United States District Court
Northern District of California

UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

FOX FACTORY, INC., Plaintiff, v. SRAM, LLC, Defendant.	RELATED CASE NOS. 3:16-cv-00506-WHO AND 3:16-cv-03176-WHO **CLAIM CONSTRUCTION ORDER** Re: Dkt. No. 60 (16-cv-00506); Dkt. No. 46 (16-cv-03716)

INTRODUCTION

This matter involves two related patent cases filed by Plaintiff Fox Factory, Inc. ("FOX") against defendant SRAM, LLC ("SRAM") (*FOX Factory, Inc. v. SRAM, LLC*, Case No. 3:16-cv-00506-WHO ("FOX I") and *FOX Factory, Inc. v. SRAM, LLC*, Case No. 3:16-cv-03716-WHO ("FOX II")).[1] FOX claims that SRAM is infringing three of its patents related to shock absorbers and axles.

BACKGROUND

In the first case brought by Fox Factory, Inc. ("FOX") against SRAM, LLC ("SRAM"), Fox alleges that SRAM's rear air shocks for bicycles use FOX's U.S. No. 6,135,434 ("the '434 patent"), entitled "SHOCK ABSORBER WITH POSITIVE AND NEGATIVE GAS SPRING CHAMBERS[.]" FOX I Compl. (Dkt. No. 1); *see* '434 patent (Smyth Decl. Ex. A; FOX I, Dkt.

[1] Since the time of the claim construction briefing, I granted FOX's motion for leave to file an amended complaint naming as an additional defendant Sandleford Limited, and denied defendants' motion to dismiss Sandleford Limited from these actions. I will refer only to defendant SRAM in this order, even though Sandelford is also accused of infringing the patents in suit.

No. 60-3).[2] In the second suit, which was related on July 18, 2016, FOX asserts two patents, U.S. Patent Nos. 8,226,172 ("the '172 patent") and 8,974,009 ("the '009 patent"), both entitled "METHODS AND APPARATUS FOR RELEASABLY SUPPORTING A VEHICLE WHEEL ASSEMBLY[.]" Second Am. Compl. (Dkt. No. 70); *see* '172 patent (Smyth Decl. Ex. A; FOX II, Dkt. No. 46-3); '009 patent (Smyth Decl. Ex. B; FOX II, Dkt. No. 46-4).

LEGAL STANDARD

Claim construction is a matter of law. *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). Terms contained in claims are "generally given their ordinary and customary meaning." *Vitronics*, 90 F.3d at 1582. In determining the proper construction of a claim, a court begins with the intrinsic evidence of record, consisting of the claim language, the patent specification, and, if in evidence, the prosecution history. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005); *see also Vitronics*, 90 F.3d at 1582. "A claim term used in multiple claims should be construed consistently . . . ." *Inverness Med. Switzerland GmbH v. Princeton Biomeditech Corp*., 309 F.3d 1365, 1371 (Fed. Cir. 2002).

"The appropriate starting point . . . is always with the language of the asserted claim itself." *Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1186 (Fed. Cir. 1998). "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Phillips*, 415 F.3d at 1312. "There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution." *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012).

"Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of

[2] FOX initially asserted two patents in FOX I, but later stipulated to dismissal of the second patent. Dkt. Nos. 56 (Stipulation), 57 (Order). It later sought leave to amend its complaint, which I granted. Dkt. Nos. 73 (Motion), 78 (Order).

the entire patent, including the specification." *Phillips*, 415 F.3d at 1313. "Claims speak to those skilled in the art," but "[w]hen the meaning of words in a claim is in dispute, the specification and prosecution history can provide relevant information about the scope and meaning of the claim." *Electro Med. Sys., S.A. v. Cooper Life Scis., Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994) (citations omitted). "[T]he specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Vitronics*, 90 F.3d at 1582. "However, claims are not to be interpreted by adding limitations appearing only in the specification." *Id.* "Thus, although the specifications may well indicate that certain embodiments are preferred, particular embodiments appearing in a specification will not be read into the claims when the claim language is broader than such embodiments." *Id.* Conversely, "where [ ] the claim language is unambiguous, [the Federal Circuit has] construed the claims to exclude all disclosed embodiments." *Lucent Techs., Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1215-16 (Fed. Cir. 2008). "[T]he description may act as a sort of dictionary, which explains the invention and may define terms used in the claims," and the "patentee is free to be his own lexicographer," but "any special definition given to a word must be clearly defined in the specification." *Markman*, 517 U.S. at 989-90.

On the other hand, it is a fundamental rule that "claims must be construed so as to be consistent with the specification." *Phillips*, 415 F.3d at 1316. "The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998).

Finally, the court may consider the prosecution history of the patent, if in evidence. *Markman*, 52 F.3d at 980. The prosecution history may "inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Phillips*, 415 F.3d at 1317 (citing *Vitronics*, 90 F.3d at 1582-83); *see also Chimie v. PPG Indus., Inc.*, 402 F.3d 1371, 1384 (Fed. Cir. 2005) ("The purpose of consulting the prosecution history in construing a claim is to exclude any interpretation that was disclaimed

during prosecution.") (internal quotations omitted).

In most situations, analysis of this intrinsic evidence alone will resolve claim construction disputes. *Vitronics*, 90 F.3d at 1583. However, "it is entirely appropriate . . . for a court to consult trustworthy extrinsic evidence to ensure that the claim construction it is tending to from the patent file is not inconsistent with clearly expressed, plainly apposite, and widely held understandings in the pertinent technical field." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1309 (Fed. Cir. 1999). Extrinsic evidence "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Markman*, 52 F.3d at 980. All extrinsic evidence should be evaluated in light of the intrinsic evidence, *Phillips*, 415 F.3d at 1319, and courts should not rely on extrinsic evidence in claim construction to contradict the meaning of claims discernible from examination of the claims, the written description, and the prosecution history, *Pitney Bowes*, 182 F.3d at 1308 (citing *Vitronics*, 90 F.3d at 1583). While extrinsic evidence may guide the meaning of a claim term, such evidence is less reliable than intrinsic evidence. *Phillips*, 415 F.3d at 1318-19.

DISCUSSION

The parties have not agreed on a construction for any of the claims in the asserted patents. The parties ask me to construe four terms in the '434 patent and eight terms in the '172 and '009 patents. On many of the disputed claims, the parties positions are somewhat reversed from typical postures in a patent infringement action—FOX urges me to import limitations from the patent specifications, while SRAM insists that the terms should be given their plain and ordinary meaning, which is often a broad construction removed from the context of the specifications. SRAM has also noted in both cases that FOX failed to submit to the Patent Office "the most relevant prior art reference[s]." FOX II Resp. Br. at 6; *see also* FOX I Resp. Br. at 5–6. It then proceeds to acknowledge that "validity … is a question separate from claim construction[,]" but insists that "it is necessary to raise here to show FOX's true motives for its tortured claim constructions, namely to rewrite the claims to avoid this prior art." FOX II Resp. Br. at 6.

I. '434 PATENT

The '434 patent discloses a shock absorber with positive and negative gas spring chambers

"which is much lighter than conventional metal coil spring designs." '434 patent at 1:40–41. It "finds particular utility for use with on- and off-road vehicles[,]" but "can also be used for other shock-absorbing tasks, such as instrument mounting structures and transportation vibration isolators." *Id*. at 2:35–38. Vehicles, such as bicycles, use shock absorbers to dissipate mechanical energy from impacts between the wheels and the ground into some other form, such as heat. Neptune Decl. ISO FOX I Op. Br. ¶¶ 13–14 (Dkt. No. 60-8).

Claim 9 is representative of the asserted claims, and provides,

> A shock absorber comprising:
> a gas cylinder unit comprising a gas cylinder with a pressurization port and first and second gas cylinder ends, said first gas cylinder end being **closed**;
> a damping unit comprising:
> a damping fluid cylinder having an outer surface and first and second damping cylinder ends;
> a movement damping element movably mounted within the damping fluid cylinder; and
> said second end of the damping fluid cylinder telescopically housed within the gas cylinder;
> a shaft connecting the movement damping element and the gas cylinder unit;
> a first sliding seal carried by the gas cylinder unit and in sliding fluid-sealing contact with the outer surface of the damping fluid cylinder and creating a sealed gas chamber within the gas cylinder;
> a second sliding seal carried by the damping unit in sliding fluid-sealing contact with the inner surface of the gas cylinder to divide the gas chamber into first and second gas chamber portions, the first gas chamber portion defined between the second sliding seal and the first end of the gas cylinder, the second gas chamber portion defined between the first and second sliding seals; and
> a **bypass channel** formed in the gas cylinder to **permit fluid to bypass the second sliding seal when the second sliding seal is at a chosen position along the gas cylinder**;
> **whereby the second gas chamber portion acts as an air negative spring to automatically balance the force on the damping unit when the gas pressure within the gas chamber is above an ambient pressure so the shock absorber is in an equilibrium condition**.

'434 patent at 8:7–43 (dispute terms highlighted).

A. "whereby the second gas chamber portion acts as an air negative spring to automatically balance the force on the damping unit . . . so the shock absorber is in an equilibrium condition"

CLAIM TERM	FOX	SRAM	COURT'S CONSTRUCTION
"whereby the second gas chamber portion acts as an air negative spring to automatically balance the force on the damping unit . . . so the shock absorber is in an equilibrium condition"	"whereby the second gas chamber portion exerts a force on the damping unit . . . so the shock absorber system is in an equilibrium condition in which all of the forces acting on and within the shock absorber are balanced."	"whereby the air within the second gas chamber portion independently operates to exert a force on the damping unit opposite and equal to the force exerted by the air within the first gas chamber portion on the damping unit … so the shock absorber is in a condition where these opposing forces cancel one another"	"whereby the second gas chamber portion exerts a force on the damping unit by a self-acting mechanism … so the shock absorber system is in an equilibrium condition in which all of the forces acting on and within the shock absorber are balanced."

FOX asserts that this claim term, "concern[ing] the structure and function of the claimed air negative spring[,]" represents "[p]erhaps the most significant disagreement between the parties[.]" FOX I Op. Br. at 14 (Dkt. No. 60). It argues that its proposed construction appropriately reads the claim term in light of the specification, whereas SRAM seeks to narrowly limit the claim scope by requiring: "(1) the 'air within' the negative spring act 'independently,' and (2) the force exerted on the damping unit by the negative spring is 'opposite and equal' to the force exerted by the positive spring such that the positive and negative spring forces 'cancel one another.'" *Id.* at 15. FOX insists that these limitations, pertaining to "how the air negative spring force is exerted and the magnitude of that force, … appear nowhere in the claim language." *Id.*

SRAM counters that FOX's proposed construction suffers from "at least three fatal flaws[.]" SRAM's Resp. Br. at 12–13 (Dkt. No. 69). First, its proposal fails to assign any meaning to the claim's use of the word "automatically[,]" hence SRAM's proposal that the construction include "independently." *Id.* at 13. Second, it simply restates the word "equilibrium," without providing any explanation to assist the jury in understanding its meaning. *Id.* And third, it seeks to change the resulting "condition" of the claim term from one in which forces "on the damping unit" are balanced to one in which "all of the forces" both "on and within"

the entire shock absorber are balanced. *Id*.

SRAM negates its third argument in the very next paragraph when it quotes the claim language, thereby admitting that the "resulting condition" is that "*the shock absorber* is in an equilibrium condition." *See id*. (quoting disputed claim term).

Its second argument is just as easily dispelled. While FOX's proposal does repeat the word "equilibrium," it proceeds to explain what is meant by the term—"all of the forces acting on and within the shock absorber are balanced." This is sufficient to aid the jury's understanding.

As for its first argument, FOX indicates that SRAM never raised an issue with "automatically" during meet and confers, but it is willing to insert the word's meaning in its proposed construction as follows: "… so the shock absorber system is automatically in an equilibrium condition… ." Reply at 5 (Dkt. No. 76). It also offers an alternate construction: "whereby the second gas chamber portion exerts a force on the damping unit ***by a self-acting mechanism*** … so the shock absorber system is in an equilibrium condition in which all of the forces acting on and within the shock absorber are balanced." *Id.* at 5 n.2 (emphasis added to addition). I agree with FOX. Viewing the claims in the context of the specification convinces me that "automatically" clearly means "self-acting, without rider intervention," not "independently," as SRAM contends. *See* '434 patent at 6:28-29 ("Providing air negative spring chamber 64 automatically permits an equilibrium condition to be achieved at the end of the rebound stroke. . ."), 6:43-47 ("by properly positioning the location of bypass channel 66, air negative spring chamber 64 will automatically be provided with the appropriate gas pressure to provide the desired negative spring effect after one stroke or cycle of the shock absorber.").

SRAM relies on the same excerpt of the Summary of the Invention that FOX highlighted ('434 patent at 1:58–62), and an additional portion, which provides,

> [t]he air negative spring chamber … ensures that at the end of a rebound stroke the shock is in an equilibrium state. The pressurizing gas within the air positive spring chamber keeps extending the shock during the rebound stroke until the gas compressed within the air negative spring chamber is at a sufficiently high pressure to balance out the air positive spring chamber force.

'434 patent at 2:7–14. While this excerpt suggests that the air negative spring chamber *ensures*

the equilibrium state, it does not require that it do so "independently" and in a force "opposite and equal" to the positive spring chamber. But the description of "balanc[ing] out" the forces does seem to support SRAM's position.

SRAM finds further support in figure 3, which depicts "a fully-extended condition at the end of a rebound stroke." *Id*. at 2:53–54. In describing figure 3, the specification states, "[a]ssuming air positive spring chamber **62** is at 200 psi in the state of FIG. 3, air negative spring chamber **64** will have a pressure of about 500 psi so that the forces exerted on damping unit 13 by the gases within sealed air chamber **40A** are equal… ." *Id*. at 5:66–6:6. It is therefore fair to conclude that figure 3 depicts an equilibrium state, since it is "at the end of the rebound stroke" and the summary describes this state as "equilibrium," *see id*. at 2:7–8, notwithstanding FOX's contrary assertion, *see* FOX I Op. Br. at 16 ("[N]owhere in the patent is Figure 3 described as showing or being in a state of equilibrium.")(citing Neptune Decl. ¶ 29). Perhaps realizing that the summary clearly describes a shock at the end of a rebound stroke in full extension as being "in an equilibrium state," FOX argues that the claims should not be limited to one embodiment. *See, e.g.*, *Phillips*, 415 F.3d at 1323 ("[A]lthough the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments."). But figure 3 is not accurately described as a single *embodiment*; rather, it is a particular "condition" of "the present invention[.]" *See* '434 patent at 2:53 (describing figure 3); *id*. at 3:2–3 ("the present invention ... is illustrated in FIGS 3-5.").

While these excerpts bolster SRAM's position that figure 3 depicts an equilibrium state, in which "gas compressed within the air negative spring chamber ... balance[s] out the air positive spring chamber force[,]" they do not foreclose the possibility of an equilibrium condition at other times. As FOX points out, all the claims "require that the shock be 'in an equilibrium condition.'" Op. Br. at 12. FOX highlights other portions of the specification that clearly support its position that *all of the potential forces* contribute to equilibrium, not just the air in the first gas chamber acting against the air in the second gas chamber. *See* '434 patent at 6:22–26 ("Once the forces are balanced, including the forces exerted at first and second mounting elements **22A**, **30A** and the forces exerted through gas chamber **48A** and through air positive and negative spring chambers

62, **64**, an equilibrium state is automatically achieved."); *see also id*. at 1:58–62 ("The second air chamber portion is defined between the two fluid seals and acts as an air negative spring to automatically *help* balance the force on the damping unit from the pressurized gas in the first air chamber portion.")(emphasis added).

SRAM counters that these additional structures are not mentioned in claims 1 and 9, and therefore "cannot contribute to the equilibrium condition mentioned therein." Resp. Br. at 17. But this conclusion is erroneous; the preambles of the claims recite the invention as "comprising" the claim elements that follow. "In the parlance of patent law, the transition 'comprising' creates a presumption that the recited elements are only a part of the device, that the claim does not exclude additional, unrecited elements." *Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc.*, 246 F.3d 1336, 1348 (Fed. Cir. 2001). Moreover, dependent claim 6 recites another component, the gas chamber 48A, which contributes to the equilibrium state. '434 patent at 6:22–26. SRAM's proposed construction would preclude these additional structures from contributing to the shock absorber's equilibrium state, thereby impermissibly "exclud[ing] material covered by the dependent claim[.]" *Trustees of Columbia Univ. in City of New York v. Symantec Corp*., 811 F.3d 1359, 1370 (Fed. Cir. 2016).

In short, SRAM has not convinced me that the limitations it proposes are mandated by the claims.

B. "closed"

CLAIM TERM	FOX	SRAM	COURT'S CONSTRUCTION
"closed"	"closed to gas"	"not open; enclosed"	"closed to gas"

Claim 1 provides in part, "a gas cylinder unit comprising a gas cylinder with first and second gas cylinder ends, said first gas cylinder end being closed[.]" '434 patent at 6:64–66. FOX contends that SRAM's proposal uses a general meaning of the word "closed," which would render the air shock "nonfunctioning." FOX I Op. Br. at 17. It insists that "closed" in the context of the invention, must mean "closed to gas" and highlights the preferred embodiment describing the closed end as "sealed." *Id*. at 18. It also notes that "none of the embodiments of the invention

would work" if the first end of the cylinder were not "closed to gas."[3] *Id*.

SRAM simply argues that nowhere did the inventor disavow the plain and ordinary meaning of "closed." But this argument ignores the surrounding claim language and the specification's description. The claim states that the "first gas cylinder end [is] closed." '434 patent at 6:65–66. If an end of a cylinder containing gas is "closed," it is reasonable to conclude that it is "closed *to gas*." *See Comark Commc'ns, Inc.*, 156 F.3d at 1186 ("The appropriate starting point . . . is always with the language of the asserted claim itself."). Reading the claims in light of the specification confirms this construction. *See* '434 patent at 3:12–13 (describing an embodiment in which "a first mounting element **22** threadably mounted to, and sealing, first end **18**."). This conclusion is not altered by the fact that other portions of the patent refer to "sealed," instead of "closed[,]" or "sealable" as opposed to "sealed." FOX agrees that "sealed" and "closed" have different scopes, and reiterates that the claim term merely requires that the first end be "closed to gas" or "air-tight," but not necessarily "sealed." Reply at 9.

I do not think that the claim term "closed" when read in view of the specification is ambiguous. If I did, it would be subject to the presumption in favor of validity, *see Phillips*, 415 F.3d at 1327, which would further justify adopting FOX's proposed construction.

C. "bypass channel"

CLAIM TERM	FOX	SRAM	COURT'S CONSTRUCTION
"bypass channel"	"a single channel that allows fluid to transfer between two air spring chambers"	"passageway permitting fluid flow around an obstruction"	"a single channel that allows fluid to transfer between two air spring chambers"

Claim 9 provides in part, "a bypass channel formed in the gas cylinder to permit fluid to bypass the second sliding seal when the second sliding seal is at a chosen position along the gas cylinder[.]" '434 patent at 8:35–38.

FOX contends that "bypass channel" has no ordinary meaning, so it must be interpreted in

[3] It also points to SRAM's Invalidity Contentions, where SRAM acknowledged the same. *See* SRAM's Invalidity Contentions at 13:22–25 (Smyth Decl., Ex. D; FOX I, Dkt. No. 60-6) ("If the first gas cylinder end is merely 'closed' but not 'sealed,' the claimed apparatus does not work.").

light of the intrinsic evidence. FOX I Op. Br. at 20; *see Honeywell Int'l Inc. v. Universal Avionics Sys. Corp.*, 488 F.3d 982, 991 (Fed. Cir. 2007)("Without a customary meaning of a term within the art, the specification usually supplies the best context for deciphering claim meaning."). It insists that its proposal "directly captures the meaning of the term as it is used in the '434 patent[,]" whereas SRAM's generic definition fails to account for the bypass channel's specific function as described in the specification. FOX I Op. Br. at 20–21.

SRAM contests FOX's characterization that "bypass channel" does not have an ordinary and customary meaning to one skilled in the art, and it cites to a myriad of references providing a plain and ordinary definition. It takes particular issue with FOX's proposal because (1) it limits "a bypass channel" to a "single" channel, and (2) it requires the bypass channel to transfer fluid between "two air spring chambers," thereby implying that the "fluid" is "air" and not some other type of fluid. It also points to deposition testimony from John Marking, the '434 patent's sole inventor, to argue that its proposed construction is consistent with the inventor's understanding of bypass channel; namely, that the bypass channel "permits the passage of whatever you're using … air, gas, fluid to transfer." Marking Dep. at 156:4–10 (Dkt. No. 69-6); *see* Resp. Br. at 19–20.

SRAM contends that nothing in the patent requires "a bypass channel" to refer to a "single" channel. "As a general rule, the words 'a' or 'an' in a patent claim carry the meaning of 'one or more.'" *TiVo, Inc. v. EchoStar Commc'ns Corp.*, 516 F.3d 1290, 1303 (Fed. Cir. 2008). "The exceptions to this rule are extremely limited: a patentee must evince a clear intent to limit 'a' or 'an' to 'one.'" *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342 (Fed. Cir. 2008) (internal quotation marks and citation omitted); *see also 01 Communique Lab., Inc. v. LogMeIn, Inc.*, 687 F.3d 1292, 1297 (Fed. Cir. 2012).

That said, FOX highlights excerpts from the specification that indicate that the claim term refers to *only one* bypass channel. Reply at 12. The specification provides,

> The use of *the* bypass channel eliminates the need to separately pressurize the air negative spring chamber and the air positive spring chamber. Rather, the desired pressure is provided to the sealable air chamber; *once* the second sliding seal is at the correct position, *the* bypass channel allows the air to bypass the second seal thus temporarily equalizing pressure within the air positive and air negative chambers.

'434 patent at 2:27–32 (emphasis added). FOX argues that the emphasized words ("the" and "once") support its construction that only one bypass channel was intended. It also explains that the portion of the specification indicating that "a number of different bypass channels could be provided" further teaches that the user would "selectively seal all of the bypass channels except one to permit the relative volumes of chambers 62, 64 at a pressure-equalized state … to be changed." '434 patent at 6:57–61. This instruction also teaches that "only one channel is actually used as a bypass in practice." Reply at 13. The specification's description of "a bypass channel" as "the" bypass channel, and subsequent reference to the possibility of bypass *channels*, with only one serving the function of *the* bypass channel, effectively "evince[s] the [patentee's] clear intent to limit 'a' ... to 'one.'" *O1 Communique Lab., Inc.*, 687 F.3d at 1297. It is therefore reasonable to construe "a bypass channel" to mean a "single" channel.

I also disagree with SRAM's assertion that FOX's proposal aims to unjustifiably narrow the claim term to require it to transfer fluid between "two air spring chambers." Resp. Br. at 20; *see* FOX I Op. Br. at 20–22. Despite SRAM's characterization, the inventor testified that the bypass channel transfers air. *See* Marking Dep. at 94:8–14 ("I define it [bypass channel] as a way to transfer air from the positive chamber to the negative chamber, whatever you want to call it. It's very specific – it's a very specific port that needs to be at a certain height, and if there's too many of them, if there's multiples, it actually does not feel very – very good."). FOX underscores the claim construction tenet that inventor testimony is given little to no weight. Reply at 12; *see Markman*, 52 F.3d at 985 ("The subjective intent of the inventor when he used a particular term is of little or no probative weight in determining the scope of a claim (except as documented in the prosecution history)."). I need not rely on inventor testimony because the specification explicitly provides that the bypass channel allows air to bypass. *See* '434 patent at 2:28–29 ("the bypass channel allows the air to bypass the second seal… ."); *id.* at 6:7–8 ("bypass channel **66** which permits compressed air to bypass the sliding seal thus equalizing the pressure within chamber **62**, **64**.").

FOX's proposed construction accurately captures the scope of the claim term.

D. "permit fluid to bypass the second sliding seal when the second sliding seal is at a chosen position along the gas cylinder"

CLAIM TERM	FOX	SRAM	COURT'S CONSTRUCTION
"permit fluid to bypass the second sliding seal when the second sliding seal is at a chosen position along the gas cylinder"	"permit fluid to bypass the second sliding seal when and only when the second sliding seal is at one chosen position along the gas cylinder"	No claim construction necessary; phrase should be given its plain and ordinary meaning	"permit fluid to bypass the second sliding seal when and only when the second sliding seal is at one chosen position along the gas cylinder"

SRAM urges that no construction is necessary, and the plain and ordinary meaning should control. But because the parties dispute the scope of the term, I must construe it. *See O2 Micro*, 521 F.3d at 1360. As with the previous term, the surrounding claim language suggests that fluid bypasses at only one position. *See* '434 patent at 8:35–38 ("a bypass channel ... permit[s] fluid to bypass the second sliding seal *when the second sliding seal is at a chosen position along the gas cylinder*[.]")(emphasis added). The specification further supports this construction. *See id*. at 2:27–31 ("[T]he desired pressure is provided to the sealable air chamber; once the second sliding seal is at *the correct position*, the bypass channel allows the air to bypass... .").

Since the parties have presented me with a dispute and SRAM fails to offer its own interpretation of plain and ordinary meaning, I will accept FOX's proposal.

II. '172 AND '009 PATENTS

Both the'172 and '009 patents, entitled "METHODS AND APPARATUS FOR RELEASABLY SUPPORTING A VEHICLE WHEEL ASSEMBLY," relate to quick release axles for wheeled vehicles, such as bicycles. '172 patent (Smyth Decl. ¶ 2, Ex. A; FOX II, Dkt. No. 46-3); '009 patent (Smyth Decl. ¶ 3, Ex. B; FOX II, Dkt. No. 46-4).[4] The parties agree that the same constructions will apply to both. SRAM points out that the patents are not limited to bicycles, although the background of the patents summarizes the evolution of mountain bikes, including desired characteristics for downhill versus cross-country use, and concludes that "there is a need for an improved quick release which combines the stiffness and durability properties of

[4] The patents share the same specification. For ease, only references to the '172 patent are included.

downhill-type axles with the fast release properties of cross-country quick releases." '172 patent at 2:59–62.[5]

Claim 1 provides,

> An **axle** for removably retaining a wheel on a vehicle, said axle comprising:
> a **first end**;
> a **second end**;
> a rotary-type connector at said first end;
> a **cam assembly operatively connected to said second end**, said cam assembly including a cam having an axis of rotation;
> a lever **operatively connected to said second end of said axle**, said lever being rotatable about an axis substantially parallel said axis of rotation of said cam, between an open position in which said axle is removable from and mountable on said vehicle and a closed position in which said axle is retained on said vehicle, wherein said lever is configured such that when said lever is in said closed position a **substantial portion of said lever** occupies a position within a recess of an adjacent vehicle component such that a portion less than a whole of said lever protrudes laterally from said vehicle; and
> a lever stop ensuring that an angle of maximum rotation for said lever from said closed position is less than 180 degrees.

'172 patent at 16:26–47.

And dependent claim 2 provides,

> The axle of claim 1, wherein said lever is configured such that a rotation of said lever about a longitudinal axis of said axle causes engagement or disengagement of said rotary-type connector with a component part of said vehicle, and wherein said angle of maximum rotation is such that said lever is rotatable about said longitudinal axis **substantially unimpeded by an adjacent part of said vehicle**.

Id. at 16:48–54.

And claim 1 of the '009 patent provides,

> An **axle** for removably retaining a wheel on a vehicle, said axle comprising:
> a rotary-type connector at a **first end** thereof;
> a **cam assembly operatively connected to the second end**, said cam assembly including a cam having an axis of rotation;
> a lever **operatively connected to a second end of said axle**, said lever being rotatable about an axis substantially parallel said axis of rotation of said cam, between an open position in which said axle is removable from and mountable on said vehicle and a closed position in which said axle is retained on said vehicle, wherein said lever has a closed position in which

[5] One of the dependent claims, however, limits the claimed axle to bicycles. '172 patent at 16:63.

a **substantial portion of said lever** occupies a position relative to an adjacent vehicle component such that a portion less than a whole of said lever protrudes laterally from said vehicle; and

a lever stop ensuring that an angle of maximum rotation for said lever is limited to ensure that said lever, in said open position, **does not substantially interfere with said adjacent vehicle component when said axle is rotated**.

'009 patent at 16:36–55.

A. "axle"

CLAIM TERM	FOX	SRAM	TENTATIVE
"axle"	"a cylinder upon which a wheel hub rotates"	"cylindrical component around which a wheel rotates"	"a cylinder upon which a wheel hub rotates"

FOX distills the parties' dispute over this term to whether the "axle" supports the wheel hub. It contends that it does, which is evidenced by the title of the patents—"Methods and Apparatus for Releasably ***Supporting*** a Vehicle Wheel Assembly." FOX II Op. Br. at 12 (Dkt. No. 46). But SRAM argues that the patent specifications distinguish between the axle as a whole and the axle shaft, and FOX should not be able to claim that "axle" means "axle shaft" because the patentee chose not to use the latter language. Resp. Br. at 8 (Dkt. No. 55).

I do not see the specifications' distinction between "axle" and "axle shaft" as dispositive. I must define the scope of the term "axle" first by referencing the intrinsic evidence, and if necessary, consulting extrinsic evidence for additional guidance. *See Phillips*, 415 F.3d at 1320–21. Other than highlighting the title, FOX fails to provide citations for its position that "the specification repeatedly refers to the axle's ability to support the wheel[.]" Reply at 3. It does, however, point to SRAM's extrinsic evidence to bolster its position that "the axle is the structure 'upon' which the wheel revolves." *Id.*; *see also* FOX II Op. Br. at 10–11 (citing SRAM's reliance on The American Heritage Dictionary at Dkt. No. 37, Ex. A at 2 (axle: a "supporting shaft or member upon which a wheel or wheels revolve")).

SRAM contends that FOX's construction "improperly eliminates the possibility of any intervening parts between the axle and the wheel or wheel hub." Resp. Br. at 8. FOX replies that nothing in its proposed construction "requires 'direct contact' or excludes intervening parts, like a

wheel bearing." Reply at 4. On this point, I agree with FOX. SRAM has not clearly articulated why the word "upon" prohibits the possibility of intervening parts.

SRAM also takes issue with FOX's attempts to distinguish prior art. FOX highlights the specifications and their incorporation (and disparagement) of U.S. Patent No. 7,090,308, entitled "AXLE ASSEMBLY FOR MOUNTING A WHEEL TO A VEHICLE." '308 patent (the "Rose patent")(Smyth Decl., Ex. C; FOX II, Dkt. No. 46-5).[6] The Rose patent continued the use of the Campagnolo skewer, and taught a method and apparatus for inserting it into a "tubular body" (the axle shaft) that ran through two loops at the base of the fork. Rose patent at 3:14–17. The '172/'009 patents contrast their design to those that use the Campagnolo skewer, such as the Rose patent, and conclude that their design "reduces the amount of elastic stretch … which in turn reduces any propensity for elastic vibration loosening of the quick release lever." '172 patent at 10:44–50. They also disparage the Rose patent's design because "two hands are required to tighten and release the axle assembly." *Id*. at 2:31–35. In addition, they point out that slots in the axle "may ultimately lead to early fatigue failure due to differential flexure[.]" *Id*. at 2:39–40.

According to FOX, SRAM's proposed construction cannot be correct because it would encompass the skewer design used by the Rose patent, which the '172/'009 patents explicitly disparage. SRAM counters that the '172/'009 patents "expressly contemplate the use of a cam skewer as shown in the issued Rose patent" and "do not exclude all skewer designs, but only a subset of skewers seen as less than ideal." Resp. Br. at 10–11. FOX replies by attempting to tease out aspects of the Rose patent that the '172/'009 patents endorse, and other components that they criticize.

I do not find the discussion about the Rose patent particularly helpful, considering that the '172/'009 specifications confusingly reference both the pre-grant publication and the issued patent; and sometimes endorse its teachings, while other times they criticize them. But they do seem to explicitly discount the skewer design, so it would not appear appropriate to adopt a

[6] Fox contends that the '172 patent "interchangeably refers to the pre-grant publication of Rose (U.S. PG-Pub No. 2005/0110335) as the '355 application, and to U.S. Patent No. 7,090,308 to Rose." FOX II Op. Br. at 5 n.3. I am not entirely convinced that this representation is accurate, but nonetheless refer to all such references as the Rose patent.

construction that would include that design in its scope. *See LizardTech, Inc. v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1343–44 (Fed. Cir. 2005) ("While it is true that not every advantage of the invention must appear in every claim, it would be peculiar for the claims to cover prior art that suffers from precisely the same problems that the specification focuses on solving."); *see also ResQNet.com, Inc. v. Lansa, Inc.*, 346 F.3d 1374, 1380 (Fed. Cir. 2003) ("[T]he specification, including those portions relating to extant problems in prior art, properly confirms the meaning of claim language.").

B. "first end"/ "second end"

CLAIM TERMS	FOX	SRAM	COURT'S CONSTRUCTION
"first end"	first end of the axle	No claim construction necessary; plain and ordinary meaning	first end of the axle
"second end"	second end of the axle	No claim construction necessary; plain and ordinary meaning	second end of the axle

SRAM insists that these terms do not require construction because they are known and understood in the art, and there is no way to add "greater precision" to them. Resp. Br. at 12; *see Pall Corp. v. Hemasure, Inc.*, 181 F.3d 1305, 1308 (Fed. Cir. 1999). But if the parties have presented the court with a dispute regarding the scope of a term, I must resolve it. *O2 Micro*, 521 F.3d at 1360. And here, they have. FOX contends that the "first end" and the "second end" refer to particular points on the axle, while SRAM, in its response, proposes that the terms are generic identifiers that "need not be any particular point on a given object[.]" Resp. Br. at 12. It also argues that the preamble should not be limiting, and the limitations in the embodiments should not be imported.

It is true that "[g]enerally, a preamble is not limiting." *Summit 6, LLC v. Samsung Elecs. Co.*, 802 F.3d 1283, 1292 (Fed. Cir. 2015). But it may "limit[] the invention if it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim." *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)(internal quotation marks omitted); *see also Pacing Techs., LLC v. Garmin Int'l, Inc.*, 778 F.3d 1021, 1023–24 (Fed. Cir. 2015).

Here, the preamble "recites essential structure" and is clearly "necessary to give life,

meaning, and vitality to the claim." *Catalina Mktg.*, 289 F.3d at 808. The preamble describes an "axle ... comprising[] a first end; [and] a second end[.]" Reading the disputed term in the context of the surrounding claim language indicates that the "first end" refers to the "first end of the axle." And, although unnecessary to look further than the surrounding claim language, the specification also supports this construction. '172 patent at 4:20-21 ("The axle comprises a rotary-type connector at a first end thereof."), *id*. at 7:10-14 ("In one embodiment, a method of fabricating an axle fork assembly comprises mounting a rotary-type connector at a first end of an axle . . . ."); *see also* Figs. 1A-3D, 4A-4D, 10-11B (showing that the first end of the axle has a thread, in accordance with the claims).[7] Construing the term in this way does not import limitations specific to particular embodiments, because it holds true for *all* embodiments, as evidenced by the claim language.

The same conclusion applies to the disputed term "second end." *See* '172 patent at 4:22-23 ("The axle comprises a cam assembly operatively connected to the second end . . . ."), *id*. at 7:27-29 ("The method of fabricating axle nut fork assembly further comprises mounting on a second end of the axle a lever-operated cam assembly . . . ."); *see also* Figs. 1A-3D, 4A-4D, 10-11B (depicting the second end of the axle having a cam assembly operatively connected thereto). SRAM fails to provide any convincing reason to decline to construe this term or adopt a plain and ordinary meaning divorced from the specification when the intrinsic evidence clearly supports FOX's proposed construction.

C. "cam assembly"

CLAIM TERM	FOX	SRAM	COURT'S CONSTRUCTION
"cam assembly"	cam assembly (including a cam and a cam follower shaft not extending the full length of the axle)	a collection of parts fitted or cooperating together to form a camming structure	a collection of parts including a cam and a cam follower shaft

FOX asserts that "cam assembly" should be construed to clearly identify its intended components, as explained by the claims and the specification. Claim 1 provides that the "cam

[7] FOX also points out that SRAM's Invalidity Contentions refer to "first end" as the "first end of the axle." *See* SRAM Initial Invalidity Contentions at 2 (Ex. H)

assembly includ[es] a cam[,]" and requires it to be "operatively connected to said second end[.]" From the latter language, FOX contends that the "cam assembly" must also include a cam follower shaft, because that is the part that connects the cam assembly to the axle shaft. *See* '172 patent at 10:44–54 ("The cam follower shaft **15** comprises a steel shaft having external threads (not shown) at one end and a transverse bore at its opposite end for receiving a cam shaft **12**. The cam follower shaft **15** is attached proximate its innermost end to the shaft **13** by the external threads that mate with the internal threads inside the shaft **13**. The cam follower shaft **15** is held in rotational position by a pin **14** which penetrates the wall of the shaft **13** at two points opposite one another and each at approximately 90 degrees to the longitudinal axis of the shaft **13**."). The specification goes on to indicate that "the cam follower shaft **15** does not extend the full length of the shaft **13**." *Id*. at 10:54–55. As previously noted in the discussion of "axle," the specification contrasts this design with those skewers that "span at least the distance between dropouts[,]" and notes the advantages of its design. *Id*. at 10:54–61.

The specification, including the purported disparagement of contrasting skewer designs, is not as clear as FOX proposes because the description repeatedly refers to the possibility of "one embodiment." *E.g*., *id*. at 10:31. While it seems apparent to FOX that the specification sometimes disparages components of the Rose patent design and other times incorporates them, its treatment of the Rose patent does not come close to the level of "clear disavowal." *See Thorner*, 669 F.3d at 1365.

SRAM correctly notes that the dispute centers around the word "assembly" because neither party's proposed construction offers a definition for "cam." Resp. Br. at 14. SRAM adopts a plain and ordinary meaning of "assembly," and confirms that its proposed construction is consistent with the embodiments disclosed in the specification. *Id*. During the claim construction hearing, FOX cited *Network Commerce, Inc. v. Microsoft Corp.*, 422 F.3d 1353 (Fed. Cir. 2005) to attack SRAM's approach of offering a definition of "assembly" independent of "cam." *See id*. at 1360 (rejecting plaintiff's invitation "to combine individual dictionary definitions" of the two words at issue in the disputed term). But the Federal Circuit rejected that approach because it "[wa]s not a tenable theory in light of the specification." *Id*. We do not face the same problem

here because the specification does not provide the same type of unambiguous guidance.

The specification is not clear enough to unequivocally support FOX's proposed construction. It clearly states, "[i]t is to be noted that the cam follower shaft **15** does not extend the full length of the shaft **13**." '172 patent at 10:43–44. But it begins this paragraph with a description of "one embodiment" and provides no indication that the quoted sentence refers to the "present invention" as a whole, and not any particular embodiment. *Cf. Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014)("[T]hat disclaimer applies when the patentee makes statements such as 'the present invention requires ...' or 'the present invention is ...' or 'all embodiments of the present invention are....'"); *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1344 (Fed. Cir. 2001)("The words 'all embodiments of the present invention' are broad and unequivocal.").

The description offers *many* different embodiments, and FOX provides no justification for focusing on one in defining the patent's cam assembly. *See Vitronics*, 90 F.3d at 1582 ("[P]articular embodiments appearing in a specification will not be read into the claims when the claim language is broader than such embodiments."); *Markman*, 517 U.S. at 990 ("[A]ny special definition given to a word must be clearly defined in the specification."). I will combine the parties' proposals to construe "cam assembly" as "a collection of parts including a cam and a cam follower shaft." The construction reads the term in light of the surrounding claim language (requiring a "cam") and then inserts a structure from the specification (the cam follower shaft) that is required by the claim language and appears in every embodiment, but does not limit the length of the cam follower shaft as proposed by FOX. The specification is not clear enough to import the length limitation.

D. "operatively connected"

CLAIM TERM	FOX	SRAM	COURT'S CONSTRUCTION
"operatively connected to said second end"/"operatively connected to said second end of said axle"/"operatively connected to the second end"/"operatively connected to a second end of said axle"	affixed to the second end portion of said axle so that opening and closing the lever moves the cam housing axially relative to the axle	mechanically linked or put in contact with [the/a] second end [of said axle] in a working or effective manner	affixed to the second end portion of said axle so that opening and closing the lever moves the cam housing axially relative to the axle

I find weaknesses in both parties' positions, but ultimately decide that FOX's proposal more accurately aligns with the claimed invention. FOX initially parses through the specification to identify language that supports its proposal while failing to acknowledge that in each instance the specification refers to "one" or "some" embodiments. *See, e.g.*, '172 patent at 8:30–33; *id*. at 8:36–42; *id*. at 10:31–43; *id*. at 11:17–20. It addresses this in Reply by highlighting the inventors note that "[t]he net result of the cam type mechanism is described herein and operates substantially as such regardless of which specific embodiment is used." *Id*. at 10:66–11:1.[8] It seizes on this language to argue that the aforementioned descriptions apply to "all embodiments." Reply at 11. It also points to the specification's criticism of the Rose design, in which the tubular axle shaft

[8] It follows this sentence with a description of how the "cam type mechanism" operates:

> The cam surface pivots about the same axis as and is connected to cam shaft **12** which in turn is rotationally fixed relative to lever **3**. When lever **3** is rotated from position **1** to position **2**, the cam shaft **12** correspondingly rotates. That causes the cam (not shown) within the cam housing 4 to move the cam housing **4** further from the cam end **16** of the shaft 13. Stated another way, when lever **3** is rotated from the position **1** to the position **2**, the dimension **17** (defined at position **1**) increases because although the cam shaft **12** is fixed through, and fixed relative to the axis of, the cam housing **4**, the cam shaft **12** is not rotationally fixed relative to the cam housing **4**. As the cam surface (not shown) rotates relative to the cam follower shaft **l5** (by rotation of the lever **3** and corresponding cam shaft **12**) the cam surface moves the lever **3**, cam housing **4** assembly axially relative to the axis of the shaft **13**.

'172 patent at 11:1–16.

was not physically connected to the skewer, cam assembly, or lever. From this disparagement, it insists that a construction that would include the Rose design could not be correct. FOX II Op. Br. at 19.

In Response, SRAM offers a plain and ordinary meaning, and points to its expert declaration for support. FOX II Resp. Br. at 17–18. It then looks to the specification to confirm that the "construction is commensurate with the usage of the term in the '172 patent specification." *Id*. at 18. It also points out flaws in FOX's proposed construction; namely, the inventor chose to use "connected" rather than "affixed," with a demonstrated understanding of the terms' different meanings, and the specification's criticism of the Rose design is not directed towards the connection between the cam assembly and the axle. FOX attempts to subvert the latter argument by insisting that "the inventors' criticism of Rose related directly to the method of connection," but that is not so clear from the specification. *See* '172 patent at 2:36–40 ("The axle of the '355 application … includes open ended slots **25** in the axle body facilitate radial deformation of the axle. Such slot or slots subvert the rigidity of the axle and may ultimately lead to early fatigue failure due to differential flexure[.]"); *id*. at 2:49–52 ("Due to the high, and relatively long duration, cyclic loading placed on a cross country mountain bike axle, built in stress risers such as those included in the '355 application are not desirable."). And, FOX never directly addresses the former argument.

In short, I am not convinced that either party's proposal is correct. FOX urges that this term requires components to be physically affixed or connected, but it never explains why the inventors chose not to use "affixed." I agree that SRAM's proposed language of "put in contact" does not accurately capture the meaning of "connected," and "mechanically linked" provides no further clarity than the term itself. The addition "in a working or effective manner" fails to identify the actual function that "operatively" discloses. FOX's proposed construction addresses these issues, and it does so by reading the claims in light of the specification, specifically, the description of how the "cam type mechanism" operates. *See supra* note 8. Accordingly, I will adopt FOX's proposal.

E. "substantial portion of said lever"

CLAIM TERM	FOX	SRAM	COURT'S CONSTRUCTION
"substantial portion of said lever"	portion of said lever sufficient to reduce the chance of snagging and accidental release of the lever by contact with landscape during use	a significant or material portion of the lever	a significant or material portion of the lever

FOX seeks to define "substantial portion" by referencing the specification, whereas SRAM insists that a plain and ordinary meaning must control in the absence of disavowal or a clear indication that the inventor intended to act as his own lexicographer. This time, I agree with SRAM.

To begin with, the surrounding claim language provides helpful information. Claim 1 states that "a substantial portion of said lever occupies a position relative to an adjacent vehicle component *such that a portion less than a whole of said lever protrudes laterally from said vehicle*[.]" '172 at 16:48–51 (emphasis added). SRAM highlights this language to supports its proposed construction.

According to FOX, however, the specification provides further guidance,

> In some embodiments, the lever is configured such that when the lever is in the closed position a substantial portion of the lever occupies a position within a recess of an adjacent vehicle component such that a portion less than a whole of the lever extrudes from the vehicle. In certain aspects the component is a fork e.g. a suspension cylinder. This helps to reduce snagging of the lever on branches for example and reduces the likelihood of accidental opening.

Id. at 5:34–41; *see also id*. at 11:33–35 ("In this way most of the level **3** is kept inside the line of the fork to reduce the chance of snagging and accidental release during use."). But these excerpts are explicitly limited to "some" or "one" embodiment(s). As SRAM points out, these excerpts are tied to the presence of a "fork," and nothing in the claims of the '172 or '009 patents requires a fork.

The parties also bicker over the accurate interpretation of the holding in *Deering Precision Instruments, L.L.C. v. Vector Distribution Sys., Inc.*, 347 F.3d 1314, 1323 (Fed. Cir. 2003). FOX insists that the court "rel[ied] on the operation and benefits recited in the specification to construe 'substantially[.]'" FOX II Op. Br. at 21. SRAM counters that the court considered the patent as a

whole, including the specification and purported benefits of the invention, but "did not import the operation and benefits recited in the specification into the claim language." Resp. Br. at 22. Rather, the *Deering* court adopted a plain and ordinary meaning and construed "substantially" to mean "a not insubstantial portion of the weight to intersect the plane containing the fulcrum." 347 F.3d at 1324. I agree with SRAM's position, but even if FOX were correct, this case would be distinguishable from *Deering* where "[t]he written description, as a whole, clearly require[d] that a portion of the metal insert of the weight penetrate the imaginary plane containing the fulcrum of the beam to minimize the weight of the scale and facilitate portability." *Id*. at 1323. Here, the intrinsic evidence fails to provide unequivocal guidance applicable to all embodiments.

Both parties acknowledge that the Federal Circuit has "recognize[d] the dual ordinary meaning of this term as connoting a term of approximation or a term of magnitude." *Id.* Since "FOX agrees that in the context of the patents 'substantial' conveys magnitude rather than approximation," Reply at 12, and the excerpts highlighted by FOX clearly only apply to particular embodiments, I will construe the term according to the plain and ordinary meaning agreed upon by the parties. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014)("We depart from the plain and ordinary meaning of claim terms based on the specification in only two instances: lexicography and disavowal.").

F. "substantially unimpeded by an adjacent part of said vehicle" ('172 Patent) and "does not substantially interfere with said adjacent vehicle component when said axle is rotated) ('009 Patent)

CLAIM TERM	FOX	SRAM	COURT'S CONSTRUCTION
"substantially unimpeded by an adjacent part of said vehicle"	without the user having to manipulate the lever during one-handed rotation to avoid interference or blockage by an adjacent part of said vehicle	not significantly or materially hindered or blocked by an adjacent part of the vehicle	not significantly or materially hindered or blocked by an adjacent part of the vehicle
"does not substantially interfere with said adjacent vehicle component when	does not require the user to manipulate the lever to avoid interference or blockage by an	is not significantly or materially hindered or blocked by an adjacent vehicle component	is not significantly or materially hindered or blocked by an adjacent vehicle component when the axle is rotated

said axle is rotated"	adjacent vehicle component during one-handed rotation of said axle	when the axle is rotated	

As with the previous term, the parties' dispute over these terms turns on the meaning of "substantially." FOX seeks to infuse the term with meaning extracted from the specification, whereas SRAM proposes adopting an ordinary and customary meaning, in accordance with its usage as a term of magnitude.

FOX faces the same problem as above; it aims to read the claims in light of the specification, but the specification rattles off dozens of preferred embodiments while the claims are necessarily much broader. FOX admits that the patents are not limited to bicycles, but it nonetheless attempts to define these terms according to the embodiments particular to bicycles. *See* '172 patent at 4:13–15 ("the user does not have to manipulate the lever so as to avoid an adjacent bicycle component."); *id.* at 4:53–57 ("Some embodiments are based on the insight that the stiffness properties of an axle can be combined with the properties of a quick release to provide a quick release axle that is useful on cross-country mountain bikes for example, which requires only one hand to set and release."); *id*. at 11:32–36 ("this angle enables the lever **3** to be rotated one-handed about the axis of the shaft 13 without coming into contact with the fork leg. For example, a user can hold the bicycle upright with one hand, and with the other rotate the lever **3** about the axis of the shaft **13**."). I cannot import such limitations.

CONCLUSION

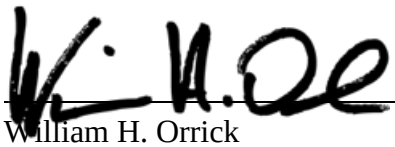
In sum, the terms are construed as follows:

FOX I: U.S. No. 6,135,434	
CLAIM TERM	**COURT'S CONSTRUCTION**
"whereby the second gas chamber portion acts as an air negative spring to automatically balance the force on the damping	"whereby the second gas chamber portion exerts a force on the damping unit by a self-acting mechanism … so the shock absorber system is in an equilibrium condition in which all of the forces acting on and within the shock absorber are balanced."

unit . . . so the shock absorber is in an equilibrium condition"	
"closed"	"closed to gas"
"bypass channel"	"a single channel that allows fluid to transfer between two air spring chambers"
"permit fluid to bypass the second sliding seal when the second sliding seal is at a chosen position along the gas cylinder"	"permit fluid to bypass the second sliding seal when and only when the second sliding seal is at one chosen position along the gas cylinder"
FOX II: U.S. Patent Nos. 8,226,172 and 8,974,009	
CLAIM TERM	**COURT'S CONSTRUCTION**
"axle"	"a cylinder upon which a wheel hub rotates"
"first end"	"first end of the axle"
"second end"	"second end of the axle"
"cam assembly"	"a collection of parts including a cam and a cam follower shaft"
"operatively connected to said second end"/"operatively connected to said second end of said axle"/"operatively connected to the second end"/"operatively connected to a second end of said axle"	"affixed to the second end portion of said axle so that opening and closing the lever moves the cam housing axially relative to the axle"
"substantial portion of said lever"	"a significant or material portion of the lever"
"substantially unimpeded by an adjacent part of said vehicle"	"not significantly or materially hindered or blocked by an adjacent part of the vehicle"
"does not substantially interfere with said adjacent vehicle component when said axle is rotated"	"is not significantly or materially hindered or blocked by an adjacent vehicle component when the axle is rotated"

IT IS SO ORDERED.

Dated: October 30, 2017



William H. Orrick
United States District Judge

United States District Court
Northern District of California