

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF WISCONSIN

SPLIT PIVOT, INC.,

Plaintiff,

v.

TREK BICYCLE CORPORATION,

Defendant.

OPINION & ORDER

12-cv-639-wmc

In this patent lawsuit, plaintiff Split Pivot, Inc. alleges that defendant Trek Bicycle Corporation (“Trek”) infringes claims in two of its patents, both of which involve suspension systems for bicycles. As is common in patent cases, the parties have filed cross-motions for summary judgment. Split Pivot seeks summary judgment of infringement on claim 22 of U.S. Patent No. 7,717,212 (“the ‘212 patent”). Trek seeks summary judgment of non-infringement on *all* asserted claims of the ‘212 patent, as well as summary judgment for invalidity based on inadequate written descriptions in various claims of the ‘212 patent. Trek also seeks summary judgment of non-infringement and invalidity due to anticipation on all asserted claims of Split Pivot’s other patent, U.S. Patent No. 8,002,301 (“the ‘301 patent”). As part of these motions, the parties also ask the court to construe various terms shared by the patents in suit. For the reasons set forth below, the court will deny Split Pivot’s motion for summary judgment of infringement and will grant Trek’s motion for summary judgment of non-infringement of both patents.

BASIC ALLEGATIONS OF FACT¹

I. The Parties

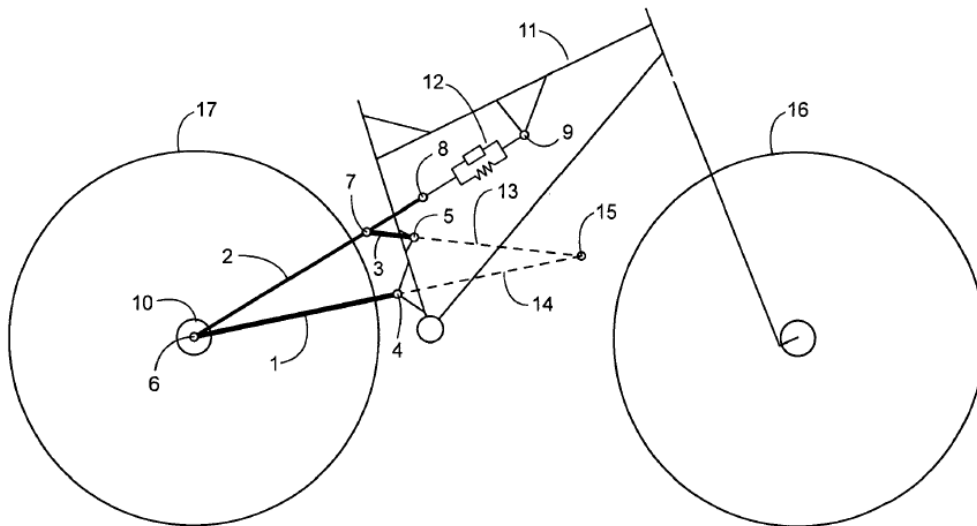
Plaintiff Split Pivot, Inc. is a Massachusetts corporation engaged in the business of holding patents. Its owner and sole employee is David Weagle, the putative inventor of the '212 patent and the '301 patent.

Defendant Trek Bicycle Corporation is a privately-held Wisconsin company with its principle place of business in Waterloo, Wisconsin. Trek designs, manufactures and sells bicycles, including road bikes, mountain bikes, town bikes and specialty bikes. Within the mountain bike category, Trek designs, manufactures and sells mountain bikes with and without rear suspensions.

II. The Technology and Patents in Suit

The technology at issue in the patents in suit involves rear suspension systems for vehicles generally, though the patents' specifications depict only rear suspension systems for bicycles. Bicycles without rear suspension systems usually consist of a frame made up of tubes that are welded or otherwise integrally connected to one another. A bicycle *with* a rear suspension system uses instead a set of links that are pivotally connected to one another and that support the rear wheel. Those links are generally connected to some form of shock absorber. The end result of using a rear suspension system on a bicycle is that the rear wheel is capable of moving up and down as it encounters rough terrain, increasing rider comfort and control.

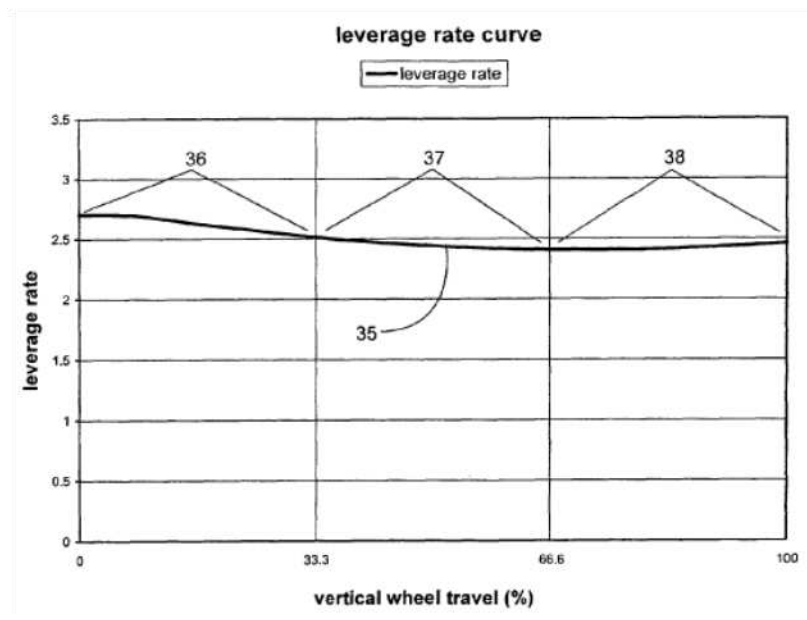
¹ The court lays out only the most basic facts here. More specific facts will be introduced and discussed where relevant to the specific issues in this case.



(Pictured: Figure 1 of the '212 patent, which features a bicycle design with a rear suspension system. The shock absorber is located at 12; the links are located at 1, 2 and 3.)

The distance a rear wheel can move up and down in a bicycle with shock absorbers is known as the “compressible wheel suspension travel distance,” with the beginning travel point being where the suspension is completely uncompressed, such that it cannot extend further, and the end travel point where the suspension is completely compressed, such that it cannot compress further. At the beginning travel point, the shock absorber is necessarily in the state of least compression, so it is relatively easy to compress the suspension. Measuring the travel distances of both the wheel and the shock absorber allows for calculation of the “leverage ratio” (also called “leverage rate”), which is the ratio of the compressive wheel travel change to the measured length change in the shock absorber over the same wheel travel distance. As the suspended wheel moves compressively -- that is, as it moves closer to the end travel point -- the shock absorber force at the wheel changes in relation to shock absorber force multiplied by that leverage ratio.

The leverage ratio does not necessarily remain the same throughout the wheel travel distance. A “leverage ratio curve,” also known as a “leverage rate curve,” is a graphical representation of leverage ratio versus wheel travel, plotted on a Cartesian graph, where the leverage ratio (as defined above) is shown on the Y axis, and vertical wheel travel is shown on the X axis:



(Pictured: Figure 18 of the ‘301 patent, showing the leverage ratio curve of certain embodiments of the invented suspension system. The curve itself is labeled 35.)

To graph a leverage ratio curve, as the wheel is compressed, incremental vertical compression distance measurements of the wheel are taken. At each one of those points, the length of the shock absorber is also measured. The leverage ratio can then be calculated at each point in the suspension system’s compression and graphed as shown above.

Leverage ratios can be manipulated to achieve a desired force output at the wheel. This is because shock absorber length, which serves as the denominator of the leverage ratio, can be changed by the movement of wheel, brake and/or control links as the suspension

compresses. Thus, while every suspension system inherently has a leverage ratio -- and therefore inherently has a leverage ratio curve – different suspension systems may be designed to have particular leverage ratio curves.

While suspension systems increase rider comfort and control over rough terrain, a side effect is that acceleration or deceleration forces may cause a suspension system to react in unwanted ways. According to the patents, systems exist to reduce unwanted suspension movement during acceleration or deceleration, but those systems are both complex and correspondingly expensive. Less expensive systems, in contrast, are more cost-effective but do not allow for the separation of acceleration forces under powered acceleration and braking. Weagle claims “suspension systems that can provide separated acceleration and deceleration responses while remaining cost effective to produce.” (‘212 patent, 1:48-50; ‘301 patent, 1:52-54.)²

A. The ‘212 Patent

The application that resulted in the ‘212 patent was filed on August 25, 2006, and the ‘212 patent itself issued on May 18, 2010. The abstract of the ‘212 patent states that the invention relates to “suspension systems comprising, in certain embodiments, a pivoting means concentric to a wheel rotation axis so that braking forces can be controlled by placement of an instant force center, and so that acceleration forces can be controlled by a swinging wheel link.”

² For ease of citation, and in keeping with general practice, the number preceding the colon will denote the patent’s column number, while the number following the colon refers to the line number or numbers cited.

Split Pivot asserts infringement of claims 1, 3, 4, 5, 6, 12, 14, 21, 22, 24, 25, 26, 32, 34, 41, 42, 43, 44 and 64 of the '212 patent. Claims 1, 22 and 43 are independent; the other claims at issue depend from those claims.

Claim 1 provides:

A suspension system for a vehicle comprising

a wheel link floating pivot, a control link fixed pivot, a wheel rotation axis, a wheel link, a brake link and a shock absorber,

wherein said wheel link floating pivot is concentric with said wheel rotation axis;

wherein said shock absorber is mounted to a link selected from the group consisting of a brake link, a control link, and a wheel link;

wherein said shock absorber is selected from the group consisting of a compression gas spring, a leaf spring, a coil spring, and a fluid;

and wherein force that compresses said shock absorber is transmitted through said brake link;

and wherein said brake link passes on two sides of a frame member.

('212 patent, 19:64-20:8.)

Claim 22 provides:

A suspension system for a vehicle comprising

a wheel link floating pivot, a control link fixed pivot, a wheel rotation axis, a wheel link, a brake link, a control link and a shock absorber,

wherein said wheel link floating pivot is concentric with said wheel rotation axis

and where said wheel link and said control link are arranged so that an instant center of the suspension system is located below the control link when the suspension is uncompressed and the vehicle is on even ground;

wherein said shock absorber is mounted to a link selected from the group consisting of a brake link, a control link, and a wheel link;

wherein force that compresses said shock absorber is transmitted through said brake link;

wherein said shock absorber is selected from the group consisting of a compression gas spring, a leaf spring, a coil spring, and a fluid;

and wherein said suspension system further comprises a wheel link fixed pivot, a control link floating pivot and a control link fixed pivot.

(‘212 patent, 21:22-38.)

Claim 43 provides:

A suspension system for a vehicle comprising

a wheel link floating pivot, a control link fixed pivot, a wheel rotation axis, a wheel link, a brake link, and a shock absorber,

wherein said wheel link floating pivot is concentric with said wheel rotation axis;

wherein said shock absorber is selected from the group consisting of a compression gas spring, a leaf spring, a coil spring, and a fluid;

and wherein force is transmitted to said shock absorber through said brake link;

wherein said brake link passes on two sides of a frame member.

(‘212 patent, 22:54-62.)

Split Pivot has moved for summary judgment of infringement on claim 22 of the ‘212 patent. It alleges that Trek’s Fuel EX and Superfly 100 products infringe this claim literally and under the doctrine of equivalents. (*See* dkt. #114.)

Trek has cross-moved for summary judgment of non-infringement on all the independent claims of the ‘212 patent (which necessarily includes the dependent claims as

well, since a dependent claim is “construed to incorporate by reference all the limitations of the claim to which it refers,” 35 U.S.C. § 112). Trek also argues that it is entitled to summary judgment based on inadequate written descriptions under 35 U.S.C. § 112 in independent claims 1 and 22, as well as those that are dependent on them.

B. The ‘301 Patent

The ‘301 patent is a continuation in part of the ‘212 patent.³ Filed on August 23, 2007, and issued on August 23, 2011, the ‘301 patent claims certain suspension systems for vehicles; its abstract reads that the “invention relates to suspension systems comprising, in certain embodiments, a pivoting means concentric to a wheel rotation axis so that braking forces can be controlled by placement of an instant force center, and so that acceleration forces can be controlled by a swinging wheel link.” (‘301 patent, abstract.)

Split Pivot asserts infringement of claims 29, 30, 31, 37, 38, 39 and 43 of the ‘301 patent. Claims 29 and 37 are independent; the other claims depend from those two claims.

Claim 29 reads:

A suspension system for a vehicle comprising

a wheel link floating pivot, a wheel rotation axis, a wheel link, a control link, a brake link, a control link floating pivot, a control link fixed pivot, and a shock absorber;

wherein the distance between said wheel link floating pivot and control link floating pivot is greater than the distance between said control link fixed pivot and control link floating pivot;

wherein said wheel link is pivotally connected to said brake link;

³ A “continuation in part” application “is a continuing application containing a portion or all of the disclosure of an earlier application together with added matter not present in that earlier application.” *Transco Prods. Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 555 (Fed. Cir. 1994) (citing *The Manual of Patent Examining Procedure*, § 201.08 (1988)).

wherein said brake link is pivotally connected to said control link;

wherein said wheel link floating pivot is concentric with said wheel rotation axis;

wherein said shock absorber is selected from the group consisting of a damper, a compression gas spring, a leaf spring, a coil spring, and a fluid;

wherein force is transmitted to said shock absorber through an element selected from the group consisting of the brake link, the control link, a wheel link fixed pivot, the control link floating pivot and the control link fixed pivot;

wherein said suspension system further comprises a compressible wheel suspension travel distance that features a beginning travel point where the suspension is completely uncompressed to a point where no further suspension extension can take place, and an end travel point where a suspension is completely compressed to a point where no further suspension compression can take place;

and wherein a leverage ratio curve of said suspension system has a negative or a positive slope in the beginning 1/3 (third) and in the end 1/3 (third), and a change in slope value in the middle 1/3 (third).

(‘301 patent, 36:60-37:19.)

Claim 37 reads:

A suspension system for a vehicle comprising

a wheel link floating pivot, a wheel rotation axis, a wheel link, a control link, a control link fixed pivot, a brake link, a shock absorber, and a removable pivot axle;

wherein said wheel link floating pivot is concentric with said wheel rotation axis;

wherein said brake link is pivotally connected to said control link;

wherein said removable pivot axle has a feature for positioning a rear hub in relation to said wheel rotation axis;

wherein said removable pivot axle can receive a thru axle selected from the group consisting of a solid axle, a thru axle, a hollow axle, a quick release, a skewer, a quick release skewer, and a through bolt;

wherein said shock absorber is selected from the group consisting of a damper, a compression gas spring, a leaf spring, a coil spring, and a fluid;

wherein force is transmitted to said shock absorber through said brake link;

and wherein a leverage ratio curve of said suspension system has a negative or a positive slope in the beginning 1/3 (third) and in the end 1/3 (third), and a change in slope value in the middle 1/3 (third).

(‘301 patent, 37:56-38:7.)

Trek also seeks summary judgment of non-infringement and invalidity due to anticipation on all asserted claims of the ‘301 patent.

III. Trek’s Allegedly Infringing Products

Trek markets and sells a wide variety of bicycles with rear suspension systems. The allegedly infringing products fall into two basic categories: (1) those with what Trek calls “Active Brake Pivot” (“ABP”); and (2) those with both ABP and what Trek calls “Full Floater.”

ABP refers to the ability of the rear suspension to remain active while the brake is applied. ABP bicycles include, among other features, some pivotal connection that is concentric with the rear wheel rotation axis. Bicycles with ABP only have a shock absorber that is mounted parallel to the top tube and connected on one side to the frame. They are sometimes called “swing link” bikes, which refers to the short link hanging from the top

tube of the frame. ABP bicycles include Trek's Superfly 100, HiFi, Rumblefish and Roscoe.

The 2010 Superfly 100 is pictured below:



Bicycles including ABP *and* Full Floater include Trek's Fuel EX, Scratch (including Scratch Air), Top Fuel, Session, Slash, Lush and Remedy. "Full Floater" is so named because a bicycle including Full Floater has a generally vertically mounted shock absorber connected to two moving links; the shock absorber "floats" between the two links instead of being fixed to the frame on one side. The 2010 Fuel EX 9.9 is pictured below:



PROCEDURAL MATTER

Split Pivot asks the court to strike as untimely (1) Trek's construction of "wherein said shock absorber is selected from the group consisting of a compression gas spring, a leaf spring, a coil spring, and a fluid" ("the '212 Shock Absorber Element"); and (2) Trek's related contention that this element is a missing limitation from its accused bicycles. Trek argues its disclosure *was* timely and that Split Pivot has not been prejudiced in any event.

The current dispute began when Split Pivot served Trek with untimely supplemental claim charts on January 4 and January 24, 2013. The January 24 charts were served in response to Trek's production of previously undisclosed drawings of some of its accused bicycles on December 5 and 10, 2012, and added assertions of infringement of three claims upon which Split Pivot had not previously relied: claims 43, 44 and 64 of the '212 patent.

Trek moved to strike the January 24 supplemental claim chart on February 1, 2013. (Dkt. #46.) On May 2, 2013, the court denied the motion, finding that while Split Pivot's supplement was untimely, Split Pivot had acted with reasonable diligence in responding within a month and a half to Trek's newly-disclosed drawings; that the supplement appeared to be a direct response to these newly-disclosed drawings; and that the new contentions were unlikely to prejudice Trek materially. (Opinion & Order (dkt. #90) 5-6.) To ameliorate any arguable prejudice, the court also gave Trek 28 days to supplement its own infringement and invalidity contentions, "provided any newly asserted disclosures respond[ed] directly to the supplemental infringement claim charts served on January 24, 2013." (*Id.* at 8.)

On May 30, 2013, within the court-imposed 28 day deadline, Trek responded to Split Pivot's supplemental infringement contentions. The response included, among other

things asserted, a missing limitation not previously disclosed: the ‘212 Shock Absorber Element. On June 3, 2013, Trek served a supplemental claim construction as to this limitation.

It is undisputed that the ‘212 Shock Absorber Element appears in independent claim 43, and accordingly in claims 44 and 64, which depend from it. To that extent, it does directly respond to Split Pivot’s newly asserted claims. Split Pivot points out that the Shock Absorber Element *also* appears in independent claim 1 (‘212 patent, 20:3-5) and independent claim 22 (‘212 patent, 21:34-36), as well as in all claims that depend from them -- in essence, in every claim of the ‘212 patent that Trek has allegedly infringed. (*See* Def.’s Br. in Support of Summ. J. Exh. A (dkt. #133-1).) The allegedly infringed claims of the ‘301 patent -- claims 29 and 37, and certain claims that depend from them -- also include a version of the Shock Absorber Element (“the ‘301 Shock Absorber Element”), which simply adds “a damper” to the enumerated list of possible shock absorbers.⁴ (*See* ‘301 patent, 37:3-6; 37:67-38:2.)

At this point, the court will not preclude Trek from arguing for non-infringement based on the Shock Absorber Element. While Trek could have asserted non-infringement based on this element earlier, the court recognized in allowing Split Pivot’s untimely assertions of infringement that Trek might choose to “rethink its strategy,” just as apparently had Split Pivot. (Opinion & Order (dkt. #90) 7.) Moreover, the Shock Absorber Element *is* directly responsive to the newly asserted claims, insofar as it appears in

⁴ Trek has moved for non-infringement of the Shock Absorber Element in both patents based on shared claim language that indicates a Markush group, discussed in more detail below. Thus, while the Shock Absorber Element is not identical between the ‘212 patent and the ‘301 patent, Trek’s non-infringement argument is.

all three of them. Finally, the court is not inclined to disallow one of Trek's principal defenses when Split Pivot has been aware of that defense since May, choosing (likely tactically) to lie in the weeds until filing a motion for summary judgment in August. If Split Pivot was prejudiced -- which it does not even argue -- the proper time to bring it to the court's attention was not at summary judgment but at the time of the allegedly prejudicial event. Split Pivot's motion to strike is, therefore, denied.

OPINION

I. Overview of Issues

Analysis of patent infringement is a two-step process: "first, the scope of the claims are determined as a matter of law, and second, the properly construed claims are compared to the allegedly infringing device to determine, as a matter of fact, whether all of the limitations of at least one claim are present, either literally or by a substantial equivalent, in the accused device." *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1323 (Fed. Cir. 2002). Invalidity of the patent in suit serves as a defense to infringement. 35 U.S.C. § 282.

II. Claims Construction

The court begins its claim construction analysis, "as always, with the words of the claim." *Teleflex, Inc.* 299 F.3d at 1324. The claims "define the scope of the right to exclude; the claim construction inquiry, therefore, begins and ends in all cases with the actual words of the claim." *Id.* (quoting *Renishaw PLC v. Marposs Societa per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998)). In order to interpret the words of the claims, courts look to "the intrinsic evidence of record, including the written description, the drawings, and the prosecution

history, if in evidence.” *Id.* (citing *Interactive Gift Express, Inc. v. Compuserve, Inc.*, 256 F.3d 1323, 1331 (Fed. Cir. 2001)). Generally speaking, “all terms in a patent claim are to be given their plain, ordinary and accustomed meaning to one of ordinary skill in the relevant art.” *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001). There are exceptions to this general rule, however. For example, patent law does “permit[] the patentee to choose to be his or her own lexicographer by clearly setting forth an explicit definition for a claim term that could differ in scope from that which would be afforded by its ordinary meaning.” *Id.*

Once the court has ascertained the plain meaning of a term to the person of ordinary skill in the art, “the next step is to examine the written description and the drawings to confirm that the patentee’s use of the disputed terms is consistent with the meaning given to it by the court.” *Id.* In this step, the court seeks to determine whether the patentee has expressed a different meaning for the language; whether the preferred embodiment is consistent with the court’s initial interpretation; and whether the inventor has explicitly disclaimed subject matter or limited the scope of the claims. *Id.* at 1342-43. Although claims must be construed in light of the specification for these reasons, *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), “limitations from the specification are not to be read into the claims,” *Golight, Inc. v. Wal-Mart Stores, Inc.*, 355 F.3d 1327, 1331 (Fed. Cir. 2004). Regardless, the specification is the “single best guide to the meaning of a disputed term.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005).

“After examining the written description and the drawings, the same confirmatory measure must be taken with the prosecution history.” *Rexnord Corp.*, 274 F.3d at 1343.

This is because “a patentee may limit the meaning of a claim term by making a clear and unmistakable disavowal of scope during prosecution.” *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) (quoting *Purdue Pharma L.P. v. Endo Pharms., Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006)); *see also* *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 480 F.3d 1335, 1341 (Fed. Cir. 2007) (“Prosecution history estoppel prevents a patentee from recapturing under the doctrine of equivalents subject matter surrendered during prosecution to obtain a patent.”). Such a limitation might arise, for instance, if the patentee “clearly characteriz[es] the invention in a way to try to overcome rejections based on prior art.” *Computer Docking Station Corp.*, 519 F.3d at 1374. Even if the patent prosecutor does not rely on the patentee’s statements in subsequently approving a patent, the patentee may nevertheless “be held to what he declares during the prosecution of his patent.” *Springs Window Fashions LP v. Novo Indus., L.P.*, 323 F.3d 989, 995 (Fed. Cir. 2003); *see also* *Desper Prods., Inc. v. QSound Labs, Inc.*, 157 F.3d 1325, 1336 (Fed. Cir. 1998) (“That the prosecution shifted to a different focus does not blunt the impact of those remarks made to overcome the prior rejection.”).

District courts may also rely on extrinsic evidence in claim construction, such as expert and inventor testimony, dictionaries and learned treatises. *Phillips*, 415 F.3d at 1317. Extrinsic evidence “can shed useful light on the relevant art,” but it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Id.* (quoting *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 862 (Fed. Cir. 2004)). “In sum, extrinsic evidence may be useful to the court, but it is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” *Id.* at 1319.

A. Wheel Link Floating Pivot

The parties agree that the term “wheel link floating pivot” is one for which Weagle served as his own lexicographer, rather than a term of art to which the court may ascribe an ordinary and customary meaning. “[T]erms coined by the inventor are best understood by reference to the specification,” *3M Innovative Properties Co. v. Tredegar Corp.*, 725 F.3d 1315, 1321 (Fed. Cir. 2013), though the rule that “limitations discussed in the specification may not be read into the claims” remains in effect.” *Id.* The parties offer the following constructions of “wheel link floating pivot”:

Split Pivot	Trek
“a pivot that changes its vertical and horizontal position relative to the frame of the vehicle when the rear suspension is compressed, is concentric with a rear wheel rotation axis of the vehicle, and pivotally connects to the brake link”	“a pivot axle connected to the wheel link that allows a link to rotate about the pivot axle and changes its position relative to a frame member when the suspension is compressed”

Split Pivot asserts that its construction is correct because it incorporates language “nearly verbatim” from the specification. (Pl.’s Br. for Summ. J. (dkt. #114) 8.) First, the specification notes that “a floating pivot changes its position relative to the frame when the suspension is compressed.” (‘212 patent, 4:6-8.) Additionally, the specification provides that a wheel link floating pivot “is concentric with a wheel rotation axis of the vehicle, preferably the wheel rotation axis of a driven wheel, a rear wheel, a front wheel, or a suspended wheel of a vehicle.” (‘212 patent, 11:15-19.) Finally, the specification indicates that the “wheel link floating pivot pivotally connects the wheel link to the brake link.” (‘212 patent, 4:65-66.) These portions of the specification, Split Pivot asserts, clearly

demonstrate how Weagle, as the inventor, intended to define the term “wheel link floating pivot,” and so its construction makes use of those descriptors while adding additional detail to correspond to this particular invention (i.e., the “vertical and horizontal” nature of the movement of the floating pivot, and the focus on the “rear” suspension and wheel).

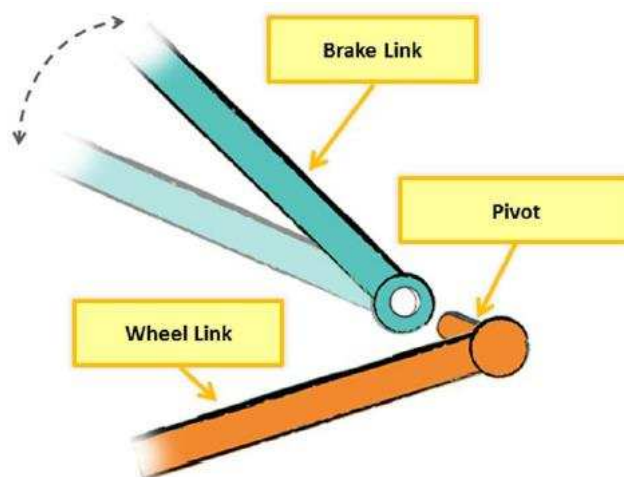
Trek includes the general language from the specification defining “floating pivot” in its construction. Trek also asks the court to construe “wheel link floating pivot” as requiring a pivot *axle*. In support, Trek argues that a person of ordinary skill in the art would understand the term “pivot” to require a pivot axle, bolstering this argument with citations to multiple dictionaries. (Def.’s Resp. (dkt. #149) 7 (citing to definitions of a pivot as a “short shaft or pin,” “an axle on which a wheel turns,” “a fixed pin or short axis,” etc.).) Additionally, Trek construes “wheel link floating pivot” as being “connected to the wheel link.” As support for that interpretation, Trek points to a portion of the specification, which states that “[p]ivots of a suspension system of the invention are named after a component that connects with the pivot.” (‘212 patent, 4:2-4.) By this logic, then, a “wheel link floating pivot” *must* be connected to the wheel link.

Taking the last argument first, the court agrees with Trek insofar as a floating pivot without *any* connection to the wheel link could not be a “wheel link floating pivot.” Nothing in the patent, however, suggests that a wheel link floating pivot may not have multiple connections; indeed, even the sentence that Trek identifies states that pivots are named after *a* component that connects with them, which leaves open the possibility for a pivot to be connected to multiple components but named after just one. In addition, the specification unambiguously contemplates a wheel link floating pivot serving as the “connection point” between the wheel link *and* the brake link. In describing the preferred

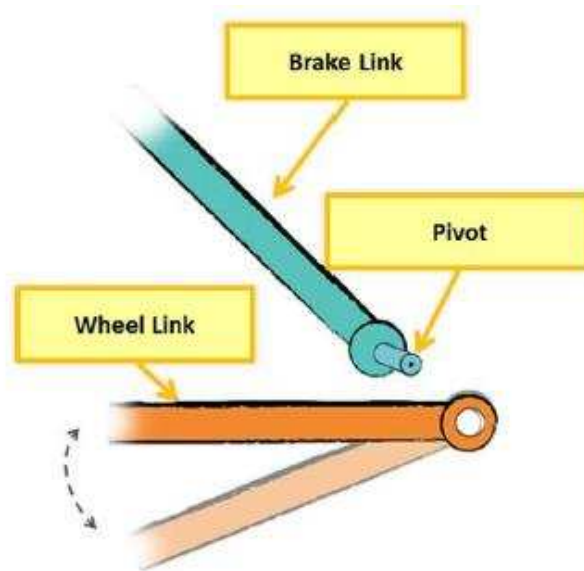
embodiments of the invention, for example, the specification states that “[t]he wheel floating link pivot (*sic*) 6 pivotally connects the wheel link 1 to a brake link 2.” (See ‘212 patent, 4:65-67 (figure 1); 5:59-61 (figure 2); 7:14-15 (figure 5).) Thus, the context of the specification makes clear that a wheel link floating pivot serves as a “connecting point” between the wheel link *and* the brake link.

Rather than dispute this fact, Trek takes a different tack by arguing that a pivot can only be “connected” to a component when it is permanently *fastened* to that component, meaning that a link which merely “rotates about” the pivot is *not* connected to it. In essence, without disputing that the wheel link floating pivot is pivotally connected to the wheel link and brake link, Trek argues that within this connection, the pivot itself may *only* be fastened to the wheel link.

Thus, Trek’s construction, which states that the wheel link floating pivot is “connected to the wheel link,” would support only arrangements in which the pivot is fastened to the wheel link:



It would exclude any arrangement in which the pivot is fastened to the brake link:



The court sees no reason, and Trek offers none, to limit an interpretation of “connected” to mean “permanently” or “immovably fastened.” Moreover, the detailed description of the invention contradicts Trek’s proposed interpretation: “[a] *wheel link*, in certain embodiments, is connected to a *wheel link floating pivot* and/or a *wheel link fixed pivot*” (‘212 patent, 8:37-39) (emphasis added), and “[a] *brake link*, in certain embodiments, is connected to a *wheel link floating pivot*, a *control link floating pivot* and/or a *first shock pivot*” (‘212 patent, 9:10-12) (emphasis added). Thus, Weagle described a wheel link *and* a brake link as “connected to” a wheel link floating pivot. (‘212 patent, 8:37-38; 9:10-11.) Nowhere did Weagle suggest that the nature of these connections need vary between the wheel link and the brake link. Rather, he used exactly the same term to describe the wheel link floating pivot’s relationship to the wheel link as he did to describe its relationship to the brake link. While the *overall* connection of the wheel link to the brake link must be pivotal, the patent simply does not evince an intention to limit the definition of “wheel link

floating pivot” to arrangements wherein the wheel link floating pivot is immovably fastened to the wheel link, with the brake link turning around it.

Trek points out that the drawings of Figures 7 and 8 show only embodiments in which the wheel link floating pivot is fastened to the wheel link, with the brake link able to turn around it.⁵ (See Def.’s Br. for Summ. J. (dkt. #125) 16-17.) Figure 7 shows “a three-dimensional cutaway view of a wheel link floating pivot 6 as shown in FIG. 2, 4, 5 and FIG. 6.” (‘212 patent, 7:63-64.) Turning to the description of Figure 5, Trek is correct that the wheel link floating pivot of that particular embodiment “comprises a pair of clevis[es] that . . . are structural components of wheel link 1, and a pair of hitches to be received by the clevises, where the hitches are structural components of the brake link 2.” (‘212 patent, 7:16-19.) This would allow the brake link to turn, while the wheel link remains stationary.

While Trek accurately describes the construction of the wheel link floating pivot of Figures 7 and 8, “limitations from parts of the written description, such as the details of the preferred embodiment, cannot be read into the claims absent a clear intention by the patentee to do so.” *MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1256 (Fed. Cir. 2012). In light of the detailed description, which expressly contemplates that a wheel link floating pivot may be “connected” to a wheel link in certain embodiments and a brake link in certain embodiments, the court finds no “clear intention” to limit the definition to the embodiment of Figures 7 and 8, even if it *did* find that the word “connect” mandated an *immovable* connection (which it does not).

The court likewise rejects Trek’s contention that the court must construe the word “pivot” to mean “pivot axle.” As a preliminary matter, the court declines to isolate and

⁵ Figure 8 does not appear in the ‘212 patent, but does appear in the ‘301 patent.

construe a single word to limit a claim, when that word is indisputably part of a term for which Weagle served as his own lexicographer. Additionally, the specification never hints at an intent by Weagle to limit a wheel link floating pivot to a single pivot *axle*. Rather, the detailed description of Figure 7 indicates that “[c]ertain embodiments of the wheel link floating pivot 6 can comprise a pivot bearing 20.” (‘212 patent, 8:4-5.) While the description goes on to note that “[a] pivot axle 21 acts as a bearing surface for the pivot bearing 20” (‘212 patent, 8:14-15), this simply states that certain embodiments of the wheel link floating pivot may *contain* a pivot axle, not that the pivot itself must be a pivot axle and nothing else.⁶

Despite rejecting Trek’s proposed construction, the court also declines to adopt Split Pivot’s construction in two respects. First, Split Pivot asks that the court construe “wheel link floating pivot” to include the requirement that it be “concentric with a rear wheel rotation axis of the vehicle.” As Trek points out, every independent claim of the ‘212 patent includes not only the phrase “wheel link floating pivot” but also a separate requirement that “said wheel link floating pivot is concentric with said wheel rotation axis.” (See, e.g., ‘212 patent, 19:64-20:1.) To hold that the wheel link floating pivot must *inherently* be concentric with the wheel rotation axis would render this element of the claims meaningless. Claims construction standards do not generally allow for such a result. See, e.g., *Merck & Co., Inc. v. Teva Pharm. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”); cf. *Phillips*, 415 F.3d at 1314 (“To take a simple example, the claim in this

⁶ There is a secondary dispute between the parties as to whether a “pivot” can be a “point” or if it has to be a mechanical part. Because it does not affect the outcome, the court devotes no energy to resolving the issue.

case refers to ‘steel baffles,’ which strongly implies that the term ‘baffles’ does not inherently mean objects made of steel.”). Trek also points to the specification, which describes a wheel link floating pivot as concentric with the wheel rotation axis “in certain embodiments,” and “nearly concentric” “[i]n certain other embodiments.” (‘212 patent, 11:14-21.) Thus, like the language in the claims themselves, the specification contradicts any notion that “wheel link floating pivot” should be construed to require a “concentric with a rear wheel rotation axis of the vehicle.”

Second, Split Pivot asks the court to construe “wheel link floating pivot” as “pivotally connect[ed] to the brake link.” While Split Pivot claims this language has been taken “nearly verbatim” from the specification, the referenced language actually requires that the “wheel link floating pivot 6 pivotally connect[] *the wheel link 1* to a brake link 2.” (‘212 patent, 4:65-67 (emphasis added).) This does not mean the same thing as construing the “wheel link floating pivot” itself to be pivotally connected to the brake link. Such a construction would be essentially the same as Trek’s erroneous contention that the pivot must be fastened to the wheel link, with the brake link able to pivot around it. As already discussed, the specification provides no support for that limited construction.

Thus, the court rejects both parties’ proposed constructions of “wheel link floating pivot.” Instead, the court construes that term to mean “a pivot that changes its position relative to a frame member when the suspension is compressed and pivotally connects the wheel link to a brake link.”

B. Brake Link Passes on Two Sides of a Frame Member

The parties also ask the court to construe the limitation “wherein said brake link passes on two sides of a frame member.” This limitation is present in claims 1 and 43 of the ‘212 patent and their respective dependent claims. Trek contends this limitation is missing from all but a small subset of its accused bicycle models.⁷

The parties offer the following construction for this element:

Split Pivot	Trek
“brake link that moves next to or beyond two sides of a physical boundary of a frame member”	“brake link extends beyond both lateral sides of a structural support for components of a suspension system”

The parties agree that the term “passes” should be given its plain and ordinary meaning, but disagree on what that meaning is, citing to various definitions in support their own interpretation. (*See* Def.’s Br. for Summ. J. (dkt. #125) 28-29 (citing definitions such as “to go by: proceed or extend beyond”; and “to go by, beyond, over, through, or the like; to proceed from one side to the other of”); Pl.’s Resp. (dkt. #153) 26 (citing definitions such as “to move in a particular direction or to a particular place or position”; “to go past something or someone or move in relation to it or them”; and “to go onwards or move by or past”).)

Split Pivot argues that “passes” is “susceptible to multiple meanings,” and that a person of ordinary skill in the art would read it in this context to require only that the brake link “move to occupy a particular place next to the frame member or beyond it.” (Pl.’s Resp. (dkt. #153) 26.) Split Pivot’s central support for its construction is the specification,

⁷ Trek apparently concedes that its 2010-2013 Superfly 100, 2010-2013 Rumblefish, 2010 HiFi and 2010 Roscoe contain a “brake link [that] passes on two sides of a frame member.” (*See* Resp. to PPFOF (dkt. #178) ¶¶ 116-122.)

but its arguments are muddled at best. While the specification sheds no light on the word “passes” as it relates to the brake link passing on two sides of a frame member, Split Pivot points out that the specification also uses “passes” in a similar context. For example, the description of Figure 2 states that “[t]he brake link 2 can consist of a single sided strut that passes next to only one side of a rear wheel 17 or a double sided strut that passes next to both sides of a rear wheel.” (‘212 patent, 6:2-5.) If Trek’s construction of “passes” were applied to that portion of the specification, Split Pivot argues, the brake link would have to extend “both above and in front of and below and behind the entire[t]y of the rear wheel as illustrated below:”

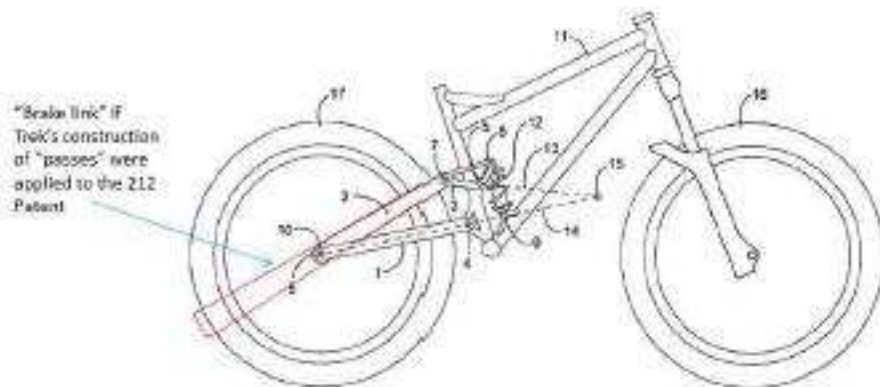


FIGURE 4

(Pl.’s Resp. (dkt. #153) 27-28.)

While consistent use of a term in the written description can inform claims construction,⁸ Split Pivot appears to fundamentally misinterpret Trek’s proposed construction. Trek’s construction of “passes,” if applied to this portion of the specification,

⁸ Cf. *Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1143-44 (Fed. Cir. 2005) (limiting “board” to wood cut from a log where “[t]hroughout the written description, Nystrom consistently used the term ‘board’ to describe wood decking material cut from a log”).

would require only that the brake link extend beyond the left and right lateral sides of the wheel at the *front*, not that it extend beyond both front and back ends of the wheel. The context of the specification supports this interpretation, since the specification itself contemplates a brake link that can pass next to one or both “sides” of the rear wheel. If “sides” meant the front and back *ends* of the wheel, then Split Pivot’s own patent would contemplate the above arrangement, which its expert has called “unorthodox, unnecessary, and counterproductive.” (Expert Report of Tony Foale (dkt. #111) ¶ 85.) Split Pivot cannot ask the court to construe “passes” consistently throughout the patent while asking it to construe “sides” differently -- at least not without reason, and it offers none.

Insofar as the portion of the specification Split Pivot identifies helps either party, it helps Trek. The drawings in the ‘212 patent contain a brake link that not only “moves next to” the rear wheel but also extends entirely beyond it on both lateral sides of the wheel at the front end. This is to say, the drawings are at least consistent with Trek’s narrower interpretation. On the other hand, the drawings are also consistent with Split Pivot’s broader construction. Thus, these drawings do not definitively resolve the parties’ disagreement, and the specification provides no further context for how “passes” should be interpreted.

While acknowledging the term “passes” is susceptible to multiple meanings *in general*, Trek argues that definitions of the transitive form of “passes” support its interpretation. Unfortunately, like Split Pivot’s arguments, Trek’s attack suffers from its own flaw: Trek contends that Split Pivot relies on an “*intransitive* form of ‘passes,’” while the claims at issue “use ‘passes’ in its transitive form” (def.’s Reply (dkt. #176) 9-10), but this is not quite grammatically correct. A transitive verb takes a direct object, and the claim here has none,

at least technically. Rather, “frame member” is the object of the preposition “of,” part of an adjectival, prepositional phrase that modifies “sides.”

Even though Trek’s reasoning is flawed, the court finds its construction persuasive based on the ordinary meaning of the word “pass.” Even definitions of the intransitive form of “pass” -- indeed, even some of the definitions Split Pivot cites -- carry with them the sense of proceeding beyond, or leaving something behind. *See, e.g., The American Heritage Dictionary of the English Language* 1284 (4th ed. 2000) (defining the intransitive form of “pass” as “to move on or *ahead*; proceed,” “to extend; run,” “to move *by*,” “to move *past* another vehicle”) (emphasis added); *see also* Pl.’s Resp. (dkt. #153) 26 (citing definitions including “to go past something” and “to go onwards or move by or past”). A person of ordinary skill in the art, confronted with this element, would read it to require that the brake link pass -- that is, go past -- on two sides of a frame member.

Trek also argues that this limitation must be present in all states of compression; that is, the brake link must extend beyond a frame member on both sides regardless of how much the suspension has been compressed. As support, Trek points out that claims 1 and 43, in which the limitation appears, are silent as to the state of compression. In contrast, some of the other claims in the ‘212 patent *specify* the state of compression of the suspension. (*See, e.g.,* ‘212 patent, 20:15-18 (“The suspension system of claim 3, said suspension system further comprising an instant center that is below the shock absorber when the suspension is uncompressed”); 20:31-33 (“The suspension of claim 7, wherein the second perpendicular distance of the instant center to the ground is measured when the suspension is 50 percent compressed”).) Thus, Trek argues, Weagle obviously knew how to provide for specific states of compression in his claims, and the court should not construe

this limitation to include embodiments in which the brake link “moves into” position upon compression.

Trek’s claim differentiation argument is superficially appealing, but the implications are troubling: to hold that the brake link must pass on two sides of a frame member in all states of compression based on the dependent claims would be to *narrow* the claim by virtue of the *absence* of an additional limitation. This strikes the court as problematic, particularly since the case to which Trek cites in support not only observes that differences among claims can help guide a court in construing particular terms, but also that “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is *not* present in the independent claim.” *Phillips*, 415 F.3d at 1315 (emphasis added); *cf. Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (“The juxtaposition of independent claims lacking any reference to a pressure jacket with dependent claims that add a pressure jacket limitation provides strong support for Liebel’s argument that the independent claims were not intended to require the presence of a pressure jacket.”). Trek seems to be arguing the opposite: that is, since some dependent claims recite different states of compression, the independent claim necessarily incorporates *all* of those limitations.

While an uncompressed shock absorber may well have been what the inventor contemplated for purposes of this limitation, nothing in the patent language dictates or even provides context for this reading. The specification is silent as to the shock absorber’s state of compression in regard to this element. More importantly, the *claim itself* is silent as to the state of compression. Ultimately, Trek is inviting the court to read in additional limitations

and further narrow the scope of Split Pivot's claims where nothing in the patent supports those limitations.

This does not end the court's construction of this element, however, since there is also a dispute as to what constitutes a "frame member." The central disagreement between the parties is whether components of the suspension system are considered "frame members" for the purposes of this limitation. Split Pivot argues that "frame member" need not be construed, and that its plain meaning can include the links that make up the suspension system. Trek contends that frame members are separate from components of the suspension, and draws upon language from the specification defining the "frame" to offer a proposed construction of "frame member" as "structural support for components of a suspension system," presumably intended to exclude the components of the suspension system itself.

Split Pivot argues that, should the court adopt Trek's construction of "frame member," the wheel link, brake link and control link nevertheless are "frame members" since they provide structural support for one another and, thus, for other "components of a suspension system." The court agrees, at least insofar as Trek's proposed construction would introduce ambiguity into the term "frame member" that is not supported by the specification. Determining the ordinary meaning of "frame member," as understood in the context of the entire patent by a person of ordinary skill in the art, avoids the questions that would arise under Trek's proposed construction. Therefore, what remains for this court to decide is whether the ordinary meaning of "frame member" includes links of the suspension system.

As a starting point, the court notes that the specification does not suggest that the wheel, brake or control links are part of the “frame” as Weagle used that term. In fact, the specification consistently differentiates the frame and the links. For example, in describing one of the preferred embodiments, the specification states that “[a] frame 11 provides the structure for the vehicle. . . . The frame 11 provides a support or mounting location for powertrain components such as[:] engines, gears, transmissions, and fuel tanks; *suspension parts such as forks, rear suspension and front suspension*; operator interfaces such as handlebars and seats; and accessories such as water bottles and batteries for lights.” (‘212 patent, 4:45-53 (emphasis added).) It goes on to specify that in that embodiment, “[a] wheel link 1 is mounted to the frame 11” (‘212 patent, 4:53-54) and “the brake link 2 will transmit force to the frame 11 via the control link 3 and wheel link 1.” (‘212 patent, 5:5-7.) Similarly, a “control link 3 is attached to the frame 11” (‘212 patent, 4:11-12), and “[t]he shock absorber 12 is mounted to the frame 11” (‘212 patent, 4:18-19). This language is repeated in the description of the other preferred embodiment. (See ‘212 patent, 4:39, 42-47, 47-48, 66-67, 5:5-6, 12-13.) The consistent differentiation of the “frame” from the components of the rear suspension system throughout the specification strongly suggests that those suspension components are *not* part of the “frame,” and thus they would not be “frame members” as a person of ordinary skill in the art would understand that term in context.

Still, as Split Pivot points out, the specification states that “[a] frame, in certain embodiments, may be comprised of . . . seatstays, chainstays, a seatstay, [and] a chainstay.” (‘212 patent, 17:23, 59.) The court agrees that in light of this explicit definition, seatstays and chainstays would be considered “frame members,” since they are specifically listed as components of which a frame may be comprised. Even so, this does not prove, as Split

Pivot further contends, that wheel links and brake links are “frame members,” because the court does not read “seatstay” and “chainstay” to be *synonymous* with “brake link” and “wheel link.” As Trek’s expert explained:

While non-suspension bicycles include chainstays and seat stays, these frame parts are replaced by links in rear suspension bicycles. While it is common to continue to refer to these links as chainstays and seat stays for convenience, it is my opinion that one of ordinary skill in the art reading the above list in the context of the specification would not understand the listed “chainstay(s)” and “seatstay(s)” to refer to a “wheel link,” a “brake link,” or any other link specifically named in the patent.

(Expert Report of Edward M. Caulfield (dkt. #139) ¶ 49.)

Certainly, in some contexts, a person of ordinary skill in the art would read “seatstay” and “chainstay” to refer to the components in a suspension bicycle. Indeed, Caulfield indicates that it is “common” to do so, but what is important for claims construction purposes is what a person of ordinary skill in the art would have understood those terms to mean *in light of the context of the entire patent*. The ‘212 patent never uses the word “seatstay” or “chainstay” in connection with the brake link and wheel link, respectively. Rather, Weagle clearly identifies the suspension components in his invention as *links*, consistently refers to them as such, and never equates “links” to “stays.” Given this context, the court does not believe a person of ordinary skill in the art would then read the terms “seatstay” and “chainstay” to mean the same thing as “brake link” and “wheel link,” respectively. On the contrary, the terms are neither explicitly equated, nor implicitly associated with one another, in this context.

The remainder of the specification provides further support for this interpretation. For example, in describing further embodiments of the invention, the patent provides an

extensive list of components that can comprise “[a] moving suspension component of a suspension system of the invention.” (‘212 patent, 17:63-18:32.) Nowhere in the list does the patent identify a “seatstay” or “chainstay” as a moving suspension component. Likewise, the specification states that “[a] vehicle using a suspension of the invention may, in certain embodiments, comprise . . . a frame, [and] a moving suspension component.” (‘212 patent, 15:65-16:2.) Ultimately, the court finds no support for Split Pivot’s argument that a “frame member” includes the components of the suspension system itself, and so in finding that “frame member” takes its ordinary and customary meaning, the court proceeds with this distinction in mind.

C. Markush Group Limitations

Some of the claims the court has been asked to construe contain so-called Markush groups. “A Markush group is a listing of specified alternatives of a group in a patent claim, typically expressed in the form: a member selected from the group consisting of A, B, and C.” *Abbott Labs. v. Baxter Pharm. Prods., Inc.*, 334 F.3d 1274, 1280 (Fed. Cir. 2003). By the use of this traditional “consisting of” language, “members of the Markush group are used singly.” *Id.* at 1280-81 (quoting *Meeting Held to Promote Uniform Practice In Chemical Divisions*, 28 J. Pat. & Trademark Off. Soc’y 849, 852 (1946)). Thus, while typically an indefinite article such as ‘a’ or ‘an’ carries the meaning of “one or more,” “such an indefinite article used in conjunction with a Markush grouping does *not* receive such latitude because a proper Markush group is limited by the closed language term ‘consisting of.’” *Id.* at 1281 (emphasis added). “If a patentee desires mixtures or combinations of the members of the Markush group, the patentee would need to add qualifying language while drafting the

claim.” *Id.* Without such express language, “a patentee does not claim anything other than the plain reading of the closed claim language.” *Id.*

The ‘212 patent contains two different Markush groups. One is present in independent claims 1 and 22, which requires that the “shock absorber is mounted to a link selected from the group consisting of a brake link, a control link, and a wheel link” (‘212 patent, 20:1-3; 21:30-32) (“the Mounting Element”). The other is present in independent claims 1, 22 and 43 of the ‘212 patent, which requires that “said shock absorber is selected from the group consisting of a compression gas spring, a leaf spring, a coil spring, and a fluid” (‘212 patent, 20:3-5; 21:34-36; 22:58-60) (“the Shock Absorber Element”). The court will address the requirements of these Markush groups in turn.

i. The Mounting Element

The parties offer the following construction of the element “wherein said shock absorber is mounted to a link selected from the group consisting of a brake link, a control link, and a wheel link”:

Split Pivot	Trek
“wherein said shock absorber is mounted to one or more links selected from the group consisting of a brake link, a control link, and a wheel link”	“wherein said shock absorber is mounted to one and only one link, and no other link, selected from the group consisting of a brake link, a control link, and a wheel link”

Split Pivot contends that regardless of the patent’s invocation of the Markush group language, the court should construe “a link selected from the group consisting of” to read “a link *or links* selected from the group consisting of.” Split Pivot argues that no rigid rules of construction apply to Markush groups, and that in claims construction, the indefinite article

“a” is generally construed as meaning “one or more.” Although Split Pivot recognizes that the word “a” used with the closed language “consisting of” generally means “only one member of a Markush group,” *Abbott Labs.*, 334 F.3d at 1281, it seizes on language in *Norian Corp. v. Stryker Corp.*, 432 F.3d 1356, 1359 (Fed. Cir. 2005), in which the Federal Circuit noted that “the claim language ‘consisting of . . . a sodium phosphate,’ on its own, *suggests* the use of a single sodium phosphate.” *Id.* (emphasis changed). Split Pivot also points out that the *Norian* court went on to analyze the specification and prosecution history of the patent at issue. In Split Pivot’s view, this broader analysis when coupled with the court’s use of the word “suggests,” indicates that (1) Markush group language alone does not conclude the analysis of the claim scope and (2) this court must ensure a closed construction is “consistent with the specification and the history” of the patent at issue. (Pl’s Opp’n to Def.’s Mot. for Summ. J. (dkt. #153) 40.) Not surprisingly, in Split Pivot’s view, the specification here makes clear in two separate places that the ‘212 patent contemplates shock absorbers mounted to more than one link from the list.

In contrast, Trek contends that, having admitted the subject limitation is drafted in the form of a Markush group, Split Pivot cannot ignore its legal effect on the claim language. In Trek’s view, *Norian* does not make the effect of the use of Markush group language a mere “suggestion”; in fact, *Norian* did not involve a traditional Markush group at all (because it lacked the “selected from a group consisting of” language); and if anything *Norian* reaffirmed the Federal Circuit’s holding of *Abbott Laboratories* by citing it approvingly to support the relevant term’s ultimate construction. Trek argues that (1) the law remains unchanged: Markush groups claim “one and only one” of their listed alternatives, and (2) the intrinsic evidence here supports adherence to the accepted legal analysis of Markush

groups. Split Pivot’s reliance on “scraps” in the specification, Trek argues, does not salvage a construction already in conflict with the legal effect of the language of the claims themselves.

The court finds Trek’s construction more persuasive. Cases like *Abbott Laboratories* have unambiguously held that Markush groups are limited by the closed term “consisting of.” See *Abbott Labs.*, 334 F.3d at 1280-81. They have also held that while a patentee *may* claim combinations of the elements listed in a Markush group, such a claim is *not* the default: “the patentee would need to add qualifying language while drafting the claim” in order to get that result. *Id.* at 1281 (quoting *Meeting Held to Promote Uniform Practice In Chemical Divisions*, *supra*, which provides qualifying language examples such as “and mixtures thereof” and “at least one member of the group”).

No such qualifying language is present here. The mounting element in the ‘212 patent claims a classic Markush group and, thus, it has “not claim[ed] anything other than the plain reading of the closed claim language.”⁹ *Id.*; see also 3 Donald S. Chisum, *Chisum on Patents* § 8.06[2], at 8-488 (2010) (“A trap for the unwary claim drafter using Markush group language is the severely closed nature of a Markush group.”).

⁹ Split Pivot also argues that because the language claims “said” shock absorber, rather than “a” shock absorber, it does not represent a Markush group. (Pl.’s Resp. (dkt. #153) 53-54.) The court disagrees. As Trek accurately points out, the antecedent of “said shock absorber” is “a shock absorber.” (See ‘212 patent, 19:66, 20:3.) Additionally, it is not “the single article ‘a’ that would theoretically trigger” the Markush group language, as Split Pivot contends. The Federal Circuit in *Abbott Laboratories* clearly stated that “a proper Markush group is limited by the closed language term ‘consisting of.’” *Abbott Labs.*, 334 F.3d at 1281. In fact, Split Pivot’s argument that the failure to use the word “a” necessitates a *broader* construction makes little sense, given that the word “a” is what traditionally carries the breadth of “one or more.”

Split Pivot cites to two district court cases in which courts have found that Markush groups allow for the presence of multiple members: *Teva Pharmaceuticals USA, Inc. v. Amgen, Inc.*, No. 09-5675, 2010 WL 3620203 (E.D. Pa. Sept. 10, 2010), and *Bristol-Myers Squibb Co. v. Apotex, Inc.*, No. 10-5810(MLC), 2013 WL 1314733 (D.N.J. Mar. 28, 2013). In *Teva Pharmaceuticals*, the district court construed the claim language “having an amino acid sequence from the group consisting of” to allow for the presence of more than one amino acid sequence. *Teva Pharm.*, 2010 WL 3620203, at *7. It distinguished *Abbott Laboratories* on the grounds that *Abbott Laboratories* involved a claim for a Lewis acid inhibitor *in an amount sufficient to prevent degradation*. The mixture of two Lewis acid inhibitors to reach the efficacy level was therefore not what the patentee had claimed. *See id.* (interpreting *Abbott Laboratories*). Thus, the *Teva Pharmaceuticals* court held that “[a]lthough Amgen’s patents must have an effective amount of *one* of the versions of the patented polypeptide present in the product, it does not mean that *only* one of the patented versions may be present.” *Id.*

As an initial matter, this court notes that the Federal Circuit has not yet endorsed the view of the *Teva Pharmaceuticals* court. As a result, this court remains bound by *Abbott Laboratories*, which states unambiguously enough that members of a Markush group, absent express qualifying language, are used singly. *See Abbott Labs.*, 334 F.3d at 1281. Additionally, to the extent that the *Teva Pharmaceuticals* court’s reasoning is applicable, it is for the proposition that a Markush group indicates a single member of the group *carries out the given function*. *See Teva Pharm.*, 2010 WL 3620203, at *7. This is consistent with the long-standing purpose of Markush groups, which recite members that are “*alternatively useable for the purposes of the invention*.” *Abbott Labs.*, 334 F.3d at 1280 (quoting *In re Driscoll*, 562 F.2d 1245, 1249 (C.C.P.A. 1977) (emphasis added)). Applying the reasoning

of *Teva Pharmaceuticals* in light of the purpose of Markush group language in this case, the drafter here chose language indicating that the claimed suspension system requires the shock absorber to be mounted to a link; any one of the three enumerated links would be “alternatively useable” for the system’s purposes. *Id.* Two or more links serving that same function, in contrast, is not what the inventor claimed.¹⁰

Though the plain language claims only suspension systems with a shock absorber mounted to one and only one of the listed links, Split Pivot contends that two places in the specification indicate that “a link selected from the group” must be construed as “one or more links selected from the group.” First, a general statement in the specification reads, “Throughout this application the singular includes the plural and the plural includes the singular, unless indicated otherwise.” (‘212 patent, 19:59-61.) This statement does not help Split Pivot, since the Markush group language itself and the closed nature of “consisting of” represents just such an indication to limit “a” to its singular sense. *Cf. Norian Corp.*, 432 F.3d at 1359 (noting that though generally the word “a” means “one or more,” the general rule does not apply “when, as in this case, it has been used in conjunction with the closed transitional phrase ‘consisting of’”). Second, Split Pivot points

¹⁰ Perhaps recognizing this problem with its argument, Split Pivot asks the court to construe only the words “a link selected from the group,” stating that construction of the word “mounted” is “unnecessary” and that “[i]f the words ‘mounted to’ are left out of the language being construed, the claim, as written, will not preclude the shock absorber from being connected to just one of ‘a brake link, a control link, and a wheel link’ at a first end and also being connected at its second end to some other structure, including one of the remaining two enumerated links.” (Pl.’s Resp. (dkt. #153) 43). Split Pivot offers no authority for the proposition that the court can or should selectively construe only a portion of a claim’s language in order to alter that claim’s construction, nor does the court find a good reason to do so -- particularly since interpreting claim language requires reading the claim term “not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent.” *Phillips*, 415 F.3d at 1313.

to another statement in the specification, which reads, “In certain embodiments, a shock absorber is mounted to a brake link and/or a control link in a pivotal manner.” (‘212 patent, 2:34-36.) The use of “and,” Split Pivot contends, would make clear to a person of ordinary skill in the art that a shock absorber could be mounted to more than one link. Even if the court were to take this as true, “[s]pecifications teach. Claims claim.” *Oak Tech., Inc. v. Int’l Trade Comm’n*, 248 F.3d 1316, 1329 (Fed. Cir. 2001). The language chosen by the patentee is closed language, and just as the court cannot read limitations from the specification into the claims, neither can it *broaden* the claims beyond the language used in them based on a disclosure in the specification that does not fall within that claim. *See Autogiro Co. of Am.*, 384 F.2d at 396 (“Courts can neither broaden nor narrow the claims to give the patentee something different than what he has set forth.”).

Had Split Pivot wished, it could have claimed a shock absorber mounted to “at least one link selected from the group.” Split Pivot’s failure to qualify its claim, however, has limited the invention to systems in which the shock absorber is mounted to one of the three listed links, each of which are usable in the alternative. The court declines to read out that language.

Contrary to Split Pivot’s selective quotation, the specification is also generally consistent with a narrow interpretation of this element. While the description of “Shock Absorbers of Suspension Systems of the Invention” is silent as to where the shock absorber is mounted (‘212 patent, 13:9-31), none of the drawings in the ‘212 patent features a suspension system in which the shock absorber is mounted to both the control link and the brake link, such that the narrow construction would exclude “preferred embodiments” or run afoul of general rules of claims construction in some other way. Rather, in figures 1 and

3, the shock absorber is mounted to the brake link on one side and the frame on the other; in figures 2, 4, 5 and 6, the shock absorber is mounted to the control link on one side and the frame on the other. The detailed description confirms this understanding. (See ‘212 patent, 5:18-20 (“The shock absorber 12 is mounted to the frame 11 via a second shock pivot 9.”); 6:12-14 (same).) The court cannot read that limitation into the claims, *see Golight, Inc.*, 355 F.3d at 1331, but in this case, the limitation is “imposed by the claim language itself, and the written description simply confirms this understanding.”¹¹ *Oak Tech., Inc.*, 248 F.3d at 1328-29.

Finally, Split Pivot proffers expert testimony to demonstrate that a person of ordinary skill in the art would read the claim language to allow for the shock absorber to be mounted on two links from the list. Such testimony, as extrinsic evidence, is less helpful in claims construction than the intrinsic evidence of the claim language, the specification and the prosecution history. *Phillips*, 415 F.3d at 1317. Thus, it must be considered in the context of the intrinsic evidence to be reliable. *Id.* at 1319.

Split Pivot’s expert, Tony Foale, opined in his expert report that “[a] person of ordinary skill in the art . . . would have known that a shock absorber has two mounting

¹¹ It is true that the ‘301 patent is a continuation in part of the ‘212 patent, and the ‘301 patent discloses one embodiment in which the shock absorber is mounted to the wheel link and the control link. (See ‘301 patent, Figure 11.) Generally, identical or indisputably interchangeable claim terms that share a common ancestry should be construed consistently. *See AbTox, Inc. v. Exitron Corp.*, 131 F.3d 1009, 1010 (Fed. Cir. 1997). The court is aware of no case law suggesting that the claims of a *parent* patent should be construed in light of the drawings of the *child* continuation-in-part, particularly since continuations in part allow for the addition of new matter. Because claims with common ancestry should generally be construed consistently, and because the language surrounding the Mounting Element is identical between the ‘212 and ‘301 patents, the court concludes that the embodiment disclosed in Figure 11 is an embodiment “disclosed but not claimed.” *Johnson & Johnson Assocs. Inc. v. R.E. Serv. Co. Inc.*, 285 F.3d 1046, 1051 (Fed. Cir. 2002).

points and thus of necessity it must be mounted to two components.” (Foale Report (dkt. #111) ¶ 75.) While this may be true, Foale himself admits that it *could* be mounted either to another link or to the bicycle’s frame. (*Id.*) Given that the specification only describes embodiments and includes drawings in which the shock absorber is mounted to one link and to the frame, Foale’s assertion that a person of ordinary skill in the art would have read “a link” to read “one or more links” is unconvincing. Stated another way, while the court does not quarrel with Foale’s assertion that a person of ordinary skill in the art would know that a shock absorber needs two mounting points, there is no indication that such a person would read this language, in light of the specification and the Federal Circuit’s construction of a Markush Group, to claim not only configurations wherein the shock absorber was mounted to one link and the frame, but also configurations wherein the shock absorber was mounted to two links.

Therefore, the court construes the Mounting Element “wherein said shock absorber is mounted to a link selected from the group consisting of a brake link, a control link, and a wheel link” to mean “wherein said shock absorber is mounted to one, and only one, link selected from the group consisting of a brake link, a control link, and a wheel link.”

ii. The Shock Absorber Element

The parties offer the following construction of the element “wherein said shock absorber is selected from the group consisting of a compression gas spring, a leaf spring, a coil spring, and a fluid”:

Split Pivot	Trek
“wherein said shock absorber consists of	“wherein said shock absorber consists of

one, or more, of a compression gas spring, leaf spring, a coil spring, and a fluid”	one, and only one, of the following: a compression gas spring, a leaf spring, a coil spring, and a fluid”
-------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------

A version of this element also appears in the ‘301 patent and reads, “wherein said shock absorber is selected from the group consisting of a damper, a compression gas spring, a leaf spring, a coil spring, and a fluid.” The parties’ proposed constructions of this version of the term do not materially differ from the ‘212 patent version: Split Pivot asks the court to construe the language to encompass one or more of the listed elements; Trek argues that Split Pivot should be limited to one, and only one, of the elements listed.

Split Pivot’s argument differs in one material respect, however, contending that the plain and ordinary meaning of the term “shock absorber” necessarily encompasses *both* a spring and a damper, and that it cannot be held to a narrower meaning without “specific expressions of manifest exclusion or restriction.” (Pl.’s Resp. (dkt. #153) 57.) As support, Split Pivot again proffers the testimony of its expert, Foale, who opined that “[a]t the time of the invention, a person of ordinary skill in the art would have understood a shock absorber to necessarily include a springing medium like a gas spring or a coil spring, and a fluid for damping. . . . Considering the colloquial language of the art, it is inconceivable that anyone of ordinary skill in the art would assume that describing a shock absorber by its springing method only would mean that it was without a fluid damping system. Such a construction would render the Trek version of a shock absorber something other than a shock absorber.” (Expert Report of Tony Foale (dkt. #111) ¶ 69.) Split Pivot argues that the specification makes clear that the patents intended to claim the plain and ordinary meaning of “shock absorber,” rather than an embodiment that contains just one of the

listed elements and thus falls outside that scope. (See '212 patent, 18:53-19:7 (listing items that may comprise a "motion control device" of the invented suspension system).)

Trek does not dispute that "combination" shock absorbers -- those made from both a spring and a fluid damper -- were "well known in the art" at the time of the patent application was made. (Def.'s Reply (dkt. #176) 19.) Additionally, Trek "agrees that the recitation in the specifications of the patents in suit of a general 'shock absorber,' could refer to such a combination shock absorber." (*Id.*) Trek relies instead on the rules governing the use of Markush group language to argue that -- even assuming combination shock absorbers were well-known in the art -- the patents exclude combination shock absorbers from what is claimed.

As above with the Mounting Element, Split Pivot has claimed a classic Markush group. Per *Abbott Laboratories*, this means that it has claimed suspension systems wherein the shock absorber is made from one and only one of the listed equivalents, any one of which would be "alternatively usable" for the purposes of the claimed suspension system. Without express language allowing for combinations of the elements listed to accomplish that same function, the plain language of the claims simply does not encompass combination shock absorbers.

Even the specification lists the claimed elements in alternative form: the summary of the invention states that "[a] shock absorber, in certain embodiments, may be a damper, a spring, a compression gas spring, a leaf spring, a coil spring, or a fluid." ('212 patent, 2:28-30.) The description of "Shock Absorbers of Suspension Systems of the Invention" likewise employs the disjunctive. (See '212 patent, 13:13-15.) "The disjunctive 'or' plainly designates that a series describes alternatives." *SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d

1187, 1199 (Fed. Cir. 2013) (citing *Kustom Signals, Inc. v. Applied Concepts, Inc.*, 264 F.3d 1326, 1331 (Fed. Cir. 2001)).

Additionally, the prosecution history suggests a narrower interpretation may be appropriate. Initially, the patents claimed only a “shock absorber”; the Shock Absorber Element was not present in any of the claims. (*See* ‘212 file history (dkt. #158-29) SP 0000163-172.) The claims were allowed in this state, subject to certain amendments that did not include the Shock Absorber Element. (*See id.* at SP 0000181-185.) Thereafter, the applicant submitted his own amendments adding the Shock Absorber Element to each independent claim, using the Markush group format. (*See id.* at SP 0000199-208.) In his remarks, the applicant indicated that the claims were “amended to more particularly point out and more distinctly claim the subject invention.” (*Id.* at SP 0000209.) While this is not an instance in which the applicant necessarily amended claims to avoid a rejection, he at the least intentionally restricted the scope of his invention and intended only to claim systems including a shock absorber selected from that particular group -- despite the presence of a far broader list of possible “motion control devices” in the specification.¹² (*See* ‘212 patent, 18:53-19:7.)

The court’s decision to adopt Trek’s construction of the Markush group terms with respect to shock absorbers may seem unduly restrictive, particularly in light of Trek’s

¹² The court notes that the specification at one point states that “[a] suspension system of the current invention, in certain embodiments, comprises a shock absorber, or two, three, four, five or more shock absorbers.” (‘212 patent, 13:11-13.) Given the court’s construction of “shock absorber” as one, and only one, of the listed elements, the specification would seem to support arrangements in which the presence of both a single “shock absorber” (for example, a spring) *and* a second “shock absorber” (for example, a fluid) would not defeat infringement. Split Pivot does not, however, make this argument. Perhaps more importantly, crediting this interpretation would provide a “back door” around the closed Markush group language that the patentee actually chose.

concession that combination shock absorbers are well-known in the art. But such a restrictive interpretation is in keeping with the “severely closed nature” of the language chosen by the patentee, which has been described as a “trap for the unwary drafter.” 3 Donald S. Chisum, *Chisum on Patents* § 8.06[2], at 8-488 (2010). As the law currently stands, *Abbott Laboratories* states that without express language claiming combinations of Markush group members, a patentee has claimed embodiments featuring one, and only one, member. The applicant made the decision to employ this language, and the court will not and cannot read it out of these claims.

D. Force “Transmitted Through Said Brake Link”

The parties also dispute the proper construction of the limitation, present in all asserted claims of the ‘212 patent and in claim 37 of the ‘301 patent, that the force that compresses the shock absorber be “transmitted through” the brake link (“the Transmission Element”).¹³ The parties offer the following constructions:

Split Pivot	Trek
“the force that compresses said shock absorber is transmitted directly or indirectly through said brake link”	“the force that compresses said shock absorber is provided by the brake link to the shock absorber”

The court agrees with Split Pivot that the ordinary meaning of the word “transmit” is not limited to *direct* transmissions. The word does not itself require that any transmission of force be direct, and even Trek admits that, at least in *some* contexts, “transmit” “could

¹³ The wording of this limitation differs very slightly between claims 1 and 22, which state that “force that compresses said shock absorber is transmitted through said brake link,” and claim 43, which states that “force is transmitted to said shock absorber through the brake link.” For the most part, the parties treat this language the same across all three claims. To the extent they do attempt to draw a distinction, that will be discussed in this section.

include an indirect transmission.” (Def.’s Reply (dkt. #176) 23.) While Trek does qualify this concession by arguing that “transmit” is ambiguous when read alone and that “in some contexts it requires a direct transmission,” (Def.’s Reply (dkt. #176) 23), Trek offers no support for its narrow plain-meaning construction and no reason why such a limited definition would be appropriate in this case. As Split Pivot points out, a patentee “is free to choose a broad term and expect to obtain the full scope of its plain and ordinary meaning unless the patentee explicitly redefines the term or disavows its full scope.” *Thorner v. Sony Computer Entertainment Am., LLC*, 669 F.3d 1362, 1367 (Fed. Cir. 2012). Given the broad meaning of the term “transmit,” the court finds Split Pivot’s construction better reflects the plain meaning of the language as read by a person of ordinary skill in the art.¹⁴

Certainly, as Trek points out, a person of ordinary skill in the art is “deemed to read the claim term . . . in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313. The court finds, however, that the specification actually provides further support for *Split Pivot’s* construction of the Transmission Element. For instance, the description of Figure 1 uses variations of the term “transmit” to refer to *indirect* transmissions. (E.g., ‘212 Patent, 5:5-8 (“[T]he brake link 2 will transmit force to the frame 11 *via the control link 3 and wheel link 1*. Force is transmitted through the links *via the link fixed and floating pivots 4, 5, 6, and 7.*”).) If the meaning of the word “transmit” was limited to *direct* transmissions, then it would be impossible for the brake link to “transmit” force to the frame *via* other components. These descriptions are not limited to Figure 1; the description

¹⁴ Indeed, the Federal Circuit has previously construed the word “transmit” in the context of satellites, finding that because “[n]either the claim language nor the patent specification requires that the . . . transmission be direct,” the term was properly construed as “encompassing . . . ‘transmitting, whether direct or indirect.’” *SiRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319, 1330 (Fed. Cir. 2010).

of Figure 2 likewise states that “the brake link 2 will transmit force to the frame 11 *via the control link 3 and wheel link 1.*” (‘212 Patent, 5:66-6:1.) Far from “explicitly redefin[ing] the term” or “disavow[ing] its full scope,” Split Pivot has used the term through the specification in a manner consistent with the ordinary, broad definition of the word “transmit.” *See Autogiro Co. of Am. v. United States*, 384 F.2d 391, 397 (Ct. Cl. 1967) (“[T]he specification aids in ascertaining the scope and meaning of the language employed in the claims inasmuch as words must be used in the same way in both the claims and the specification.”).

Trek finds support for its narrow construction of the Transmission Element from a different portion of the specification, which states that “[i]n certain embodiments, a shock absorber is mounted to a brake link and/or a control link in a pivotal manner, and preferably so that a force that compresses or extends the shock absorber is transmitted through a brake link *or* a control link.” (‘212 patent, 2:34-38) (emphasis added). Trek emphasizes the word “or” as indicating that the patent discloses just two possibilities: one in which the shock absorber is *directly* connected to the brake link and another in which it is *directly* connected to the control link. Trek further argues that Figure 3 embodies the first possibility, with the brake link directly connected to the shock absorber, and that Figure 4 embodies the second possibility, with a control link directly connected to the shock absorber. To read otherwise, Trek contends, would destroy the difference between the two embodiments, since *both* possibilities would have a brake link that “transmits” force to the shock absorber (Figure 3 directly, and Figure 4 indirectly). The word “or” would thus be rendered meaningless.

One flaw in Trek’s argument is that the descriptions in Figures 3 and 4 (or Figures 1 and 2, on which they are based) have no limiting language indicating that *only* Figure 3 has a brake link that “transmits” force to the shock absorber and that Figure 4 *lacks* a brake link that “transmits” force to the shock absorber. In fact, as discussed above, the descriptions of Figures 1 and 2 both use the word “transmit” to encompass indirect transmission in other contexts. The court finds further support for this interpretation by the juxtaposition of the broader “transmit,” which allows for transmission via different components, with the description’s other requirement that “[f]orce from the brake will be *transferred directly* into the brake link 2.” (‘212 patent, 5:4-5, 65-66.) Even were the court to ignore this more compelling language in the descriptions, Trek’s construction ultimately proposes to limit the plain meaning of the term “transmit” based on a portion of the specification when, as previously explained, it is axiomatic that “limitations from the specification are not to be read into the claims,” *Golight, Inc.*, 355 F.3d at 1331.

Furthermore, Split Pivot points out that to construe “transmit” to encompass only direct transmission would effectively exclude numerous disclosed embodiments of the invention -- namely, figures 2, 4, 5, and 6, which do not feature a direct connection between the brake link and the shock absorber, but instead include an intervening control link. (Pl.’s Br. in Support of Mot. for Summ. J. (dkt. #114) 17.) Both Split Pivot’s and Trek’s experts agree that Trek’s construction would exclude these embodiments from the scope of the claims.¹⁵ (See Caulfield Report (dkt. #104) 16; Foale Report (dkt. #111) 35.) Courts “normally do not interpret claim terms in a way that excludes disclosed examples in the

¹⁵ All of the claims of the ‘212 patent contain the limitation that force be “transmitted through” the brake link. (See dkt. #133-1.)

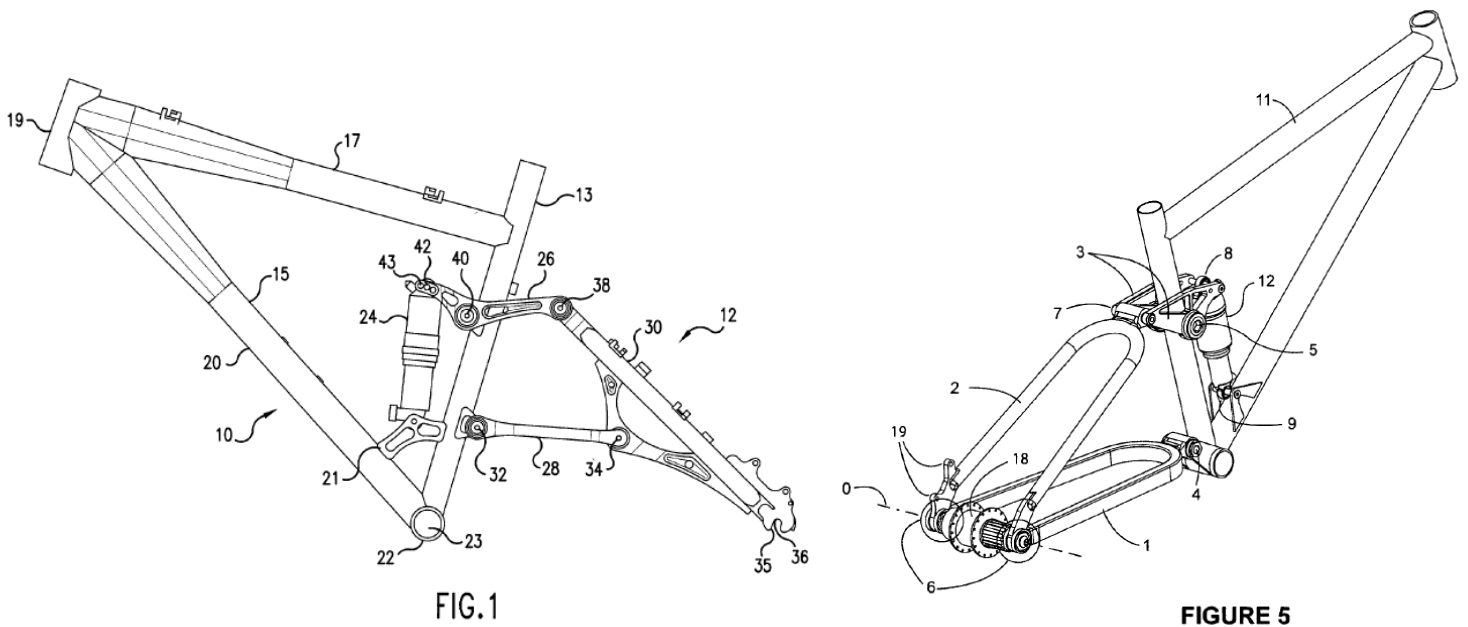
specification.” *ArcelorMittal France v. AK Steel Corp.*, 700 F.3d 1314, 1321 (Fed. Cir. 2012) (quoting *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1305 (Fed. Cir. 2007)). Given the breadth of the term’s ordinary meaning, and the fact that the specification uses the word “transmits” to encompass indirect transmission, the court finds no basis to interpret it in a way that excludes four of the seven disclosed embodiments.

Trek also argues that Weagle disclaimed indirect transmission during the patent’s prosecution. Specifically, Trek notes that the examiner rejected claims over U.S. Patent Publication No. 2003/0038450 (“the Lam reference”) during prosecution of the ‘212 patent, which had a configuration wherein the shock absorber was connected to the control link, rather than directly to the brake link. Trek argues that in thereafter amending his claims to include the requirement that “force that compresses said shock absorber is transmitted through said brake link,” Weagle surrendered any *indirect* transmission of force to the shock absorber.

The prosecution history does not ultimately help Trek. While Trek is correct in that many of the ‘212 patent’s claims were initially rejected over Lam, as Split Pivot points out, following a telephone conference, “[i]t was agreed that the prior art references used in the previous office action [including Lam] do not read on the claims, as the art does not disclose a wheel link floating pivot which is concentric with the wheel rotation axis.” (‘212 file history (dkt. #158-29) SP 0000162.) Thus, it is not at all clear that by accepting the examiner’s eventual amendment to include the Transmission Element in additional claims, Weagle was disavowing embodiments involving an *indirect* transmission of force in order to overcome a rejection over prior art.

In addition, the court actually finds some *support* for Split Pivot’s interpretation in the prosecution history. “[P]rosecution history provides evidence of how the PTO and the inventor understood the patent.” *Phillips*, 415 F.3d at 1317. Here, that history suggests that both the PTO and Weagle understood the element “wherein force is transmitted to said shock absorber through said brake link” to encompass both direct and indirect transmission. For example, as Trek points out, the Lam reference discloses a configuration that is very similar to figures 2 and 4 of the ‘212 patent, involving a brake link attached to a control link, which attaches to a shock absorber.

(Left “Figure 1”: Lam reference; Right “Figure 5”: ‘212 patent)



In his original *rejection* of the '212 patent over Lam, the patent examiner noted that Lam “discloses . . . a control link (26) . . . wherein force is transmitted to the shock absorber through the brake link (via 26).” (‘212 file history (dkt. #158-29) SP 0000153-54.) This strongly suggests that the patent examiner viewed the element requiring the brake link to transmit force to the shock absorber to encompass embodiments in which the transmission was indirect, by means of the intervening control link. While less important than the language and specification, this provides further support for a broad construction of the Transmission Element.

It is not clear to the court whether Trek intends to draw a distinction between the element “force that compresses said shock absorber is transmitted through said brake link,” which appears in claims 1 and 22 of the ‘212 patent, and the slightly simpler “force is transmitted to said shock absorber through the brake link” of claim 43. Indeed, it offers essentially the same construction for both terms. (*See* Def.’s Br. in Support of Summ. J. (dkt. #125) 44 (construing both elements to require force to be “provided by the brake link to the shock absorber”). To the extent that Trek draws a distinction between the two, the court does not. To the simpler formulation of claim 43, claims 1 and 22 simply add the subordinate clause “that compresses said shock absorber,” which further describes the type of force in question. Trek argues that through this addition, Weagle “disclaimed a broader construction of this limitation that would allow for the shock absorber to be compressed by components other than the brake link.” (*Id.* at 47.) This argument fundamentally misinterprets the claim language. The subordinate clause “that compresses said shock absorber” modifies the word “*force*,” not the word “*brake link*.” Thus, the shock absorber

must be compressed by “force,” and that force must be “transmitted through” the brake link. Nothing in that language requires the *brake link itself* to compress the shock absorber.

Thus, based on the plain meaning of “transmits” to a person of ordinary skill in the art and the supporting context of the specification and prosecution history, the court adopts Split Pivot’s proposed construction and construes “transmits” to encompass both direct and indirect transmissions.

E. Leverage Ratio Curve Element

Each asserted claim of the ‘301 patent contains a limitation that is directed toward “leverage ratio curves” achieved by the claimed suspension systems; these limitations are not present in the ‘212 patent claims. Specifically, the claims cover suspension systems wherein the leverage ratio curve “has a negative or a positive slope in the beginning 1/3 (third) [of the leverage ratio curve] and in the end 1/3 (third), and a change in slope value in the middle 1/3 (third).”¹⁶ (‘301 patent, 34:18-21.)

i. “Has a Negative or a Positive Slope”

First, the parties disagree on the correct construction of the phrase “has a negative or a positive slope”:

Split Pivot	Trek
“has a negative and/or a positive slope, and may include a zero slope”	“has only a negative or a positive slope, and does not include both a negative and a positive slope or a zero slope”

¹⁶ The slope of a line, in purely mathematical terms, is the ratio of the projection on the y-axis (vertical) of a segment of a graph to its projection on the x-axis (horizontal); that is, its vertical “rise” over the horizontal “run.”

In support of its construction, Trek argues that the plain meaning of the word “or” does not embrace the meaning of “and”; that is, the claim language covers one possibility or the other, but not both. Thus, even though the specification discloses embodiments in which the beginning one-third and the end one-third of the leverage ratio curve have some combination of negative, positive, and zero slope, the plain language *claims* only embodiments in which the beginning and end thirds have a solely positive or solely negative slope. Trek also argues that Weagle disclaimed embodiments with a zero slope in the beginning or end thirds of the curve during prosecution, which also means he disclaimed any embodiments in which the slope changes from positive to negative or vice versa in those thirds (since a change from positive to negative requires a point at which the slope is zero).

Split Pivot argues that the plain meaning of the word “or” can embrace the possibility of both options, such that “or” means “either or both.” In support for this interpretation, Split Pivot points out that the specification discloses embodiments having both a negative and positive slope in the same one-third of the leverage ratio curve:

In certain embodiments, a beginning $\frac{1}{3}$ can comprise a positive slope, zero slope, and or a negative slope. In certain embodiments, a middle $\frac{1}{3}$ can comprise a positive slope, zero slope, and or a negative slope. In certain embodiments, an end $\frac{1}{3}$ can comprise a positive slope, zero slope, and or a negative slope. . . . Certain preferred embodiments can comprise a beginning $\frac{1}{3}$ with a positive and negative slope, a middle $\frac{1}{3}$ with negative and zero slope, and an end $\frac{1}{3}$ with a positive slope. Certain preferred embodiments can comprise a beginning $\frac{1}{3}$ with a positive and negative slope, a middle $\frac{1}{3}$ with negative and zero slope, and an end $\frac{1}{3}$ with a more negative slope.

(‘301 patent, 33:31-48.) Thus, read in context, Split Pivot contends that the claim language contemplates curves with any combination of negative, positive and zero slopes in the beginning and end thirds. Split Pivot also argues that since there is no “clear and

unmistakable” disavowal of claim scope in the prosecution history, the claim language must be construed broadly.

As both *Split Pivot* and *Trek* recognize, the specification discloses embodiments in which the beginning and end thirds of the leverage ratio curve are not limited to either positive or negative slopes. “[A] claim construction that would exclude the preferred embodiment ‘is rarely, if ever, correct and would require highly persuasive evidentiary support.’” *Rexnord Corp.*, 274 F.3d at 1342 (quoting *Vitronics Corp. v. Conception, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)). Such a construction may nevertheless be correct if the unambiguous language of a claim that was amended to overcome a rejection compels an interpretation that excludes the preferred embodiment. *See Elekta Instrument S.A. v. O.U.R. Scientific Intern., Inc.*, 214 F.3d 1302, 1308 (Fed. Cir. 2000).

Here, as *Trek* points out, *Split Pivot* originally submitted claims that stated the disputed element as:

...wherein said leverage ratio is exemplified as a curve, said curve having a slope. and said slope in a beginning 1/3 selected from the group consisting of a positive slope, a zero slope, and a negative slope, said slope in a middle 1/3 selected from the group consisting of a positive slope, a zero slope, and a negative slope, and said slope in an end 1/3 selected from the group consisting of a positive slope, a zero slope, and a negative slope.

(‘301 patent file history (dkt. #158-32) SP 0000497.)

The examiner rejected the claims containing this element over *Miyakoshi*, noting:

It is well-known in the art that the shock absorber force at the wheel is related to the shock absorber force multiplied by the leverage ratio. Accordingly, any graph can be broken down into three equal parts and, because lines on a graph *must have a positive, negative, or zero slope*, the *Miyakoshi* reads in each of the selected groups provided for in claims 98, 106 and 114.

(‘301 patent file history (dkt. #158-32) SP 0000512.) Thereafter, Split Pivot submitted amended claims in which the original language was replaced by the current language, which requires the first and last thirds of the curve to have “a negative or a positive slope.” (See ‘301 patent file history (dkt. #158-32) SP 0000525-0000549.)

Based on the foregoing exchange, Trek argues, prosecution history estoppel precludes Split Pivot from claiming suspension systems with curves that have a zero slope in the first and last thirds -- and thus precludes Split Pivot from claiming curves with a *change* from negative to positive or vice versa in the first and last thirds as well, since such a change requires the curve to have a zero slope at some point.

Prosecution history estoppel “requires that the claims of a patent be interpreted in light of the proceedings in the PTO during the application process.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 733 (2002). When a claim has been rejected, that rejection indicates that the patent examiner did not believe it could be patented in its original form. *Id.* at 734. “While the patentee has the right to appeal, his decision to forgo an appeal and submit an amended claim is taken as a concession that the invention as patented does not reach as far as the original claim.” *Id.*

Here, the court agrees with Trek that, having chosen to amend the claims to remove the possibility of a zero slope in the curve’s first and last thirds to overcome the examiner’s rejection, Split Pivot cannot now claim embodiments that may *include* a zero slope in the curve’s first and last thirds. Moreover, because a line in which the slope changes from positive to negative or negative to positive has a zero slope at the point of change, Split Pivot conceded by amendment to limit its claims to only those suspension systems with

leverage ratio curves that have *only* a positive or negative slope in the first and last thirds.¹⁷ While recognizing that constructions excluding preferred embodiments are disfavored, this appears that “rare case” where Split Pivot’s decision to amend its claims compels such an interpretation. *Cf. Elekta Instrument S.A.*, 214 F.3d at 1308 (adopting construction that excluded the “preferred and only embodiment disclosed in the specification” where prosecution history made clear that applicant had changed claim language to overcome obviousness rejection).

Split Pivot’s *only* argument against a finding of prosecution history estoppel with respect to this amendment is that the ‘301 patent does not include “clear and unmistakable” language disavowing claim scope. *Plantronics, Inc. v. Aliph, Inc.*, 724 F.3d 1343, 1350 (Fed. Cir. 2013). Split Pivot’s apparent contention that Trek must point to particular *language*, however, is misplaced. Even the case Split Pivot cites does not require particular language for prosecution history estoppel to apply. *See id.* (“[W]hen the patentee unequivocally and unambiguously disavows a certain meaning to obtain a patent, the doctrine of prosecution history disclaimer narrows the meaning of the claim consistent with the scope of the claim surrendered.”). Here, the court finds that Split Pivot’s decision to amend its claim language to remove the *possibility* of a zero slope is unmistakably an effort to overcome the examiner’s rejection, which was predicated on a finding that all lines must have either a positive, negative or zero slope.¹⁸

¹⁷ Mathematically, it is certainly possible for a line to change from positive to negative slope (or vice versa) without the line having a zero slope at any point. The parties have agreed here (perhaps as a practical matter given the curves in question) that it is impossible to have both a positive and negative slope without going through a zero slope. (*See Reply to DPFOF* (dkt. #177) ¶ 154.)

¹⁸ The fact that the remarks that accompanied the amendments state that they are made

Additionally, the court finds additional support for Trek’s construction in the realm of common sense. Split Pivot asks the court to read “a negative or a positive slope” as “negative, positive and/or zero.” As the examiner initially pointed out, under this construction, all leverage ratio curves, without exception, would meet this “limitation,” since lines can *only* have some combination of positive, negative and zero slope. (See Expert Report of Edward M. Caulfield (dkt. #139) ¶ 59 (“[T]he patent specification describes the full set of potential leverage ratio curves achievable in *any* suspension.” (emphasis added).) Split Pivot’s construction would therefore render the limitation “meaninglessly empty.” *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F.3d 1572, 1578. In this sense, Split Pivot’s argument “proves too much,” *id.*, or, at least, Split Pivot was willing to concede as much rather than fight this examiner’s reasoning on this point. Split Pivot must now accept the consequences of that choice. Accordingly, the court adopts Trek’s construction.

ii. “Change in Slope Value”

The parties also disagree on the proper construction of “change in slope value,” which the ‘301 patent requires in the middle third of the leverage ratio curve of a suspension system:

Split Pivot	Trek
“change in the slope of a curve plotted on a Cartesian graph where slope is the change in Y value divided by the change in X value	“change between positive, negative, or zero slope”

“[w]ithout acquiescing in the rejections or the grounds therefor, and solely to expedite prosecution” (‘301 patent prosecution history (dkt. #158-32) SP 0000549), does not change the court’s analysis. If overcoming prosecution history estoppel were as simple as including such boilerplate language with each amendment, the doctrine would be eviscerated.

over an identical and correlating small incremental wheel travel distance”	
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Trek argues that one of ordinary skill in the art would understand the term “slope value” to refer to a positive, negative or zero slope. It points out that the leverage ratio curve limitations describe only two potential “values” for the first and last thirds of the curve: positive and negative. Thus, a person of ordinary skill in the art would understand that the “change in slope value” in the middle third meant a change between those two values -- that is, a change from positive to negative slope, or vice versa.

Split Pivot argues that Trek’s construction “confuses the concepts of slope sign and slope steepness.” (Pl.’s Resp. (dkt. #153) 69.) By slope *value*, is meant to refer to the calculated magnitude or steepness (i.e., the rise over the run) of the curve’s slope, and supports its proposed construction by pointing out that the specification describes an embodiment in which the middle third of the curve has “a less positive slope” (‘301 patent, 33:38), and that another embodiment describes a curve whose end third has a “more negative slope” (‘301 patent, 33:47-48). If slope value meant slope *sign*, Split Pivot contends, then there could be no such thing as a “less positive” or “more negative” slope.

Read in the context of the full patent, the court agrees with Trek that in the context of the ‘301 patent, a person of ordinary skill in the art would read “change in slope value” to refer to a change in slope sign, rather than any mathematical change at all in the steepness of the slope. The context provided by the dependent claims supports this construction. For instance, asserted independent claim 29 uses the general language requiring a “negative or a positive slope” in the beginning and end thirds of the curve, with

a “change in slope value” in the middle third. Claim 35, which depends from claim 29 and adds an additional leverage curve limitation, reads:

The suspension system of claim 29, wherein said leverage ratio curve of said suspension system has a negative slope in the beginning $\frac{1}{3}$ (third) and a positive slope in the end $\frac{1}{3}$ (third), and a change in slope value in the middle $\frac{1}{3}$ (third).

(‘301 patent, 37:48-51.) Claim 36, which also depends from claim 29 and is the only other one of claim 29’s dependent claims to add a leverage curve limitation, reads:

The suspension system of claim 29, wherein said leverage ratio curve of said suspension system has a positive slope in the beginning $\frac{1}{3}$ (third) and a negative slope in the end $\frac{1}{3}$ (third), and a change in slope value in the middle $\frac{1}{3}$ (third).

(‘301 patent, 37:52-55.) This context suggests that the “change in slope value” refers to the change from negative to positive, in claim 35, and positive to negative, in claim 36. Claim 37, another asserted independent claim, provides the same context: dependent claim 44 specifies a negative-to-positive leverage curve, and dependent claim 45 specifies a positive-to-negative leverage curve. (See ‘301 patent, 38:35-42.) In fact, all of the claims follow this same pattern. (See, e.g., ‘301 patent, 39:33-40; 40:34-41; 41:20-27; 42:14-21, 57-64; 44:12-19.) Read in context, “change in slope value” appears to mean a change in the slope sign, rather than any possible change in slope.

Still, as Split Pivot points out, the specification refers to embodiments in which the *slope* of a leverage ratio curve is “less positive” or “more negative.” The specification does not, however, state that the slope *value* is “less positive” or “more negative.” Indeed, as Trek points out, the term “slope value” does not appear in the specification at all. It is therefore reasonable that a person of ordinary skill in the art, reading the entirety of the patent, would understand that “slope,” as the result of a mathematical calculation, can be “less

positive” or “more negative,” but that a “change in slope value” means a change from positive to negative or vice versa. The court, therefore, adopts Trek’s construction of this element.

III. Infringement and Non-Infringement

“Infringement, whether literal or under the doctrine of equivalents, is a question of fact.” *Absolute Software, Inc. v. Stealth Signal, Inc.*, 659 F.3d 1121, 1129-30 (Fed. Cir. 2011) (citing *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998)). As plaintiff, Split Pivot bears the burden of proving infringement by a preponderance of the evidence. *Laitram Corp. v. Rexnord Inc.*, 939 F.2d 1533, 1535 (Fed. Cir. 1991). An infringement analysis involves two steps. First, the claim must be properly construed, as per the standards set forth above, to determine its scope and meaning. Second, the claim as properly construed must be compared to the accused device or process. *Absolute Software, Inc.*, 659 F.3d at 1129.

“Literal infringement requires that each and every limitation set forth in a claim appear in an accused product.” *V-Formation, Inc. v. Benetton Grp. SpA*, 401 F.3d 1307, 1312 (Fed. Cir. 2005). “If any claim limitation is absent from the accused device, there is no literal infringement as a matter of law.” *Bayer AG v. Elan Pharm. Research Corp.*, 212 F.3d 1241, 1247 (Fed. Cir. 2000).

A product that does not literally infringe may nevertheless infringe a patent under the doctrine of equivalents. “Infringement under the doctrine of equivalents requires that the accused product contain each limitation of the claim *or* its equivalent.” *AquaTex Indus., Inc. v. Techniche Solutions*, 419 F.3d 1374, 1382 (Fed. Cir. 2005) (emphasis added). “An

element of an accused product is equivalent to a claim limitation if the differences between the two are insubstantial, a question that turns on whether the element of the accused product ‘performs substantially the same function in substantially the same way to obtain the same result’ as the claim limitation.” *Absolute Software, Inc.*, 659 F.3d at 1139-40 (quoting *AquaTex Indus., Inc.*, 419 F.3d at 1382).

As previously noted, both literal infringement and infringement under the doctrine of equivalents are questions of fact. *Id.* at 1129-30. Summary judgment may nevertheless be appropriate “when no reasonable jury could find that every limitation recited in a properly construed claim either is or is not found in the accused device either literally or under the doctrine of equivalents.” *U.S. Philips Corp. v. Iwasaki Elec. Co.*, 505 F.3d 1371, 1374-75 (Fed. Cir. 2007) (quoting *PC Connector Solutions LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1364 (Fed. Cir. 2005)).

A. The ‘212 Patent

Split Pivot has moved for summary judgment on claim 22 of the ‘212 patent only. (Joint Summ. J. Charts (dkt. #190).) The accused products are the Trek Fuel EX and Superfly 100 bicycles. (*Id.*) Trek has moved for summary judgment of non-infringement on all asserted claims for all asserted Trek products. (*Id.*)

i. Literal Infringement

Literal infringement requires that each element of a claim be literally present in the accused product. If any element is missing, then Trek is entitled to summary judgment of no literal infringement as to that claim as a matter of law.

Based on this court's foregoing claims construction and the undisputed facts, neither the Fuel EX bicycles nor the Superfly 100 bicycles, to which Split Pivot's motion is limited, can literally infringe claim 22 of the '212 patent. The Fuel EX bicycles, which fall into the category of Full Floater products, indisputably have a shock absorber that is mounted to two links -- the control link and the wheel link -- as opposed to a shock absorber mounted to a single link selected from the listed Markush group. (*See* Reply to DPFOF (dkt. #178) ¶ 122.) Under this court's construction of the term, no reasonable jury could find that the Fuel EX bicycles literally include this element. Likewise, though the Superfly 100 bicycles do not have Full Floater, they cannot literally infringe because they have Fox RP2, Fox RP23, Fox RP3 or Fox CTD shocks, which are "air springs with internal fluid dampers." (Expert Report of Edward M. Caulfield (dkt. #139) ¶¶ 222.) Split Pivot's expert also states, more generally, that "[a]ll accused Trek models use shock absorbers which use either compressed gas or metal coil springs for the springing medium built around a body containing a fluid damper." (Expert Report of Tony Foale (dkt. #111) ¶ 275.) The parties thus agree that the shock absorbers on the Superfly 100 bicycles contain a combination of the elements in the patent's Markush group. Since the construction this court has adopted does not allow for combinations, the Superfly 100 bicycles cannot literally infringe claim 22.

In fact, given this court's construction of the Shock Absorber Element, and the fact that *all* Trek bicycles employ shock absorbers that feature a combination of a spring and fluid damper, Trek is entitled to summary judgment of no literal infringement on claims 1, 22 and 43, and all their asserted dependent claims, since all of these claims require a shock

absorber “selected from the group consisting of a compression gas spring, a leaf spring, a coil spring, and a fluid.”

ii. Infringement under Doctrine of Equivalents

Split Pivot also asserts that the Fuel EX products and the Superfly 100 products infringe the ‘212 patent under the doctrine of equivalents. Under the doctrine of equivalents, a product may infringe a patent even if not every limitation is literally present. The question is “whether an omitted part is supplied by an equivalent device or instrumentality.” *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349, 1356 (Fed. Cir. 2012) (quoting *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 32 (1997)). Under one test, a device is “equivalent” when it “matches the function, way, and result of the claimed element.” *Id.* (quoting *Warner-Jenkinson*, 520 U.S. at 40). Alternatively, a device may be “equivalent” when the differences between the claimed element and that device are “insubstantial.” *Warner-Jenkinson*, 520 U.S. at 40. “If no reasonable jury could find equivalence, then the court must grant summary judgment of no infringement under the doctrine of equivalents.” *Id.*

Taking the Mounting Element first, Split Pivot relies on the function-way-result test and argues that “it is easily possible to achieve the same suspension performance as Trek alleges to possess in its ‘fully floating’ designs with a non-‘fully floating’ design.” Foale, Split Pivot’s expert, opined in his report that “for a given wheel displacement[,] the shock absorber displacement will be greater” when a shock absorber is fixed to the frame, rather than being mounted to two links in a “fully floating” design. (Expert Report of Tony Foale (dkt. #111) ¶ 198.) Foale went on to “create a non-floating design that gives suspension

characteristics that are for all practical purposes identical to the Trek floating designs” by (1) altering the 2013 Trek Fuel EX and 2012 Session, (2) changing the distance on the control link between the pivot and shock absorber mounting and (3) using a cloning feature to select a mounting location on the frame. (*Id.* at ¶¶ 197, 199.) The result of that redesign yields motion ratio curves that closely track one another.¹⁹ (*See id.* Exh. X.) In essence, Split Pivot’s argument is that Trek’s Full Floater bicycles could achieve the same practical results with a non-Full Floater arrangement, if other features of their design were altered.

As Trek points out, however, “[t]he relevant question for this Court is not whether an infringing bike if redesigned could resemble Trek’s bike. It is whether Trek’s bike as designed performs the same function, in the same way, to achieve the same results as the limitation in claim 22.” (Def.’s Resp. (dkt. #149) 39.) Split Pivot has not proposed any facts suggesting that Trek’s Full Floater bicycles, with shock absorbers mounted to two links, achieve substantially the same results in substantially the same way as the suspension system *of the claimed invention*. Furthermore, Split Pivot’s argument focuses entirely on the *results* the suspension system would yield: “[t]he fact that the two devices achieve substantially the same result creates no presumption that they do so in substantially the same way.” *Universal Gym Equip. v. ERWA Exercise Equip.*, 827 F.2d 1542, 1548 (Fed. Cir. 1987). Split Pivot has proposed no facts that establish the way in which Full Floater products achieve those results, nor has it argued that the way Full Floater products achieve results is substantially the same as the way the bicycles of the claimed invention do. (*See* Pl.’s Mot. Summ. J. (dkt. #114) 28-29; Pl.’s Resp. (dkt. #153) 49-50; PPF (dkt. #171) ¶¶ 68-71.)

¹⁹ “Motion ratio” is another term for “leverage ratio.” (‘301 Patent, 18:63-67.)

Summary judgment is the “put up or shut up’ moment in a lawsuit, when a party must show what evidence it has that would convince a trier of fact to accept its version of events.” *Koszola v. Bd. of Educ. of City of Chi.*, 385 F.3d 1104, 1111 (7th Cir. 2004). Here, Split Pivot has generally alleged infringement on the basis of the doctrine of equivalents but has proposed *no* facts demonstrating that Trek’s Full Floater arrangement achieves substantially the same results *in substantially the same way* as the suspension systems of the claimed invention. The only evidence offered is Foale’s expert report, which contains only Foale’s assertion that he could theoretically alter a Trek bicycle to yield the same suspension performance even without Full Floater.

Split Pivot has, therefore, “fail[ed] to make a showing sufficient to establish the existence of an element essential to [its] case, and on which [Split Pivot would] bear the burden of proof at trial.” *Celotex Corp. v. Catrett*, 477 U.S. 317, 322 (1986). This “complete failure of proof” means that Trek is “entitled to a judgment as a matter of law.” Accordingly, the court will therefore grant summary judgment of non-infringement for Trek on all Full Floater products, because no reasonable jury could find on the evidence provided that a shock absorber mounted to two links infringes the requirement of claims 1 and 22 of the ‘212 patent in the same way as one mounted to a single link selected from the Markush group.²⁰

Next, the court considers whether, as Split Pivot contends, Trek’s products infringe the Shock Absorber Element under the doctrine of equivalents. Split Pivot again relies on

²⁰ Even if Split Pivot had provided evidence of the similarities in the way Trek’s shock absorbers are configured to that taught in the ‘212 patent, the court would be disinclined to stretch the doctrine of equivalents to reach beyond the obvious differences in a field so full of patents differentiated principally by the way essentially the same function is achieved.

Foale's report, in which he states that "[e]ach of the accused Trek models include[s] a shock absorber that provides both a spring force to absorb impact and facilitate suspension movement, and a damping capability to dissipate suspension movement or oscillation."

(Expert Report of Tony Foale (dkt. #111) ¶ 213.) Foale goes on to state:

By employing a gas spring or coil spring, in combination with a damping capability, the shock absorbers used on Trek's accused Evo-Link equipped bike models perform the same function, i.e., absorbing impact[s], supporting a load, and maintaining contact between the tyre and the ground), in the [same] way, i.e., through a combination of spring force and damping capabilities, to achieve the same result, i.e., impact absorption, load support and suspension facilitation, as the shock absorber claimed in claims 1, 22, and 43[,] which is made up of an element or elements from the group of compression gas springs, leaf springs, coil springs, and fluids.

(*Id.*; see also *id.* at ¶ 236 (incorporating by reference the above opinion in analyzing the non-Evo Link bicycles).)

Foale's report, and thus Split Pivot's argument, suffers from a critical flaw: Foale assumes, for the purposes of his doctrine of equivalents analysis, that Split Pivot's patents claim an invention in which a shock absorber may have "an element or *elements* from the group of compression gas springs, leaf springs, coil springs, and fluids." (*Id.* at ¶ 213.) His analysis distinguishes between the role of the spring and the role of the fluid dampener and states that Trek, in employing the two *in combination*, achieves the same thing in the same way as the shock absorber of the claims. The problem is that this court has construed the Shock Absorber Element to cover *only* embodiments in which the shock absorber is just *one* of the listed elements -- that is, either a spring *or* a fluid, but not both. Split Pivot has offered no evidence that Trek's bicycles include shock absorbers that achieve substantially the same results in substantially the same way as the single-element shock absorbers that its

patents claim. Indeed, Foale’s report, with its emphasis on the *combination* of a spring and dampener to achieve the desired results, establishes the opposite is true.

Split Pivot has again neither produced any evidence suggesting that the difference between combination shock absorbers and single-element shock absorbers is “insubstantial,” nor that they would accomplish substantially the same function in substantially the same way to achieve substantially the same result. To the contrary, the only evidence it has offered on that question suggests that combination shock absorbers make use of *both* elements in combination to achieve their function, which would make a single-element shock absorber *significantly* different. Given the dearth of evidence suggesting that the shock absorbers are not substantially different, the court finds that no reasonable jury could find equivalence on this record. Because *all* the asserted claims of the ‘212 patent include this element, and none of Trek’s products includes either the literal element or an equivalent, Trek is entitled to summary judgment of non-infringement on every asserted claim. *See Kustom Signals, Inc.*, 264 F.3d at 1333 (“The all-elements rule is that an accused device must contain every claimed element of the invention or the equivalent of every claimed element.”).²¹

B. The ‘301 Patent

Trek also moves for summary judgment of non-infringement on the ‘301 patent. Generally, identical or indisputably interchangeable terms in patents that share common ancestry should be construed consistently across the patents. *See AbTox, Inc. v. Exitron Corp.*,

²¹ The court need not, therefore, reach the questions of whether Trek’s products include, as properly construed, a “wheel link floating pivot,” a brake link that “passes on two sides of a frame member,” and force “transmitted through” the brake link.

131 F.3d 1009, 1010 (Fed. Cir. 1997) (“Although these claims have since issued in separate patents, it would be improper to construe this term differently in one patent than another, given their common ancestry.”). While there can be exceptions, neither party has suggested it would be proper to construe any of the identical terms the ‘212 and ‘301 patents share differently across the two patents, and so the court will construe them consistently with one another. As a result, Trek is entitled to summary judgment of non-infringement based on the fact that its products do not infringe the Shock Absorber Element either literally or under the doctrine of equivalents.

Additionally, as the court noted above, the element “and wherein a leverage ratio curve of said suspension system has a negative or a positive slope in the beginning 1/3 (third) and in the end 1/3 (third), and a change in slope value in the middle 1/3 (third),” which is present in each of the asserted claims of the ‘301 patent, excludes bicycles with suspension systems that have a zero slope in the first or last third of the leverage ratio curve. Similarly, bicycles that do not feature a change from negative to positive or positive to negative in the middle third of the leverage ratio curve would be excluded from this element of the asserted ‘301 claims.

The parties’ experts have produced leverage ratio curves for Trek’s accused bicycles that are nearly identical to one another, such that the infringement analysis under Trek’s proposed construction is the same using either Caulfield’s curve or Foale’s curve. (*See* Expert Report of Edward M. Caulfield (dkt. #139) ¶¶ 69-70.) Foale’s calculations appear in chart form, as organized by Split Pivot, below:

	First Third	Middle Third	Last Third
EX 2010	Negative	-0.0053 to -0.0035	Negative
EX 5 2010	Negative	-0.0050 to -0.0033	Negative
EX 7 2010	Negative	-0.0053 to -0.0035	Negative
EX 8-9.9 2010	Negative	-0.0043 to -0.0025	Both
EX 2013	Negative	-0.0029 to -0.0017	Both
EX 4 2013	Negative	-0.0055 to -0.0039	Negative
Top Fuel 8 2010	Negative	-0.0021 to -0.00034	Both
Session 2010	Negative	-0.0048 to -0.0036	Negative
Session 2012	Both	-0.0040 to -0.0029	Both
Session 88 2011	Both	-0.0042 to -0.0033	Both
Lush 2012	Negative	-0.0041 to -0.0022	Both
Lush 2013 29	Negative	-0.0042 to -0.0034	Negative
Remedy 2010	Negative	-0.0039 to -0.0019	Both
Scratch 2010	Both	-0.0032 to -0.0020	Both
Scratch Air 2010	Both	-0.0021 to -0.0011	Both
Slash 2012	Negative	-0.0038 to -0.0024	Both
Superfly 100 2010	Both	-0.00053 to -0.0040	Negative
Superfly 100 2013	Both	-0.0023 to -0.0028	Both
HiFi 2010	Both	-0.00056 to -0.0049	Negative
Rumblefish 2010	Both	-0.00028 to -0.0038	Negative
Rumblefish 2012	Both	-0.00046 to -0.0038	Negative

Roscoe 2009/10	Positive	0.00073 to -0.0019	Both
Roscoe 2012	Both	-0.0012 to -0.0023	Negative

Of the accused products, therefore, only the 2010 Roscoe meets the limitations as construed.²² The EX 8-9.9 2010, EX 2013, Top Fuel 8 2010, Session 2012, Session 88 2911, Lush 2012, Remedy 2010, Scratch 2010, Scratch Air 2010, Slash 2012, Superfly 100 2010, Superfly 100 2013, HiFi 2010, Rumblefish 2010, Rumblefish 2012 and Roscoe 2012 all include negative, positive and zero slopes within the first and/or last thirds of the leverage ratio curve of the suspension system. Of those remaining, the EX 2010, EX 5 2010, EX 7 2010, EX 4 2013, Session 2010 and Lush 2013 29 all fail to include a “change in slope value” in the middle third of the leverage ratio curve.

The Leverage Ratio Curve Element also appears in every allegedly infringed claim of the ‘301 patent. Split Pivot’s only argument regarding those claims was dependent on this court adopting its construction of that element. Since the court has in fact adopted Trek’s construction, none of the accused Trek products can literally infringe the ‘301 patent as a matter of law, with the possible exception of the 2010 Roscoe. Thus, subject to that exception, Trek is entitled to summary judgment on these grounds as well.²³

²² Trek appears to have conceded that the 2010 Roscoe contains the Leverage Ratio Curve Element under the court’s (and its own) construction. The court is not clear as to why this is, given that the chart lists the Roscoe 2009/10 as having both a positive and negative slope in the final third of the leverage ratio curve, which would necessitate a zero slope when the curve changes from positive to negative or negative to positive. The court will, however, defer to the parties on this question.

²³ Split Pivot does not argue that the Trek products have the leverage ratio curve element under the doctrine of equivalents.

IV. Invalidity and Willful Infringement

Patents are presumed to be valid. 35 U.S.C. § 282. Invalidity of the patent or any claim in suit may, however, be raised as a defense in an action involving patent infringement. *Id.* “[A] moving party seeking to invalidate a patent at summary judgment must submit such clear and convincing evidence of facts underlying invalidity that no reasonable jury could find otherwise.” *TriMed, Inc. v. Stryker Corp.*, 608 F.3d 1333, 1340 (Fed. Cir. 2010); *see also Microsoft Corp. v. i4i Ltd. P’ship*, 131 S. Ct. 2238, 2251 (2011) (reaffirming the “clear and convincing” standard of proof”).

Trek has moved for summary judgment on the basis of invalidity for various claims of the ‘212 patent based on insufficient written description, pursuant to 35 U.S.C. § 112. Trek also argues that the asserted claims of the ‘301 patent are invalid as anticipated by Trek’s own 2008 Trek Fuel EX under 35 U.S.C. § 102. The Court of Appeals for the Federal Circuit has held that a district court has the discretion to dismiss invalidity counterclaims upon a grant of summary judgment of non-infringement. *Phonometrics, Inc. v. Northern Telecom Inc.*, 133 F.3d 1459, 1468 (Fed. Cir. 1998); *Cardinal Chemical Co. v. Morton Int’l, Inc.*, 508 U.S. 83, 95 (1993) (in addressing motion for declaratory judgment district court has discretion to decide whether to exercise jurisdiction even when established). Exercising this discretion is particularly appropriate when non-infringement is clear and invalidity is not plainly evident. *Phonometrics, Inc.*, 133 F.3d at 1468 (citing *Leesona Corp. v. United States*, 530 F.2d 896, 906 n.9 (Ct. Cl. 1976)).

Here, the court has found as a matter of law that Trek has not infringed any of the asserted claims of the ‘212 and ‘301 patents. Accordingly, the court will exercise its discretion to dismiss Trek’s invalidity counterclaims without prejudice at this time.

Finally, Trek also seeks summary judgment as to Split Pivot’s claim of *willful* infringement. Under 35 U.S.C. § 284, a court may increase the damages assessed for infringement by “up to three times the amount found or assessed.” Though the statute itself does not provide any standard for awarding such enhanced damages, the Federal Circuit has held that “an award of enhanced damages requires a showing of willful infringement.” *In re Seagate Tech., LLC*, 497 F.3d 1360, 1368 (Fed. Cir. 2007). To establish willful infringement, “a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent.” *Id.* at 1371. Since willful infringement requires an underlying finding of infringement, Trek is also entitled to summary judgment on Split Pivot’s claim of willful infringement.

Accordingly,

ORDER

IT IS ORDERED that:

- 1) plaintiff Split Pivot’s motion for summary judgment of infringement (dkt. #113) is DENIED;
- 2) defendant Trek’s motion for summary judgment of non-infringement and no willful infringement (dkt. #124) is GRANTED;
- 3) defendant Trek’s motion for summary judgment of invalidation (dkt. #124) is DENIED and Trek’s invalidity counterclaims are DISMISSED without prejudice; and

4) the parties' stipulation for dismissal of counts 3 and 4 of the first amended complaint (dkt. #199) is GRANTED and the clerk of court shall enter judgment as set forth above and close the case.

Entered this 13th day of December, 2013.

BY THE COURT:

/s/

WILLIAM M. CONLEY
District Judge