

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AURIS HEALTH, INC.,
Petitioner,

v.

INTUITIVE SURGICAL OPERATIONS, INC.,
Patent Owner.

IPR2019-01533
Patent 8,142,447 B2

Before ULRIKE W. JENKS, TINA E. HULSE, and JAMES A. WORTH,
Administrative Patent Judges.

HULSE, *Administrative Patent Judge.*

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Auris Health, Inc. (“Petitioner”) filed a Petition requesting an *inter partes* review of claims 1–5 of U.S. Patent No. 8,142,447 B2 (Ex. 1001, “the ’447 patent”). Paper 1 (“Pet.”). Intuitive Surgical Operations, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 8 (“Prelim. Resp.”).

We have authority under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted “unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Upon considering the arguments and evidence presented in the Petition and Preliminary Response, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing the unpatentability of at least one claim challenged in the Petition. Accordingly, we institute an *inter partes* review of claims 1–5 of the ’447 patent.

A. Related Proceedings

Patent Owner has asserted the ’447 patent against Petitioner in a pending lawsuit styled *Intuitive Surgical, Inc. v. Auris Health, Inc.*, C. A. No. 18-1359-MN (D. Del.). Pet. 2; Paper 4, 1.

Petitioner has also filed a petition for *inter partes* review of related U.S. Patent No. 8,491,701 B2 (“the ’701 patent”) in IPR2019-01532. Pet. 1. Patent Owner has asserted the ’701 patent in the *Auris* case and in *Intuitive Surgical, Inc. v. Vital Care Reps, Inc.*, No. 06-cv-06971 (N.D. Cal.). Pet. 2.

Petitioner also identifies related patents and patent applications in the ’447 patent family. *Id.*

B. The '447 Patent

The '447 patent relates to surgical tools for minimally invasive robotically enhanced surgical procedures. Ex. 1001, 1:38–41. The '447 patent explains that, in performing robotic surgery, different surgical tools are required, which leads to differences between the tool structures and the other components of the robotic system. *Id.* at 2:34–38. This requires time to reconfigure the robotic system to take advantage of a different tool, and to configure the master controller to control the degrees of motion of the tool. *Id.* at 2:43–49. According to the '447 patent, it would be desirable to reduce the delay associated with each tool change while improving the safety and reliability of the surgical system. *Id.* at 2:50–57.

The '447 patent describes a robotic surgical system that provides improved engagement structures for coupling robotic surgical tools with manipulator structures. *Id.* at 3:26–28. Figure 4 of the '447 patent is reproduced below:

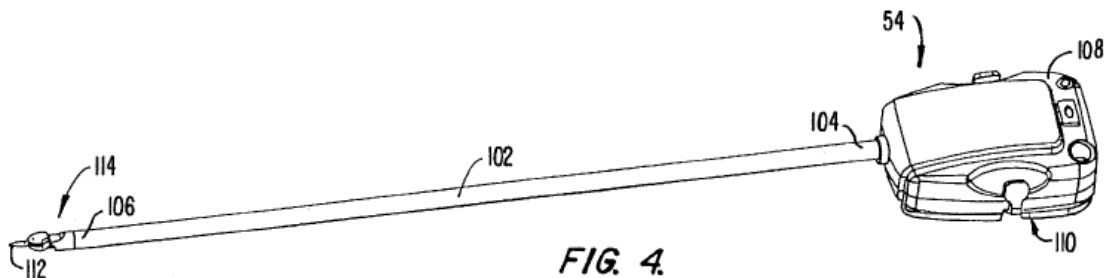


Figure 4 of the '447 patent depicts an exemplary tool of the invention. *Id.* at 5:62–63. The tool will often comprise a surgical instrument suitable for manipulating tissue. *Id.* at 3:40–41. The specification describes, with reference to Figure 4, that tool 54 includes a shaft 102 having proximal end 104 and distal end 106. *Id.* at 9:17–18. Tool 54 includes surgical end effector 112 coupled to the distal end of shaft 102 at joint 114, which provides at least 2 degrees of freedom. *Id.* at 9:20–23. Housing 108 at

Movement of the end effector is depicted in Figure 4A, reproduced below:

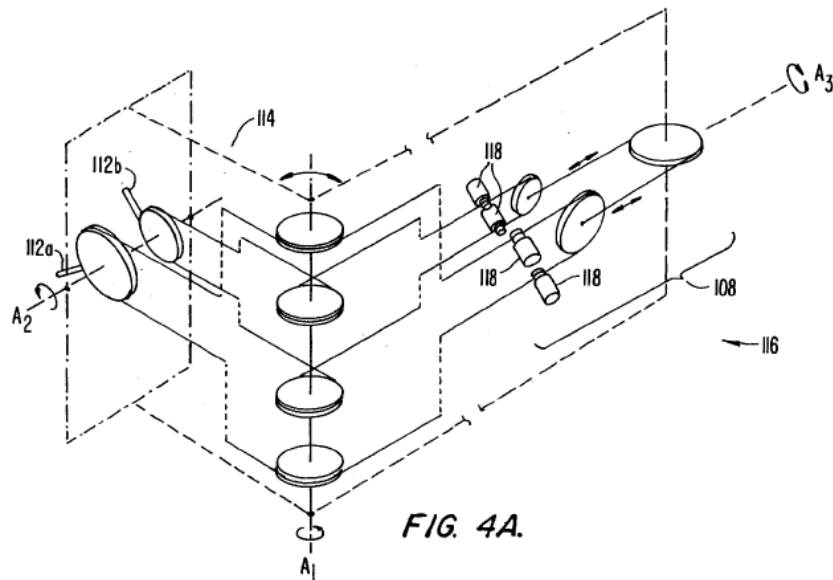


Figure 4A is a schematic view of a drive system for the tool of Figure 4. *Id.* at 5:64–65. Drive system 116 mechanically couples first and second end effector elements 112a, 112b to driven elements 118 of interface 110, and translates mechanical inputs from driven elements 118 into articulation of wrist 114 about first and second axes A1 and A2. *Id.* at 9:24–31. Interface 110 is depicted in Figure 6, reproduced below:

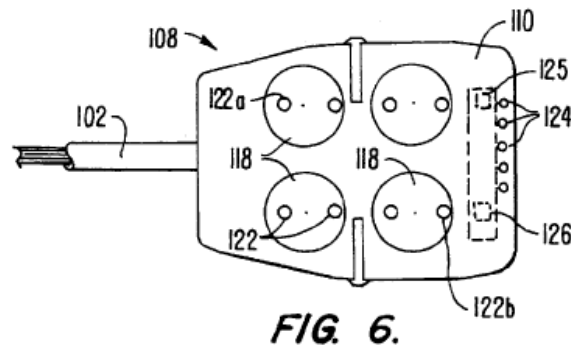


Figure 6 illustrates the mechanical and electrical interface of the tool of Figure 4. *Id.* at 6:1–2. Interface 110 includes a plurality of driven elements 118 that provide mechanical coupling of the end effector to drive motors

mounted to manipulator 58. *Id.* at 10:17–20. In the embodiment of Figure 6, driven elements 118 each include a pair of pins 122 extending from a surface thereof that couple with openings 140 in rotatable bodies 134 so as to align driven elements 118 of the tool with the drive elements of the holder. *Id.* at 10:20–22, 11:6–9. In one embodiment, rotatable bodies 134 are in adapter 128, as depicted in Figure 7B, reproduced below:

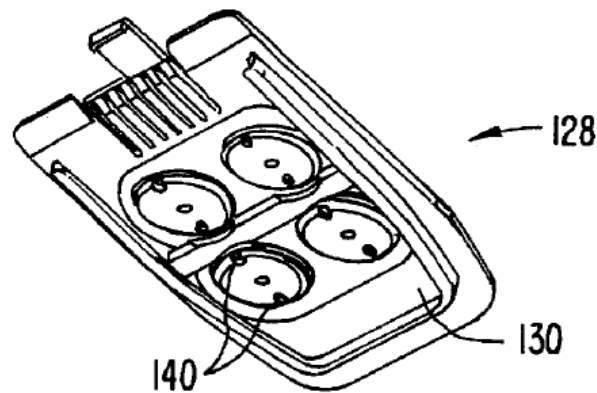


FIG. 7B.

Figure 7B illustrates an adapter for coupling the interface of Figure 6 to the surgical manipulator. *Id.* at 6:3–4. Coupling is depicted in Figure 14C, reproduced below:

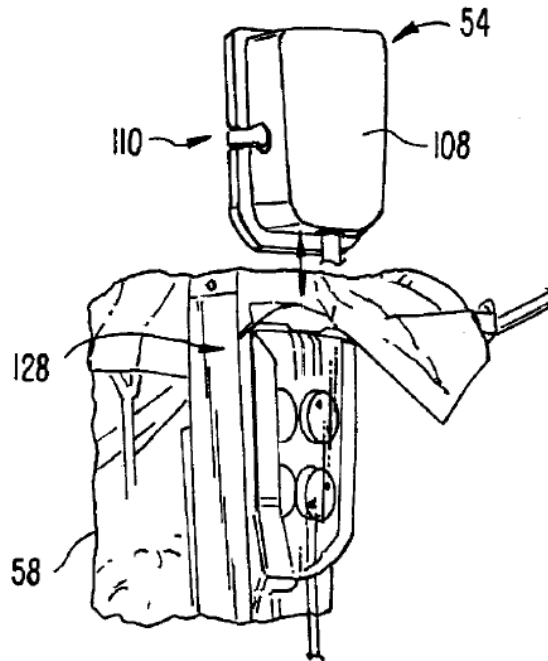


FIG. 14C.

Figure 14C illustrates the adapter of Figure 7B mounted to a manipulator arm, and depicts mounting the tool of Figure 4 onto the adapter. *Id.* at 6:26–28. In particular, mounting of tool 54 to adapter 128 includes inserting the surgical end effector distally through cannula 72 (*see* Figure 2B) and sliding interface 110 of tool 54 into engagement with a mounted adapter. *Id.* at 16:58–62. The tool can be removed and replaced by reversing the above tool mounting procedure and mounting an alternative tool. *Id.* at 16:62–64.

In use, a controller grasped by the surgeon provides a manual input device so that the robotic surgery system allows the surgeon to manipulate the surgical tools as if the handle in the surgeon's hand and the end effector in the surgeon's field of view define a single contiguous surgical instrument. *Id.* at 7:9–13, 12:12–16.

C. Illustrative Claim

Petitioner challenges claims 1–5 of the '447 patent, of which claims 1–4 are the independent claims. Claim 1 is illustrative and is reproduced below:

1. A method for performing robotic surgery on a patient, the method comprising coupling a surgical instrument to a robotic surgical system, the surgical system having a drive assembly operatively coupled to a control unit operable by inputs from an operator, the drive assembly having a plurality of actuator bodies which are movable in response to operator inputs, the surgical instrument comprising:

a proximal portion and a distal portion, the proximal portion comprising a first plurality of movable engaging interface bodies;

at least one distal end effector member;

a plurality of joints, at least one of the joints being coupled to the at least one distal end effector member, the joints being coupled to the plurality of movable engaging interface bodies by a plurality of drive members; the method further comprising:

coupling the movable engaging interface bodies to the plurality of actuator bodies;

moving a robotic manipulator arm supporting the instrument in at least one degree of freedom; and

moving the actuator bodies in response to operator inputs.

Ex. 1001, 17:46–67.

D. The Asserted Ground of Unpatentability

Petitioner asserts that claims 1–5 are unpatentable based on the following ground:

Claim(s) challenged	35 U.S.C. § ¹	References
1–5	103(a)	Smith ² and Faraz ³

Petitioner also relies on the Declaration of Dr. William Cimino (Ex. 1003).

II. ANALYSIS

A. Person of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art at the time of the invention would include someone with a good working knowledge of robotics and medical devices. Pet. 10. Petitioner also asserts that a person of ordinary skill in the art at the time of the invention would include someone having an undergraduate education in electrical engineering, mechanical engineering, robotics, biomedical engineering, or a related field of study, along with about two years of experience in academia or industry studying or developing robotics or medical devices such as robotic surgical systems. *Id.* (citing Ex. 1003 ¶ 31). Patent Owner does not contest Petitioner’s proffered definition and does not propose its own definition of

¹ The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (Sept. 16, 2011), took effect on March 16, 2013. Because the application from which the ’447 patent issued was filed before that date, our citations to Title 35 are to its pre-AIA version.

See MPEP § 2159 (Rev. 08.2017).

² Smith et al., US 5,624,398, issued Apr. 29, 1997 (“Smith,” Ex. 1004).

³ Faraz et al., US 5,824,007, issued Oct. 20, 1998 (“Faraz,” Ex. 1005).

the level of ordinary skill in the art in the Preliminary Response. *See generally* Prelim. Resp.

At this stage of the proceeding, and absent opposition from Patent Owner, we adopt Petitioner’s definition of the level of ordinary skill in the art because it is consistent with the level of skill reflected in the asserted prior art references. Accordingly, the prior art itself is sufficient to demonstrate the level of skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required “where the prior art itself reflects an appropriate level and a need for testimony is not shown” (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985))).

B. Claim Construction

Where, as here, a Petition is filed on or after November 13, 2018, the Board applies the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b). 37 C.F.R. § 100(b) (2019); *see* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018).

Under that standard, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*,

415 F.3d at 1312–17). Extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317.

Petitioner proposes constructions for several terms, but contends that “the Board likely will not need to adopt specific constructions to resolve any dispute.” Pet. 11. Patent Owner does not propose any constructions for any claim terms in its Preliminary Response. *See generally* Prelim. Resp.

On November 20, 2019, after Petitioner filed the Petition but before Patent Owner filed the Preliminary Response, the district court in the copending district court case, *Intuitive Surgical, Inc. v. Auris Health, Inc.*, No. 18-1359 (MN) (D. Del.), held a claim construction hearing. With our authorization, Petitioner submitted the transcript as an exhibit in this proceeding. Ex. 1011. At the end of the hearing, the district court determined the term “end effector” in the ’447 patent means a “device at the end of an instrument used in surgery designed to interact with the environment.” *Id.* at 117:21–118:21.

At this stage of the proceeding, and having considered the district court’s claim construction, we determine that it is unnecessary to expressly construe any claim terms for purposes of rendering this Decision. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) (“[C]laim terms need only be construed ‘to the extent necessary to resolve the controversy.’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

C. Obviousness over *Smith and Faraz*

Petitioner asserts that claims 1–5 are unpatentable as obvious over *Smith and Faraz*. Pet. 15–75. Patent Owner opposes Petitioner’s assertion. Prelim. Resp. 12–21. On this record, we determine that Petitioner has

established a reasonable likelihood that it would prevail in showing the challenged claims are unpatentable as obvious over Smith and Faraz.

1. Smith (Ex. 1004)

Smith relates to a robotic surgical system. Ex. 1004, 1:7–9. Figure 1B of Smith is reproduced below:

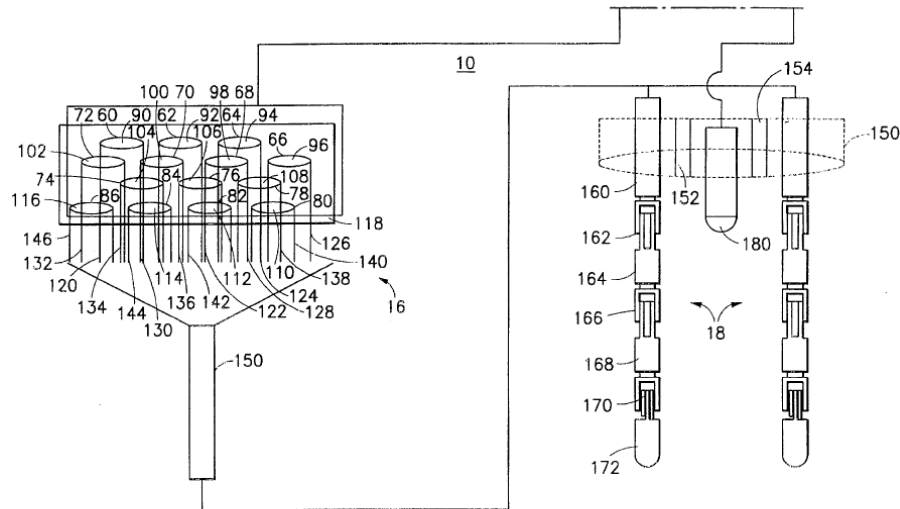


FIG. 1B

Figure 1B is a schematic illustration of one embodiment of an endoscopic robotic surgical tool. *Id.* at 5:52–53. Smith’s system includes an exoskeleton encoder worn by a practitioner (*see* Figure 1A) and a pair of remote robot arms 18 at the distal end of a multi-lumen tube 150. *Id.* at 6:46–49, 6:67–7:1. An end effector (e.g., grippers, cutters, dissectors, bioptomes) is mounted to the end of each robot arm. *Id.* at 4:40–41, 18:59–65. The end effectors may be interchanged during the course of a procedure by detaching the multilumen tube/robot arms assembly from the servo motor arrays. *Id.* at 19:2–5. The encoder, worn by the practitioner, has transducers that register the practitioner’s rotational and flexional movements. *Id.* at 50–59. The transducers are coupled to a control circuit that provides outputs to an array of servo motors, which are coupled to

pulleys that are arranged in a pulley tray. *Id.* at 6:59–64, 7:26–31. In particular, splined shafts of the servo motors engage receiving bores of the pulleys and are “self-aligning” with the receiving bores, and the trays are arranged so that the pulley tray is sandwiched between two servo motor arrays. *Id.* at 14:53–64.

Figure 22 of Smith, reproduced below, depicts a sandwiched assembly:

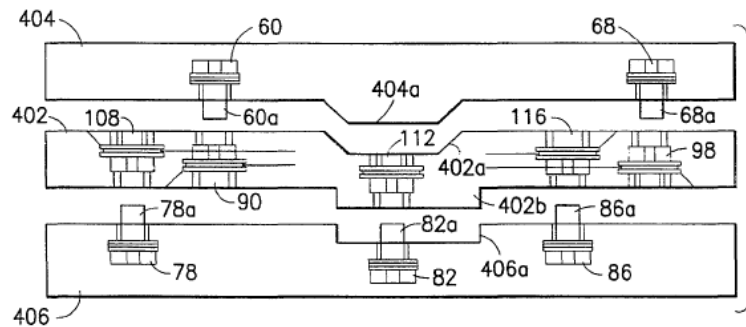


FIG. 22

Figure 22 is a side view of top and bottom servo motor arrays 404 and 406, respectively, and pulley tray 402. *Id.* at 6:14–15.

The assembly is shown in Figure 23, reproduced below:

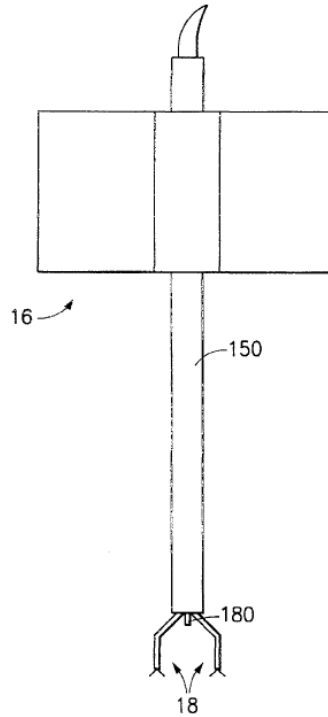


FIG. 23

Figure 23 depicts an assembled servo system 16, multi-lumen tube 150, and robotic arms 18. *Id.* at 14:8–11, 20:22–23. In Figure 23, the pulley tray and servo motor arrays are sandwiched together as servo system 16 and attached to multi-lumen tube 150. *Id.* at 14:42–44, 57–67. Smith teaches that the “tray of servo motors 16 is located a convenient distance from the surgical site with the flexible sheathed tendons extending to the multilumen tube which holds the robot arms. The servo motor tray may be supported by an adjustable clamping means connected to the operating table or other support.” *Id.* at 8:43–48.

The pulleys in the pulley tray are each connected to a tendon loop, which are fed through the multi-lumen tube to the remote robot arms at the distal end of the tube. *Id.* at 6:67–7:2, 14:41–44. The tendons are depicted in Figure 34, reproduced below:

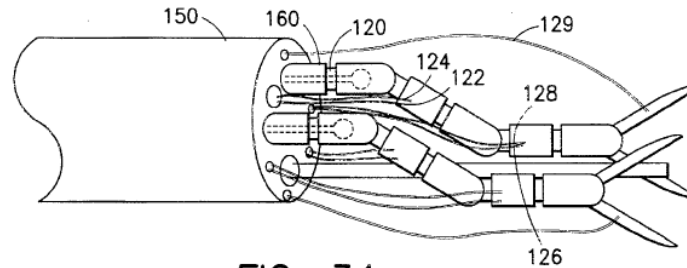


FIG. 34

Figure 34 depicts two robotic arms extending from the distal end of a multi-lumen tube. *Id.* at 6:40–41. Each of the remote robot arms has three rotational joints and three flexional joints and a gripper, such that the tendon loops are each connected to one of the joints and the gripper on each robot arm. *Id.* at 7:3–9. Based on how the tendons are connected to the joints, Smith’s arrangement is rotatable about an axis of rotation and also is rotatable about an axis that is perpendicular to the axis of rotation. *Id.* at 16:65–17:12.

2. Faraz

Faraz relates to an adjustable surgical stand. Ex. 1005, 1:1. Figure 1 of Faraz is reproduced below:

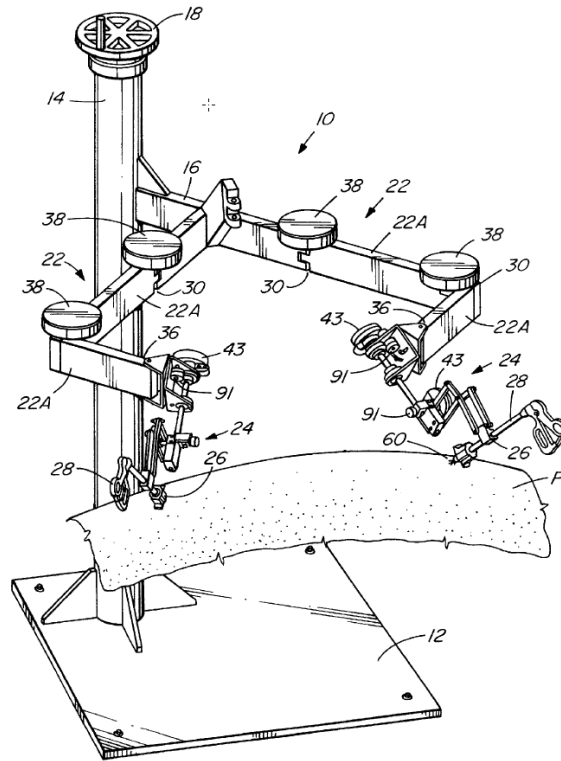


FIG. 1

Figure 1 depicts a surgical support stand. Ex. 1005, 2:39–40. Faraz’s stand 10 has base 12 that supports pillar 14 on which arm support 16 is slidably attached. *Id.* at 2:57–59. Arm support 16 supports a plurality of arms 22 each having an implement holding wrist 24 at end 36 for implement holder 26, which receives surgical instrument 28. *Id.* at 3:5–15. Arms 22 each are pivotally mounted to arm support 16 about joints 30, which allow free distal ends 36 of arms 22 to be moved. *Id.* at 3:27–30. According to Faraz, “[s]tand 10 is well adapted for use as a basis for a robotic surgery device,” and “motors or other actuators could be connected using known

means to drive and control the motion of any or all of the joints in stand 10.”
Id. at 6:23–29.

3. *Analysis*

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) objective evidence of nonobviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *KSR*, 550 U.S. at 418. “[I]t can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” *Id.* Moreover, a person of ordinary skill in the art must have had a reasonable expectation of success of doing so. *PAR Pharm., Inc. v. TWi Pharms., Inc.*, 773 F.3d 1186, 1193 (Fed. Cir. 2014).

Petitioner asserts that each limitation of claims 1–5 is taught by the combination of Smith and Faraz. Pet. 15–75. Regarding claim 1, Petitioner asserts that Smith discloses each limitation except “moving a robotic manipulator arm supporting the instrument in at least one degree of freedom.” *Id.* at 23–24. For example, Petitioner contends Smith teaches coupling a surgical instrument having an end effector to a robotic surgical

system having a drive assembly. Pet. 23–32. In support of Petitioner’s assertion, Petitioner provides annotated versions of Figures 1B and 23 of Smith, reproduced below:

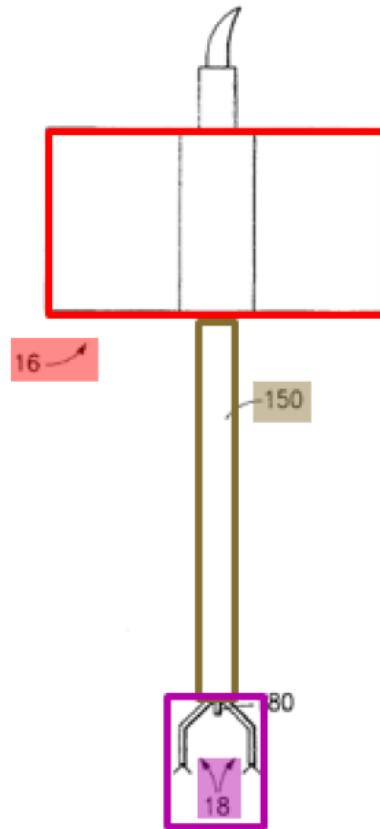


FIG. 23

Petitioner’s annotated Figure 23 depicts a surgical instrument comprising a pulley tray located on the proximal end (in red), a multi-lumen tube (in brown), and end effectors on the distal end (in purple). *Id.* at 23–24 (citing Ex.1004, 6:17–18).

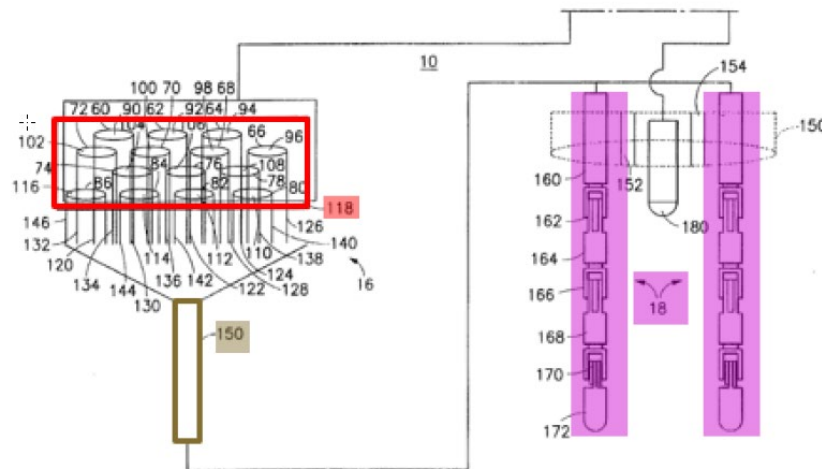


FIG. 1B

Petitioner's annotated Figure 1B depicts servo system 16 having pulley tray 118 (in red) on the proximal side of the multi-lumen tube 150 (in brown) and the instrument arms 18 (in purple) on the distal end of the multi-lumen tube 150. *Id.* at 28–29 (citing Ex. 1004, 6:62–7:2, Fig. 1B).

Petitioner contends that Smith thus discloses a surgical system having “a drive assembly” (e.g., the servo motor array) coupled to a control circuit (e.g., control circuit 14), and a “surgical instrument” (e.g., pulley tray 118, multi-lumen tube 150 and instrument arms 18) and that the instrument arms have grippers or other end effectors at the distal end of the multi-lumen tube. *Id.* at 27–32 (citing Ex. 1003 ¶¶ 96–110).

Petitioner admits Smith does not expressly teach the limitation of “moving a robotic manipulator arm supporting the instrument in at least one degree of freedom.” Pet. 38. Petitioner, however, asserts that Smith renders the limitation obvious in light of Faraz. Pet. 38–41. Petitioner asserts that Smith's servo motor tray may be connected to an operating table “or other support.” *Id.* at 38 (citing Ex. 1004, 8:46–48). Petitioner asserts that Faraz teaches its stand is “well adapted for use as a basis for a robotic surgery

device” and can have actuators for driving and controlling the joints of the stand. *Id.* at 38–39 (citing Ex. 1005, 6:23–24, 27–29). Petitioner therefore asserts Faraz’s stand teaches a robotic manipulator arm supporting the instrument in at least one degree of freedom. *Id.*

We are persuaded, for the reasons stated in the Petition as supported by the cited evidence, that Petitioner has shown sufficiently that each limitation of claim 1 is taught by the combination of Smith and Faraz. *See* Pet. 15–42. We have also considered the arguments and evidence in the Petition and find Petitioner has shown sufficiently that each limitation of claims 2–5 is taught by the combination of Smith and Faraz, as well. *See* Pet. 42–75 (citing Ex. 1003 ¶¶ 132–206).

Regarding the reason to combine the references, Petitioner notes that Smith teaches that the practitioner “may direct the assistant to relocate the robot arms” when necessary. Pet. 39 (citing Ex. 1004, 8:48–50, 9:6–10). Petitioner also notes that Faraz teaches that its support stand “may enable a surgeon to perform surgery with fewer assistants than would be required for the same surgery without such a stand.” *Id.* (quoting Ex. 1005, 6:34–36). Petitioner argues that one of ordinary skill in the art would have had a reason to combine Smith and Faraz because a skilled artisan would have looked for “other support[s]” and would have understood that an actuated robotic manipulator arm, as described by Faraz, would reduce the number of assistants during a procedure and/or reduce the workload of the assistants. Pet. 39 (citing Ex. 1003 ¶ 126; Ex. 1005, 6:34–36).

Petitioner also argues that a person of ordinary skill in the art would have understood that Smith’s servo motor tray could be adjustably clamped to the adjustable surgical stand disclosed by Faraz. Pet. 39–40 (citing Ex. 1003 ¶ 127; Ex. 1005, 1:60–2:1, 3:27–33, 6:15–21). According to

Petitioner, a person of ordinary skill in the art would have found it obvious to incorporate Faraz’s motorized or actuated robotic arm into Smith as a matter of “routine engineering” to “improve the performance of the system the POSA was trying to design.” *Id.* at 22, 41 (citing Ex. 1003 ¶¶ 84, 123–128).

In response, Patent Owner first argues Petitioner fails to establish that a person of ordinary skill in the art would have been motivated to modify Faraz to create a robotic stand to further modify Smith. Prelim. Resp. 13–14. Patent Owner notes that Faraz “only discloses that ‘motors or other actuators *could be* connected using known means to drive and control the motion of any or all of the joints in stand 10.’” *Id.* at 13 (quoting Ex. 1005, 6:27–29). Patent Owner argues that Faraz’s statement that “motors or other actuators could be connected” is insufficient to establish a motivation to modify Faraz’s surgical stand. *Id.* (citing *InTouch Techs., Inc. v. VGo Commc’ns, Inc.*, 751 F.3d 1327, 1352 (Fed. Cir. 2014); *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015)).

We disagree. In the cases Patent Owner cites, the Federal Circuit emphasizes that it is improper to base an obviousness determination on what a hypothetical person of ordinary skill in the art could have done to combine the references, rather than what would have motivated the skilled artisan to do so. *InTouch*, 751 F.3d at 1352 (“[The expert’s] testimony primarily consisted of conclusory references to her belief that one of ordinary skill in the art *could* combine these references, not that they *would* have been motivated to do so.”); *Belden*, 805 F.3d at 1073 (“[O]bviousness concerns whether a skilled artisan not only *could have made* but *would have been motivated to make* the combinations or modifications of prior art to arrive at the claimed invention.”). That is not the issue here. Here, the issue is what

Faraz teaches, not whether a person of ordinary skill in the art would have been motivated to modify Faraz. Faraz’s teaching that motors or other actuators “could be” connected using known means simply describes an alternative embodiment of Faraz’s stand. Thus, on this record, we find Faraz teaches a robotic arm.

Patent Owner also argues that Petitioner fails to explain how a person of ordinary skill in the art would have combined Smith and Faraz. Prelim. Resp. 14. Patent Owner argues that Petitioner does not explain how the two arrays of servo motors would be clamped to Faraz’s stand or how Smith’s exoskeleton would function with Faraz’s stand during surgery. *Id.* Patent Owner also argues that Smith already has two robotic arms, which Petitioner allegedly ignores in modifying Smith with Faraz. *Id.* at 14–15. On this record, we do not agree, as Petitioner is not required to show that the references are physically combinable to render the claims obvious. *See In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983) (“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.”).

Patent Owner also argues that Faraz’s statement that its stand “may enable a surgeon to perform surgery with fewer assistants” does not provide a motivation for Petitioner’s specific changes to Smith. Prelim. Resp. 15–16 (quoting Ex. 1005, 6:34–36). Even if Patent Owner is correct that Smith “only discloses the use of a single assistant” (Prelim. Resp. 16 (citing Ex. 1004, 8:34–51)), we find Petitioner’s argument reasonable that a skilled artisan would have a reason to incorporate Faraz’s robotic stand to reduce the workload of that assistant. Pet. 39 (citing Ex. 1003 ¶ 126). Moreover, at this stage of the proceeding, we are persuaded that Petitioner has shown sufficiently that the proposed modification of Smith is within the level of

skill of a person of ordinary skill in the art at the time of the invention. *See* Ex. 1003 ¶ 84.

Patent Owner also argues that the similarities between Smith and Faraz is an insufficient reason to establish a motivation to combine these references. *Id.* at 16–18. But Petitioner does not rely on the similarities alone to establish a reason to combine the references. We have considered Petitioner’s arguments as a whole and find that, at this stage of the proceeding, Petitioner has shown sufficiently “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418.

Patent Owner also argues that Petitioner contends Smith’s “surgical instrument” comprises a pulley tray located on the proximal end, a multi-lumen tube, and end effectors on the distal end. Prelim. Resp. 19 (citing Pet. 23–24). Patent Owner then notes that Petitioner proposes modifying Smith by clamping its servo motor tray to the adjustable stand in Faraz. *Id.* (citing Pet. 39–40). Patent Owner asserts that Petitioner fails to establish that any of the elements mapped to the surgical instrument would be supported by Faraz’s stand to satisfy the requirement for “a robotic manipulator arm supporting the instrument.” *Id.*

To the extent Patent Owner argues that Petitioner’s reliance on Smith does not teach or suggest clamping the surgical instrument to the support, we disagree at this stage of the proceeding. According to Petitioner, Smith teaches that “servo motor tray [16] may be supported by an adjustable clamping means connected to the operating table or other support.” Pet. 38 (citing Ex. 1004, 8:46–48) (emphasis omitted). Servo motor tray 16 comprises pulley tray 118 and an array of servo motors. *See* Ex. 1004, 8:39–48, Fig. 1B, Fig. 23. Thus, when Smith teaches attaching the servo motor

tray by an adjustable clamp connected to the operating table or other support, we interpret Smith as attaching the assembled servo motor tray and the attached multi-lumen shaft and end effector, as depicted in Figure 23 of Smith. *Id.*

Patent Owner argues that independent claims 2–4, which also recite “a robotic manipulator arm supporting the instrument,” and claim 5, which depends from claim 1, all fail for the same reasons as claim 1. *Id.* at 20–21 (citing Ex. 1001, 18:31–32, 18:50–51, 19:10–11). For the same reasons stated above, on this record, we find Petitioner has made a sufficient showing as to those claims.

Having considered the arguments and evidence, we determine, at this stage of the proceeding, that Petitioner has shown a reasonable likelihood of prevailing in its assertion that claims 1–5 of the ’447 patent are unpatentable as obvious over Smith and Faraz.

III. CONCLUSION

For the foregoing reasons, we conclude that Petitioner has established a reasonable likelihood of prevailing on its assertion that claims 1–5 of the ’447 patent are unpatentable as obvious over Smith and Faraz.

Our determination in this Decision is not a final determination on either the patentability of any challenged claims or the construction of any claim term and, thus, leaves undecided any remaining fact issues necessary to determine whether sufficient evidence supports Petitioner’s contentions by a preponderance of the evidence in the final written decision. *See Trivascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (noting that “there is a significant difference between a petitioner’s burden to establish a ‘reasonable likelihood of success’ at institution, and actually

proving invalidity by a preponderance of the evidence at trial”) (quoting 35 U.S.C. § 314(a) and comparing *id.* § 316(e)).

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–5 of the ’447 patent is instituted on the ground that those claims are unpatentable as obvious over Smith and Faraz;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), *inter partes* review of the ’447 patent shall commence on the entry date of this Order, and notice is hereby given of the institution of a trial.

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Patent 8,142,447 B2

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