would
25 be on the left side of the wheel from the 02:45

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1 perspective of the rider? 02:45

2 A Yes, that appears to be so. That's what is
3 shown here.

4 Q And then there would be another
5 stanchion 8 on the right side of the wheel from the 02:45
6 rider's perspective; correct?

7 A Yes.

8 Q Turning back to Column 3, Line 20, it says
9 that this patent that's incorporated by reference
10 and Figure 1 refers to the steering tube as a 02:46
11 "steering handle rotary shaft 6."

12 Do you see that?

13 A Yes.

14 Q And turning back to Figure 1, do you see
15 that steerer tube is identified as Number 6 with 02:46
16 dotted lines?

17 A Let's see, I'm looking for it on Figure 1.
18 Figure 1 was where you referenced?

19 Q Figure 1 -- well, here let's --

20 A Now I see it, yes. 02:47

21 Q Do you see it?

22 A Yes.

23 Q And that's the steerer tube 6; correct?

24 A Yes, I think so.

25 Q And steerer tube 6 looks like it's -- 02:47

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1 well, I should say clamp 7 and 20 are holding 02:47
2 stanchions -- the two stanchions 8 in place;
3 correct?

4 MS. BHATTACHARYYA: Objection, form,
5 mischaracterizes the record. 02:47

6 THE WITNESS: Yes, they --
7 BY MR. HICKEY:

8 Q I'll rephrase that.
9 The upper and lower triple clamps 7 and
10 20, also referred to as upper and lower brackets, 02:47
11 are holding stanchions 8; correct?

12 MS. BHATTACHARYYA: Same objections.

13 THE WITNESS: Yes.

14 BY MR. HICKEY:

15 Q And steerer tube 6 in Figure 1 is between 02:48
16 stanchions 8; correct?

17 MS. BHATTACHARYYA: Objection, form,
18 mischaracterizes the record.

19 THE WITNESS: Yes, that's what I see here.

20 BY MR. HICKEY: 02:48

21 Q And if we look at Claim 1 of the '993
22 patent. Let me know when you get there.

23 A Yes.

24 Q So if we go to Claim 1, it claims, "A
25 steerer tube for a bicycle, the steerer tube 02:49

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1 comprising." 02:49

2 Do you see that?

3 A Yes.

4 Q The first elements listed is "an elongate
5 hollow body arranged around a steering axis located 02:49
6 in a vertical plane of travel of the bicycle."

7 Do you see that?

8 A Yes.

9 Q So do you understand that the steerer tube
10 for the bicycle has a steering axis? 02:49

11 A Yes, that's concentric with the steerer
12 tube.

13 Q And that steerer -- steering axis is
14 located in a vertical plane of travel of the
15 bicycle; correct? 02:49

16 A Yes.

17 Q It further describes the steerer tube
18 comprising "the body having upper and lower
19 sections, a segment of the upper section adapted to
20 be joined to a bicycle handlebar, a segment of the 02:50
21 lower section adapted to be joined to a crown of a
22 front wheel fork of the bicycle, the lower section
23 joined to the upper section and outer surfaces of
24 the upper and lower sections of the body being
25 circular in cross section." 02:50

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1 Do you see that? 02:50

2 A Yes.

3 Q Claim 1 further describes that the body of
4 the steerer tube, that "the body is formed by a
5 wall, the thickness of the wall at any point in the 02:50
6 lower section of the body varying as a function of
7 the cross-sectional angle of the point relative to
8 the plane of travel, the wall thickness being at a
9 maximum in the plane travel of the bicycle."

10 Do you see that? 02:50

11 A Yes.

12 Q So the steerer tube has a body and that
13 body is arranged around a steering axis that is
14 located in a vertical plane of travel of the
15 bicycle; correct? 02:51

16 A Yes.

17 Q And that body of the steerer tube has a
18 wall?

19 A Yes, correct.

20 Q And the wall thickness is -- the wall 02:51
21 thickness of the steerer tube body is at a maximum
22 in the plane of travel of the bicycle; correct?

23 A Yes.

24 Q Turning back to the Galasso reference,
25 counsel for Fox identified a plane 105 with respect 02:51

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1 to the stanchion. 02:51

2 Do you recall that?

3 A Yes, I believe referring to Figure 5A.

4 Q Yes. That plane is a plane of the
5 stanchion, it does not include the steering axis of 02:52
6 the steerer tube; is that right?

7 A Yes, the steering axis isn't defined here.
8 And if I understand the configuration of the
9 stanchions, they are offset or outboard from the
10 steering axis itself. 02:52

11 Q So plane 105 is not the plane of travel of
12 the bicycle that includes the steering axis of the
13 steerer tube; is that right?

14 A Yes, I think that's correct. If these are
15 the outboard stanchions, there is no steering axis 02:52
16 shown in Figure 5A. That would be back in the center.

17 Q Back in the center of the steerer tube?

18 A Of the steerer tube, right.

19 Q So plane 105 is not the plane of travel of
20 the bicycle that's referred to in Claim 1 of the 02:53
21 '993 patent; is that right?

22 A That's correct.

23 MR. HICKEY: No further questions.

24 MS. BHATTACHARYYA: Recross.

25 02:53

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MS. BHATTACHARYYA: Thank you, 02:55
Dr. Parnell.

THE WITNESS: Thank you.

THE VIDEOGRAPHER: We're off the record at
2:55 p.m. and this concludes today's testimony given 02:55
by Dr. Kim Parnell.

The total number of media used was four
and will be retained by Veritext Legal Solutions.

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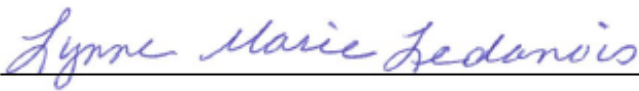
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1 MICHAEL J. HICKEY, Attorney at Law

2 mhickey@lewisrice.com

3 December 24, 2024

4 RE: Fox Factory, Inc. v. SRAM, LLC

5 12/23/2024, Dr. T. Kim Parnell (#7060692)

6 The above-referenced transcript is available for
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25 Dr. T. Kim Parnell Date

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