

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ETHICON LLC, <i>et al.</i> ,)	
)	
Plaintiffs,)	
)	
v.)	C.A. No. 17-871-LPS
)	
INTUITIVE SURGICAL, INC., <i>et al.</i> ,)	
)	
Defendants.)	

**DEFENDANTS' RESPONSE TO
ETHICON'S OPENING CLAIM CONSTRUCTION BRIEF**

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I. INTRODUCTION¹

As demonstrated below, Intuitive’s proposed constructions are consistent with governing law and both the intrinsic and extrinsic evidence. In contrast, Ethicon invites the Court to ignore the law of claim construction and to adopt constructions lacking any support in the patents.

II. CLAIM TERMS AT ISSUE

A. ’969 Patent terms

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

Intuitive Surgical	Ethicon
tool mounting portion operably coupled to a distal end of said proximal spine portion	tool mounting portion operably coupled to a proximal end of said proximal spine portion

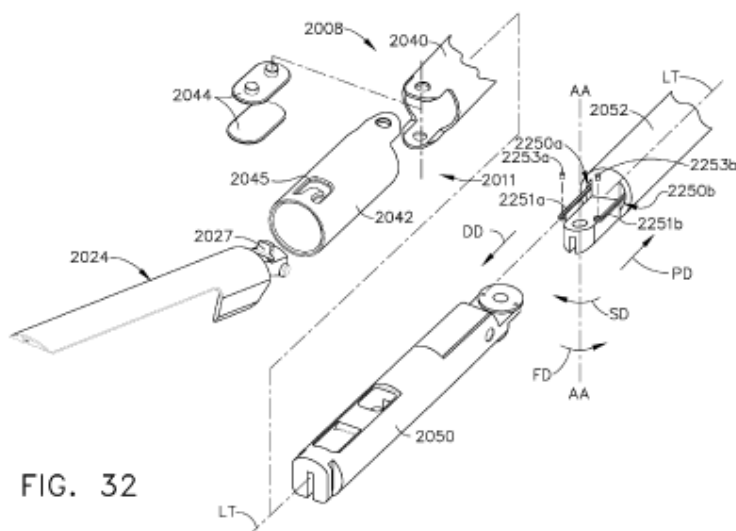
Ethicon fails to explain how the original as-printed language in claim 24 of the ’969 patent could have been the result of a mere clerical error, yet urges the Court to judicially correct the patent claim such that Ethicon’s purported correction may apply retroactively. The Court should decline to do so because Ethicon fails to satisfy the controlling legal standard. *See Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1357 (Fed. Cir. 2003); *see also LG Elecs., Inc. v. Quanta Computer, Inc.*, 566 F. Supp. 2d 910, 913 (W.D. Wis. 2008) (citing *Novo* and noting the “*nearly impossible* standard for judicial correction”).²

First, whether there is even a mistake in the claim is subject to reasonable debate. As set forth in Intuitive’s opening papers, the as-printed original claim language is typographically and grammatically correct, and reads logically in the context of the surrounding claim language, the specification, and the other claims of the ’969 patent. I.S. Op. Br. at 3-4; Knodel Decl. ¶¶15-19.

¹ Throughout this brief, emphases in quotations were added unless otherwise stated; and quotation marks, alterations, and citations were omitted from quotations.

² In addition, as explained in Intuitive’s opening brief, the January 2018 Certificate of Correction is invalid as a matter of law. I.S. Op. Br. at 2-4; Knodel Decl. ¶¶13-20.

Ethicon's argument should be rejected for that reason alone. *See, e.g., Int'l Bus. Machines Corp. v. Priceline Grp. Inc.*, No. C.A. No. 15-137-LPS, 2016 WL 6405824, at *6 (D. Del. Oct. 28, 2016) (judicial correction inappropriate because alleged error was subject to reasonable debate).



'969, Fig. 32; *see also* 30:30-59. Rotation of the articulation nut on the tool mounting plate causes the articulation bars to move in opposing directions “result[ing] in the articulation of the distal spine portion 2050 as well as the surgical end effector 2012 attached thereto...” *Id.* at 30:59-63. The Court should not purport to correct a claim where there are multiple plausible “corrections,” particularly where, as here, the differences between them materially impact the claim scope. *See, e.g., Cordance Corp. v. Amazon.com, Inc.*, C.A. No. 06-491-MPT, 2009 WL 2252556, at *4 (D. Del. July 28, 2009) (refusing to judicially correct patent claim because the “impact of this change is subject to a reasonable debate and the change itself is not clear on the face of the patent”); *see also Magnetar Techs. Corp. v. Six Flags Theme Parks, Inc.*, C.A. No. 07-127-LPS-MPT, 2014 WL 547712, at *4 (D. Del. Feb. 7, 2014).³

Ethicon notes that the PTO already has granted a Certificate of Correction, but that has no bearing on the question of whether the alleged mistake is one that *this Court* may correct. District courts are only authorized to correct “obvious minor typographical and clerical errors” that are evident from the face of the patent; “major errors,” like the one at issue here, “are subject only to correction by the PTO.” *Novo Indus., L.P.*, 350 F.3d at 1357; *see also, e.g., Cordance Corp.*, 2009 WL 2252556, at *3–4 (refusing to judicially correct patent claim to conform to prior certificate of correction); *Parallel Networks Licensing, LLC v. Int’l Bus. Machines Corp.*, 83 F. Supp. 3d 571, 574–75 (D. Del. 2015) (same).

Ethicon also argues that the *corrected* claim language has support in the specification. *See* Eth. Op. Br. at 24-25. But this provides an insufficient legal basis for the Court to correct the alleged error because Ethicon does not even argue—much less demonstrate—that the claim language as “corrected” by Ethicon is the only version of the claim that has support. Ethicon fails

³ Under Ethicon’s proposed correction, the “tool mounting portion” is “operably coupled” to an entirely different structure (the “proximal end of said *proximal* spine portion”).

to explain how a POSITA would have known that there was a mistake in the *uncorrected* language in the first place or that the manner of correcting the purported mistake is not subject to reasonable debate. Ethicon’s argument is also based on an incorrect assumption that the term “operably coupled” requires the “tool mounting portion” to be directly attached or affixed to the “distal end of said proximal spine portion.” *Id.*; *see also* I.S. Op. Br. at 4; Knodel Decl. ¶15.

2. “proximal/distal spine portion”

Intuitive Surgical (alternative construction)	Intuitive Surgical (original construction)	Ethicon
[proximal/distal] member within the elongated shaft assembly, which supports but is separate from an exterior member of the elongated shaft assembly	discrete [proximal/distal] interior supporting member within the elongated shaft assembly	structural member within [proximal/distal] portion of elongated shaft assembly

The parties agree that the claimed “spines” are interior components. Eth. Op. Br. at 14. Given Ethicon’s representation that it would be “redundant” to include the word “interior” in the construction of these terms, Intuitive agrees that the word “interior” need not be included. However, the parties continue to dispute whether each of the claimed “spines” must be a “discrete supporting member” (as Intuitive contends) or whether they can encompass any undefined “structural member” (as Ethicon contends).

Ethicon does not seriously dispute that the claimed “spines” are *supporting* structures. Nor can it. *See* I.S. Op. Br. at 5-6; Musinipally Decl., Ex. A. Rather, Ethicon quibbles with Intuitive’s proposal because it purportedly “provides no guidance as to what must be supported.” Eth. Op. Br. at 15. Although Intuitive’s original construction provides sufficient guidance, to address Ethicon’s concern, Intuitive proposes an alternative construction that specifically identifies the structure that must be supported: an exterior member of the elongated shaft assembly. This clarification is consistent with the specification, which describes exterior closure

tubes that are “operably **supported** on a spine assembly.” ’969 at 27:28-32. It is also consistent with claims of the ’969 patent reciting closure tubes that are supported on the spine. *See* cl. 1 (“closure tube assembly movably **supported** on said spine assembly”); cl. 18 (“distal closure tube portion operably **supported** on said distal spine portion”). Indeed, it makes perfect sense that the claimed “spines” must support an exterior member because the disclosed embodiments—including the purported embodiment cited by Ethicon in its opening brief—include an exterior member that moves axially on the spine. *See* ’969 at 78:7-9 (referring to Figure 134, “closure tube assembly 6009 is configured to axially slide on the spine assembly 6102 in response to actuation motions”); *see also, e.g.*, 27:36-38 (“closure tube assembly 2009 is configured to axially slide on the spine assembly 2049 in response to actuation motions”); 28:26-29; 38:56-60 (“the surgical tool 2500 further includes an axially movable actuation member in the form of a closure tube 2550 that is constrained to move axially relative to the elongated channel 2522 and the spine tube 1540”).

It is equally clear that the claimed “spines” are **discrete** members. Ethicon contends that this requirement has no basis in the intrinsic record, but 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. As shown in Figure 32 (*see, supra*, Section II.A.1), for instance, the proximal spine portion (2052) and distal spine portion (2050) are physically separate from each other and from the proximal and distal closure tubes (2042 and 2040). *See also, e.g.*, ’969, Figs. 4-5 (proximal spine tube (46) and distal spine tube (58) are physically distinct from each other and from proximal and distal closure tubes (40 and 42)); 13:5-25. Indeed, this is true in every disclosed embodiment, including the purported embodiment upon which Ethicon relies. *See* Eth. Op. Br. at 14; ’969, Fig. 134 (“proximal spine

portion 6110” and “distal spine portion 6120” are separate and distinct from closure tubes 6042, 6043, and 6040); *see also id.* at 77:53-78:1; 78:35-45. Although Intuitive’s original construction accurately describes the claimed “spines,” to address Ethicon’s objection that it “provides no guidance as to what the spines must be ‘discrete’ from” (Eth. Op. Br. at 14), Intuitive proposes an alternative construction specifying that each spine portion is separate from the exterior member of the elongated shaft assembly that it supports. In contrast, Ethicon’s construction merely recites a black-box “structural member” without describing what that structure is.

B. ’874 Patent terms

1. “remote[ly] user-controlled console” (’874 claims 9 and 20)⁴

Intuitive Surgical	Ethicon
plain and ordinary meaning, or in the alternative: user-controlled unit separate from the surgical instrument that communicates with the surgical instrument	remote input device operated by a user to actuate a surgical instrument supported on a manipulator such as a robotic arm

Ethicon admits that its construction purports to limit the claims to a particular embodiment (*see* Eth. Op. Br. at 15), but it does not (and cannot) point to anything in the generic claim language, the specification, or the prosecution history indicating that the patentees intended to limit the claims as such. Rather, Ethicon’s argument is predicated entirely on two sentences plucked out of context from the specification that merely describe some of the characteristics of robotic systems generally. *See* Eth. Op. Br. at 15; ’874 at 30:53-59 (“**Generally**, robotic surgical systems have a remotely controllable user interface and a remotely controllable arm... The arms are controllable with an electronic control system(s) that is **typically**

⁴ Following the submission of opening papers, Ethicon offered to withdraw its proposed construction if Intuitive would agree that plain and ordinary meaning would apply to this term. Hicks Decl., Ex. A. But because the parties continue to disagree as to what that plain and ordinary meaning is, there remains an actual dispute regarding claim scope that the Court should appropriately resolve.

adapted to a localized console for user to interface with.”). But nothing in these passages suggests that the patentees intended to limit the scope of the claimed “remote[ly] user-controlled console” to a robotic system, much less that the construction should appropriately include terms (*i.e.*, “remote input device,” “manipulator”) that are not even mentioned in the specification.

Ethicon’s construction also omits a different embodiment falling within the term’s ordinary meaning. I.S. Op. Br. at 6-8. Ethicon does not dispute that the ’874 embodiment shown in Figures 54 and 55 discloses a “computer device” that is “remote,” that communicates with the surgical instrument, and that is operated by a user. *See* Eth. Op. Br. at 15 (noting that the remote computer device is “operated by a user and receives data from the surgical instrument”). It is, thus, a “remote[ly] user-controlled console,” and Ethicon’s construction improperly excludes it.

Moreover, Ethicon’s argument obliterates the distinction made in the claims between a “remote[ly] user-controlled console” (claims 9 and 20) a “remote user-controllable (or “user-controlled”) **actuation** console” (claims 1, 16, 19, 21). I.S. Op. Br. at 7. It is clear from the structure of the claims that the “remote[ly] user-controlled console” of claims 9 and 20 encompasses user-controlled consoles regardless of whether they actuate a surgical instrument.

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

Intuitive Surgical	Ethicon
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); <i>or, in the alternative:</i> outer tube configured to apply said opening and closing motions to said one of said first and second jaws	Term not subject to 112(6). Plain and ordinary meaning.

Ethicon does not dispute that “element” is a nonce word that, standing alone, confers insufficient structure. Rather, Ethicon argues that the claim language overcomes this deficit because it tells a POSITA that the claimed “closure element” must move back and forth, that it

must engage an anvil, and that it must be sufficiently rigid in the direction that reciprocates to effectively apply opening and closing motions. Eth. Op. Br. at 10.⁵ These characteristics do not define structure, however, because they apply to virtually any mechanism that performs the function of opening and closing the jaws of an end effector. Vaitekunas Resp. Decl. ¶¶5-6.

Ethicon’s reliance on *Boston Scientific* is misplaced. There, Judge Burke based his recommendation on claim language requiring the “opening element” to “engag[e] the inner walls of the clip arms and urge[] them away from one another” and to be “movable between an expanded configuration and a retracted configuration to correspond to a movement of the clip between the open tissue receiving configuration and the closed configuration.” *Boston Sci. Corp. v. Cook Grp. Inc.*, No. C.A. No. 15-980-LPS-CJB, 2017 WL 1364205, at *8 (D. Del. Apr. 12, 2017). Noting that this claim language “describes how the opening element structurally relates to other portions of the claimed device,” this Court concluded, in light of the claim language and figures in the specification, that the term did not merit means-plus-function treatment. *See Boston Sci. Corp. v. Cook Grp. Inc.*, No. C.A. No. 15-980-LPS-CJB, 2017 WL 3977256, at *3 (D. Del. Sept. 11, 2017). Here, in contrast, claim 9 does not describe in comparable detail how the “closure element” “structurally relates” to other structures of the claimed invention.

Ethicon also asserts that “a ‘closure element’ in the context of reciprocating to open and close the jaw of a surgical instrument connotes sufficient structure” because there are a “limited class of structures” that can perform the claimed function. Eth. Op. Br. at 10. But while Ethicon contends that such limited structures “include a cam system, cable pulley system, and

⁵ Ethicon’s expert, Dr. Awtar, has opined that the term “reciprocatable” requires the “closure element” to “move back and forth *along an axis*.” Awtar Decl. ¶32. To the extent Dr. Awtar opines that the back-and-forth movement must be *linear*, he is wrong. *See Vaitekunas Resp. Decl. ¶5; see also Virginia Panel Corp. v. MAC Panel Co.*, 133 F.3d 860, 865–66 (Fed. Cir. 1997) (ordinary meaning of “reciprocating” is not limited to linear reciprocation).

transmission rod/shaft,” *id.*, neither Ethicon nor its expert identifies any structure that would **not** be included in these broad categories. That omission is telling because each of the enumerated “systems” itself encompasses numerous disparate structures, and, collectively, those “systems” encompass virtually every conceivable mechanism for performing the function of opening and closing the jaws of an end effector. Vaitekunas Resp. Decl. ¶¶7-11. “[Ethicon’s] claim ... cannot be construed so broadly to cover every conceivable way or means to perform the function of [opening and closing the jaws of an end effector], and there is no structure recited in the limitation that would save it from application of section 112, ¶6.” *Mas-Hamilton Group v. Lagard, Inc.*, 156 F.3d 1206, 1214 (Fed. Cir. 1998) (affirming application of § 112, ¶6 because claimed “lever moving element” would otherwise cover any device causing lever to move).

This case is, thus, much different than *Lighting Ballast Control LLC v. Philips Elecs. N. Am. Corp.*, 790 F.3d 1329, 1338–39 (Fed. Cir. 2015), and *Regalo Int’l, LLC v. Munchkin, Inc.*, C.A. No. 15-1103-LPS, 2016 WL 7107229, at *4–5 (D. Del. Dec. 6, 2016), upon which Ethicon relies. *See* Eth. Op. Br. at 10-11. In *Lighting Ballast Control*, the court noted that a rectifier was the “**only** structure” that would provide “a constant or variable magnitude DC voltage,” as required by the claim. 790 F.3d at 1338-39. Similarly, in *Regalo*, this Court (relying on *Lighting Ballast Control*) noted that the determination of whether a claim limitation should be construed under § 112, ¶6 should account for whether the recited claim language would invoke “a **specific** structure or class of structures.” 2016 WL 7107229, at *5. Here, in contrast, Ethicon’s expert has proposed three broad, ill-defined categories of “systems” encompassing nearly the full range of mechanisms for opening and closing the jaws of an end effector.

Finally, Ethicon wrongly asserts that Intuitive has conceded that this limitation (and others in the ’874 and ’658 patents) is not subject to § 112, ¶6 because Intuitive did not propose

to construe it as such in pending IPR proceedings. Eth. Op. Br. at 3-4. As this Court has noted in rejecting a similar argument, “the legal standards applicable to claim construction in an IPR—the ‘broadest reasonable interpretation’—are different than those that apply in district court litigation.” *TQ Beta LLC v. Dish Network Corp.*, C.A. No. 14-CV-848-LPS-CJB, 2016 WL 356024, at n. 4 (D. Del. Jan. 28, 2016). Thus, “while the positions the parties have taken in the IPR are not irrelevant ... they are not binding, on either the parties or the Court.” *Id.*; *see also Cuzzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2146 (2016) (noting that application of one standard in inter partes review and another in district court proceedings “may produce inconsistent results,” and explaining that such inconsistency “is inherent to Congress’ regulatory design”). Moreover, because the operative legal standard requires Intuitive to rebut a presumption that the limitations at issue are not subject to § 112, ¶6, the decision not to propose a means-plus-function construction under the more liberal “broadest reasonable interpretation” standard is not at all inconsistent with Intuitive’s position here.

If the Court determines that this limitation should not be construed under § 112, ¶6, it still “must determine the appropriate construction.” *Power Integrations, Inc. v. Fairchild Semiconductor Int’l, Inc.*, C.A. No. CV 04-1371-LPS, 2016 WL 1171496, at *5 (D. Del. Mar. 24, 2016). In that event, Intuitive respectfully requests the Court to construe this phrase, consistent with the disclosures in the specification, as an outer tube configured to apply said opening and closing motions to said one of said first and second jaws. The specification only discloses one structure capable of moving reciprocally to apply opening and closing motions (an outer closure tube), and Ethicon should not be permitted to lay claim to technologies that it did not invent and that extend well beyond the patent’s disclosure. *See, e.g., Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (“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.”).

3. “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)

Intuitive Surgical	Ethicon
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)	Term not subject to 112(6). Plain and ordinary meaning.

Ethicon contends that this limitation is not subject to § 112, ¶6 because claim language purportedly tells a POSITA that the “driver element” is in the end effector, that it is structurally dynamic, that it is coupled directly or indirectly to the motor-powered firing element, and that it imparts motion to some other component. Eth. Op. Br. at 8, citing Awtar Decl. ¶¶25-28. But none of these characteristics imparts any meaningful structure to the claimed “driver element,” nor does the claim language describe in any detail the structures with which it interacts. Vaitekunas Resp. Decl. ¶¶15-20. Accordingly, § 112, ¶6 applies.

Ethicon disputes that knife 32 is the corresponding structure, but its argument that “the knife is not a driver” (*see* Eth. Op. Br. at 9) does not withstand scrutiny. As explained in Intuitive’s opening papers, knife 32 is attached to sled 33 such that when the helical drive screw 36 drives knife 32 through the end effector, the sled also travels axially pushing up the staples in the staple cartridge. Vaitekunas Decl. ¶27; *see also* ’874 at 7:47-55; 8:58-61. Because knife 32 imparts motion to sled 33, it is a “driver.” Eth. Op. Br. at 8 (“a ‘driver’ is a structure or component that imparts motion on another structure or component”); *see also* Vaitekunas Resp. Decl. ¶21. It is likewise clear from the dependent claims of the ’874 patent that the corresponding structure of the claimed “driver element” must include at least knife 32.

Dependent claim 13, for instance, recites a “driver element [that] comprises a tissue cutting surface.” Knife 32 is the only “tissue cutting surface” described in the specification. Likewise, dependent claim 14 recites a “rotary draft shaft in threaded engagement with said driver element.” *See also* dependent claim 7 (reciting “driver element in threaded engagement with said rotary drive shaft”). Knife 32 is the only disclosed structure that travels axially through the end effector by virtue of being threadingly engaged with a rotary drive shaft (helical drive shaft 36). Sled 33 can travel through the end effector only by virtue of its engagement with knife 32.

C. '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)**

Intuitive Surgical	Ethicon
<p>Term 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; <i>or, in the alternative:</i></p> <p>outer tube configured to move the anvil [second jaw] into open [fully-open] position by moving longitudinally to apply an opening [pulling] force to the anvil [second jaw] at a location other than said cam surface</p> <p>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</p>	<p>Term not subject to 112(6). Plain and ordinary meaning.</p>

Ethicon relies on the declaration of its expert, Dr. Awatar, to argue that these claim limitations recite sufficient structure. *See* Eth. Op. Br. at 5-6. Dr. Awatar opines that a POSITA “would have understood that for the opening member to apply an opening force to the anvil, the opening member is located near the anvil and configured to engage the anvil...” Awatar Decl. ¶18. Dr. Awatar also opines that the claim language confirms that the “opening member is configured to engage the anvil at a location that is different from where the closure cam engages the anvil.” *Id.* ¶19. Dr. Awatar further opines that “the opening member must have sufficient strength and rigidity (or stiffness) in the longitudinal direction ... to effectively move the anvil into the open position.” *Id.* ¶20. Accordingly, in an effort to resolve the parties’ dispute, Intuitive proposed a compromise construction that reflects the purported structural characteristics upon which Ethicon and its expert rely. *See* Hicks Decl., Ex. A. Ethicon refused even this proposal. *Id.*

Ethicon should not be permitted to avoid a means-plus-function construction by asserting that the claim language imparts certain structural characteristics, while reserving the right to argue later that the plain and ordinary meaning does not require the same structure. Accordingly, Intuitive respectfully requests that the Court adopt Intuitive’s proposed means-plus-function

construction. Alternatively, the Court should adopt Intuitive’s revised alternative construction, which fully captures the structural characteristics upon which Ethicon’s opposition is based.

D. ’431 Patent terms

1. “transmission arrangement communicating with the control unit of the robotic system” (’431 claim 1)

Intuitive Surgical	Ethicon
the transmission arrangement exchanging electronic control signals with the control unit of the robotic system	Plain and ordinary meaning, or “the control unit provides a control signal that results in movement of the transmission arrangement”

Ethicon misdirects the Court by suggesting that this term concerns “appl[ying] an output motion that results in movement.” Eth. Op. Br. at 16. This term focuses on the transmission arrangement “communicating” with the control unit, not the “movement of the transmission arrangement” in response to “output motions.” Because neither of the specification excerpts Ethicon cites refers to the “communicating” function, neither is relevant to this inquiry. *Id.*

The “communication” at issue here involves the control unit of the robotic system exchanging control signals with the transmission arrangement. Ethicon does not dispute that the relevant meaning of “communicate” is the sharing or exchanging of information or ideas, not the movement of gears that may be a consequence of the communication. *See Musinipally Decl.*, Exs. A, B, D, E. Nor does Ethicon suggest that “communicating” is defined or used in the patent in some unique way. Ethicon also does not contest Intuitive’s argument that the patent uniformly uses “communicate” to refer to electronic signal transmission. Nor can it—common sense dictates that a robotic control unit sends control signals electronically. The relevant embodiment of this claim requires a shifter solenoid that receives electronic signals from the control unit of the robotic system to drive the articulation transmission described in the specification at 83:46–67 and 84:34–65 and pictured in Figure 149.

The sole embodiment Ethicon points to is transmission arrangement 4103 in Figure 113. *See* Eth. Op. Br. at 17. But while Ethicon claims that this figure shows that the patent “discloses embodiments without electronic components” (*id.*), Figure 113, and its associated discussion at 66:23–58, does not refer to “communicating” with the control unit. Further, Figure 113 does not even include the “transmission arrangement” of this claim, which must be able to “move between first and second positions.” Figure 113 is simply an irrelevant embodiment.

2. “transmission arrangement” (‘431 claims 1, 6, 13)

Intuitive Surgical	Ethicon
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	Plain and ordinary meaning, or “an arrangement of one or more shafts and/or gears that transmits mechanical power.”

Ethicon is correct that a hypothetical transmission arrangement could comprise solely shafts and/or gears. But that cannot be the transmission arrangement of claim 1, and of dependent claims 6 and 13, because the “transmission arrangement” of these claims must be capable of “communicating” with the control unit of the robotic system. Given the uniform use of “communicating” in the patent that is consistent with the ordinary meaning of that word, it would be erroneous to construe “transmission arrangement” as not including components that are capable of such communication, such as a solenoid. Intuitive’s construction allows for such a component to form part of the “transmission arrangement,” whereas Ethicon’s would exclude the transmission arrangement of, for example, Fig. 149 because it includes a structure for communicating with the control unit. This cannot possibly be the correct claim construction.

As with the previous claim term, Ethicon points only to Figure 113. As explained above, Figure 113 cannot be an “exemplary transmission arrangement[.]” (Eth. Op. Br. at 17) for claim 1 because it does not show the implementation of first and second positions.

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

Intuitive Surgical	Ethicon
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; <u>or, alternatively, the closure drive assembly 3951, and the firing drive assembly 3961, of Fig. 105 (col 63:62-64:16).</u>	Term not subject to 112(6). Plain and ordinary meaning.

Ethicon’s opening brief does little to shed light on the meaning of the control assemblies of claim 6. Ethicon does not attempt to argue that an “assembly” is a structure. Rather, it contends that claim 6 recites sufficient structure because other claim elements establish that the control assemblies are “located between the tool drive assembly and the surgical end effector,” and that they “engage with different portions of the end effector.” Eth. Op. Br. at 12. These characteristics of the control assemblies are not structural limitations.

The first characteristic upon which Ethicon relies merely situates the control assemblies anywhere on the tool mounting device except the surgical end effector. This is hardly a meaningful recitation of structure, or even location.

Ethicon’s second characteristic—that the assemblies engage with different portions of an end effector—is just another way of describing their function of applying control motions. That circular argument only confirms that the Court should treat this claim term as a means-plus-function limitation. A vague suggestion of location and repetition of the function of the claim element is simply not enough structure. Ethicon’s reliance on *Boston Scientific* is inapposite because claim 6 of the ’431 patent contains no comparably detailed disclosure regarding how the

claimed control assemblies “structurally relate[] to other portions of the claimed device.” *Boston Sci. Corp.* 2017 WL 3977256, at *3; *see also, supra*, Section II.B.1.

As for the disclosed structure that corresponds to the function of the control assemblies, Ethicon does not dispute that the structure of Figure 149 (also depicted in part in Figure 148) performs the recited function. The Court should, therefore, adopt articulation system 6140 with the corresponding horizontal (6190) and vertical (6180) gear assemblies depicted in Figures 148 and 149 as the structure of the control assemblies. Ethicon argues that the yoke shifter of Figures 104 – 106 also corresponds to the claimed function. Intuitive does not oppose identifying the relevant structure from this embodiment as alternative structure as indicated above.

As to Ethicon’s arguments that the “knife bar” and “knife gear” structure should be among the disclosed “control assemblies,” those cannot be structure associated with the control assemblies because they do not depend on the first or second position of the transmission arrangement to determine the function they perform. Rather, as Dr. Awtar notes, the functional behavior of the knife bar is determined simply by the direction of the rotary output motion. *See Awtar Decl.* ¶42; ’431 at 88:13-19.

E. Power Patent terms

1. “housing” (’058 claims 6, 11; ’677 claims 6, 11; ’601 claim 1)

Intuitive Surgical	Ethicon
A structure that both covers and supports	Plain and ordinary meaning

Ethicon asserts that the claim language is “clear as to the features of the ‘housing,’” but it does not identify those features. Instead, it merely cites claim language containing the term “housing” and concludes that no further guidance is needed. Ethicon’s circular reasoning, and the absence of any generally understood meaning in the art, confirms the need for construction.

Intuitive’s proposed construction is supported by the specification and the claims. I.S.

Op. Br. at 20. Ethicon’s two attacks upon Intuitive’s construction are baseless. First, Ethicon asserts that the term “housing” should be broad enough to include a “multi-part structure.” Eth. Op. Br. at 19. Intuitive does not dispute that a “housing” may be a multi-part structure, may contain internal cavities, or a top and bottom portion. These specifics are not inconsistent with Intuitive’s proposed construction that a “housing” is “a structure that both covers and supports.” Second, Ethicon argues that the term “support” should not be included in the claim construction because it is already used in the claim language. *Id.* at 20. The relevant portion of claim 1 of the ’601 patent recites “a motor supported by said housing.” This language merely describes the relationship between the housing and the motor—the motor is identified as the element being supported.

Ultimately, Ethicon’s objection to the inclusion of “support” in the construction demonstrates the need for construction. Ethicon seeks to construe “housing” in an overly broad manner, encompassing structures that may cover but not support. Such a construction would be inconsistent with the specification. Adopting the purported plain and ordinary meaning of the term will only defer this dispute and risk confusing the jury.

2. “housing connector” (’058 claim 6; ’677 claims 6, 17)

Intuitive Surgical	Ethicon
A portion of the housing that mounts it to another structure	Plain and ordinary meaning

The Court should construe the term “housing connector” because Ethicon’s understanding of the term’s purported plain and ordinary meaning is overbroad. The parties agree that the “housing connector” must be “a portion of the housing.” Eth. Op. Br. at 20. But Ethicon then suggests that electrical pins—components that are not part of the “housing”—could be “housing connectors” under the plain and ordinary meaning of the term. Ethicon’s overly broad understanding of the term demonstrates the need for construction.

Ethicon argues that “the inventors understood the concept of mounting an object to be different from connecting the object to something else” (Eth. Op. Br. at 21), but the specification and prior applications demonstrate otherwise. They use the term “mounting” to describe connection mechanisms other than battery contacts, switches and indicator lights. *See* ’058 at 17:2-4 (“surgical tool 1200 is operably coupled to the manipulator by a tool *mounting* portion”); *id.* at 17:36-38 (“Other mechanisms/arrangements may be employed for releasably coupling the tool *mounting* portion 1300 to the adaptor 1240.”); ’601 at 17:38-41 (“surgical tool 1200 further includes an interface 1230 which mechanically and electrically couples the tool *mounting* portion 1300 to the manipulator”). Furthermore, the term “connect” is not used exclusively to describe electrical interfaces, as Ethicon suggests. ’601 at 24:62-64 (“anvil 2324 may be pivotably opened and closed at a pivot point 2325 connected to the proximate end of the elongated channel 2322”).

Ethicon’s focus on the term “connector” as it is used for other items, such as electrical pins, improperly broadens the scope of “housing connector,” which must be understood in the context of the “housing.” When describing connectors that are part of the housing, the specification and prior applications describe the structure as “mounting” it to other structures.

3. “engagement member” (’601 claim 1)

Intuitive Surgical	Ethicon
A protrusion that prevents longitudinal movement	Plain and ordinary meaning

For “engagement member,” Ethicon seeks to avoid any clear and specific meaning by focusing on only a portion of the term. The plain meaning of “engage” or “engagement” may refer to “objects in contact,” as Ethicon argues, but the meaning of the term “engagement member” as it is used in the claims and the specification is a structure, not an action. The patent claim uses the term “engagement member” to identify a structure “for removably coupling the housing to an actuator arrangement.” ’601, cl. 11. But, apart from the specification, the term

“engagement member” has no known “plain and ordinary” structural meaning. Here, the specification provides a definition for this otherwise indeterminate term. The specification uses the term “engagement member” as such: “During rotation of loading unit 3612, nubs 3676 engage cam surface 3732 (FIG. 72) of block plate 3730 to initially move plate 3730 in the direction indicated by arrow ‘C’ in FIG. 72 to lock *engagement member* 3734 in recess 3721 of control rod 3720 to *prevent longitudinal movement* of control rod 3720 during attachment of disposable loading unit 3612.” ’601 at 47:53-58. The patent includes no other use of “engagement member.” Contrary to Ethicon’s argument, Intuitive need not show disclaimers or disavowals regarding terms unrelated to the function of the claimed structure. For example, the actions of “meshing engagement” and “sliding engagement” are unrelated to “coupling the housing to an actuator arrangement” as required by the claim.

4. “actuator arrangement”(’601 claim 1)

Intuitive Surgical	Ethicon
Indefinite	Plain and ordinary meaning or “a mechanical structure that enables movement of another mechanical structure”

The description in Ethicon’s opening papers of various “actuators” that enable movement does nothing to clarify what movement qualifies as “actuation.” Nor does the intrinsic record provide any guidance regarding the structure of the claimed “actuator arrangement.” *See* Vaitekunas Decl. ¶51; *see also* Vaitekunas Resp. Decl. at ¶24. Rather, as Ethicon’s alternative construction confirms, the term “actuator arrangement,” as used in the patents, is so vague as to encompass virtually any structure that has a function in the device. Accordingly, it is indefinite.

III. CONCLUSION

For the foregoing reasons, the Court should adopt Intuitive’s proposed constructions.

Respectfully submitted,

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