UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

LIFT-U, A DIVISION OF HOGAN MFG., INC., a California corporation, Plaintiff, v. RICON CORP., a California corporation, and WESTINGHOUSE AIR BRAKE TECHNOLOGIES CORPORATION dba VAPOR BUS INTERNATIONAL, a Delaware corporation, Defendants.	Case No.: 10-CV-01850-LHK ORDER CONSTRUING DISPUTED CLAIM TERMS

Plaintiff Lift-U, Inc. ("Lift-U") filed suit against Defendants Ricon Corp. and Westinghouse Air Brake Technologies ("Defendants"), alleging infringement of four patents. The parties now seek construction of ten disputed terms used in the claims of the patents. The Court held a tutorial on September 19, 2011, and a claim construction hearing on September 23, 2011. The Court has reviewed the claims, specifications, and other relevant evidence, and considered the briefing and arguments of the parties. The Court now construes the terms at issue.

I. Background

Lift-U designs, develops, manufactures and sells, among other things, fold-out ramps that facilitate handicapped access to public buses. One of Lift-U's products, the "Fold Out Plus," generally lies stowed against the bus floor and is flipped outward through the bus doorway to deploy, similar to a flip-top cellular phone. Such ramps are very stable when stowed or deployed, because gravity holds the flippable portion of the ramp in place. When the ramp is flipped between

these two positions, gravity first pulls the ramp towards its starting position, making the flipping hard to start. Midway through the flip, the ramp becomes momentarily balanced, before tipping past its center of gravity and being pulled towards its final, post-flip position.

The invention at issue makes flipping the ramp easier, by providing a "counterbalance" force that pushes against gravity. *See* '433 col. 1:40-53; 2:7-10; 10:15-47; 12:65-13:8. The counterbalance force is provided by a spring or springs. These springs are rigged so that when the ramp is vertical, balanced at its center of gravity, they do not push the ramp in either direction. *Id.* In contrast, as the ramp tips towards a horizontal position – stowed or deployed – the springs become compressed and push back against the force of gravity. *Id.*

The ramp counterbalance invention is claimed in a family of four patents assigned to Lift-U:, a parent, United States Patent No. 7,681,272 ("the '272 patent"), and three continuations, United States Patent Nos. 7,533,432 ("the '432 patent"), 7,533,433 ("the '433 patent"), and 7,533,434 ("the '434 patent") (collectively, "patents-in-suit"). These patents share a common specification. This specification describes an embodiment in which each spring is held between two spring fittings with a rigid rod extending through the spring's center (forming a "spring assembly"). *See* '433 Patent col. 11:16-54. Each end of the rigid rod is attached to one end of a drive chain. *See id.* col. 11:16-22. Drive chain segments and the spring assemblies are linked in a series to form an "endless loop," and the ramp is attached to this loop, so that movement of the ramp moves the loop. *See id.* col. 11:11-15; 12:23-41. A rigid paddle structure sticks into the path of the endless loop. *See id.* col. 12:1-4. The drive chain slides through a hole in this structure, but the spring fitting cannot. *See id.* col. 12:3-10. When the spring fitting catches against this immobile "end stop" (a "restraint"), the spring begins compressing, creating a backwards force away from the end stop. *See id.* col. 12:41-65. This backwards force pushes against the drive chain and against the forces of gravity pulling the ramp. *See id.* col. 12:54-65. Because the drive chain is narrow, it does not push against the spring directly, and the force from the spring does not push back directly against the drive chain. Instead, the actual compressing of the spring towards the restraint is done by a wider "cylindrical bushing" (a "biasing element") attached to the drive chain. *See id.* col. 11:34-46; 12:41-53. Certain claims, including claims 10 and 17 of the '433

Patent, achieve the same effect by permanently fixing one spring end to the restraint (rather than to the spring fitting), while leaving the biasing element free until it moves into contact with the free end of the spring and initiates compression. *See id.* col. 19:14-32; 20:11-32.

Lift-U filed for reexamination of the patents-in-suit, after emergence of a prior art reference, the Wittwer Patent, which raised a substantial new question of patentability. *See, e.g.*, Invalidity Mot., ECF No. , Ex. 11 (Request for Reexamination of the '433 Patent). Each patent was amended during reexamination, and the USPTO issued a Certificate of Reexamination for each patent. *See* Lift-U Claim Construction Br., Exs. I-L (Ex Parte Reexamination Certificates for the Patents in Suit).

The case is currently before the Court for construction of the following ten terms:

(1) "spring";

(2) "compression spring";

(3) "biasing element";

(4) "biasing assembly";

(5) "endless loop";

(6) "coupler";

(7) "force transmission element";

(8) "line;"

(9) "restraint"; and

(10) "spring fitting."

II. Legal Standard

Claim construction is a question of law to be determined by the Court. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff'd* 517 U.S. 370 (1996). "Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316 (Fed. Cir. 2005) (quoting *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998)). Accordingly, a claim should be

construed in a manner that "stays true to the claim language and most naturally aligns with the patent's description of the invention." *Id.*

In construing disputed terms, the Court looks first to the claims themselves. "It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude.'" *Id.* at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). Generally, the words of a claim should be given their "ordinary and customary meaning," which is "the meaning that the term[s] would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1312-13. In some instances, the ordinary meaning to a person of skill in the art is clear, and claim construction may involve "little more than the application of the widely accepted meaning of commonly understood words." *Id.* at 1314. In many cases, however, the meaning of a term to a person skilled in the art will not be readily apparent, and the Court must look to other sources to determine the meaning of the term. *Id.*

The meaning of a term may be illuminated by the context in which it is used in an asserted claim, or by usage of the term in related claims. *Id.* Importantly, however, "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* at 1313. Accordingly, claims "must be read in view of the specification, of which they are a part." *Id.* at 1315 (quoting *Markman*, 52 F.3d at 979). Indeed, the specification is "always highly relevant" and "the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). At the same time, the Federal Circuit has cautioned against limiting claims to the specific embodiments of the invention. *Phillips*, 415 F.3d at 1323. A court "should also consider the patent's prosecution history, if it is in evidence." *Id.* (quoting *Markman*, 52 F.3d at 980).

In addition to such intrinsic evidence, a court may rely on extrinsic evidence, such as dictionaries and treatises, to shed light on the claimed technology. *Phillips*, 415 F.3d at 1317. However, such evidence is considered "less significant than the intrinsic record" and "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id.* at 1317-18

(quotation marks and citation omitted). Ultimately, while extrinsic evidence may be useful in claim construction, "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.

III. Discussion

As a preliminary matter, the parties agree that a person of ordinary skill in the art is a mechanical engineer with a four year bachelor's degree in engineering and some design experience relating to ramp and counterbalance mechanisms and knowledge of common machine elements.

A. "Spring" and "compression spring"

The terms "spring" and "compression spring" are used throughout the patents-in-suit. The parties propose to define the term spring as follows:

Term	Lift-U's Proposed Construction	Defendants' Proposed Construction
"spring"	"An elastic element that stores mechanical energy, providing a force in response to a deflection from its rest position"	"A helical spring in the form of coiled wire"
"compression spring"	"A 'spring' as defined above, in which the 'deflection' is a 'decrease in length from its rest position.'"	"A helical compression spring in the form of a coiled wire."

Although the parties identify both "spring" and "compression springs" as disputed terms, their briefing focuses more on the word "spring." Indeed, Defendants' proposed construction of compression spring merely adds the word "compression" to its proposed definition of "spring," apparently conceding that the meaning of the term "compression" is commonly understood by those skilled in the art.

Defendants urge the Court to construe "spring" to mean "a helical spring in the form of coiled wire." Lift-U, on the other hand, argues that its proposed definition of "spring" represents the ordinary and customary meaning as understood by mechanical engineers and others skilled in the art. Lift-U argues that Defendants seek a restrictive definition that improperly imports limitations of the preferred embodiment into the claims of the patents-in-suit. At the heart of this dispute is whether the term "spring" includes "gas springs."

1. Evidence from the Specification.

The diagrams in the specification show only a simple helical coiled wire spring having uniform coil diameter and coil pitch. The specification also discloses other coiled wire spring options, which can alter the relationship between spring compression and force.

The specification briefly discloses that gas systems are possible, but does not appear to classify these systems as springs. The key language of the specification is found in the '433 Patent:

> The springs 104 of the counterbalance assembly 100 are preferably selected to minimize the difference between the force supplied by the springs 104 and the force required to counteract the moment M_W as the ramp portion 60 reciprocates between a stowed position and a deployed position. For linear springs, the spring stiffness can be selected such that the linear increase in spring resistance is a best fit of the sinusoidal increase of the moment M_F. As a result, the difference between M_W and M_F is minimized. In other embodiments, non-linear springs are used so that the resistance supplied by the spring increases at a non-linear rate, allowing the spring resistance to match more closely the force required to resist the moment M_F as the ramp portion 60 reciprocates between a stowed position and a deployed position. Non-linear springs are known in the art. For example, a spring formed with a variable coil pitch will exhibit non-linear properties. It should be understood that various known spring configurations providing linear or non-linear reactive force can be included in the counterbalance assembly 100 without departing from the spirit and scope of the present invention. In addition, alternate systems can be used to provide a resistive force, such as *pneumatic systems*, hydraulic systems, and other systems known in the art.

Id. col. 13:9-31 (emphasis added). This passage explains that various spring types can be used to precisely counterbalance the moving ramp as its center of gravity shifts. These spring types appear to be strictly helical wire constructs. The only specific example of a non-linear spring given is one having "variable coil pitch." More significantly, "pneumatic [gas] systems" and other mechanisms for providing resistive force are described as "alternate systems" rather than as springs, and are discussed separately from, and "in addition" to, the "various known spring configurations [that] can be included."

Nevertheless, the Court finds that this ambiguous language does not "demonstrate a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction." *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1381 (Fed. Cir. 2009). Lift-U clearly contemplated that "alternative systems" could be used in its invention and it does not explicitly state that these systems are not springs.

The Court agrees with Lift-U that Defendants' cited cases suggesting that limitations from the specification can be imported into the claims are inapposite. In *Nystrom v. Trex Co.*, 424 F.3d 1136 (Fed. Cir. 2005), "board" was construed to refer only to wood products because the specification framed the invention as an improvement to wooden decking technology and because in both the specification and prosecution history, the patentee consistently used the term "board" in reference to wood products. The springs in the '433 specification, by contrast, are framed as improving extendable wheelchair ramp technology by counterbalancing the ramp, and the specification and prosecution history both refer to spring types beyond the scope of Defendants' proposed construction. In *ICU Med., Inc. v. Alaris Med. Sys., Inc.*, 558 F.3d 1368 (Fed. Cir. 2009), the term "spike" was construed to require "a pointed tip for piercing" rather than merely a "projection," because a spike was necessary to accomplish the functional "piercing" limitation implicit in the invention. The function of the '433 Patent's springs is to generate a counterbalancing force as they are compressed between the restraint and the biasing element. This function does not require a helical coiled wire spring, as proposed by the Defendants' construction. In *Hologic, Inc. v. SenoRx, Inc.*, 639 F.3d 1329 (Fed. Cir. 2011), the Federal Circuit reasoned that the term "asymmetrically" has no meaning without an external point of reference, and looked to the specification to identify the necessary reference point only because the claims were silent. In contrast, a person having ordinary skill in the art would not find the term spring meaningless in the absence of an additional "coiled-wire helix" limitation imported from the specification.

Thus, the specification does not support Defendants' proposed construction of "spring" or "compression spring."

2. Evidence from the Prosecution History.

Defendants argue that Lift-U disclaimed gas springs during the prosecution history. During the prosecution of the '433 Patent, Lift-U distinguished certain prior art references by explaining that:

> The following references disclose various ramp configurations that include dynamic breaking or "float down" features that use hydraulic actuators, electric motors, or *gas filled struts* to control the descent of the ramp as it is deployed. To the extent that these dynamic breaking or "float down" features do not utilize springs or

> provide counterbalancing forces in the manner of the claimed invention, the references are not believed to be material to the patentability of the claimed subject matter. . . .

Allen Decl., Ex. F at USPTO 1217 (emphasis added). Defendants argue that certain of these distinguished prior art references include devices such as "gas filled struts" that would fit Lift-U's definition of a spring. Lift-U's inventor admitted this, at least with respect to one reference (the Gibbs Patent). *See* Ex. 5, Johnson Dep. 173:14-19. However, Lift-U distinguished the gas strut references on the grounds that the gas struts did not provide a counterbalancing force rather than on the grounds that gas struts are not "springs." *See id.* at 173:25-174:1. In fact, immediately after stating that the Gibbs Patent discloses a gas spring, Lift-U's inventor stated that this gas spring is not "counterbalancing." *Id.* Although the parties do not define "counterbalancing," the declaration of the '433 Patent's inventor explains that counterbalancing does not merely slow the ramp's descent, but also helps to lift the ramp back into place. *See* Johnson Decl. ¶ 4.G. In sum, the plain language of Lift-U's alleged disavowal fails to unambiguously disclaim *all* gas struts that act as springs. Even assuming there was any disavowal, only non-counterbalancing gas springs would have been disclaimed.

Of the distinguished set of references discussed above, Defendants also discuss paragraph 31 of the Weils Patent, as translated from the German by Google Translate. Lift-U objects to the use of Google Translate as hearsay and notes that the PTO did not have access to the translation when reaching its decision. *See Lift-U Claim Construction Reply* at 7, n.5. The purported translation discloses a possible counterbalancing gas spring. *See* Defendants' Claim Construction Response, Ex. 8 ("the gas pressure spring 28 is relaxed or tense, with the effort both for lowering and tilting the platform in the high 13 is reduced"). Regardless of the admissibility of this evidence, the existence of a possibly counterbalancing gas spring in one of the distinguished references does not transform Lift-U's statement distinguishing the references on other grounds into "a clear and unmistakable disavowal" of counterbalancing gas springs. *Purdue v. Pharma L.P v. Endo Pharms., Inc.*, 438 F.3d 1123, 1136 (Fed. Cir. 2006).

Defendants also argue that the USPTO allowed the '433 Patent to issue over the Suzuki prior art because the '433 spring is not restrained at one end and free at a second end, like the

Suzuki spring is. Resp. 11 (citing '433 Patent Reasons for Allowance, Ex. 10, at 2). In fact, the very claims at issue in this case involve fixing one end of the spring to the restraint and allowing the other end to move freely. *See* '433 Patent 19:20-30; 20:15-26 (claims 10 (b)(ii),(iii), 17 (b)(ii),(iii)).

Thus, the prosecution history does not lend any further support to Defendants' construction of the term "spring."

Furthermore, some prosecution history supports Lift-U's proposed construction. For example, the Johnson Declaration lists all the springs disclosed by prior art references cited during prosecution of the patents-in-suit. *See* Johnson Decl., Ex. A. During prosecution, Lift-U clearly referred to elements in these references as "springs", and some of these "springs" are not coiled wire helices. For example, several references described "torsion rods" as springs, while others refer to "leaf springs." *See, e.g.*, Johnson Decl., Ex. A, at 3 (torsion rod), 8 (leaf spring); *see also* Johnson Decl. ¶ 4.D. These references to other types of springs strongly contradict Defendants' proposed construction, which would limit springs to only coiled wire helices. Although leaf springs and torsion rods do not appear to include "pneumatic systems" or "hydraulic systems," the intrinsic evidence makes clear that Defendants' proposed construction is inaccurately narrow because it excludes torsion rods and leaf springs.

3. Extrinsic Evidence.

Lift-U notes that Defendants themselves describe the ER-6 ramp as including "a compression spring (mechanical or pneumatic)" in an international patent application and that Defendants' internal memos describe the ER-7's "gas struts" as "springs." *See* Lift-U Claim Construction Reply at 6. Although this extrinsic evidence post-dates Lift-U's patent applications by two years, Defendants' engineers' description of compression springs as pneumatic is consistent with Lift-U's inventor's testimony that "pneumatic springs" are alternatively referred to as "gas springs" and can be compressed. Johnson Decl. in Support of Opp'n to Invalidity Mot., ECF No. 64 (Johnson Decl.) ¶ 4.E. Defendants' engineers' description of "compression springs" as "pneumatic" contradicts the declaration of Defendants' expert, Mr. Smith, which stated that pneumatic systems do not include springs at all, let alone compression springs. *See* Invalidity Mot.

12 (citing Ex. 3 (Smith Decl.) ¶ 13) ("one of ordinary skill in the art would not understand . . . pneumatic systems as referring to springs at all . . . ."). Therefore, this extrinsic evidence suggests that a person having ordinary skill in the art would generally have viewed "springs" as including "gas springs." Furthermore, Defendants claim that they undertook to design the ER-7 specifically to minimize the risk of infringement litigation over the patents-in-suit. *See* Ricon Motion for Summary Judgment of Noninfringement at 4. Thus, Defendants' engineers should have been cognizant of the meaning of spring as used in the '433 Patent when they referred to the ER-7's gas springs.

The issue before the Court is how a person having ordinary skill in the art would construe "spring" as it is used in the patents-in-suit. *See Phillips*, 415 F.3d at 1313. How the term is used by Defendants' engineers in relation to their own projects is not independently dispositive. However, this extrinsic evidence supports the conclusion that the term "spring" in the patents-in-suit would be understood by persons having ordinary skill in the art to refer to a variety of structures, including torsion rods, leaf springs, and gas springs.

Thus, the Court adopts Lift-U's proposed construction of "spring," "an elastic element that stores mechanical energy, providing a force in response to a deflection from its rest position."

B. "Biasing element" and "biasing assembly"

Term	Lift-U's Construction	Defendants' Construction
"biasing element"	"An element that transmits or maintains force to or from the spring"	"A cylindrical bushing (subject to 35 U.S.C. § 112(6)"
"biasing assembly"	"A group or assembly of elements that transmits or maintains force to or from a spring"	"An assembly of a corresponding inboard and outboard end stops and bushings for compressing a spring disposed there between"

The parties also dispute the meaning of the terms "biasing element" and "biasing assembly." Defendants argue that the term "biasing element" is a functional element governed by 35 U.S.C. § 112 ¶ 6 (2006). *See* Resp. 14. Under § 112 ¶ 6 "[a]n element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover

the corresponding structure, material, or acts described in the specification and equivalents thereof." Defendants reason that even though the claims never explicitly refer to the "biasing element" as a "means," § 112 ¶ 6 applies because the claim does not convey structure sufficient to perform the claimed function. *See* Resp. 14 (citing *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1213-14 (Fed. Cir. 1998)). Thus, Defendants urge the Court to construe "biasing element" to mean "cylindrical bushing," which is the only structure identified in the specification shared by the patents-in-suit that performs the required function.

Lift-U argues that Defendants improperly seek to read the limitations of the specification onto the claim terms and that their proposed construction violates the doctrine of claim differentiation by reading a limitation of dependent claims, not found in independent claims, onto the independent claim. Br. at 16, 17 (citing *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 806 (Fed. Cir. 2007)).

Lift-U urges the Court to construe the closely related term "biasing assembly" as a "group" of biasing elements, i.e., "a group or assembly of elements that transmits or maintains force to or from a spring." Defendants argue that this definition is impermissible and should be limited to the embodiment in the specification, namely "an assembly of a corresponding inboard and outboard end stops and bushings for compressing a spring disposed there between."

For the reasons discussed below, the Court adopts Lift-U's construction of "biasing element" and "biasing assembly."

These terms are used throughout the patents-in-suit. For example, independent Claim 10 of the '433 Patent describes a ramp assembly comprising, among other things, "a **biasing element** engaged with a second end of the compression spring to urge the second end of the compression spring toward the restraint." Claim 12, which is dependent on Claim 10, adds a limitation not found in the independent claim: "The ramp assembly of claim 10, wherein the biasing element is a **bushing** . . . ." *Id.* Under the doctrine of claim differentiation, there is a presumption that limitations added to a term in dependent claims are not to be read into that term as used in independent claims. *Acumed*, 483 F.3d at 806. Thus, Defendants need to find support beyond the

language of the dependent claims to rebut this presumption and convince this Court to adopt its proposed construction of "biasing assembly."

Defendants' argument based on 35 U.S.C. § 112 fails to persuade. When claims such as the ones at issue here do not use the term "means," there is a strong presumption that the claims are not a mean-plus-function claim, subject to 35 U.S.C. §112 ¶ 6. *Depuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1023 (Fed. Cir. 2006). This presumption can be overcome by a showing that "a claim limitation is so devoid of structure that the drafter constructively engaged in means-plus-function claiming." *Inventio AG v. ThyssenKrupp Elevator Americas Corp.*, 2011 WL 2342744, at *6 (Fed. Cir. June 15, 2011). Certain terms, including "element" rarely convey sufficiently definite structure. *Massachusetts Institute of Tech. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006). However, a court may consider other intrinsic and extrinsic evidence, including the written description, when determining, "if a challenger has rebutted the presumption that a claim limitation that lacks the term 'means' connotes sufficiently definite structure to those of skill in the art." *Inventio*, 2011 WL 2342744, at *6.

Here, the term "biasing element" is not used in the claims without corresponding structural information, and thus does not implicate Section 112(6). *Depuy Spine*, 469 F.3d at 1023. For example, claim 10 of the '433 Patent recites "a biasing element engaged with a second end of the compression spring . . . the biasing element being disengaged from the second end of the compression spring . . ." Because this information describes the positioning and movement of the biasing element relative to other key structural elements of the claimed invention, Section 112(6) is inapplicable. *See Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1584 (Fed. Cir. 1996) (holding that Section 112(6) was not implicated even though specification referred to "detent element" as a "detent means," because the claims referred to each of the key structural elements of the invention).

Moreover, the prosecution history undermines Defendants' proposed construction of "biasing element." For example, the Accelerated Examination Support Document filed during prosecution of the '433 Patent identifies a wide variety of prior art biasing elements that are not cylindrical bushings. *See* Lift-U Claim Construction Br. at 19 (listing various prior art biasing

elements identified by the Support Document); Allen Decl., Ex. F (Support Document). For example, the prior art shows that biasing elements can come in the form of a "collar," "a fitting connecting a cable to an extension spring," a "washer," a "key insert," an "arm," a "travelling lug," or a "cross support." *Id.*

Thus, the Court rejects Defendants' proposed construction of biasing element and instead adopts Lift-U's construction, "an element that transmits or maintains force to or from the spring."

Although Defendants do not argue that "biasing assembly" is a means-plus-function term, they again propose a construction that is too narrow. Defendants would limit the biasing assembly to include only cylindrical bushings and end-stop restraints. Defendants do not show any basis for limiting biasing assemblies only to cylindrical bushings or only to end-stops, other than the mere fact that these are the specific embodiments of biasing elements and restraints disclosed in the specification.

Thus, the Court adopts Lift-U's proposed construction of "biasing assembly," "a group or assembly of elements that transmits or maintains force to or from a spring."

C. "Endless loop"/ "coupler"/ "force transmission element"/ "line"

Term	Lift-U's Construction	Defendants' Construction
"endless loop"	"A linear element without ends"	"A continuous loop-shaped drive chain formed of an outboard and inboard chain segment coupled to an upper and lower spring assembly"
"coupler"	"An element that connects"	"A drive assembly that includes a chain assembly and a spring assembly"
"force transmission element"	"An element that transmits or maintains force"	"An interconnected chain and spring assembly"
"line"	"An element having length substantially greater than width"	"An interconnected chain and spring assembly"

The disputed terms "endless loop," "coupler," "force transmission element," and "line" are significant in interpreting independent claims 10 and 17 of the '433 Patent, which were amended

during reexamination. *See* Allen Decl., Ex. K (ex parte reexamination certificate for the '433 Patent). In particular, amended claim 10(c) reads:

> a **coupler** sized and configured to operatively couple the counterbalance to the ramp portion, *the* ***coupler*** *comprising a* ***force transmission element*** *defining an* ***endless loop****, wherein a first portion of the* ***endless loop*** *is in tension to apply a counterbalancing force produced by the counterbalance to the ramp portion when the ramp portion is located between the neutral position and the stowed position, and a second portion of the endless loop is in tension to apply the counterbalancing force produced by the counterbalance to the ramp portion when the ramp position is located between the neutral position and the deployed position.*

Id. col. 2:14-24 (language added during reexamination amendment italicized, disputed claim terms in bold). Amended claim 17 (c) reads:

> a **coupler** disposed between the counterbalance and the ramp portion, the **coupler** comprising a **line** *defining an* ***endless loop*** *and being* operatively coupled to the ramp portion for reciprocating movement between a first direction when the ramp portion moves toward the stowed position and a second direction when the ramp portion moves toward the deployed position.

Id. col. 2:49-55 (language added during reexamination amendment italicized, disputed claim terms in bold).

Lift-U added the "endless loop" limitations to the "coupler" and "line" elements in claims 10 and 17 to distinguish its invention from the Wittwer reference. Wittwer discloses a robotic arm counterbalanced as it moves clockwise when a first "compression spring" is pushed by a first "distribution plate" against a first immobile "compression plate," and counterbalanced as it moves counterclockwise when a second "compression spring" is pushed by a second "distribution plate" against a second immobile "compression plate." *See* Resp., Ex. 11 at R 2400-2402. The distribution plate is thus similar to a "biasing element," and the compression plate similar to a "restraint," as used in the '433 Patent. Thus, the "endless loop" limitation was added to distinguish the '443 invention from Wittwer.

It is undisputed that in the disclosed preferred embodiment, the "endless loop," the "coupler," the "force transmission element," and the "line" are all roughly embodied by the ring of drive chain segments joined in a series with the spring assemblies.

Defendants argue for constructions that narrowly match this embodiment. Thus, Defendants propose constructions in which the "force transmission element" and "line" are

"interconnected chain and spring assembl[ies];" a "coupler" is "a drive assembly that includes a chain assembly and a spring assembly;" and an "endless loop" is "a continuous loop-shaped drive chain" made of linked chains and spring assemblies.

In contrast, Lift-U proposes broader constructions. Thus, Lift-U argues that a "line" is a structure with longer length than width; a "force transmission element" "transmits or maintains force;" a "coupler" "connects;" and an "endless loop" is a structure that is "linear without ends."

Lift-U argues that the claim differentiation doctrine establishes a presumption against Defendants' proposed construction of these terms requiring that a spring always be part of the endless loop. The Court agrees. As discussed above, under the doctrine of claim differentiation, there is a presumption that the limitations added to a term in dependent claims are not to be read into that term as used in independent claims. *Acumed*, 483 F.3d at 806. Here, claim 15 of the '433 Patent, which is dependent on independent claim 10, recites "The ramp assembly of claim 10, wherein the compression spring forms a part of the endless loop." Similarly, claim 19, which is dependent on independent claim 17, recites "The ramp assembly of claim 17, wherein the spring forms a part of the endless loop." The "compression spring" or the "spring" forming a part of the endless loop, is the only limitation added by dependent claims 15 and 19. Under the doctrine of claim differentiation, there is a presumption against reading this limitation onto the terms "endless loop," "coupler," "force transmission element," and "line," as Defendants advocate. Thus, Defendants need to find support beyond the language of the dependent claims to rebut this presumption and convince this Court to adopt its proposed construction of these terms.

Defendants fail to rebut this presumption. In fact, if anything, the prosecution history supports Lift-U's proposed construction of these terms. And, although the text of the specification is consistent with Defendants' proposed construction requiring that these disputed terms be limited to chain-spring assemblies, Defendants fail to point to language in the specification that demonstrates a clear intention to so limit the claim scope.

"Even where the patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expression of manifest exclusion or restriction." *Martek Biosciences Corp. v. Nutrinova,*

Inc., 579 F.3d 1363, 1381 (Fed. Cir. 2009). None of Lift-U's statements during the prosecution history suggests a clear intention to limit the amended claim to the preferred embodiment. To the contrary, the explanations offered to the USPTO on reexamination suggest that the drive chain is simply an example of the disputed terms: the drive chain "forms an endless loop," and the drive chain is a coupler "in that it operatively couples the drive sprocket 84 to the ramp portion 60." *See* Defendants' Claim Construction Response, Ex. 23 at R 2292.[1]

Thus, the Court adopts Lift-U's proposed constructions of "endless loop," "coupler," "force transmission element," and "line."

C. "Restraint"

Term	Lift-U's Construction	Defendants' Construction
"restraint"	"An element that prevents relative movement"	"An end stop that prevents movement in one direction but allows movement in the opposite direction"

Defendants again seek to limit these terms to their specific embodiments described in the specification. There is no basis for such limitation in the text of the specification.

Defendants argue that "restraint" requires an "end stop" that stops movement in one direction, but allows movement in the other. *See* Defendants' Claim Construction Response at 22-23. Under such a construction, Defendants' gas spring, which is pinned into place at one end, could not infringe.

Lift-U urges the Court to construe "restraint" as "an element that prevents relative movement." It argues that Defendants impermissibly seek to import limitations from the specification onto the claims and that Defendants' proposed construction violates the claim differentiation doctrine. Br. 25.

Because the text of the specification does not support Defendants' construction, the Court need not reach Lift-U's other arguments. Even the preferred embodiment does not actually require

[1] The reexamination history reveals little of import with respect to the terms "force transmission element" and "line." The "force transmission element" limitation is not discussed in the reexamination documents filed as evidence by the parties to this litigation, and "line" is referred to only parenthetically in support of amended claim 17. *Id.* at R 2293 ("The drive chain 92, *i.e.*, line, of the '433 patent couples . . . .").

that an end stop allow movement of the entire spring away from the end stop, as Defendants' proposed construction of "restraint" would require. Indeed, the amount of space, if any, that is allowed between the spring and the end stop is described by the specification as a variable, which can be adjusted to modify how the spring's resistance changes as the ramp moves between the stowed and deployed positions. *See* '433 Patent col. 14:4-15:9 ("It should be appreciated that each spring assembly 102, 122 may include a dead space 126 at one end, both ends, or neither end."). Thus, even if it were proper for Defendants to import the limitation of the specification into the claim term, the term "restraint" is not limited "to allow movement in the opposite direction" in the specification.

Accordingly, the Court adopts Lift-U's proposed construction of "restraint" as "an element that prevents relative movement."

E. "Spring Fitting"

Term	Lift-U's Construction	Defendants' Construction
"Spring Fitting"	"An element located at or near one end of a spring, enabling the spring to engage another structure or assembly of structures."	"A flanged bushing sizably fitted to alternately move and restrain the end of a compression spring."

As with the other disputed terms, Defendants propose a narrow construction of the term "spring fitting" that limits the term to that described as part of the preferred embodiment in the specification, namely "a flanged bushing." Lift-U argues that this proposed construction impermissibly seeks to import the limitation of the specification in the claims and violates the claim differentiation doctrine. Br. 26.

Defendants do not challenge Lift-U's claim differentiation argument, nor do they point to any language in the specification that demonstrates "a clear intention to limit the claim scope using words or expression of manifest exclusion or restriction." *Martek Biosciences Corp. v. Nutrinova, Inc.*, 579 F.3d 1363, 1381 (Fed. Cir. 2009). Instead, Defendants argue that the spring fitting must be a flanged bushing, pointing only to a single line in the specification which states, "In the illustrated embodiment, the spring fittings 106A-B are shown as flanged bushings," and the fact that the inventors listed this line as supporting the "spring fitting" limitation. *See* Defendants' Claim Construction Resp. at 25. The quoted sentence does not suggest that this conceptually

simple element was limited in the invention to such a narrow range of structures, particularly not when "flanged bushings" are first mentioned only after almost two full pages of discussion involving the spring fittings. *See* '433 Patent col. 11:26 (first mention of spring fitting 106), col. 14:36-37 (mention of the "flanged bushing" embodiment).

Accordingly, the Court adopts Lift-U's proposed construction, "an element located at or near one end of a spring, enabling the spring to engage another structure or assembly of structures."

IV. Conclusion

For the foregoing reasons, the Court adopts Lift-U's proposed constructions for all of the disputed terms.

IT IS SO ORDERED.

Dated: October 28, 2011

LUCY H. KOH
United States District Judge