UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTUITIVE SURGICAL, INC., Petitioner,

v.

ETHICON LLC, Patent Owner.

IPR2019-00991 Patent 8,602,287 B2

Before JOSIAH C. COCKS, ZHENYU YANG, and JOHN E. SCHNEIDER, *Administrative Patent Judges*.

YANG, Administrative Patent Judge.

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

I. INTRODUCTION

A. Background and Summary

Intuitive Surgical, Inc. ("Petitioner") filed a Petition (Paper 2, "Pet.") seeking an *inter partes* review of claims 13–15, 17, and 18 of U.S. Patent No. 8,602,287 B2 (Ex. 1001, "the '287 patent"). Ethicon LLC ("Patent Owner") did not file a Preliminary Response.

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). On April 24, 2018, the Supreme Court held that a decision under § 314 may not institute review on fewer than all claims challenged in the petition. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1355–56 (2018). In addition, the Federal Circuit has interpreted the statute to require "a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition." *PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018).

For the reasons provided below, we determine Petitioner has satisfied the threshold requirement set forth in 35 U.S.C. § 314(a). Thus, based on the information presented, we institute an *inter partes* review of claims 13–15, 17, and 18 of the '287 patent.

B. Related Matters

According to the parties, Patent Owner asserted the '287 patent against Petitioner in *Ethicon LLC v. Intuitive Surgical, Inc.*, Case 1:18-cv-1325 (D. Del.). Pet. 2; Paper 5, 2. Patent Owner also asserted several other patents against Petitioner in the Delaware case, and Petitioner filed petitions for *inter partes* reviews of those patents. Pet. 2; Paper 5, 2.

C. The '287 Patent

The '287 patent is directed to a motor-driven surgical cutting and fastening instrument that comprises an end effector, an electric motor, and a motor control circuit. Ex. 1001, Abstract. Figure 1, reproduced below, depicts a surgical instrument according to the '287 patent:



Figure 1 of the '287 patent depicts a motor-driven surgical cutting and fastening instrument 10. Ex. 1001, 3:6–7. Surgical instrument 10 comprises handle 6, shaft 8, and articulating end effector 12 pivotally connected to shaft 8. *Id.* at 3:16–18. Figure 3 of the '287 patent is reproduced below:



Figure 3 is an exploded view of end effector 12. *Id.* at 4:22. End effector 12 includes channel 22, anvil 24, cutting instrument 32, sled 33,

staple cartridge 34 that is removably seated in channel 22, and helical screw shaft 36. *Id.* at 4:24–27. Cutting instrument 32 may be, for example, a knife. *Id.* at 4:28.

According to the '287 patent, in operational use, closure trigger 18 may be actuated first. *Id.* at 4:8–9.

When the closure trigger 18 is actuated, that is, drawn in by a user of the instrument 10 toward the pistol grip portion 26, the anvil 24 may pivot about the pivot point 25 into the clamped or closed position. If clamping of the end effector 12 is satisfactory, the operator may actuate the firing trigger 20, which causes the knife 32 and sled 33 to travel longitudinally along the channel 22, thereby cutting tissue clamped within the end effector 12. The movement of the sled 33 along the channel 22 causes the staples of the staple cartridge 34 to be driven through the severed tissue and against the closed anvil 24, which turns the staples to fasten the severed tissue.

Id. at 4:34–45.

The '287 patent acknowledges that surgical staplers existed in the art. *Id.* at 1:12–43. Specifically, the '287 patent incorporates by reference U.S. Patent No. 6,978,921 ("Shelton") because it "provides more details about such two-stroke cutting and fastening instrument." *Id.* at 4:47–51.

The '287 patent also discloses an electric motor disposed in the handle for actuating the cutting instrument. *Id.* at 1:63–64, 6:13–14. According to the '287 patent, in operation, when an operator of instrument 10 pulls back firing trigger 20, the motor "forward rotate[s] at, for example, a rate proportional to how hard the operator pulls back the firing trigger 20." *Id.* at 7:45–47. The forward rotation of the motor causes a series of movements of various components, and ultimately, "the knife 32 and sled 33 are caused to traverse the channel 22 longitudinally, thereby cutting tissue clamped in the end effector 12." *Id.* at 7:47–57.

The '287 patent acknowledges that motor-driven endocutters were known in the art. *Id.* at 1:44–52. "In such devices, a motor powers the cutting and fastening action of the instrument." *Id.* at 1:44–46.

According to the '287 patent, the rotation of the motor is controlled by a motor control circuit, which comprise a power source connected to the motor, and a current control circuit connected to the power source. *Id.* at 1:65–2:1, 7:44–45, 7:60–65. The '287 patent discloses that

The current control circuit may vary the current supplied to the motor, and consequently, the output torque supplied by the motor, such that the motor has at least (i) a first, low power operational mode for a first portion of a cutting stroke cycle of the cutting instrument, and (ii) a second, high power operational mode for a second portion the cutting stroke cycle of the cutting instrument.

That way . . . the motor can start out at a low power mode at the beginning of the cutting stroke to provide a soft start quality. After the initial soft start, the motor can ramp up to full power for the majority of the cutting stroke, but then transition to a lower power mode before and shortly after the cutting reverses direction. In addition, the motor may transition from a high power mode to a low power mode before the cutting instrument reaches its final, or home, position when it is being retracted.

Id. at 2:2–19.

Figure 11 of the '287 patent is reproduced below:



Figure 11 is a schematic diagram of the motor control circuit according to the '287 patent. *Id.* at 9:6–7. The circuit includes resistive element 144 and switch 146 connected in parallel, with the paralleled elements connected in series with single pole, double throw relay 132. *Id.* at 9:24–26. Switch 146 is controlled by a control circuit that is responsive to cutting instrument position sensor 150. *Id.* at 9:28–30. The control circuit "may open the switch 146 when the cutting instrument 32 is (i) very near to the beginning of its stroke and (ii) very near to the end of its stroke." *Id.* at 9:31–34.

With the switch 146 open, current flows through the resistive element 144, and then through the relay 132, the relay 138, the run motor sensor switch 110, to the motor 65. Current flowing through the resistive element 144 reduces the magnitude of the current delivered to the motor 65, thereby reducing the power delivered by the motor 65. Thus, when the cutting instrument 32 is (i) very near to the beginning of its stroke or (ii) very near to the end of its stroke, the power delivered by the motor 65 is reduced. Conversely, once the cutting instrument 32 moves sufficiently far from its beginning point or end of stroke point, the control circuit 148 may close the switch 146, thereby shorting

the resistive element 144, thereby increasing the current to the motor 65, thereby increasing the power delivered by the motor.

Id. at 9:38–51.

The '287 patent states that this "soft" start quality (1) limits the sudden jerking start; (2) reduces the likelihood of the motor overpowering the cartridge lockout mechanism; and (3) eases reversal of the motor direction. *Id.* at 12:33–41.

D. Illustrative Claims

Among the challenged claims, claims 13 and 17 are independent.

Claim 13 is illustrative of the subject matter and is reproduced below:

13. A surgical instrument, comprising:

an end effector comprising a firing element, wherein the firing element is configured to move along a firing path, and wherein the firing path comprises:

an initial position; and

an end-of-stroke position;

an electric motor, wherein the electric motor drives the firing element in a first direction along the firing path when the electric motor is rotated in a first rotational direction; and

a control circuit for controlling the electric motor, wherein the control circuit is configured to switch between a plurality of operational modes during rotation of the electric motor in the first rotational direction, and wherein the plurality of operational modes comprises:

a first operational mode, wherein the control circuit operates in the first operational mode when the firing element is positioned within a first range of positions along the firing path, wherein the first range of positions is positioned between the initial position and a second range of positions, and wherein a first amount of current is supplied to the electric motor during the first operational mode; and

a second operational mode, wherein the control circuit operates in the second operational mode when the firing element is positioned within the second range of positions along the firing path, wherein the second range of positions is positioned between the first range of positions and the end-of-stroke position, wherein a second amount of current is supplied to the electric motor during the second operational mode, and wherein the second amount of current is greater than the first amount of current.

Claim 17 is similar to claim 13, but further requires the surgical instrument to comprise "a sensor that detects a condition of the firing element indicative of the position of the firing element along the firing path."

E. Asserted Grounds of Unpatentability

Claims Challenged	Basis	References
13–15, 17, 18	§ 103	Swayze ¹ and Smith ²
13–15, 17, 18	§ 103	Swayze and McInnis ³
13–15, 17, 18	§ 103	Zemlok ⁴ and Whitman ⁵
13–15, 17, 18	§ 103	Zemlok, Milliman, ⁶ and Whitman

Petitioner asserts the following grounds of unpatentability:

In support of its patentability challenge, Petitioner relies on the Declaration of Gregory S. Fischer, Ph.D. (Ex. 1003).

¹ Swayze et al., U.S. Pat. App. Pub. No. 2007/0175956 A1, published August 2, 2007 (Ex. 1005).

² Smith et al., U.S. Pat. App. Pub. No. 2007/0270790 A1, published November 22, 2007 (Ex. 1004).

³ McInnis, U.S. Pat. No. 4,346,335, issued August 24, 1982 (Ex. 1006).

⁴ Zemlok et al., U.S. Pat. App. Pub. No. 2009/0090763 A1, published April 9, 2009 (Ex. 1007).

⁵ Whitman et al., U.S. Pat. No. 6,793,652 B1, issued September 21, 2004 (Ex. 1009).

⁶ Milliman et al., U.S. Pat. No. 6,953,139 B2, issued October 11, 2005 (Ex. 1008).

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, a claim term "shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." 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, 51,340, 51,358 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)); see also Phillips v. AWH Corp., 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc) (holding that the 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") (citations omitted). Any special definitions for claim terms must be set forth with reasonable clarity, deliberateness, and precision. In re Paulsen, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner proposes that we construe the terms "firing element," "initial position," and "operational mode." Pet. 9–13. Petitioner relies on the claim language, the specification of the '287 patent, and the Declaration of Dr. Fischer for support. *Id.* For purposes of this Decision, we adopt Petitioner's proposed constructions.

B. Obviousness over Swayze and Smith

Petitioner argues that claims 13–15, 17, and 18 of the '287 patent would have been obvious over Swayze and Smith. Pet. 27–58. Based on this record, we determine Petitioner has established a reasonable likelihood that it would prevail in this assertion, at least with regard to claim 13.

1. Swayze

Swayze teaches a surgical cutting and stapling instrument, which includes an end effector and a handle. Ex. 1005 \P 25. Figure 1, reproduced below, depicts a surgical instrument according to Swayze:



Figure 1 of Swayze depicts motor-driven surgical cutting and fastening instrument 10. Ex. 1005 ¶¶ 43, 54. Surgical instrument 10 comprises handle 6, shaft 8, and articulating end effector 12 pivotally connected to shaft 8. *Id.* ¶ 44. Figure 3 of Swayze is reproduced below:



Figure 3 of Swayze is an exploded view of end effector 12. *Id.* ¶ 49. End effector 12 includes channel 22 and anvil 24 pivotally attached to the channel. *Id.* It also includes moveable cutting instrument 32 for cutting an object positioned between the anvil and the channel. *Id.* Cutting instrument 32 may be, for example, a knife. *Id.* End effector 12 further includes sled 33, staple cartridge 34 removable seated in the channel, and helical screw shaft 36. *Id.*

Swayze teaches that

When the closure trigger 18 is actuated, that is, drawn in by a user of the instrument 10, the anvil 24 may pivot about the pivot point 25 into the clamped or closed position. If clamping of the end effector 12 is satisfactory, the operator may actuate the firing trigger 20, which . . . causes the knife 32 and sled 33 to travel longitudinally along the channel 22, thereby cutting tissue clamped within the end effector 12. The movement of the sled 33 along the channel 22 causes the staples . . . of the staple cartridge 34 to be driven through the severed tissue and against the closed anvil 24, which turns the staples to fasten the severed tissue.

Id. Like the '287 patent, Swayze also incorporates Shelton by reference, and for the same reason, that is, Shelton "provides more details about such two-stroke cutting and fastening instrument." *Id.*

Swayze also teaches that the handle of the instrument includes a motor for actuating the cutting instrument. *Id.* ¶¶ 25, 54. According to Swayze, "rotation of the motor 65 causes the main drive shaft assembly to rotate, which causes actuation of the end effector 12." *Id.* ¶ 57.

In operation, when an operator of the instrument 10 pulls back the firing trigger 20, the sensor 110 detects the deployment of the firing trigger 20 and sends a signal to the motor 65 to cause forward rotation of the motor 65 at, for example, a rate proportional to how hard the operator pulls back the firing trigger 20. The forward rotation of the motor 65 ... causes deployment

of the knife 32 in the end effector 12. That is, the knife 32 and sled 33 are caused to traverse the channel 22 longitudinally, thereby cutting tissue clamped in the end effector 12.

Id. ¶ 61.

The instrument further includes a control circuit that "may calculate the stage of deployment of the knife 32 in the end effector 12. That is, the control circuit can calculate if the knife 32 is fully deployed, fully retracted, or at an intermittent stage." *Id.* ¶ 109. "[W]hen the knife 32 is fully deployed (i.e., fully extended) . . . the control circuit may send a signal to the motor 65 to reverse direction to cause retraction of the knife 32." *Id.* ¶ 112. And when the control circuit determines knife 32 is fully retracted, it "may send a signal to the motor 65 to stop rotation." *Id.*

2. Smith

Smith teaches "a surgical instrument including a surgical end effector having at least one actuation assembly to effect a surgical procedure when actuated, an electric motor having a rated operating voltage and being operationally connected to the end effector to operate the at least one actuation assembly, and a power supply electrically connected to the motor and selectively powering the motor to actuate the at least one actuation assembly." Ex. 1004 ¶ 11. Smith describes "the knife blade lock-out feature—the safety that prevents the knife blade . . . from advancing when there is no staple cartridge or a previously fired staple cartridge in the staple cartridge holder," as illustrated in Figure 32. *Id.* ¶ 199. Figure 32 is reproduced below:



Figure 32 "is a fragmentary, vertically longitudinal, cross-sectional view of a distal end of an articulating portion of an exemplary embodiment of an end effector with the inner tube, the pushrod-blade support, the anvil, the closure ring, and the near half of the staple sled removed." *Id.* ¶ 73. According to Smith, "the knife blade 1060 should be allowed to move distally only when the staple sled 102 is present at the firing-ready position, i.e., when the sled 102 is in the position illustrated in FIG. 32." *Id.* ¶ 199. Smith explains that if sled 102 is not present in this position, in other words, if "a partial or full firing has already occurred with the loaded staple cartridge . . . the blade 1060 should not be allowed to move, or should be restricted in its movement." *Id.* According to Smith, with the lock-out feature,

[I]f the sled 102 is not present at the distal end of the blade 1060 to prop up the nose 1069, then the lower guide wings 1065 will follow the depression 1037 just proximal of the edge 1035 and, instead of advancing on the floor 1034, will hit the edge 1035 and prevent further forward movement of the blade 1060.

Id.

Smith teaches that this safety feature operates so long as the force transmitted by knife blades 1062 to blade 1060 is not great enough to tear off lower guide wings 1065 from blade 1060. *Id.* ¶ 200. But, with the forces able to be generated by the power supply, motor and drive train, Smith

continues, "the blade 1060 can be pushed distally so strongly that the wings 1065 are torn away. If this occurs, there is no way to prevent distal movement of the blade 1060 or the sled 102." *Id.*

Smith provides a two-part force generation limiter so that "the upper limit of force able to be applied to the blade 1060 is reduced in the first part of blade travel (past the edge 1035) and increases after the wings 1065 have cleared the edge 1035 and rest on the floor 1034." *Id.* In one embodiment, "only one or a few of the cells in the power supply are connected to the motor during the first part of the stapling/cutting stroke and, in the second part of the stapling/cutting stroke, most or all of the cells in the power supply are connected to the motor." *Id.* Figure 33, reproduced below, illustrates an example of such a circuit:



Figure 33 is a schematic circuit diagram of an exemplary switching assembly for a power supply according to Smith. *Id.* ¶ 74. As shown in Figure 33, when switch 1100 is in the "A" position, the motor is powered with only one out of four possible power cells. *Id.* ¶ 200. When switch 1100 is in the "B" position, the motor is powered with all four power cells 602, "thereby increasing the amount of force that can be supplied to the blade 1060." *Id.*

Figure 35, reproduced below, illustrates another example of such a motor control circuit:



Figure 35 is a schematic circuit diagram of another exemplary switching assembly for the power supply and the forward and reverse control of the motor according to Smith. *Id.* ¶ 76. Here, the forward/reverse switch 1300 has three positions. *Id.* ¶ 204. "When placed in the right position, the motor M is actuated in a forward rotation direction. When placed in the left position, the motor M is actuated in a rearward rotation direction. When the switch 1300 is not actuated . . . the motor M is short circuited." *Id.*

Figure 35 also shows power lock-out switch 1100. *Id.* ¶ 205. Depending on the stage of the actuation, this switch powers the motor with either only one power cell 602' or all six power cells. *Id.*

3. Analysis of Claim 13

Petitioner argues that "Swayze discloses a surgical instrument that is essentially identical to the surgical instrument disclosed in the '287 patent, except that it does not disclose a conventional soft start circuit . . . in the motor control circuit." Pet. 13 (citing Ex. 1003 \P 49). As support, Petitioner

shows Figures 2, 3, and 11 of the '287 patent and those of Swayze are substantially the same, except for the motor control circuit. *Id.* at 13–14.

Specifically, Petitioner contends that Swayze teaches a surgical instrument, comprising an end effector, and an electric motor, arranged as recited in challenged claim 13. *Id.* at 27–30. Based on the current record, we find Petitioner's arguments persuasive. *Compare* Section I.C., *supra*, *with* Section II.B.1., *supra*.

Petitioner further asserts that the combination of Swayze and Smith teaches the motor control circuit, as recited in claim 13. Pet. 31–55. Petitioner points out that Swayze teaches a control circuit. *Id.* at 31–33 (citing Ex. 1005 ¶¶ 59, 60, 62, 67, 80, 81, 109, 112, Fig. 11). The control circuit of Swayze, however, unlike the control circuit of the '287 patent, does not vary the current supplied to the motor. In other words, the control circuit of Swayze does not switch between different operational modes. Petitioner relies on Smith for this missing element. *Id.* at 33–55.

Specifically, Petitioner refers to Smith for teaching a control circuit that includes a "two-part force generation limiter" circuit configured to switch between a low force mode and a high force mode. *Id.* at 34 (citing Ex. 1003 ¶ 93; Ex. 1004 ¶¶ 74, 105, 112, 115, 116, 200, Figs. 33, 35). Petitioner argues that one of ordinary skill in the art would have been motivated to combine the teachings of Swayze and Smith,⁷ and would have had a reasonable expectation of success when doing so. *Id.* at 36–44. For

⁷ Petitioner presents the arguments as both "Swayze in view of Smith" (Pet. 36–41) and "Smith in view of Swayze" (*id.* at 41–44). Generally, "we deem it to be of no significance, but merely a matter of exposition, that the [asserted unpatentability ground] is stated to be on A in view of B instead of on B in view of A." *See In re Bush*, 296 F.2d 491, 496 (CCPA 1961).

purposes of this Decision to institute, we find Petitioner has presented sufficient arguments and evidence to establish a reasonable likelihood that it would prevail in showing the obviousness of claim 13 over Swayze and Smith.

Having done so, we institute an *inter partes* review as to all challenges raised in the Petition. *See SAS*, 138 S. Ct. at 1355–56; *see also* Patent Trial and Appeal Board Consolidated Trial Practice Guide 64 (Nov. 2019)⁸ ("The Board will not institute on fewer than all claims or all challenges in a petition.").

C. Obviousness over Swayze and McInnis

Petitioner argues that claims 13–15, 17, and 18 of the '287 patent would have been obvious over Swayze and McInnis. Pet. 58–66. Based on this record, we determine Petitioner has established a reasonable likelihood that it would prevail in this assertion, at least with regard to claim 13.

1. McInnis

McInnis teaches a motor controller for an electric motor. Ex. 1006, Abstract. Figure 3 of McInnis, as annotated by Petitioner, is reproduced below:



⁸ Available at https://www.uspto.gov/sites/default/files/documents/ tpgnov.pdf.

Figure 3 is a circuit diagram of a motor controller in accordance with McInnis. *Id.* at 5:31–32. According to McInnis,

The starting resistor 60 is connected in series with the armature circuit "A" to prevent a high in rush of current when the motor is started, as is conventional in the art. The contacts 62 are connected across starting resistor 60 to provide a short circuit across this resistor shortly after the motor is started. Contacts 62 are controlled by a time delay relay "TDR" in relay control circuit 48.

Id. at 5:56–63.

2. Analysis of Claim 13

Here, Petitioner relies on the same teachings of Swayze as discussed in the last ground for teaching a surgical instrument, comprising an end effector, an electric motor, and a control circuit, arranged as recited in challenged claim 13. *See* Pet. 58. Petitioner relies on McInnis for teaching a control circuit that "prevent[s] a high in rush of current when the motor is started, as is conventional in the art." *Id.* at 59 (citing Ex. 1006, 5:56–62, Fig. 3).

According to Petitioner, "the control circuit resulting from the combination of Swayze's control circuit with McInnis's soft start circuit ('the Swayze/McInnis control circuit') would be essentially identical to the control circuit disclosed in Figure 11 of the '287 patent." *Id.* at 59–61. Petitioner argues this "modified control circuit switches between the low and high current modes during rotation of the motor and after it has been rotating for a preselected period of time." *Id.* at 61 (citing Ex. 1003 ¶ 148; Ex. 1006 5:59–62, 6:55–57).

Petitioner argues that one of ordinary skill in the art would have been motivated to combine the teachings of Swayze and McInnis, and would have had a reasonable expectation of success when doing so. *Id.* at 61–63. For

purposes of this Decision to institute, we find Petitioner has presented sufficient arguments and evidence to establish a reasonable likelihood that it would prevail in showing the obviousness of claim 13 over Swayze and McInnis.

D. Other Grounds

Petitioner argues that claims 13–15, 17, and 18 of the '287 patent would have been obvious over the combination of Zemlok and Whitman, or the combination of Zemlok, Whitman, and Milliman. Pet. 4. Petitioner sets forth these contentions in detail, and supports them with citations to record evidence and declarant testimony. *See id.* at 66–84.

Having already determined that institution of *inter partes* review of all challenged claims on all grounds is appropriate based on Petitioner's arguments and evidence regarding obviousness of claim 13 over Swayze and Smith, or Swayze and McInnis, and considering that Patent Owner has not yet presented its arguments and evidence against any of Petitioner's challenges, we determine that further analysis of Petitioner's challenges is best left for trial after full development of the record.

III. CONCLUSION

Based on the current record, we find the information presented in the Petition and accompanying evidence has demonstrated a reasonable likelihood that at least claim 13 of the '287 patent would have been obvious over Swayze and Smith, or Swayze and McInnis. As a result, we institute an *inter partes* review of all claims challenged under all grounds in the Petition.

At this stage of the proceeding, the Board has not made a final determination as to the construction of any claim term or the patentability of any challenged claim. Our view with regard to any conclusion reached in the foregoing could change upon completion of the record.

IV. ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314, an *inter partes* review is hereby instituted as to claims 13–15, 17, and 18 of the '287 patent based on the unpatentability challenges presented in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial commencing on the entry date of this decision.

FOR PETITIONER:

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