

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

REX MEDICAL, L.P.,)	
)	
Plaintiff,)	
)	
v.)	C.A. No. 19-005 (MN)
)	
INTUITIVE SURGICAL, INC.,)	
INTUITIVE SURGICAL OPERATIONS,)	
INC. and INTUITIVE SURGICAL)	
HOLDINGS, LLC,)	
)	
Defendants.)	

MEMORANDUM ORDER

At Wilmington this 5th day of May 2020:

As announced at the hearing on April 24, 2020, IT IS HEREBY ORDERED that the disputed claim terms of U.S. Patent No. 9,439,650 (“the ’650 patent”) are construed as follows:

1. “the beam is configured to engage the first and second jaws one of entirely or substantially from within” shall have its ordinary meaning, with the understanding that “from within” means at least partially within (claim 5);
2. “staple pusher” means “a component that presses against a staple” with the clarification that it need not directly touch the staple (claims 4, 6, 21);
3. “at least one of the lower portion or the upper portion configured to cause the staple pusher to move a staple” means “at least one of the lower portion or the upper portion is designed, constructed or set up to cause the staple pusher to move a staple” (claim 6); and
4. “at least a portion of the first jaw and the second jaw is curved” means “at least a portion of the first jaw and the second jaw forms an arc” with the clarification that the arc need not be along the longitudinal axis (claim 12).

In addition, for the reasons set forth below:

1. “at least one of a gear and a cable operatively coupled to at least one of the first jaw and the second jaw and configured to move at least one of the first jaw and the second jaw from the first configuration to the second

configuration” means “at least one of a gear or a cable operatively coupled to at least one of the first jaw or the second jaw and configured to move at least one of the first jaw or the second jaw from the first configuration to the second configuration” (claim 4);

The parties briefed the issues (*see* D.I. 63), submitted an appendix containing both intrinsic and extrinsic evidence (*see* D.I. 64), including expert declarations¹ (*see id.*, Exhibits D, EE, GG, LL), and provided a tutorial describing the relevant technology² (*see* D.I. 62). The Court carefully reviewed all submissions in connection with the parties’ contentions regarding the disputed claim terms, heard oral argument (*see* D.I. 75), and applied the following legal standards in reaching its decision:

I. LEGAL STANDARDS

A. Claim Construction

“[T]he ultimate question of the proper construction of the patent [is] a question of law,” although subsidiary fact-finding is sometimes necessary. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837-38 (2015). “[T]he words of a claim are generally given their ordinary and customary meaning [which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc) (internal

¹ Plaintiff Rex Medical, L.P. (“Plaintiff” or “Rex”) submitted declarations from Michael Dolgin, Ph.D., owner and principal consultant of M. Dolgin Consulting, a medical technology design and development firm, with 49 years of experience (D.I. 64, Exhibit GG) and Albert Juergens, III, an engineering and patent consultant at OST Corporation with over 35 years of experience (*Id.*, Exhibit LL). Defendants Intuitive Surgical, Inc., Intuitive Surgical Operations, Inc. and Intuitive Surgical Holdings, LLC (collectively, “Defendants” or “Intuitive”) submitted declarations from Robert D. Howe, Ph.D., the Abbott and James Lawrence Professor of Engineering at the Harvard School of Engineering and Applied Sciences. (*Id.*, Exhibits D, EE).

² The above-mentioned tutorial was submitted by Intuitive. Rex did not submit a tutorial.

citations and quotation marks omitted). Although “the claims themselves provide substantial guidance as to the meaning of particular claim terms,” the context of the surrounding words of the claim also must be considered. *Id.* at 1314. “[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Id.* at 1321 (internal quotation marks omitted).

The patent specification “is always highly relevant to the claim construction analysis . . . [as] it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). It is also possible that “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. “Even when the specification describes only a single embodiment, [however,] the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation marks omitted) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)).

In addition to the specification, a court “should also consider the patent’s prosecution history, if it is in evidence.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). The prosecution history, which is “intrinsic evidence, . . . consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent.” *Phillips*, 415 F.3d at 1317. “[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the

invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.*

In some cases, courts “will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva*, 135 S. Ct. at 841. Extrinsic evidence “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. Expert testimony can be useful “to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. Nonetheless, courts must not lose sight of the fact that “expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence.” *Id.* Overall, although extrinsic evidence “may be useful to the court,” it is “less reliable” than intrinsic evidence, and its consideration “is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” *Id.* at 1318-19. Where the intrinsic record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999) (citing *Vitronics*, 90 F.3d at 1583).

B. Indefiniteness

“The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.* competitors of the patent owner, can determine whether or not they infringe.” *All Dental Prodx, LLC v. Advantage Dental Prods., Inc.*,

309 F.3d 774, 779-80 (Fed. Cir. 2002) (citing *Warner-Jenkinson Co. v. Hilton-Davis Chem. Co.*, 520 U.S. 17, 28-29 (1997)). Put another way, “[a] patent holder should know what he owns, and the public should know what he does not.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., Ltd.*, 535 U.S. 722, 731 (2002).

A patent claim is indefinite if, “viewed in light of the specification and prosecution history, [it fails to] inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014). A claim may be indefinite if the patent does not convey with reasonable certainty how to measure a claimed feature. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1341 (Fed. Cir. 2015). But “[i]f such an understanding of how to measure the claimed [feature] was within the scope of knowledge possessed by one of ordinary skill in the art, there is no requirement for the specification to identify a particular measurement technique.” *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1319 (Fed. Cir. 2015).

Like claim construction, definiteness is a question of law, but the Court must sometimes render factual findings based on extrinsic evidence to resolve the ultimate issue of definiteness. *See, e.g., Sonix Tech. Co. v. Publications Int’l, Ltd.*, 844 F.3d 1370, 1376 (Fed. Cir. 2017); *see also Teva*, 135 S. Ct. at 842-43. “Any fact critical to a holding on indefiniteness . . . must be proven by the challenger by clear and convincing evidence.” *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003); *see also Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1338 (Fed. Cir. 2008).

II. THE COURT’S RULING

The Court’s rulings regarding the disputed claim terms of the ’510 patent were announced from the bench at the conclusion of the hearing. The Court’s rulings are as follows:

. . . Thank you for the arguments. I know that the format may have been a little bit challenging, but I appreciate your efforts to direct me to the appropriate slides and exhibits to help me understand the arguments. At issue in this case, we have one patent, U.S. Patent No. 9,439,650.

There are five terms in dispute. I am prepared to rule on four of those disputes today. I will not be issuing a written opinion as to those terms, but I will issue an order stating my rulings and include in that order my construction of the term that I will not be construing now.

I want to emphasize before I announce my decisions that although I am not issuing a written opinion, we have followed a full and thorough process before making the decisions I am about to state. I have read the '650 Patent, the portions of the prosecution history submitted, the expert declarations, and the other materials included in the almost 2000 pages of the joint appendix. Intuitive submitted a tutorial. There was full briefing on each of the disputed terms and there has been argument here today. All of that has been carefully considered.

As an initial matter, I am not going to read into the record my understanding of claim construction law generally and indefiniteness. I have a legal standard section that I have included in earlier opinions, including somewhat recently in *OmegaFlex v. Ward Manufacturing*, Civil Action No. 18-1004. I incorporate that law and adopt it into my ruling today and will also set it out in the order that I issue.

As to the person of ordinary skill in the art, there have not been any arguments suggesting that the definition of that person, or any differences in the parties' proposed definitions of that person, are relevant to claim construction.

The first disputed term is "at least one of a gear and a cable operatively coupled to at least one of the first jaw and the second jaw and configured to move at least one of the first jaw and the second jaw from the first configuration to the second configuration" in claim 4 of the '650 Patent. The parties have raised some new arguments regarding this term that I would like some time to consider. Thus, I will not announce my decision on this term now but will do so in my forthcoming order.

The second disputed term is "the beam is configured to engage the first and second jaws one of entirely or substantially from

therewithin” in claim 5 of the ’650 Patent. Plaintiff asserts that the term should have its plain and ordinary meaning. Defendants assert that the term is indefinite because this language, which is in a dependent claim, covers broader subject matter than the independent claim on which it depends.

More specifically, Defendants argue that the term “from within” in claim 4 means entirely within and thus when dependent claim 5 refers to it being only “substantially within” that makes claim 5 broader than claim 4. Plaintiff counters that “from within” in claim 4 means “at least partially within” and thus dependent claim 5 properly narrows independent claim 4.

For a claim to be held invalid for indefiniteness, there must be clear and convincing evidence.^[3]

Here, claims 4 and 5 use different language – claim 4 simply claims “within” and claim 5 specifies that it must be entirely or substantially within. Thus, when the patentee meant “entirely within” it used that phrase. It did not do so in claim 4.

Moreover, the specification uses “within” multiple times to mean other than entirely within. For example, the “present invention” is described as a system “comprising a flexible endoscope and an operative head.”^[4] In describing Figures 21 and 22, the patent refers to “a system in accord with the present invention positioned within the stomach.”^[5]

The system described (which includes an operative head) is clearly not entirely within the stomach.

The parties refer to different parts of the prosecution history and a related prosecution history to argue about whether “within” meant “entirely within.” Based on the record before me, however, I do not find those parts of the prosecution support Defendants’ construction that “within” means “entirely within.” Indeed, during prosecution, the applicant added the “within” language to claim 24, which became claim 4, and at the same time added the “entirely or substantially within” language to claim 25, which became claim 5,

³ See *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 912 n. 10 (citing *Microsoft Corp. v. i4i Ltd. Partnership*, 564 U.S. 91, 95 (2011)).

⁴ (’650 Patent, 1:54-56).

⁵ (’650 Patent, 3:12-13; 3:15-16).

and the Examiner did not raise any objections regarding definiteness.

Thus, I find that Defendants have not met their burden to show that this term is indefinite at this time. And I will give the term its ordinary meaning, with the understanding that “from within” means at least partially within.

The third term is “staple pusher” in claims 4 and 6 of the ’650 Patent. Plaintiff asserts that the term should have its plain and ordinary meaning, which it asserts is “a component that pushes a staple.” Defendants agree that it should have its plain and ordinary meaning, but assert that that meaning is “a component that presses against a staple.”

During the hearing, the parties agreed to the construction “a component that presses against a staple” with the clarification that it need not directly touch the staple. I will adopt that construction.

The fourth disputed term is “at least one of the lower portion or the upper portion configured to cause the staple pusher to move a staple” in claim 6 of the ’650 Patent. The parties agree that this term should have its plain and ordinary meaning, but disagree as to what that is. Plaintiff asserts that the correct meaning is “at least one of the lower portion or the upper portion designed, constructed or operative to cause the staple pusher to move a staple.” Defendants propose that the term means “at least one of the lower portion or the upper portion is shaped to contact the staple pusher to move a staple.”

The crux of the dispute is whether “configured to cause” requires the lower or upper portion claimed to be “shaped to contact” the staple pusher.

Here, I agree with Plaintiff and will construe the term to mean “at least one of the lower portion or the upper portion is designed, constructed or set up to cause the staple pusher to move a staple.”

This is consistent with the ordinary meaning of the words “configured to cause.” Configure, as defined by dictionaries,^[6]

⁶ (E.g., Merriam Webster, “configuration,” <https://www.merriam-webster.com/dictionary/configuration> (last visited Feb. 19, 2020); Oxford English Dictionary, “configuration,” <https://www.oed.com/view/Entry/38824?redirectedFrom=configuration#eid>, (last visited Apr. 27, 2020)).

means set up for operation especially in a particular way. And the specification of the '650 Patent uses the term consistent with that meaning,^[7] which is broader than shaped and may include other aspects such as, for example, size. Nor do I find support in the intrinsic evidence for Defendants' attempt to read in the word "contact."^[8]

Defendants' arguments are largely based on reading embodiments in the specification or the provisional application into the claims. The Federal Circuit has cautioned against reading in embodiments.^[9] And I will heed that caution.

The final disputed term is "at least a portion of the first jaw and the second jaw is curved" in claim 12 of the '650 Patent.

Again, both parties agree that the term should have its plain and ordinary meaning, but disagree as to what that is. Plaintiff asserts that it means "at least a portion of the first jaw and the second jaw forms an arc." Defendants assert that it means "at least a portion of both jaws form an arc along the length."

The dispute boils down to whether the arced portion must be along the length of the jaw.

Here, I agree with Plaintiff and construe the term to mean "at least a portion of the first jaw and the second jaw forms an arc." And to be clear, that arc need not be along the longitudinal axis.

This construction is consistent with the ordinary meaning of the words of the claim itself – which does not require curvature along any particular axis. And the construction is consistent with how Defendants characterized the meaning of this term in conjunction with the prior art in their petition seeking *inter partes* review of the '650 Patent.^[10] And it does not appear that Plaintiff took issue with that construction in responding to the IPR petition.

⁷ (E.g., '650 Patent, 1:30-33; 1:57-60; and 3:59-62).

⁸ In the provisional application, applicants used the phrase "configured to contact." In the claim at issue, applicants chose to use a different word, i.e., "cause."

⁹ See *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371-72 (Fed. Cir. 2014).

¹⁰ (D.I. 64-19 at 35-36).

Rather than the ordinary meaning, Defendants appear to be asking me to read in embodiments from the specification in which the jaws are curved along the longitudinal axis. As I previously stated, following the guidance of the Federal Circuit, I decline to do so.

As noted, the Court did not construe at the hearing the disputed term “at least one of a gear and a cable operatively coupled to at least one of the first jaw and the second jaw and configured to move at least one of the first jaw and the second jaw from the first configuration to the second configuration.” The Court will construe the term now.

The parties dispute whether the word “and” in the phrase “at least one of . . . and” should be read in the conjunctive (as Defendants propose) or the disjunctive (as Plaintiff proposes). In *SuperGuide*, the Federal Circuit established a presumption that the phrase “at least one of . . . and” means “at least one of each desired criterion.” *SuperGuide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 885 (Fed. Cir. 2004). In other words, *SuperGuide* presumes that the disputed phrase is conjunctive. I find, however, that the *SuperGuide* presumption does not apply here.

The Federal Circuit’s reasoning in *SuperGuide* rested on the fact that “at least one of” modified “a series” of criteria. Specifically, the Court explained:

The phrase “at least one of” *precedes a series of categories* of criteria, and the patentee used the term “and” to separate the categories of criteria, which connotes a conjunctive list. A common treatise on grammar teaches that “an article of a preposition applying to all *the members of the series* must either be used only before the first term or else be repeated before each term.” William Strunk, Jr. & E.B. White, *The Elements of Style* 27 (4th ed. 2000). . . . Applying this grammatical principle here, the phrase “at least one of” modifies each member of the list, i.e., each category in the list.

SuperGuide, 358 F.3d at 886. A “series” of items is understood to be three or more items. *See, e.g.*, *The Chicago Manual of Style* § 6.19 (17th ed. 2017) (explaining use of commas with “items in a series” which denotes “three or more” items).

Here, “at least one of” is not modifying a list of three items, but only two. Where there are only two items, courts have understood the use of “and” to operate as a shorthand for “[A] or [B] or [A and B].” See *Radware*, 2014 WL 1572644, at *7 (“The inventors used ‘at least one of’ hops and latency as a shorthand for hops, or latency, or hops and latency.”); *3rd Eye Surveillance, LLC v. United States*, 140 Fed. Cl. 39, 69 (Fed. Cl. 2018) (stating that the use of “and” in the phrase “at least one of the additional information and the imagery data” is “shorthand for preserving the option that *both* the additional information and imagery data could be used in the security system process” (emphasis added)). “And” operates as a shorthand, because “[u]sing ‘or’ would have required additional words, *e.g.*, ‘or both,’ at the end of the term in order for it to be read properly.” *3rd Eye Surveillance*, 140 Fed. Cl. at 69.

In addition, interpreting the disputed phrase in the conjunctive when there are only two items, as Defendants propose, renders the “at least one of” language preceding the items superfluous. See *Radware*, 2014 WL 1572644, at *7 (“If the inventors had limited their claims to only ‘[A] and [B],’ the phrase ‘at least one of’ would be unnecessary.”); *3rd Eye Surveillance*, 140 Fed. Cl. at 69 (“The defendants’ interpretation also creates a surplusage problem”). “A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.” *Merck & Co., Inc. v. Teva Pharma. USA Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005). Accordingly, I will adopt Plaintiff’s construction.


Even if the *SuperGuide* presumption were applicable, I would find that Plaintiff overcomes the presumption when the phrase “at least one of . . . and” modifies the “first jaw and the second jaw.” It is not uncommon for courts to interpret the disputed phrase in the disjunctive when such an interpretation is necessary to accommodate the specification and preferred embodiments. See *Altera Corp. v. PACT XPP Tech., AG*, C.A. No. 14-cv-02868-JD, 2015 WL 4999952, at *4-5

(N.D. Cal. Aug. 21, 2015) (overcoming the *SuperGuide* presumption because otherwise the summary of the invention “would not describe a single invention claimed” and a disjunctive construction would “read a number of embodiments described in the patent specifications out of the asserted claims”); *Inventio AG v. ThyssenKrupp Elevator Americas Corp.*, C.A. No. 8-874-RGA, 2014 WL 129799, at *3 (D. Del. Apr. 23, 2014) (overcoming the *SuperGuide* presumption because “every embodiment of the claim in the specification uses only one of [A] or [B], not both [A] and [B]”); *SIMO Holdings Inc. v. Hong Kong uCloudlink Network Tech. Ltd.*, 376 F. Supp. 3d 369, 381–82 (S.D.N.Y. 2019) (overcoming the *SuperGuide* presumption because “construing the list as disjunctive rather than conjunctive preserves the embodiments described by the specification”).

Here, Plaintiff overcomes the presumption, because a disjunctive construction is required in order for the plain words of claim 4 to make sense. Indeed, if the disputed phrase were construed as conjunctive when applied to the jaws, that means there could be more than one “first jaw” and more than one “second jaw.” But the words “first” and “second,” by their plain meaning, refer to only one object, because only one object can occupy a “first” or “second” position at a time. *See Merriam-Webster Dictionary*, “first,” <https://unabridged.merriam-webster.com/unabridged/first> (last visited May 1, 2020) (stating that “first” means “being number one in a countable series,” “preceding all others,” or “being in front of all others”).

In addition, there is nothing in the specification that supports an apparatus with more than one set of jaws (where a set is comprised of two jaws). Defendants argue that the specification supports more than one set of jaws in Fig. 2c, when jaws 36a and 36b of the grasping device interact with jaws 40 and 50 of the stapling assembly. (D.I. 63 at 25). But claim 4 does not disclose any elements related to a grasping device. (*See* ’650 patent at 8:4-32). Defendants argue that

multiple jaws are also supported by the specification stating that the apparatus can have “any number of rows” of staple slots. (D.I. 63 at 25 (citing ’650 patent at 5:54-59)). But multiple rows of staples does not necessitate multiple sets of jaws, as demonstrated by Defendant’s own technology tutorial. (See Tech Tutorial at 3:38 (showing multiple rows of staples on one jaw)).


The Honorable Maryellen Noreika
United States District Judge