

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

INTUITIVE SURGICAL, INC.,  
Petitioner,

v.

ETHICON LLC,  
Patent Owner.

---

Case IPR2018-00935  
Patent 8,991,677 B2

---

Before JOSIAH C. COCKS, BENJAMIN D. M. WOOD, and  
MATTHEW S. MEYERS, *Administrative Patent Judges*.

COCKS, *Administrative Patent Judge*.

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

## I. INTRODUCTION

Intuitive Surgical, Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting an *inter partes* review of claims 1–18 of U.S. Patent No. 8,991,677 B2 (Ex. 1001, “the ’677 patent”). Ethicon LLC (“Patent Owner”) filed a Preliminary Response (Paper 8, “Prelim. Resp.”) to the Petition. We have authority under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” Moreover, a decision to institute under 35 U.S.C. § 314 may not institute on fewer than all claims challenged in the petition. *SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1359–60 (2018).

Upon consideration of the Petition and the Preliminary Response, we conclude that the information presented shows there is a reasonable likelihood that Petitioner would prevail in showing the unpatentability of at least one challenged claim. Although the Petitioner initially sought to challenge claims 11–15 and 18 of the ’677 patent, Patent Owner has statutorily disclaimed those claims. *See* Ex. 2004. For the reasons discussed *infra*, claims 11–15 and 18 are no longer regarded as claims challenged in the Petition. Accordingly, we authorize an *inter partes* review to be instituted as to claims 1–10, 16, and 17 of the ’677 patent on the ground raised in the Petition. Our factual findings and conclusions at this stage of the proceeding are based on the evidentiary record developed thus far (prior to Patent Owner’s Response). This is not a final decision as to patentability of claims for which *inter partes* review is instituted. Any final decision will be based on the record, as fully developed during trial.



Disposable loading unit 16 includes housing portion 200 that is configured to engage elongated body portion 14 of surgical stapling apparatus 10. *Id.* at 11:54–61. Figure 2 of the '677 patent is reproduced below.

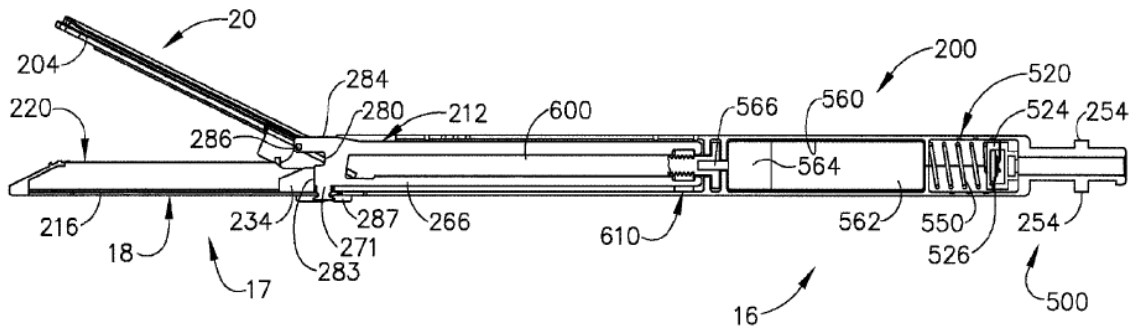


FIG. 2

Figure 2 “is a cross-sectional view of the disposable loading unit of FIG. 1 with several components shown in full view for clarity.” *Id.* at 4:24–26. The '677 patent describes the following

[T]he disposable loading unit 16 may generally comprise a tool assembly 17 for performing surgical procedures such as cutting tissue and applying staples on each side of the cut. The tool assembly 17 may include a cartridge assembly 18 that includes a staple cartridge 220 that is supported in a carrier 216. An anvil assembly 20 may be pivotally coupled to the carrier 216 in a known manner for selective pivotal travel between open and closed positions. The anvil assembly 20 includes an anvil portion 204 that has a plurality of staple deforming concavities (not shown) formed in the undersurface thereof. The staple cartridge 220 houses a plurality of pushers or drivers (not shown) that each have a staple or staples (not shown) supported thereon. An actuation sled 234 is supported within the tool assembly 17 and is configured to drive the pushers and staples in the staple cartridge 220 in a direction toward the anvil assembly 20 as the

actuation sled 234 is driven from the proximal end of the tool assembly 17 to the distal end 220.

*Id.* at 11:11–28.

Figure 3 of the '677 patent is reproduced below.

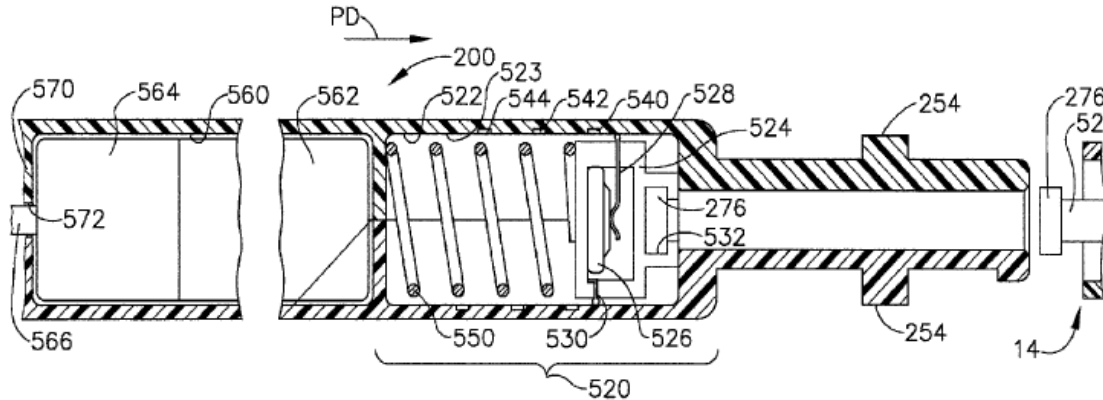


FIG. 3

Figure 3 above illustrates a cross-sectional view of the proximal end of disposable loading unit 16 shown in Figure 1. *Id.* at 4:27–29. Housing portion 200 of the disposable loading unit defines battery cavity 522 that movably supports battery holder 524 that houses battery 526. *Id.* at 11:64–66. First battery contact 528 and second battery contact 530 are supported in electrical contact with battery 526. *Id.* at 11:66–12:7. The '677 further describes the following:

As can also be seen in FIG. 3, a biasing member or switch spring 550 is positioned within the battery cavity 522 to bias the battery holder 524 in the proximal direction “PD” such that when the disposable reload 16 is not attached to the elongated body 14, the battery holder 524 is biased to its proximal-most position shown in FIG. 3. When retained in that “pre-use” or “disconnected” position by spring 550, the battery contacts 528 and 530 do not contact any of the contacts 540, 542, 544 within battery cavity 522 to prevent the battery 526 from being drained during non-use.

*Id.* at 12:14–24. Housing 200 also includes motor cavity 560 that houses motor 562 and gear box 564. *Id.* at 12:25–27. Based on the contact arrangement of battery contacts 528 and 530 with contacts 540, 542, and 544, battery 526 either supplies or prevents power to motor 562. *See, e.g., id.* at 12:60–14:2.

### *B. Illustrative Claims*

Challenged claims 1, 6, 16, and 17 are independent. Claims 2–5 ultimately depend from claim 1, and claims 7–10 ultimately depend from claim 6. Claims 1 and 6 are illustrative and are reproduced below.

1. A disposable loading unit configured for operable attachment to a surgical instrument which is configured to selectively generate at least one control motion for the operation of said disposable loading unit, said disposable loading unit comprising:

a carrier operably supporting a cartridge assembly therein;  
an anvil supported relative to said carrier and being moveable from an open position to closed positions upon application of at least one control motion thereto;

a housing coupled to said carrier, said housing including means for removably attaching said housing to the surgical instrument;

a rotary drive at least partially supported within said housing;

a motor supported within said housing and operably interfacing with said rotary drive to selectively apply a rotary motion thereto, wherein said motor is configured to receive power from a power source such that said motor can only selectively receive power from said power source when said means for removably attaching said housing to the surgical instrument is operably coupled to the surgical instrument; and

a linear member coupled with said rotary drive which moves axially upon the application of a rotary motion thereto from said motor.

6. A stapling sub-system configured to be operably engaged with a surgical instrument system, said stapling sub-system comprising:

a staple cartridge carrier;

a staple cartridge assembly supported by said staple cartridge carrier;

an anvil supported relative to said staple cartridge carrier and movable from an open position to a closed position;

a housing wherein said staple cartridge carrier extends from said housing, and wherein said housing comprises a housing connector removably attachable to the surgical instrument system; and

a rotary drive system, comprising

a rotary shaft;

a translatable drive member operably engaged with said rotary shaft, wherein said translatable drive member is selectively translatable through said staple cartridge assembly from a start position to an end position when a rotary motion is applied to said rotary shaft; and

an electric motor operably interfacing with said rotary shaft to selectively apply said rotary motion to said rotary shaft, wherein said electric motor is operably disconnected from a power source when said housing is not attached to the surgical instrument system, and wherein said electric motor is operably connected to the power source when said housing is attached to the surgical instrument system.

### *C. Related Proceedings*

The parties indicate that the '677 patent is involved in: *Ethicon LLC et al. v. Intuitive Surgical, Inc. et al.*, No. 1:17-cv-00871 in the United States District Court for the District of Delaware (“the Delaware litigation”).<sup>1</sup> Pet. 2; Paper 6, 2.

---

<sup>1</sup> Patent Owner contends that U.S. Patent Nos. 9,585,658 B2 (“the '658 Patent”), 8,616,431 B2 (“the '431 Patent”), 8,479,969 B2 (“the '969 Patent”), 9,113,874 B2 (“the '874 Patent”), 9,084,601 B2 (“the '601

IPR2018-00935  
Patent 8,991,677 B2

Petitioner is also challenging related patents in the following proceedings before the Board: (1) Case No. IPR2018-00933 (the '601 patent); (2) Case No. IPR2018-00934 (the '058 patent); (3) Case Nos. IPR2018-01248 and IPR2018-01254 (the '969 patent); (4) Case Nos. IPR2018-01247 and IPR2018-00936 (the '658 patent); (5) Case No. IPR2018-00938 (the '874 patent); and (6) Case No. IPR2018-01703 (the '431 patent).

*D. Real Parties in Interest*

Petitioner identifies itself as the only real party-in-interest. Pet. 1.

*E. Evidence Relied Upon*

Petitioner relies on the following references in asserting that claims 1–18 of the '677 patent are unpatentable:

<b>Reference</b>	<b>Exhibit No.</b>
U.S. Patent No. 5,383,880 issued Jan. 24, 1995 (“Hooven”)	1004
U.S. Patent App. Pub. No. US 2005/0131390 A1 published June 16, 2005 (“Heinrich”)	1005
U.S. Patent No. 5,865,361 issued Feb. 2, 1999 (“Milliman”)	1006
U.S. Patent No. 5,779,130 issued July 14, 1998 (“Alesi”)	1010

Petitioner also relies upon a Declaration of Dr. Gregory S. Fischer. Ex. 1003.

---

Patent”), and 8,998,058 B2 (“the '058 Patent”) are also asserted in the Delaware litigation. Paper 6, 2.



*F. The Asserted Grounds of Unpatentability*

Petitioner contends that claims 1–18 are unpatentable based on the following grounds:

References	Basis	Claim(s) Challenged
Hooven and Heinrich	§ 103	1–18
Hooven, Heinrich, and Milliman	§ 103	1–5 and 16
Hooven, Heinrich, and Alesi	§ 103	1–5 and 16

III. ANALYSIS

*A. Statutory Disclaimer of Claims 11–15 and 18*

As noted above, along with claims 1–10, Petitioner sought *inter partes* review of claims 11–15 and 18 of the '058 patent. After the filing of the Petition, Patent Owner filed a statutory disclaimer of claims 11–15 and 18. Ex. 2004; *see* Prelim. Resp. 11.

Patent Owner contends that “[b]ased on this disclaimer, the [’677 patent] is to be treated as though claims 11–15 and 18 never existed.” Prelim. Resp. 11 (citing *Vectra Fitness, Inc. v. TNWK Corp.*, 162 F.3d 1379, 1383 (Fed. Circ. 1998) (“This court has interpreted the term ‘considered as part of the original patent’ in section 253 to mean that the patent is treated as though the disclaimed claims never existed.”)). We also observe that our rules state that “[n]o *inter partes* review will be instituted based on disclaimed claims.” 37 C.F.R. §42.107(e).

In considering Federal Circuit precedent and our rules, we conclude that we cannot institute a trial on claims that have been disclaimed, and, thus, no longer exist. That conclusion is consistent with other panel decisions in *inter partes* review proceeding that addressed a near identical circumstance as we do here. *See, e.g., Vestas-American Wind Technology,*

*Inc. and Vestas Wind Systems A/S v. General Electric Co.*, IPR2018-01015, Paper 9, 12–14 (PTAB, Nov. 14, 2018)(“the ’1015 IPR”). We share the same view as the panel in the ’1015 IPR that such a conclusion is consistent with the statutory scope of *inter partes* review as laid out in 35 U.S.C. §§ 311(b) and 318(a), and is not at odds with the Supreme Court’s recent decision in *SAS*. *See id.* Accordingly, we treat claims 11–15 and 18 as having never been part of the ’677 patent, and Petitioner cannot seek *inter partes* review of those claims.

### *B. Claim Construction*

The claim construction standard to be employed in an *inter partes* review recently has changed. *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 (Nov. 13, 2018) (to be codified at 37 C.F.R. pt. 42). That new standard, however, applies only to proceedings in which the petition is filed on or after November 13, 2018. This Petition was filed on May 22, 2018. Under the standard in effect at that time, “[a] claim in an unexpired patent . . . shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b); *see also* *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016) (upholding the use of the broadest reasonable interpretation standard). Accordingly, we determine whether to institute trial in this proceeding using the broadest reasonable construction standard. In determining the broadest reasonable construction, we presume that claim terms carry their ordinary and customary meaning. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). A patentee may define a claim term in a manner that differs from its ordinary meaning; however, any

special definitions must be set forth in the specification with reasonable clarity, deliberateness, and precision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner offers construction for a phrase appearing in claim 1: “means for removably attaching said housing to the surgical instrument.” Pet. 16. According to Petitioner, that phrase in using the word “means” presumptively invokes 35 U.S.C. § 112(f). Pet. 16 Petitioner contends that the claimed function, as recited in the claim, “is removably attaching said housing to the surgical instrument.” *Id.* Petitioner further contends that “[t]he corresponding structures in the ’677 patent that perform this function include engagement nubs 254.” *Id.* at 17 (citing Ex. 1001, 11:23–28; Fig. 2; Ex. 1003 ¶¶62–65). Patent Owner does not dispute the above-noted function and structure identified by Petitioner. For purposes of this Decision, we accept the parties’ representations in that regard.

We find that it is unnecessary to provide an explicit construction or discussion of any additional claim term in order to resolve the issues in dispute at this stage of the proceeding. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (explaining that claim terms need to be construed “only 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. Principles of Law*

A claim is unpatentable under 35 U.S.C. § 103 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 such subject

matter pertains.” 35 U.S.C. § 103(a). The question of obviousness under 35 U.S.C. § 103 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, i.e., secondary considerations. *See Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).<sup>2</sup> “While the sequence of these questions might be reordered in any particular case, the factors continue to define the inquiry that controls.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007).

*D. Level of Ordinary Skill in the Art*

Petitioner’s Declarant, Dr. Fischer, testifies the following in connection with the level of ordinary skill in the art:

A person of ordinary skill in the art at the time of the claimed invention (“POSITA”) would have had the equivalent of a Bachelor’s degree or higher in mechanical engineering, electrical engineering, biomedical engineering, or a related field directed towards medical electro-mechanical systems and at least 3 years working experience in research and development for surgical instruments. Experience could take the place of some formal training, as relevant skills may be learned on the job. This description is approximate, and a higher level of education might make up for less experience, and vice versa.

Ex. 1003 ¶ 27.

Patent Owner does not challenge the above-noted testimony or offer any assessment of its own as to the level of ordinary skill in the art. For purposes of this Decision, we adopt the Dr. Fischer’s assessment of the level of ordinary skill in the art. We further find that the cited prior art references

---

<sup>2</sup> At this stage of the proceeding, neither party has submitted or relied on any objective evidence of non-obviousness.

reflect the appropriate level of skill at the time of the claimed invention and that the level of appropriate skill reflected in these references is consistent with the definition of a person of ordinary skill in the art proposed by Petitioner. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

*E. Scope and Content of the Prior Art*

*1. Overview of Hooven*

Hooven is titled “Endoscopic Surgical System with Sensing Means.” Ex. 1004, [54]. Hooven discloses endoscopic stapling and cutting instrument 30 that includes “a sensing means which controls and/or monitors the operation of the instrument while conducting the desired step [, e.g., ligating, stapling, cutting, manipulation of the tissue,] in the procedure and provides feedback information to the surgeon.” *Id.* at 2:54–58, 61–63.

Figure 1 of Hooven is reproduced below.

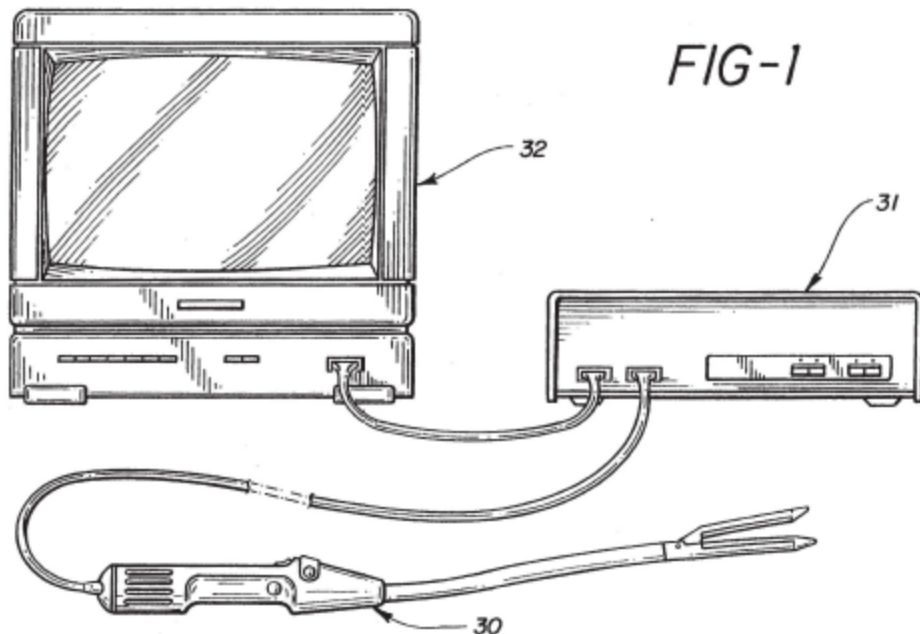


Figure 1 illustrates a schematic view of an endoscopic surgical system of the present invention interconnected with a microprocessor/controller and

a video display screen. More particularly, Hooven explains the following:

endoscopic stapling and cutting instrument 30 is interconnected with a controller 31 and a video display monitor 32. The controller includes a microprocessor, power supply, hardwired logic, sensor interface and motor drive circuits. The instrument is connected to the controller so that the controller can accept, store, manipulate, and present data. The controller may feed appropriate signals back to the instrument in order to operate the instrument.

*Id.* at 4:15–24; *see also id.* at 9:15–17. Hooven discloses that “[a]ll sensors, switches, and motors are connected to the controller via the interface cable 205. This information, fed into the appropriate controller, is stored and manipulated and fed to a central processing communication system.” *Id.* at 9:1–5. Figure 6 of Hooven is reproduced below.

FIG-6

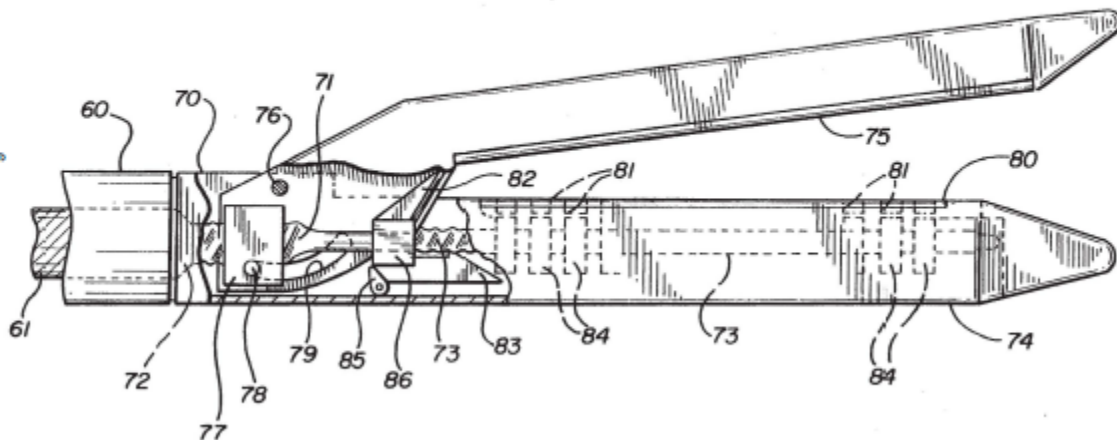


Figure 6 depicts an enlarged longitudinal cross-sectional view of the active or business head of endoscopic stapling and cutting instrument 30. Hooven discloses that its “head includes a staple or staple cartridge portion 74 and an anvil portion 75. The staple portion and the anvil portion are

pivotally connected [t]o each other by the anvil pivot pin 76.” *Id.* at 5:38–41. Hooven further discloses a knife member 82 and driving wedge member 83 which are interconnected. *Id.* at 6:9–19.

## 2. Overview of Heinrich

Heinrich is titled “Surgical Instruments Including MEMS devices.” Ex. 1005, [54]. Heinrich’s Abstract reads as follows:

Surgical instruments are disclosed that are couplable to or have an end effector or a disposable loading unit with an end effector, and at least one micro-electromechanical system (MEMS) device operatively connected to the surgical instrument for at least one of sensing a condition, measuring a parameter and controlling the condition and/or parameter.

*Id.* at [57]. Figure 1 of Heinrich is reproduced below.

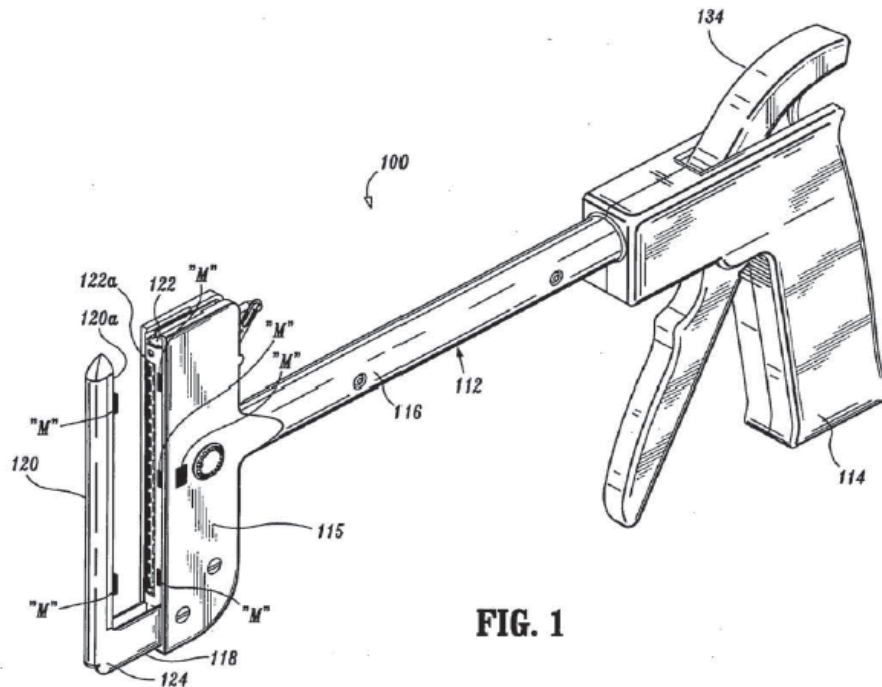
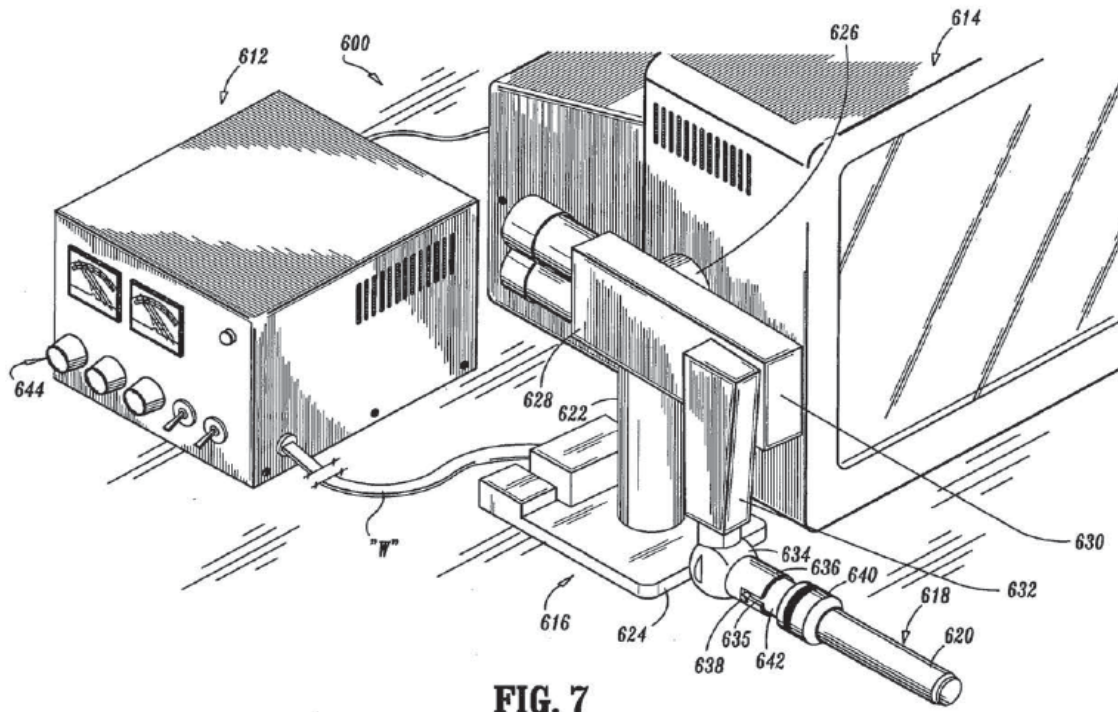


Figure 1 shows a perspective view of a surgical stapling instrument according to Heinrich’s disclosure. *Id.* ¶ 53. Surgical stapler 100 includes housing 112 with handle 114 and distally extending body portion 116

operatively connected to housing 112. *Id.* ¶ 82. Surgical stapler 100 also includes anvil 120 fastened to first leg 124 of support frame 118. *Id.* ¶ 83. Figure 7 of Heinrich is reproduced below.



**FIG. 7**

Figure 7 is a perspective view of a “robotic system” according to Heinrich’s disclosure. *Id.* ¶ 62. Robotic system 600 includes actuation assembly 612 and disposable loading unit 618 having at least one surgical instrument 620 attached to robot 616. *Id.* ¶ 132. Heinrich explains that disposable loading unit 618 is “releasably attach[ed]” to robot 616 via mounting flange 636. *Id.* ¶ 134. Figures 9 and 10 of Heinrich is reproduced below.



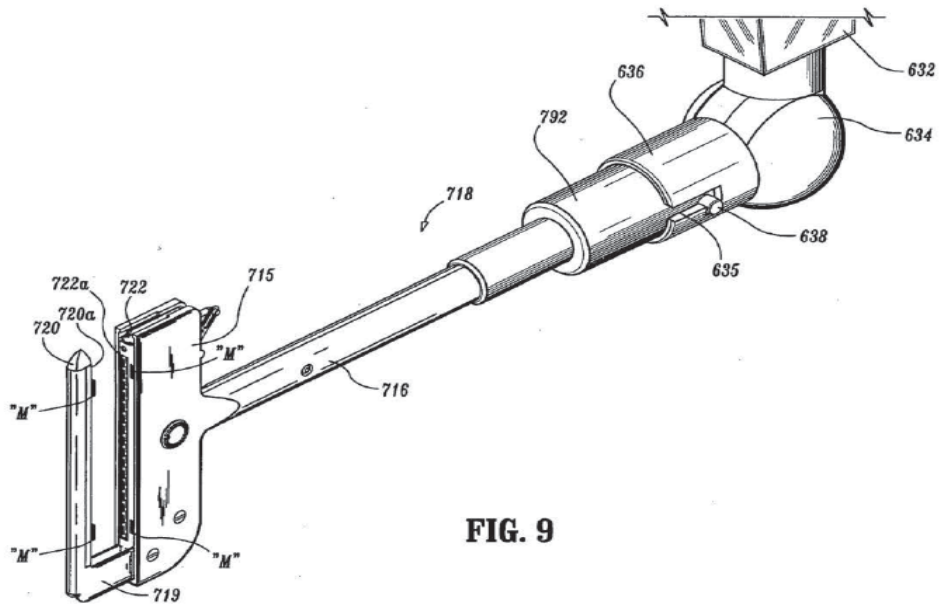


FIG. 9

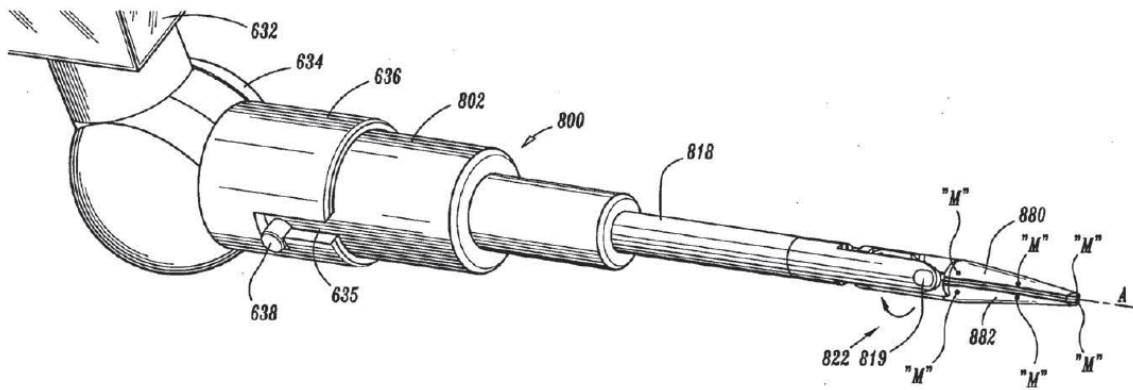
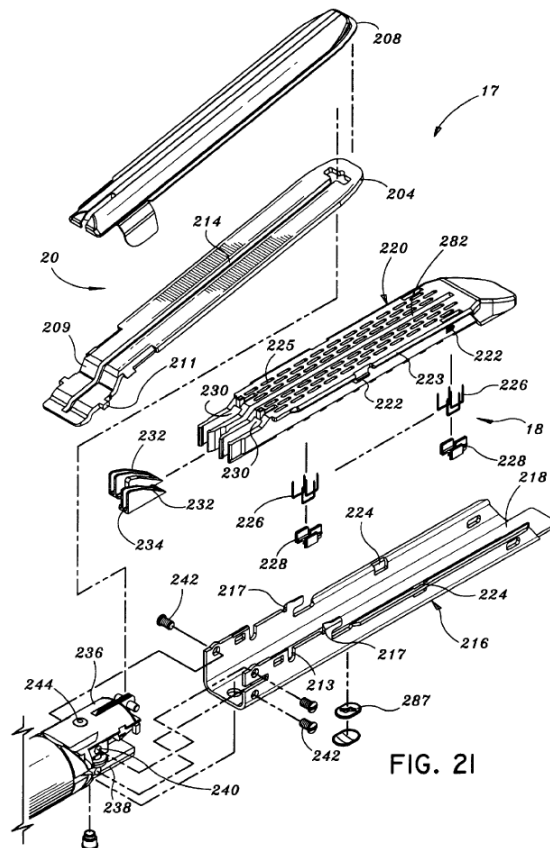


FIG. 10

Figure 9 show perspective view of a robotic system coupled to a various disposable loading units. *Id.* ¶¶ 64, 65. More particularly, Figures 9 and 10 illustrate disposable loading unit 718 and disposable loading unit 800, respectively, “removably coupled” to robot 616 (not shown) via mounting flange 636. *Id.* ¶¶ 139–143.

### 3. Overview of Milliman

Milliman discusses a surgical stapling and cutting apparatus. Ex. 1006, 1:6–10. Like Heinrich’s surgical stapler 300, Milliman’s stapler comprises a disposable loading unit that includes a tool assembly having a staple cartridge assembly secured to an anvil. *Id.* at 6:29–32. Figure 21 of Milliman, reproduced below, provides a more detailed view of the tool assembly.

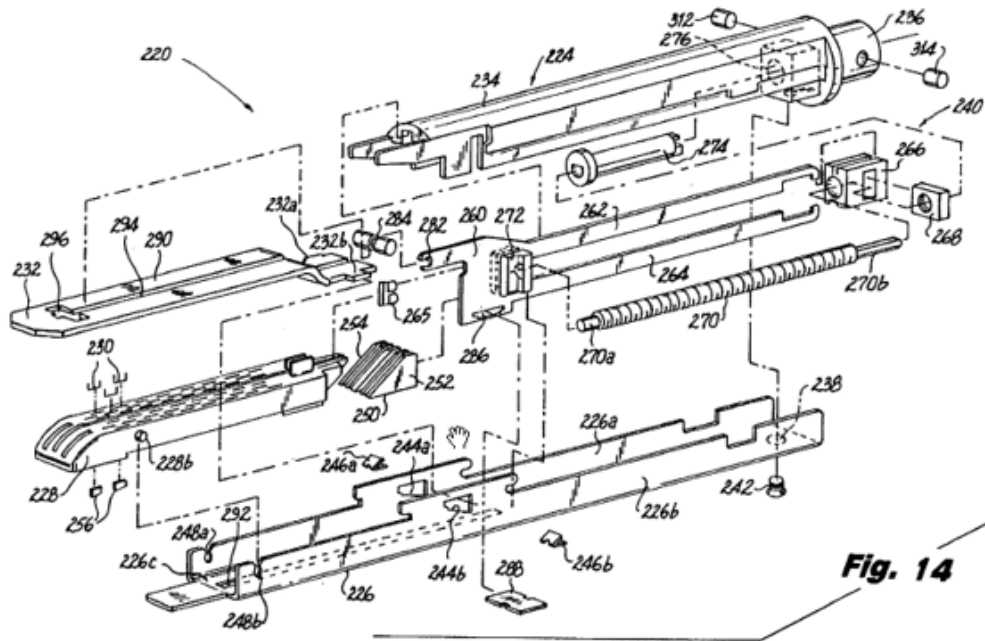


As shown in Figure 21, reproduced above, tool assembly 17 includes anvil assembly 20 and cartridge assembly 18. *Id.* at 11:24–25. Camming surface 209 formed on anvil portion 204 engages axial drive assembly 212 (Figure 27) to close the anvil and cartridge assembly together to clamp tissue. *Id.* at 11:35–38. Actuation sled 234 then translates through

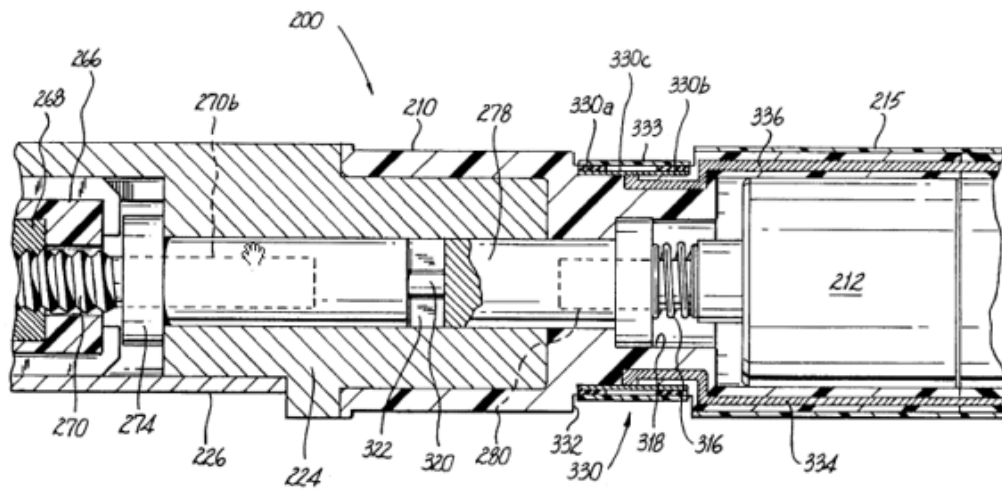
longitudinal slots 230 of staple cartridge 220 to advance cam wedges 232 to move pushers 228 vertically within slots 224 to urge fasteners 226 into staple deforming cavities 206 to staple the clamped tissue. *Id.* at 11:61–67. Knife blade 280 translates slightly behind actuation sled 234 through central longitudinal slot 282 (Figure 30) to form an incision between rows of stapled body tissue. *Id.* at 12:59–62.

#### *4. Overview of Alesi*

Alesi discloses a self-contained powered surgical stapling and cutting apparatus. Ex. 1010, 1:13–16. In one embodiment, Alesi's apparatus comprises a disposable cartridge assembly connected to the distal end of an elongate instrument body. *Id.* at 9:31–35, Fig. 13. Figures 14 and 15 of Alesi are reproduced below:



**Fig. 14**



**Fig. 15**

Figure 14, reproduced above, is an exploded view of cartridge assembly 220, and Figure 15, also reproduced above, illustrates how cartridge assembly 220 is coupled to motor assembly 212 housed in instrument body 210. *Id.* at 4:18–24. Cartridge assembly 220 comprises anvil 232 pivotably mounted to housing channel 226, and actuation assembly 240 that is driven by motor assembly 212 to move anvil 232. *Id.* at 9:50–59. Motor assembly 212 causes drive screw 270 to rotate, which in turn causes longitudinal

translation of actuation beam 260 via drive nut 268 and follower housing 266. The longitudinal translation of actuation beam 260: (1) causes anvil to move from an open position to a closed position; (2) ejects surgical fasteners 230; and (3) cuts tissue with knife blade 265. *Id.* at 9:54–59, 10:23–42.

*F. Petitioner’s Contentions*

Petitioner contends that claims 1–10, 16, and 17 of the ’677 patent would have been obvious in view of the combined teachings of Hooven and Heinrich. Petitioner provides detailed assessment of the content of the prior art in advocating that all the features of claims 1–10, 16, and 17 are shown therein. *See* Pet. 27–69. Petitioner also supports that assessment with citation to the Declaration testimony of Dr. Fischer (Ex. 1003).

For instance, with respect to claim 6, Petitioner explains how Hooven discloses a “stapling sub-system.” Pet. 28 (citing Ex. 1004, 4:15–17; 2:58–63; 4:45–53; Figs. 1–9; Ex. 1003 ¶¶ 296, 205–12). Petitioner also explains that Hooven discloses a system that is “configured to be operably engaged with a surgical instrument system.” *Id.* at 29–32. We observe that Petitioner contends that Hooven discloses a “surgical instrument system” composed of the combination of controller 31 and video display monitor 32. *Id.* at 29 (citing Ex. 1003 ¶¶ 207, 269; Ex. 1004 ¶ 4:13–17). For purposes of this Decision, we accept Petitioner’s contention in that regard.

Petitioner also explains how Hooven and Heinrich account for each of: (1) “a staple cartridge carrier” (*id.* at 32–33); (2) “a staple cartridge assembly supported by said staple cartridge carrier” (*id.* at 33–34); (3) “an anvil supported relative to said staple cartridge carrier and movable from an open position to a closed position” (*id.* at 34–36); (4) “a housing, wherein said staple cartridge carrier extends from said housing, and wherein said

housing comprises a housing connector removably attachable to the surgical instrument system” (*id.* at 36–40); (5) “a rotary shaft” (*id.* at 40); (6) “a translatable drive member operably engaged with said rotary shaft wherein said translatable drive member is selectively translatable through said staple cartridge assembly from a start position to an end position when a rotary motion is applied to said rotary shaft” (*id.* at 41–43); and, finally, (7) “an electric motor operably interfacing with said rotary shaft to selectively apply said rotary motion to said rotary shaft, wherein said electric motor is configured to receive power from a power source such that said electrical motor can only selectively receive power from said power source when said housing connector is attached to the surgical instrument system” (*id.* at 43–46).

In further respect in connection with the requirement noted above of a “housing connector removably attachable to the surgical instrument system,” we are cognizant that Petitioner directs our attention to Heinrich’s teachings concerning mounting flange 636 (and its associated components). *Id.* at 38–40. As discussed above, Heinrich describes that connection of a disposable loading unit to a robot via that mounting flange is one that provides for “releasably attaching” those components. Ex. 1004 ¶ 134. Petitioner reasons that a person of ordinary skill in the art would have appreciated that Hooven’s stapling system may incorporate the type of connection mechanism disclosed in Heinrich to harness the releasable attachment capability. Pet. 38.

Petitioner provides similar detailed analysis, supported by the testimony of Dr. Fischer, for each of claims 1–5, 7–10, 16, and 17. *See* Pet. 47–69. With respect to the ground including the teachings of Milliman and

applied to claims 1–5 and 16, Petitioner offers that ground as an alternative if Heinrich is not regarded as incorporating by reference Milliman. *Id.* at 69–70. With respect to the ground including the teachings of Alesi and applied to claims 1–5 and 16, Petitioner offers that ground “[i]f Hooven is deemed not to disclose the “linear member coupled with said rotary drive which moves axially upon the application of a rotary motion thereto from said motor” as recited in claim 1. *Id.* at 70.

#### *G. Patent Owner’s Contentions*

Patent Owner contends that Petitioner’s grounds of unpatentability based on Hooven and Heinrich is deficient. In particular, Patent Owner contends that, contrary to Petitioner’s view, the prior art does not show or render obvious a ““motor configured to receive power from a power source’ or the motor that is ‘operably connected’ and ‘operably disconnected’ as required in all remaining challenged claims.” Prelim. Resp. 28. Patent Owner also contends that “Petitioner does not establish a motion to combine or reasonable expectation of success” in its proposal to combine the teachings of Hooven and Heinrich. *Id.* at 28–43. Patent Owner also contends that Petitioner has not provided adequate motivation to combine either the teachings of Hooven and Milliman or the teachings of Hooven and Alesi. *Id.* at 41–42.

#### *H. Discussion*

Having considered the conflicting positions of the parties, we conclude that, at this stage of the proceeding, Petitioner has shown a reasonable likelihood of success in challenging the patentability of claims 1–10, 16, and 17. In our view, Petitioner’s obviousness approach, on this record, adequately identifies where all the elements of claims 1–10, 16, and

17 are found in the prior art, and Petitioner demonstrates adequate reasoning to combine the teachings of Hooven and Heinrich.

We not persuaded, at this time, that Patent Owner's arguments are availing and demonstrate that institution of a trial is unwarranted. In particular, Patent Owner's view that the prior art does not show a "motor configured to receive power from a power source" does not account for the full disclosure of Hooven. In accounting for that feature, Petitioner expresses the following:

Hooven's electric motor (i.e. CD motor 45) is configured to receive power from controller 31, which includes a power source [Ex.]1003 ¶ 306; [Ex.]1004, 9:1-3) ("All sensors, switches, and motors are connected to the controller via the interface cable 205."), 4:17-26 (The controller includes a . . . power supply . . . and motor drive circuits . . . . The controller also acts to supply power to the instrument at the appropriate level, frequency, timing, etc.).

Pet. 45.

Hooven, thus, clearly provides that its controller 31 includes a power supply and the "controller acts to supply power to the instrument," which includes motor 45. Patent Owner simply does not credibly explain why those teachings fall short of disclosure of a motor configured to receive power from a power source.

We also conclude, at this time, that Hooven teaches the requirement that the motor be "operably connected" and "operably disconnected." In that regard, we are persuaded by the following explanation offered by Petitioner in accounting for that feature:

Because the housing of Hooven's instrument 30 (*i.e.*, the housing of handle portion 40) would be detachable from Heinrich's surgical instrument system (*i.e.*, robot 616 portion of the surgical instrument system), Hooven's DC motor 45 would be operably



disconnected from the power source in Heinrich's surgical instrument system when the housing of Hooven's handle 40 is not attached to Heinrich's robot 616. IS1003, ¶ 307. Likewise, Hooven's DC motor 45 would be operably connected to the power source in Heinrich's surgical instrument system when the housing of Hooven's handle 40 is attached to Heinrich's robot 616.

Pet. 46. To that end, on the present record, we are satisfied that the attachment and detachment of Hooven's instrument 30, and its associated DC motor 45, with Heinrich's robot 616, constitutes operable connection and disconnection of the motor in the manner set forth in the claims.

Furthermore, Patent Owner's contention that there is inadequate reason to combine the teachings of Hooven and Heinrich and no reasonable expectation of success for such combination is, at this stage, unpersuasive. The similarity of the disposable loading unit disclosed in Hooven (e.g., Ex. 1004, Fig. 1) and that disclosed in Heinrich (e.g., Ex. 1005, Fig. 1) is notable. Heinrich explains that it was known in the art that a variety of its disclosed disposable loading units may be attached to a robotic assembly via a type of releasable coupling. *See, e.g.*, Ex. 1005, Figs. 9–12. Thus, the record at hand demonstrates that there are a finite number of known solutions for coupling a disposable loading unit with a robotic surgical instrument system. A person of ordinary skill seemingly would have adequate reason to apply those known finite solutions so as to connect Hooven's disposable unit to such a robotic system. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) ("When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason

to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.”)

Additionally, with respect to the ground involving Milliman, we observe that Heinrich makes reference to Milliman (U.S. Patent No. 5,865,361) and states that “the entire contents” of that reference are “incorporated herein by reference.” Ex. 1005 ¶ 99. For purposes of this Decision, we determine that Heinrich incorporates by reference Milliman in its entirety. *See Harari v. Lee*, 656 F.3d 1331, 1335 (Fed. Cir. 2011) (holding the statement “[t]he disclosures of the two applications are hereby incorporate[d] by reference” is sufficient to incorporate by reference the disclosures of the two patent applications in their entirety). Accordingly, we conclude that Milliman’s disclosure is part of Heinrich’s disclosure.

In connection with the ground involving Alesi, as noted above, that ground was offered as an alternative in the event that we conclude that Hooven does not disclose the following feature of claim 1: “a linear member coupled with said rotary drive which moves axially upon the application of a rotary motion thereto from said motor.” Petitioner contends that “Hooven’s translatable drive member, which includes the linear knife 82 and wedge 83, is a linear member.” Pet. 62 (citing Ex. 1003 ¶ 277). For purposes of this Decision, we credit the testimony of Dr. Fischer and conclude that Hooven discloses the required linear member of claim 1.

Having considered the Petition and its underlying supporting documents, and Patent Owner’s Preliminary response, we conclude that institution of trial is warranted. Accordingly, we do so. We institute trial on all grounds and all claims. *See Guidance on the impact of SAS on AIA trial*

*proceedings* (April 26, 2018) <https://www.uspto.gov/patents-application-process/patent-trial-and-appeal-board/trials/guidance-impact-sas-aia-trial> (“As required by the [SAS] decision, the PTAB will institute as to all claims or none. At this time, if the PTAB institutes a trial, the PTAB will institute on all challenges raised in the petition.”); *see also Medtronic, Inc. v. Barry*, 891, F.3d 1368, n.1 (Fed. Circ. 2018) (“we understand from the Board’s recent guidance document . . . that it will consider the previously non-considered grounds on remand.”)

#### 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 1–10, 16, and 17 of the ’677 patent is instituted with respect to all grounds of unpatentability presented in the Petition; and

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

IPR2018-00935  
Patent 8,991,677 B2

PETITIONER:

John Phillips  
Steven Katz  
Ryan O'Connor  
FISH & RICHARDSON P.C.  
phillips@fr.com  
katz@fr.com  
oconnor@fr.com

PATENT OWNER:

Anish Desai  
Elizabeth Weiswasser  
Adrian Percer  
Christopher Marando  
Christopher Pepe  
WEIL, GOTSHAL & MANGES LLP  
anish.desai@weil.com  
elizabeth.weiswasser@weil.com  
adrian.percer@weil.com  
christopher.marando@weil.com  
christopher.pepe@weil.com