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1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE DISTRICT OF COLORADO

3
4 FOX FACTORY, INC.,
5 PLAINTIFF,

6
7 v. Civil Action No. 1:23-cv-00313-RM-KLM

8
9 SRAM, LLC,
10 DEFENDANT.

11
12
13 DEPOSITION OF DR. ALEXANDER SLOCUM

14
15 TAKEN ON BEHALF OF DEFENDANT

16
17 MARCH 3, 2023

18
19 TINA M. STUMPF, RPR, CSR
20 MISSOURI CCR # 623

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(The original exhibits were retained by the court
reporter and will be copied and attached to copies
of the transcript.)

1 you can unscrew that hexagonal piece.

2 And then if you do that and you pick it
3 up, the button on the inside of it actually has, uh,
4 if I recall correctly, I forgot the exact shape.
5 There's the O-Ring on there. And it'll fall out.
6 It'll fall inward, if you unscrew it.

7 Now, when you assemble it, it pushes on a
8 feature in the inside. But I can take this thing
9 apart and that silver piece I can totally take apart
10 and it's by itself with no O-Ring on it or anything.
11 It's just a silver piece of metal with some features
12 on the other side of it. And that's the button, but
13 that's not a valve. That's just a button by itself.

14 Q Okay. If we turn to the next element that
15 is on your chart, Slocum Exhibit 2, Exhibit B to
16 your January 5th, 2023 declaration, do you see the
17 element that is designated 1[g]?

18 A I do.

19 Q And so this cites recites, "Said manually
20 operable valve having a first position substantially
21 closing said fluid passage and a second position
22 allowing a fluid to flow between said interior and
23 said exterior."

24 Do you see that?

25 A I do.

1 Q And, uh, what do you understand the term,
2 uh, "substantially closing" to mean?

3 A So here, for the valve, that means it's
4 closed, and during the normal operation you will not
5 see any fluid flow.

6 There is always molecular flow on things,
7 and I've designed encasements, actually, for the
8 U.S. Constitution, and we have a 20-year, uh,
9 specification on how many oxygen molecules can get
10 past. Quite literally that's the way it is.

11 Um, so "substantially" has to be in the
12 context of what the patent is, which is, I'm riding
13 my bike around. The purpose of this air bleed
14 assembly is to equalize the pressure. And as I'm
15 riding my bike, I don't want that valve to open and
16 close because that would change the feel of the
17 bicycle as I'm riding it.

18 And so it has to not allow any air, any
19 being in terms of a rider would never notice it, to
20 flow out, unless I actually manually move it to the
21 second position.

22 So that -- you know, that is what
23 "substantially" means here in the context.

24 Someone's schedule has come up.

25 Q Sorry. Um, I had something else pop up.

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1 A No, I just wanted to let you know because
2 that --

3 Q Yep.

4 A -- can be silly sometimes.

5 Q So substantially -- uh, but I guess I'm
6 just trying to figure out the difference between
7 "closed" and, uh, "substantially closed."

8 Is there a difference?

9 MS. BHATTACHARYYA: Objection to form.
10 Calls for a legal conclusion.

11 A As one skilled in the art, and I read this
12 thing, that tells me I'm going to need some sort of
13 elastomeric sealing, and -- and that's how you would
14 have a valve between open and closed and not let any
15 fluid get by. You will use an elastomeric seal.

16 Uh, this is not -- there are some types of
17 valves that use hard metal contacts for extreme
18 vacuum systems. Um, you -- you could have a polymer
19 type, uh, ball valve in there. But again, it's a
20 difference in hardness between the two elements. So
21 that's what "substantially" is telling me I need to
22 do.

23 Q So "substantially closed" requires an
24 elastomeric seal to close that fluid passage. Is
25 that what you're saying, Dr. Slocum?

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1 A I did not say that.

2 MS. BHATTACHARYYA: Objection.

3 Mischaracterizes his prior testimony.

4 A I did not say that. I said that is one
5 skilled -- that's, for an example, of how I could do
6 it. I already said how -- what "substantially"
7 means.

8 In the context of this patent, during
9 normal use, the rider will not experience any air
10 bleeding out, which would change the state, how the
11 thing feels as I'm riding, for example. You will
12 only -- the rider will only be able to experience a
13 change by the rider manually operating the valve.

14 Q So you're saying "substantially" means
15 that the -- uh, it affects the -- the feel of the
16 vehicle to the rider?

17 MS. BHATTACHARYYA: Objection.

18 Mischaracterizes his prior testimony.

19 A "Substantially" means -- No. That's not
20 what I said. "Substantially" means that you will
21 have no fluid flow in the context of what the rider
22 might experience as a change.

23 You are always having molecules diffuse
24 past just about any barrier you may put down.
25 Substantially sets now anyone who wants to practice

1 this patent what type of a seal you need.

2 Q Well -- so Dr. Slocum, I'm -- I'm
3 confused. Because previously in element 1[b], it
4 says that the lower leg seal was configured for
5 sealing closed a gap. It doesn't say substantially
6 closed. It says closed. And then here we're
7 talking about, uh, substantially closing a fluid
8 passage.

9 And what I'm trying to understand is
10 what's the difference between "closed" and
11 "substantially closed" in the context of claim 1 of
12 the '331 patent.

13 A The previous one is a dynamic seal because
14 you are sliding back and forth all the time. This
15 is a static seal here, and there are different
16 levels of sealing. And that's why they are saying
17 this is how good this particular seal has to be for
18 air bleed.

19 Q And when you say "how good it has to be
20 for air bleed," what do you mean by "how good"?

21 A That the rider, in the course of their
22 normal use of the bicycle, they will not feel any
23 difference in the operation of the bicycle without
24 having pushed, in other words, manually operating
25 the seal.

1 That's because when you're riding your
2 bike, you don't want to suddenly feel the bike
3 behave differently. You -- you want your suspension
4 system to be stable and behave the way you expected
5 it to behave until you decide, hey, I need to change
6 how it feels. But didn't do that, you could have an
7 unsafe situation depending on what type of rider you
8 were at.

9 So as I said earlier "substantially
10 closing said fluid passage," means I'm close the
11 fuel -- excuse me -- I've closed the fluid passage,
12 and the rider will not be able to feel any
13 difference in the bike until the rider determines
14 that they want that feel of difference, and then
15 they will manually operate the valve. The valve has
16 to be good enough to keep the air in so that the
17 rider cannot feel a difference until they want to.

18 Q So how would you measure, uh, that rider
19 experience?

20 A Well, there's several ways. Uh, you --
21 the way these products are done is they, first of
22 all -- well, there's two ways you can do it.

23 One of the ways is you have riders ride in
24 the maximum. You can also, on a test development
25 fork -- you wouldn't do this for a rider as a

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1 commercial product, as a separate port. It -- you
2 attach a pressure gauge to.

3 And as riders are riding, you're gathering
4 data on the actual pressure on the inside, and
5 you're seeing there's a change. And if it does
6 change, well, then now you have to figure out where
7 the leak happened, from where the leak happened.

8 But in general, the art of designing seals
9 is mature enough that by looking at this, I will
10 know how to put an O-Ring on the end of that button
11 and how strong the spring has to be to push on it to
12 create what's called crush in the O-Ring.

13 The term "crush" for an O-Ring is how much
14 you deform it. And there are handbooks. For
15 example, Parker's Sealing. As a Parker's Seal
16 handbook, it will tell you for different pressure
17 ranges with different fluids, what O-Ring to use and
18 how much you have to crush the O-Ring, which that
19 then tells you what size spring to use.

20 So this is where an engineer is -- a
21 science mechanical engineer we talked about, that's
22 the kind of training I give them on how to select
23 the seal, the crush, etc. in accordance with the
24 function that that seal has to do, which in this
25 case, this is I want to close it off so I'm not

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1 going to see and the rider won't feel anything.

2 Q Okay. So you said you could measure it
3 through a test development fork or by asking riders;
4 is that right?

5 A You would ask -- you would make a bunch of
6 these, and you would send it out, and you would ask
7 riders, "How does it feel? Did you notice any
8 difference?"

9 But as I also said, I'm confident that
10 this area is, uh, to engineers who are tasked with,
11 for example, implementing this patent, they will
12 know what handbook to use to get the dimensions of
13 the seal, and the -- you typically in this one does
14 use a spring, create the compression of the O-Ring,
15 which is called crush, such that I would just not
16 expect there to be any problem with implementing
17 this.

18 Q So --

19 A You -- you would still -- you make product
20 and you always send product out for testing before
21 you -- you start ordering tens of thousands of parts
22 and shipping them.

23 Q So with respect to asking riders how it
24 feels, uh, what are the, um, empirical or numerical
25 results that you would evaluate in such a -- as a

1 survey to determine whether or not, uh, it met the
2 substantially closed limitation?

3 MS. BHATTACHARYYA: Objection. Form.

4 A I have not created that sheet as part of
5 my report. I would -- I could do it if asked. I am
6 not prepared right away to say this, this, this,
7 this. But this is a type of routine thing that
8 engineers do when they create these type of
9 products.

10 Q They -- they create rider surveys?
11 Engineers create rider surveys to evaluate whether
12 the substantially closed limitation would be met?

13 MS. BHATTACHARYYA: Objection.
14 Mischaracterizes prior testimony.

15 A The engineers who create these products.
16 These products are typically created in the context
17 of feedback from marketing. Marketing says this is
18 what my riders tell me they wish they had.
19 Engineers, go figure out how to make this happen.

20 The engineers go and they figure out how
21 to make it happen, like I was just talking about, a
22 process, for example. They'll make prototypes, test
23 it in the lab, they'll go ride it, and they'll say
24 to marketing, I think -- I think we got a product
25 here that meets what you say riders say they want.

1 Q Do you have an understanding, uh, that
2 during the prosecution of a patent that the
3 applicant can make statements that limit the scope
4 of a -- of a claim?

5 MS. BHATTACHARYYA: Same objection.

6 A Well, that's synonymous with what I said
7 earlier. And I've seen this where -- again, you're
8 acting as lexicographer. You're saying this term
9 means this. But this is not what I saw here.

10 Q I'm not asking -- I'm not asking what you
11 saw here. I'm just asking if you have an
12 understanding of whether that can happen during the
13 context of the prosecution of a patent, that the
14 applicant can make certain statements that limit the
15 scope of the claim.

16 MS. BHATTACHARYYA: Same objection.

17 A I'm not a lawyer. I just have my own
18 personal history where we've enlightened the examiner
19 as to what he meant by a term, and then things were
20 allowed. Um, again as a lexicographer, that's my
21 only way I understand that. Other ways may happen
22 maybe, but I don't know.

23 Q That's fine. I just -- Dr. Slocum, I'm
24 just trying to get to your understanding and your
25 knowledge. I'm not asking you as a lawyer.

1 A Uh-huh.

2 Q I know you're not a lawyer. I'm just
3 asking if you have that understanding, and I think
4 you answered my question. Thank you.

5 A Okay.

6 Q Uh, when you refer to in your declaration
7 that "The prosecution history includes arbitrary
8 statements that some may infer as placing additional
9 requirements on the location of two unclaimed
10 features, an air bleed system and a vent hole," what
11 did you mean by "arbitrary"?

12 A Well, I was responding to Mr. Wesling that
13 I felt he was making arbitrary statements. That's
14 why I said "to the extent." So I'm saying, okay,
15 Mr. Wesling is saying these things. That's what "to
16 the extent" means.

17 Q Well -- so I'll just -- I'll just read you
18 the phrasing from your declaration, because it
19 doesn't refer to Mr. Wesling.

20 It says, "Furthermore, to the extent the
21 prosecution history does include arbitrary
22 statements that some may infer as placing additional
23 requirements on the location of two unclaimed
24 features, an air bleed system and a vent hole, those
25 isolated statements in the context of the entire

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1 prosecution history are ambiguous and unclear."

2 And what I'm asking is, what did you mean
3 by "arbitrary statements?" That the prosecution
4 history -- To the extent the prosecution history
5 does include arbitrary statements, what do you mean
6 by arbitrary statements?

7 A You're reading out of context. My -- I'm
8 responding. My whole thing was responding to Mr.
9 Wesling. So I think you have to go up a few
10 paragraphs. I don't -- I don't have the document
11 that I can reference here for you, so if you want to
12 bring it up, so I can scroll -- or can you please
13 scroll up? You know, bring up my report and scroll
14 up. And I'm saying my recollection is Mr. Wesling
15 made some statements about, uh, the SRAM products
16 don't infringe because of where, um, the valve
17 requirements are, which he understands from the
18 prosecution history.

19 So I'm rebutting him. And I'm doing it in
20 several paragraphs. And my paragraph 9 you're
21 reading from, "To the extent the prosecution history
22 says that," that's -- again, you have to read it in
23 the context of my whole report. I'm -- I'm going
24 along with Mr. Wesling. I'm saying, okay, I'll go
25 along with you and look at this.

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1 Well, I still think what he's pulling out
2 from the prosecution history, I believe are little
3 snippets. It's arbitrary. It's not a complete
4 thought. That's what I mean by arbitrary.

5 Q Okay. I guess -- that's -- that's what I
6 was just -- that's what I was just trying to get
7 clarification, Dr. Slocum, on what you meant by
8 arbitrary. And could you -- could you just expand
9 on that?

10 A I thought Mr. Wesling was taking little
11 snippets from here and there and putting them
12 together to make a case for what he felt was
13 happening. And that's what I mean by arbitrary.

14 If he had a -- a complete cohesive
15 paragraph that he could reference, or I can deal
16 with that. But he was taking little pieces from
17 here and there and that was not how I was inferring
18 what he was doing.

19 And I don't think it -- that makes a valid
20 argument. And in the end, and I think I stated in
21 my report, if the examiner wanted to limit the
22 claim, they would have -- he would have said, you
23 know, add some elements specifically for that
24 physical location that Mr. Wesling is implying, and
25 he didn't.

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1 Q Um, so --

2 A He didn't. And let me -- well, let me
3 finish. It's not even a claim term that was
4 lexicographer indicated. I'm not sure if that's the
5 right word. It wasn't a claim term that was defined
6 in some detail. He didn't have that. But this is
7 beyond simple terms. This would have required
8 placing a geometric constraint on the order of the
9 elements that you wouldn't get just by defining a
10 word.

11 Q Okay. Um, so let's -- uh, I -- I put into
12 the folder, uh, part of the patent file history, the
13 final amendment that's dated March 2nd, 2017, and
14 we'll label this Slocum Exhibit 4, and I will pull
15 that up on screen.

16 (Exhibit 4 marked for
17 identification.)

18 A Okay. So you're pulling -- I don't need
19 it. You've got it.

20 Q Yeah. Yeah. okay.

21 And so this is the first page, uh, that is
22 the, uh, Preliminary Amendment and Response
23 Accompanying the Present Request for Continuing
24 Examination (RCE).

25 Do you see that?

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1 A I do.

2 Q Okay. And I'm just going to take you --
3 I'm going to jump to the last page. And do you see
4 that that is dated March 2nd, 2017?

5 A I see that.

6 Q Okay. And then I'm going to take you to,
7 uh, page 7. There are remarks, and an examiner
8 interview summary.

9 Do you see that?

10 A I agree.

11 Q Okay. And then, uh, uh, we see on page 8,
12 that there were certain claim rejections pursuant to
13 35 U.S.C. Section 103.

14 Do you see that?

15 A I do.

16 Q And -- and, uh, one of the references here
17 is what we were talking about before, the Galasso
18 reference, US 2012/0080279.

19 Do you see that?

20 A I do.

21 Q Okay. And on page 10, at the beginning of
22 the first full paragraph, it states, "In contrast,"
23 underlined, "to Galasso, Applicant's features, as
24 recited in newly amended Claim 1, locate its air
25 bleed system in a lower fork," underlining "in a

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1 lower fork, wherein the vent hole is located between
2 the lower leg seal and the bushing that is attached
3 thereto."

4 Do you see that?

5 A I do.

6 Q Did I read that correctly?

7 A That's what it says.

8 Q Okay. And, uh, the reference to "the vent
9 hole being located between the lower leg seal and
10 the bushing that is attached thereto," is that one
11 of the arbitrary statements that you were referring
12 to in your paragraph 9 of your, uh, declaration?

13 A Yes. Because you got to keep reading on.
14 It says, "Thus, the air bleed" -- There's some other
15 limited discussion of the structure between the
16 lower leg seal. That's the next long piece that's
17 underlined.

18 But in the end, it says -- not the end,
19 the middle. "Thus, the air bleed system, including
20 a manually operable valve, is located below the
21 lower leg seal that is attached to the outmost edge
22 of a second end of a lower fork tube, wherein the
23 second end of the lower fork tube is configured to
24 receive an upper fork telescopically therein."

25 So you got to read the whole paragraph and

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1 you have to go back to Galasso, and looking earlier
2 where the paragraph above it, because they're
3 talking about the air bleed portion of Galasso, it's
4 called SAG setting. So that takes the nominal dead
5 weight off.

6 And you see where it says "Above the
7 section creates a seal between the damping fluid
8 cylinder 220 and the gas cylinder 220" -- or
9 sorry -- "210, wherein the SAG setting bleed port
10 224 is closer to the frame of the vehicle than the
11 seal that is located between the damping fluid
12 cylinder 220 and the gas cylinder 210."

13 So you have to go to Galasso and you see,
14 ah, in Galasso, the seal -- I'm sorry, the -- the
15 air bleed port is on a different side of the -- this
16 piston seal. It's a different machine than what is
17 the fork in the '331.

18 That's what I meant by arbitrary. You
19 can't -- you've got to read the whole paragraph --
20 the paragraphs here. And in the end --

21 Q So the "vent hole being located between
22 the lower leg seal and the bushing that is attached
23 thereto," that's -- that's consistent with the air
24 bleed system, including the manually operable valve
25 being located below the lower leg seal, correct?

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1 A That's one embodiment. So there's the
2 other embodiment that you look and go back to the
3 '331 figure. And figure 3, I think it is, or figure
4 1., there's a difference between figure 1 and figure
5 3. One has it, um, above the bushing and one has it
6 below. But in both cases, it's on the other side of
7 the -- the -- the piston structure that is shown in
8 Galasso. If you want to bring up the patent, I'll
9 show you those two figures.

10 So I believe the -- the applicant was
11 talking about a particular embodiment as an example.
12 Um, yeah, that would be good if you could zoom out a
13 little, please.

14 Q So here are -- the vent hole is located
15 between this -- below the lower leg seal, which is
16 not shown here, correct?

17 A Uh, correct. I mean the foam is part of
18 it, but you can see that the, uh --

19 Q Well, I think we already said 135 is the,
20 uh, lower leg seal and it's not shown here, right?

21 A Well, 135 is that ring that holds the
22 whole seal system in place, but that's fine.
23 Because 154, the passageway is actually below 125.
24 Either way, the hole goes in there just below the
25 ring of it.

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1 Q 125 is the foam ring.

2 A Right. But remember, that's part of the
3 sealing system.

4 Q Okay. So --

5 A It doesn't matter --

6 Q So -- so the vent hole -- so, uh, 154 is
7 the, um, uh, the -- the fluid passage, right?

8 A Correct.

9 Q Uh, uh, leading to the -- and then it is
10 below the lower leg seal 135 and, uh, above the
11 bushing 120?

12 A Correct.

13 Q Okay. So it's -- it's between those two,
14 uh, locations. And, uh, so it's -- it's below the
15 lower leg seal, correct?

16 A Correct.

17 Q And --

18 A Zoom out.

19 Q And if you want to look at figure 3?

20 A I forgot. Maybe it's figure 1. But zoom
21 out, because they're too big.

22 Q Sure.

23 A Okay. Now go to figure 3. Okay.

24 So figure 3 is, uh, looked at -- it's not
25 exactly the same. We talked about the

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My commission expires March 28, 2026.