IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ETHICON LLC, ETHICON ENDO-SURGERY, INC., and ETHICON US LLC,	:	
Plaintiffs,	:	
v.	:	C.A. No. 17-871-LPS
INTUITIVE SURGICAL, INC., INTUITIVE SURGICAL OPERATIONS, INC. and INTUITIVE SURGICAL HOLDINGS, LLC,	:	
Defendants.	:	

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MEMORANDUM OPINION

December 28, 2018
Wilmington, Delaware

STARK, U.S. District Judge:

Plaintiffs Ethicon LLC, Ethicon Endo-Surgery, and Ethicon US LLC ("Ethicon" or "Plaintiffs") filed suit against Defendants Intuitive Surgical, Inc., Intuitive Surgical Operations, Inc., and Intuitive Surgical Holdings, LLC ("Intuitive" or "Defendants") on May 30, 2017, alleging infringement of United States Patent Nos. 9,585,658 ("the '658 patent"), 8,479,969 ("the '969 patent"), 9,113,874 ("the '874 patent"), 8,998,058 ("the '058 patent"), 8,991,677 ("the '677 patent"), 9,084,601 ("the '601 patent"), and 8,616,431 ("the '431 patent") (collectively, "the Asserted Patents"). (D.I. 135 at ¶ 1) The Asserted Patents "relate to various aspects of laparoscopic surgical stapling technology." (D.I. 119 at 1)

Presently before the Court is the issue of claim construction. The parties completed briefing on September 24, 2018. (D.I. 116, 119, 127, 130, 152) The Court held a claim construction hearing on October 1, 2018 (D.I. 175) ("Tr.") and received supplemental briefing on October 16 and 26, 2018 (D.I. 180; D.I. 191).[1]

I. LEGAL STANDARDS

A. CLAIM CONSTRUCTION

The ultimate question of the proper construction of a patent presents an issue of law. *See Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 837 (2015) (citing *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 388-91 (1996)). "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."

[1]The Court is aware that on December 21, Defendants moved to stay this case pending completion of *inter partes* reviews that have been instituted with respect to certain of the patents-in-suit. (D.I. 246) Briefing on the motion is ongoing. Given the timing of the motion, and the fact that the Court had advised earlier this month that it anticipated issuing its claim construction opinion by on or about December 31 (*see* D.I. 221), the Court assumes that Defendants are not asking the Court to refrain from issuing the instant opinion. In any event, the Court perceives no reason to do so.

Phillips v. AWH Corp., 415 F.3d 1303, 1312 (Fed. Cir. 2005) (citation and internal quotation marks omitted). "[T]here is no magic formula or catechism for conducting claim construction." *Id.* at 1324. Instead, the court is free to attach the appropriate weight to appropriate sources "in light of the statutes and policies that inform patent law." *Id.*

"[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." *Id.* at 1312-13 (internal citations and quotation marks omitted). "[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. Usually, it is dispositive; 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).

While "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. *Phillips*, 415 F.3d at 1314. Furthermore, "[o]ther claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment . . . [b]ecause claim terms are normally used consistently throughout the patent." *Id.* (internal citation omitted).

It is likewise true that "[d]ifferences among claims can also be a useful guide . . . . For example, 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." *Id.* at 1314-15 (internal citation omitted). This "presumption is especially strong when the limitation in dispute is the only meaningful difference between an independent and dependent claim, and one

party is urging that the limitation in the dependent claim should be read into the independent claim." *SunRace Roots Enter. Co., Ltd. v. SRAM Corp.*, 336 F.3d 1298, 1303 (Fed. Cir. 2003).

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. It bears emphasis that "[e]ven when the specification describes only a single embodiment, 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).

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), *aff'd*, 517 U.S. 370 (1996). The prosecution history, which is "intrinsic evidence," "consists of the complete record of the proceedings before the [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, . . . the district court 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. For instance, technical dictionaries can assist the court in determining the

meaning of a term to those of skill in the relevant art because such dictionaries "endeavor to collect the accepted meanings of terms used in various fields of science and technology." *Phillips*, 415 F.3d at 1318. In addition, 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." *Id.* 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, while 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).

Finally, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998). It follows that "a claim interpretation that would exclude the inventor's device is rarely the correct interpretation." *Osram GmbH v. Int'l Trade Comm'n*, 505 F.3d 1351, 1358 (Fed. Cir. 2007) (internal quotation marks omitted).

B. INDEFINITENESS

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).

II. CONSTRUCTION OF DISPUTED TERMS

A. '969 Patent terms

1. "tool mounting portion operably coupled to a distal end of said proximal spine portion" ('969 claim 24)

Plaintiffs tool mounting portion operably coupled to a ***proximal*** end of said proximal spine portion
Defendants tool mounting portion operably coupled to a ***distal*** end of said proximal spine portion
Court tool mounting portion operably coupled to a ***distal*** end of said proximal spine portion

Ethicon argues that the Court should correct what Ethicon asserts is a typographical error in the term, namely replacing "distal end" with "proximal end," in line with a U.S. Patent and Trademark Office ("PTO") January 2018 Certificate of Correction. (D.I. 119 at 24; D.I. 116 at 2)[2] Ethicon insists that "the error is evident on the face of the patent, such that the correction is not subject to reasonable debate based on the claim language and the specification, and that there is nothing in the prosecution history that would suggest a different construction to be appropriate." (Tr. at 9) Ethicon asks that even if the Court disagrees on the merits of the

[2]The application for this Certificate was filed shortly before Ethicon filed suit and was issued after suit was filed. (*See* Tr. at 12)

correction, that it refrain from invalidating the Certificate until summary judgment or trial to allow for the presentation of further evidence. (*Id.* at 13)

Intuitive argues that the "Certificate [of Correction] is invalid . . . because '(1) the corrected claim [is] broader than the original claim[]; and (2) the presence of the clerical or typographical error, or how to correct that error, is not clearly evident to one of skill in the art.'" (D.I. 116 at 2 (quoting *Central Admixture Pharm. Svcs., Inc. v. Adv. Cardiac Solutions, P.C.*, 482 F.3d 1347, 1353-54 (Fed. Cir. 2007)); Tr. at 20-22) Intuitive points out that proximal and distal are opposites, that a plausible and working device exists under the claim term as originally written (i.e., before the Certificate of Correction),[3] and that the original claim mirrors another claim in the patent that was not corrected. (*See* Tr. at 22-23) Intuitive also notes that Ethicon has not rebutted Intuitive's expert on this issue. (*Id.* at 28)

Generally – and here – a district court may only correct an "obvious minor typographical [or] clerical" error in a patent if (1) "the correction is not subject to reasonable debate based on consideration of the claim language and the specification" and (2) "the prosecution history does not suggest a different interpretation of the claims." *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003); *see also Superior Fireplace Co. v. Majestic Prods. Co.*, 270 F.3d 1358, 1370 (Fed. Cir. 2001). Here, the presence of an error is subject to reasonable debate, and what the proper correction would be is also subject to reasonable debate. (*See* D.I. 116 at 3 (noting consistency between original claim and other claims in patent and citing D.I. 117 ("Knodel Decl.") ¶¶ 15, 18-19); '969 patent at claim 12, 26; D.I. 127 at 2-3 (noting multiple

[3]Defendants concede that there may be a plausible infringement theory under the original claim language. (*See* Tr. at 24)

means of changing term)) Ethicon's request to "correct" the error and change the scope of the patent as issued is not supported by the record or the law.

Ethicon has had a fair opportunity to present evidence related to the parties' disputes. It is highly doubtful that Ethicon will ever be able to adduce evidence sufficient to persuade the Court that no reasonable debate surrounds whether the original patent contains an error and, if so, that no reasonable debate also exists with respect to the appropriate correction of such error. Whether these findings should cause the Court to invalidate the Certificate of Correction, or take some other action (now, or at a later stage of this litigation), is a matter on which the parties will have to present their positions to the Court.

2. "proximal/distal spine portion" (Claim 24)

Plaintiffs structural member within [proximal/distal] portion of elongated shaft assembly
Defendants discrete [proximal/distal] interior supporting member within the elongated shaft assembly *or* [proximal/distal] member within the elongated shaft assembly, which supports but is separate from an exterior member of the elongated shaft assembly
Court structural member within [proximal/distal] portion of elongated shaft assembly

The parties agree that the spine is located within the elongated shaft assembly. (*See* D.I. 119 at 13-14; D.I. 116 at 5) The disputes are whether the spine must "support" another structure and whether the spine must be "separate" from an exterior member of the elongated shaft assembly. (*See* Tr. at 38, 40) The Court agrees with Plaintiffs that neither of these restrictions on claim scope that are proposed by Defendants is actually required by the claims.

Defendants argue that "the specification repeatedly and consistently confirms that each of the proximal and distal spine portions is physically distinct from each other and from the exterior

structures which they support." (D.I. 127 at 5) (citing '969 patent at Figs. 4-5, 134, 13:5-25, 77:53-78:1, 78:35-45) According to Defendants, "this is true in every disclosed embodiment." (*Id.*) Defendants contend that the patent teaches a spine that ***supports*** "the exterior portion of the shaft assembly" and may also ***support*** "interior components, such as articulation bars." (D.I. 116 at 5 (citing '969 patent at 27:28-32, 29:45-47, 30:31-34; D.I. 118-1); *see also* Tr. at 41-42) While previous versions of Defendants' proposed construction were unclear as to what needs to be supported by the spine, Defendants' most recent construction "specifically identifies the structure that must be supported: an exterior member of the elongated shaft assembly." (D.I. 127 at 4)

The Court agrees with Plaintiffs that there is nothing in either the specification or the claims that unambiguously requires that the spine be separate from exterior structures (or distinct from portions of itself). The specification never describes the spines as "discrete" components. Moreover, the claims do not clearly and always require that the spine perform a support function. Additionally, Plaintiffs' proposed construction is supported by the doctrine of claim differentiation, as unasserted claims 1 and 18 describe spines that explicitly support a closure tube of the elongated assembly. ('969 patent claims 1, 18)

B. '658 Patent terms

- **"opening member configured to move longitudinally to apply an opening force to said anvil at a location other than said cam surface to move said anvil into said open position" ('658 claim 1)**
- **"opening system configured to move longitudinally to apply an opening force to said second jaw at a location other than said cam surface to move said second jaw into said open position" ('658 claim 6)**
- **"opening member configured to move longitudinally to apply a pulling force to said anvil at a location other than said cam surface to move said anvil into said fully-open position" ('658 claim 11)**

- **"pulling member configured to move longitudinally to apply a pulling force to said anvil at a location other than said cam surface to move said anvil" ('658 claim 14)**

Plaintiffs Terms not subject to § 112(6). Plain and ordinary meaning.
Defendants Terms subject to § 112(6). Function: to move said anvil [second jaw] into open [fully-open] position by moving longitudinally to apply an opening [pulling] force to said anvil [second jaw] at a location other than said cam surface. Structure: closure tube with an opening for engaging a tab on the anvil; *alternatively*: Terms not subject to § 112(6). Opening/pulling member configured to move longitudinally to engage the anvil [second jaw] at a location that is different from where the closure cam engages the anvil so as to move the anvil [second jaw] into open [fully open] position
Court Terms not subject to § 112(6). Plain and ordinary meaning.

As Ethicon correctly notes, the presumption is that Section 112(6) does not apply to these terms as they do not use the word "means." (D.I. 119 at 5; *see also Williamson v. Citrix Online*, LLC, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (en banc)) Ethicon also cites *Boston Scientific Corp. v. Cook Group Inc.*, 2017 WL 3977256, at *3 (D. Del. Sept. 11, 2017), in which this Court construed the term "opening element" as not a means-plus-function term.

The Court agrees with Ethicon that the presumption against these terms being construed as means-plus-function terms has not been rebutted. The patent describes sufficient structure: the member is "configured to move longitudinally" (making it structurally dynamic), "must be sufficiently strong and rigid in the longitudinal direction," "applies an opening force to said anvil" (making it near the anvil), and engages the anvil at "a location other than said cam surface." (D.I. 119 at 5-6 (citing Awtar Decl. at ¶¶ 17, 18, 19, 20); *see also* Tr. at 48-49)

On the parties' disagreement as to whether the claimed "opening force" requires direct (and not merely indirect) force, as Intuitive would require through the patent's use of the word "engaging," the Court agrees with Ethicon that even indirect forces are within the scope of the claims. (*See* Tr. at 49-50, 53-55, 57) The Court is persuaded by Ethicon's explanation that Ethicon's expert's use of the word "engage" was not intended to limit the claim scope to direct applications of force. (*See* Tr. at 54, 59-60) Nothing in the patents requires such a narrowing of the claim scope.

C. '874 Patent terms

1. "driver element supported for axial travel through the [surgical] end effector in response to [a] firing motion[s applied thereto]" ('874 claims 9 and 20)

Plaintiffs Term not subject to § 112(6). Plain and ordinary meaning.
Defendants Term subject to § 112(6). Function: providing axial travel through the surgical end effector in response to firing motions. Structure: knife 32 with threaded opening for receiving helical drive screw 36 (Fig. 3)
Court Term subject to § 112(6). Function: imparting motion onto another component. Structure: sled 33 that traverses the channel which moves axially through the end effector and drives the staples

Ethicon argues that because claims 9 and 20 require that the driver element is supported for axial travel "through the surgical end effector," the claims inform a person of ordinary skill in the art ("POSA") that the driver element is located within and is smaller than the end effector. (D.I. 119 at 8) (citing Awtar Decl. at ¶ 25) Ethicon further contends that a POSA would

understand the element to be structurally dynamic and engage with other components of the surgical instrument. (*Id.*; *see also* Tr. at 65)

Intuitive responds that "element" is a nonce word, which is not clarified by the prefix "driver." (D.I. 116 at 11) It argues that "driver element" "appears only in a summary section that merely repeats the functional language of the claims." (*Id.*) (citing '874 patent at 4:42-44) Ethicon further points out that "the specification refers to different structural components as performing a driving function." (*Id.*) (citing '874 patent at 8:55-64)

On this term, the Court finds that Intuitive has rebutted the presumption against a means-plus-function construction. The term will be construed in accordance with § 112(6).

Ethicon explained at the hearing that if this term is construed as a means-plus-function term, the function is "to impart motion on the staple as it travels axially through the end effector" (Tr. at 66) and the corresponding structure is a sled (*see* D.I. 119 at 9 ("But the knife is not a driver – it does not impart motion on another structure. Instead, the correct corresponding structure would be sled 33."); D.I. 130 at 6 (pointing to Intuitive's discussion of sled as another example of driver); '874 patent at 8:58-60, 10:36-53; Tr. at 66).

Intuitive responds that the knife is the only applicable structure; "[b]ecause knife 32 imparts motion to sled 33, it is a driver." (D.I. 127 at 11) Intuitive does not dispute that the sled could be the driver, but insists that "[i]n the context of this patent, the knife clearly is the driver element." (Tr. at 70)

In the Court's view, the driving of staples is central to this patent, which supports the conclusion that the sled, rather than the knife, is the corresponding structure. The role of the driver element is to traverse the channel and drive staples. (*See* Tr. at 66)

2. "reciprocatable closure element configured to apply said opening and closing motions to said one of said first and second jaws" ('874 claim 9)

Plaintiffs Term not subject to § 112(6). Plain and ordinary meaning.
Defendants Term subject to § 112(6). Function: to apply opening and closing motions to one of said first and second jaws. Structure: distal closure tube 42 and proximate closure tube 40 (Fig. 4) *alternatively*: Term not subject to § 112(6). Outer tube configured to apply said opening and closing motions to said one of said first and second jaws
Court Term subject to § 112(6). Function: to apply opening and closing motions to one of said first and second jaws. Structure: distal closure tube 42 and proximate closure tube 40 (Fig. 4)

Ethicon again points to the presumption against application of § 112(6), as this term does not include the word "means," contending that a POSA would understand "that the driver element is structurally configured to move back and forth along an axis, which distinguishes the closure element from structurally fixed components and components configured to move only in one direction." (D.I. 119 at 10 (citing Awtar Decl. at ¶ 32); Tr. at 73-74)[4] But the Court agrees with Intuitive asserts that the presumption is overcome here because the "claim term fails to recite sufficiently definite structure." (D.I. 116 at 9 (citing *Williamson*); Tr. at 80) "Element" is being used here as a "nonce" word. (*Id.* at 9-10) Further, "reciprocatable," and "the requirement

[4]Ethicon also points to positions advocated by Intuitive in an *inter partes* review ("IPR"), which the Court considers relevant but non-dispositive, particularly given the different claim construction standard that applied in the IPR.

that the 'closure element' apply opening and closing motions to 'one of said first and second jaws[,]' carr[y] no generally understood structural meaning in the art." (*Id.* at 10) (citing D.I. 129 ("Vaitekunas Decl.") at ¶ 19)

In supplemental briefing, Ethicon argues that "[b]ecause the reciprocatable closure element limitation refers to a class of structures for opening and closing the jaws of an end effector, and does not encompass every structure for performing the claimed function, § 112(6) does not apply." (D.I. 180 at 1-2) Intuitive responds that "it is ***undisputed*** that 'reciprocatable closure element' is not limited to any specific structure or class of structures. . . . Accordingly, § 112(6) applies." (D.I. 191 at 2) Again, the Court agrees with Intuitive that the term is subject to § 112(6) and finds that Intuitive's construction of the function and structure to be correct.

3. "remote[ly] user-controlled console" ('874 claims 9 and 20)

Plaintiffs Plain and ordinary meaning [remote input device operated by a user to actuate a surgical instrument supported on a manipulator such as a robotic arm] *Or* Console that allows a user to control a surgical instrument
Defendants Plain and ordinary meaning [user-controlled unit separate from the surgical instrument that communicates with the surgical instrument]
Court Console that allows a user to control a surgical instrument

While both sides have suggested that the "plain and ordinary meaning" applies (*see* D.I. 116 at 6; D.I. 130 at 12), they do not agree on what the "plain and ordinary meaning" is (*see, e.g.*, Tr. at 81). The parties dispute whether the console needs to be capable of controlling the instrument, as Ethicon proposes, or whether it is sufficient if the console merely is capable of communications with the instrument, which is Intuitive's position. The Court views this as a

claim construction dispute, which it will resolve in Ethicon's favor by construing the term to mean "console that allows a user to control a surgical instrument."

As Ethicon observes, Intuitive's construction "eviscerates the distinction that is apparent in the '874 patent between a remote computer that receives data from a surgical instrument and a remote console that allows the user to actuate the surgical instrument." (D.I. 119 at 15; *see also* Tr. at 82 ("The problem for Intuitive is this is the wrong part of the spec. The claims in the '874 patent require a 'remote user-controlled console.' They are not directed to this part of the spec, the 'remote computer device.'"))

Intuitive counters that Ethicon's construction improperly limits the term "to a single embodiment without pointing to any language in the claim that suggests it covers only one embodiment." (D.I. 116 at 6; *see also* Tr. at 85 (asserting that consoles can also "be used to provide real-time information to a surgeon during surgery" or "report information from the instrument for later use in diagnostic analyses")) Intuitive also relies on claim differentiation, noting that "[f]our independent claims specifically require a 'remote user-controllable' (or 'user-controlled') actuation console' (see claims 1, 16, 19, 21), whereas claims 9 and 20 (at issue here) do not." (D.I. 116 at 7) Intuitive's arguments do not persuade the Court. The specification's reference to "capable of communicating with the control unit and downloading the sensor data" is in the context of describing the "remote computer device," not the "remote user-controlled console." ('874 patent, 29:43-46) The "control" being referenced in connection with the "remote user-controlled console" must be in "control" of the instrument. (*See* '874 patent, 30:48-61)

D. '431 Patent terms

1. "transmission arrangement" ('431 claims 1, 6, 13)

Plaintiffs Plain and ordinary meaning *or* an arrangement of one or more shafts and/or gears that transmits mechanical power.
Defendants an assembly of shafts and/or gears, and other components that transmit mechanical power from a source [of rotary output motion] to a driven component
Court an arrangement of one or more shafts and/or gears that transmits mechanical power.

The dispute is whether the transmission arrangement must contain more components than just gears and shafts. The specification supports Ethicon's contention that it only needs to contain gears and shafts. (*See* D.I. 119 at 17) (citing '431 patent at Fig. 113, 65:37-66:58)

Intuitive argues that the "embodiments to which claim 1 is directed all define the transmission arrangement to include either a shifter motor or a shifter solenoid (an electrical magnet), neither of which are shafts or gears." (D.I. 116 at 17-18) (citing '431 patent at Figs. 104-106; 63:42-59, 64:17-65:36, 83:46-67, 84:34-65) But the Court finds no persuasive basis on which to limit the scope of the claims to only such embodiments. (*See* D.I. 130 at 14 ("Other embodiments disclosed herein obtain all of the control motions from motor arrangements within the robotic system.") (quoting '431 Patent at 89:40-47); Tr. at 98-99)[5]

[5]Intuitive concedes that a "hypothetical transmission arrangement could comprise solely shafts and/or gears." (D.I. 127 at 15)

2. "transmission arrangement communicating with the control unit of the robotic system" ('431 claim 1)

Plaintiffs Plain and ordinary meaning *or* the control unit provides a control signal that results in movement of the transmission arrangement
Defendants the transmission arrangement exchanging electronic control signals with the control unit of the robotic system
Court the control unit provides a control signal that results in movement of the transmission arrangement

On this term, the dispute concerns the meaning of communicating. Plaintiffs assert that, in the context of the specification, communicate describes control signals that result in movement of the transmission arrangement, even if those signals do not directly reach the transmission arrangement. Defendants respond that communicating requires that the electronic signals must cause movement by directly reaching the transmission arrangement. The Court agrees with Plaintiffs.

As Plaintiffs point out, the patent includes multiple references describing how "the control unit of the robotic system applies an output motion that results in movement of the transmission arrangement." (D.I. 119 at 16-17 (citing 431 patent at 69:54-67, 70:42-47); *see also* Tr. at 101-04) From these references a POSA would understand that while the signals must result in movement, there is no requirement of direct contact between the signals and the transmission arrangement. While electronic signals must be involved, nothing precludes them

from being sent to a component outside the transmission arrangement, which then transmits motion to the transmission arrangement.[6]

Defendants' specification citations demonstrate only that an electronic signal is required – because this is how the transmission arrangement's shifter motor or shifter solenoid communicate – but do not establish that direct contact must occur. (*See* D.I. 116 at 15) (citing '431 patent at 63:37-41, 64:41-44, 83:49-55, 84:34-37) Nor do Defendants' references to extrinsic evidence alter the Court's conclusion. (*See* D.I. 116 at 15) (citing extrinsic evidence)

3. "[first and second] control assembly operably interfacing with said elongated shaft assembly to apply said [first/second] control motion thereto" ('431 claim 6)

Plaintiffs Term not subject to § 112(6). Plain and ordinary meaning.
Defendants Term subject to § 112(6). Function: operably interface with the elongated shaft assembly to apply [first/second] control motions to the elongated shaft assembly. Structure: Articulation system 6140, including articulation control arrangement (aka ball joint assembly) 6160, articulation drive assembly 6170, horizontal gear arrangement 6180 and vertical gear arrangement 6190, of Fig. 149 *alternatively*, the closure drive assembly 3951, and the firing drive assembly 3961, of Fig. 105 (col 63:62-64:16).
Court Term subject to § 112(6). Function: operably interface with the elongated shaft assembly to apply [first/second] control motions to the elongated shaft assembly. Structure: Articulation system 6140, including articulation control arrangement (aka ball joint assembly) 6160, articulation drive assembly 6170, horizontal gear arrangement 6180 and vertical gear arrangement 6190, of Fig. 149

[6]Defendants concede that shafts and gears "certainly do not [receive electronic communication signals], and I don't think anyone contends they do." (Tr. at 111)

The Court agrees with Intuitive that "assembly" is here being used as a nonce word and that the claim lacks sufficient structure; the presumption is rebutted and the term must be construed pursuant to § 112(6). (*See* D.I. 116 at 18-19) (citing *Vistan Corp. v. Fadei USA, Inc.*, 2012 WL 1496099, at *15 (N.D. Cal. Apr. 27, 2012)) The Court is further persuaded that Intuitive has correctly identified the appropriate function and corresponding structure and, so, will adopt Intuitive's proposed construction.

E. '058, '677, and '601 Patents

1. "housing" ('058 claims 6, 11; '677 claims 6, 11; '601 claim 1)

Plaintiffs Plain and ordinary meaning
Defendants A structure that both covers and supports
Court a single or multipart structure that covers and may also support or protect

The parties dispute whether "housing" includes "a multi-part structure" and whether it must both "support ***and*** cover." (*See* D.I. 119 at 19-20) The Court concludes that, as used in these patent claims, the housing may be a single part or multiple parts and that while it must cover it does not also always have to support or protect. The specification discloses examples of multipart housings. (*See, e.g.*, '601 patent at Fig. 3, 46:60-62 ("housing portion 3662 of disposable loading unit 3614 includes an upper housing half 3670 and a lower housing half 3672 contained within an outer casing 3674")) The intrinsic evidence does not, by contrast, support a conclusion that the housing must always do more than cover. While certain claims indicate that the housing supports (*see* '058 patent at claims 6, 11; '677 patent at claims 6, 11), not all "housing" claims do so.

2. "housing connector" ('058 claim 6; '677 claims 6, 17)

Plaintiffs Plain and ordinary meaning.
Defendants A portion of the housing that mounts it to another structure
Court No construction necessary

Intuitive insists that "mount" needs to be included in the construction of "housing connector" while Ethicon disagrees. Intuitive argues that "[i]n the specification, the surgical instrument is described as being releasably coupled or attached to a tool 'mounting' portion" (D.I. 116 at 22) (citing '058 patent at 17:2-4), and that this tool mounting portion is part of the housing (*id.*) (citing '058 patent at 17:32-35). Intuitive additionally contends that the inventors understood mounting to mean the same thing as connecting: "[t]hey use the term 'mounting' to describe connection mechanisms other than battery contacts, switches and indicator lights." (D.I. 127 at 19) (citing '058 patent at 17:2-4; 17:36-38; '601 at 17:38-41)

The Court is not persuaded that the proper construction of "housing connector" is as narrow as Intuitive suggests. In particular, the Court does not agree that the housing connector must be "mounted." Having resolved this dispute, the Court agrees with Ethicon that no construction of "housing connector" is required.

3. "engagement member" ('601 claim 1)

Plaintiffs Plain and ordinary meaning
Defendants A protrusion that prevents longitudinal movement
Court Plain and ordinary meaning

Ethicon contends that "engage" or "engagement" "can include objects in contact," a concept which is broader than Intuitive's proposed limitation to a "protrusion that prevents

longitudinal movement." (D.I. 119 at 22) To support its broader construction, Ethicon points to multiple instances of the patent demonstrating that "engage" includes many forms of contact. (*See id.*) (citing '601 patent at 11:44-47; 11:53-55; 12:9-12; 20:37-41) For its part, Intuitive relies heavily on the specification's use of the term "engagement member" to describe the "process of attaching, using protrusions ('nubs'), the disposable loading unit to the surgical tool." (D.I. 116 at 23) (citing '601 at 47:53-58) Intuitive points to no instance of the patentee being its own lexicographer or clearly and unmistakably disavowing claim scope with respect to engagement member. The Court is persuaded that Ethicon's view on this dispute is correct, which does not require the Court to provide an express construction of the term.

4. "actuator arrangement" ('601 claim 1)

Plaintiffs Plain and ordinary meaning *or* a mechanical structure that enables movement of another mechanical structure
Defendants Indefinite
Court Indefinite

Intuitive asks the Court to find this term indefinite. All that is known from the claims and specification is that the actuator is coupled to the housing. (D.I. 116 at 24) Because there are many structures that connect to the housing and actuate something (*see id.*) (citing '601 patent at 17:31-41), a POSA would not be able to determine, with reasonable certainty, which structure

constitutes the actuator arrangement. Intuitive provides expert declarations to support its contentions. (*See* Vaitekunas Decl. ¶¶ 49-51; D.I. 129 at ¶ 24)[7]

Ethicon defends the claim by pointing to the "actuation sled" described in the patent, which "enables movement of staples in the stapler cartridge." (D.I. 119 at 23) (citing '601 patent at 11:33-38, 13:59-61) Ethicon further points to its expert's declaration, which identified actuator arrangements in the specification. (D.I. 130 at 21 n.12) (citing D.I. 121 at ¶¶ 46-48) Ethicon also relies on an engineering dictionary to show that an actuator would be understood as a "mechanism that affects movement of another component." (D.I. 119 at 22-23)

Intuitive has shown, by clear and convincing evidence, that a POSA would not have reasonable certainty as to what the patentee intended to be understood as the actuator arrangement. The specification provides little guidance. Intuitive's expert persuasively explains why a POSA would not understand how the patent is using the term. (*See* Vaitekunas Decl. at ¶ 51) ("There are many possible structures that may be removably coupled to the housing and used with a contact arrangement regulating the supply of power to a motor, and the purported requirement that the 'actuator arrangement' 'enables movement' is too vague to differentiate what structure or structures are covered by the term.")

III. CONCLUSION

The Court will construe the disputed terms as explained above. An appropriate Order follows.

[7]At the hearing the Court denied Ethicon's motion to strike Intuitive's responsive expert declaration, instead permitting the parties to file post-hearing letter briefs. (*See* Tr. at 136-37; *see also* D.I. 138, 139, 142, 144)

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ETHICON LLC, ETHICON ENDO-SURGERY, INC., and ETHICON US LLC,	:	
Plaintiffs,	:	
v.	:	C.A. No. 17-871-LPS
INTUITIVE SURGICAL, INC., INTUITIVE SURGICAL OPERATIONS, INC. and INTUITIVE SURGICAL HOLDINGS, LLC,	:	
Defendants.	:	

ORDER

At Wilmington this 28th day of December 2018:

For the reasons set forth in the Memorandum Opinion issued this date,

IT IS HEREBY ORDERED that the following claim terms of U.S. Patent Nos. 9,585,658, 8,479,969, 9,113,874, 8,998,058, 8,991,677, 9,084,601, and 8,616,431 are construed as follows:

Claim Term	Court's Construction
tool mounting portion operably coupled to a distal end of said proximal spine portion [claim 24 of the '969 patent]	tool mounting portion operably coupled to a distal end of said proximal spine portion
proximal/distal spine portion [claim 24 of the '969 patent]	structural member within [proximal/distal] portion of elongated shaft assembly
remote[ly] user-controlled console [claims 9 and 20 of the '874 patent]	Console that allows a user to control a surgical instrument
reciprocatable closure element configured to apply said opening and closing motions to said one of said first and second jaws [claim 9 of the '874 patent]	Term subject to § 112(6). Function: to apply opening and closing motions to one of said first and second jaws Structure: distal closure tube 42 and proximate closure tube 40 (Fig. 4)
driver element supported for axial travel through the [surgical] end effector in response to [a] firing motion[s applied thereto] [claims 9 and 20 of the '874 patent]	Term subject to § 112(6) Function: imparting motion onto another component Structure: sled 33 that traverses the channel which moves axially through the end effector and drives the staples
- opening member configured to move longitudinally to apply an opening force to said anvil at a location other than said cam surface to move said anvil into said open position **- opening system configured to move longitudinally to apply an opening force to said second jaw at a location other than said cam surface to move said second jaw into said open position** **- opening member configured to move longitudinally to apply a pulling force to said anvil at a location other than said cam surface to move said anvil into said fully-open position** **- pulling member configured to move longitudinally to apply a pulling force to said anvil at a location other than said cam surface to move said anvil** [claims 1, 6, 11, and 14 of the'658 patent]	Term not subject to § 112(6). Plain and ordinary meaning
transmission arrangement communicating with the control unit of the robotic system [claims 1 of the '431 patent]	the control unit provides a control signal that results in movement of the transmission arrangement

transmission arrangement [claim 41, 6, and 13 of the '431 patent]	an arrangement of one or more shafts and/or gears that transmits mechanical power
[first and second] control assembly operably interfacing with said elongated shaft assembly to apply said [first/second] control motion thereto [claim 6 of the '431 patent]	Term subject to § 112(6). Function: operably interface with the elongated shaft assembly to apply [first/second] control motions to the elongated shaft assembly. Structure: Articulation system 6140, including articulation control arrangement (aka ball joint assembly) 6160, articulation drive assembly 6170, horizontal gear arrangement 6180 and vertical gear arrangement 6190, of Fig. 149
housing ('058 claims 6, 11; '677 claims 6, 11; '601 claim 1) [claim 6, 11 of the '058 patent; claim 6, 11 of the '677 patent]	a single or multipart structure that covers and may also support or protect
housing connector [claims 6 of the '058 patent; claims 6 and 17of the '677 patent]	No construction necessary
engagement member [claim 1 of the '601 patent]	Plain and ordinary meaning
actuator arrangement [claims 1 of the '601 patent]	Indefinite

IT IS FURTHER ORDERED that Plaintiffs' motion to strike Defendants' responsive expert declaration (D.I. 139) is DENIED.

IT IS FURTHER ORDERED that the parties shall meet and confer and, no later than January 7, 2019, submit a joint status report, advising the Court of their position(s) with respect to how to proceed in connection with the Certificate of Correction and any other matter which they wish to address.

UNITED STATES DISTRICT JUDGE