Trials@uspto.gov
571-272-7822

Paper No. 10
Entered: December 17, 2015

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ETHICON ENDO-SURGERY, INC.,
Petitioner,

v.

COVIDIEN AG,
Patent Owner.

Case IPR2015-01274
Patent 7,887,536 B2

Before JAMES A. TARTAL, ZHENYU YANG, and JAMES A. WORTH, *Administrative Patent Judges*.

YANG, *Administrative Patent Judge*.

DECISION
Institution of *Inter Partes* Review
37 C.F.R. § 42.108

INTRODUCTION

Ethicon Endo-Surgery, Inc. ("Petitioner") filed a Petition for an *inter partes* review of claims 1–13 of U.S. Patent No. 7,887,536 B2 ("the '536 patent," Ex. 1001). Paper 1 ("Pet."). Covidien AG ("Patent Owner") timely filed a corrected Preliminary Response. Paper 9 ("Prelim. Resp."). We have jurisdiction under 35 U.S.C. § 314.

For the reasons provided below, we determine that, having established a reasonable likelihood that it would prevail in showing the unpatentability of at least one challenged claim, Petitioner has satisfied the threshold requirement set forth in 35 U.S.C. § 314(a). We institute an *inter partes* review of claims 1–13 of the '536 patent.

The '536 Patent

The '536 patent relates to a bipolar electrosurgical instrument for use in open surgery. Ex. 1001, 3:40–41.

Certain surgical procedures require sealing and cutting blood vessels or vascular tissue. *Id.* at 1:45–46. An electrosurgical instrument utilizes both mechanical clamping action and electrical energy to coagulate, cauterize and/or seal tissue. *Id.* at 1:41–44. "In order to effect a proper seal with larger vessels, two predominant mechanical parameters must be accurately controlled—the pressure applied to the vessel and the gap between the electrodes both of which affect thickness of the sealed vessel." *Id.* at 2:13–17.

The '536 patent discloses at least one non-conductive stop member disposed on an electrically conductive sealing surface of at least one of the

jaw members. *Id.* at 4:33–35. "The stop members are designed to control/regulate the distance, i.e., gap, between the jaw members when tissue is held therebetween during activation." *Id.* at 4:33–35.

Illustrative Claims

Claims 1, 8, and 11 are independent claims. Claim 1 is illustrative. With bracketed numbering added for each limitation, it reads:

> 1. An electrosurgical instrument for use in open surgery, comprising:
>
> [1] first and second shafts each having a jaw member extending from a distal end thereof, the jaw members being movable relative to one another from a first, open position to a second, closed position for grasping tissue, at least one of the jaw members being adapted to connect to an electrosurgical energy source such that electrosurgical energy may be selectively communicated through tissue held between the jaw members to effect a tissue seal, at least one jaw member including a knife channel defined therein configured to reciprocate a knife therealong for severing tissue held between the jaw members;
>
> [2] at least one stop member operatively coupled to at least one of the jaw members or at least one of the shafts, the at least one stop member being configured to control a gap distance between jaw members to within a range of about 0.001 inches to about 0.006 inches; and
>
> [3] a locking mechanism operably coupled to at least one shaft for locking the jaw members in the second closed position and for regulating the closure pressure between jaw members between about 3 kg/cm2 to about 16 kg/cm2.

The preamble and limitation [1] of claim 8 are nearly identical to those of claim 1. The rest of claim 8 recites:

> [2] at least one stop member operatively associated with at least one of the jaw members for maintaining a minimum separation distance between the jaw members; and
> [3] a ratchet disposed on the first shaft and a complementary interlocking mechanical interface disposed on the second shaft, the ratchet and complementary interlocking mechanical interface being selectively positionable to interlocking positions to maintain a specific closure pressure.

The preamble and limitations [2] and [3] of claim 11 are similar to those of claim 8. Limitation [1] of claim 11 recites:

> [1] first and second shafts each having a jaw member extending from a distal end thereof, the jaw members being movable relative to one another from a first, open position to a second, closed position for grasping tissue, each of the jaw members including an electrically conductive tissue sealing surface at least one of which being adapted to connect to an electrosurgical energy source such that electrosurgical energy may be selectively communicated through tissue held between the jaw members to effect a tissue seal, at least one electrically conductive tissue sealing surface including a knife channel defined therein configured to reciprocate a knife therealong for severing tissue held between the jaw members.

Asserted Ground of Unpatentability

Petitioner asserts the following grounds of unpatentability:

Claim(s)	Basis	References
1–4, 7–13	§ 103	Witt,[1] Tetzlaff,[2] and Yates[3]
5–6	§ 103	Witt, Tetzlaff, Yates, and Stern[4]
1–4, 7–13	§ 103	Witt, Tetzlaff, Yates '270,[5] and Yates
5–6	§ 103	Witt, Tetzlaff, Yates '270, Yates, and Stern
1–5, 7–13	§ 103	Tetzlaff, Stern, and Yates
6	§ 103	Tetzlaff, Stern, Yates, and Wales[6]

Petitioner argues that the '536 patent is only entitled to a priority date of October 30, 2002, even though on its face, it lists related applications with earlier priority dates. Pet. 5–6. For purposes of its Preliminary Response, Patent Owner does not dispute this assertion. Prelim. Resp. 9. For purposes of this Decision, we also use October 30, 2002, as the priority date for the challenged claims.

[1] Witt et al., U.S. Patent Pub. No. 2002/0107517, published Aug. 8, 2002 (Ex. 1006, "Witt").
[2] Tetzlaff et al., PCT Publication No. WO 00/24330, published May 4, 2000 (Ex. 1007, "Tetzlaff")
[3] Yates et al., U.S. Statutory Invention Reg. No. H1,904, published Oct. 3, 2000 (Ex. 1008, "Yates").
[4] Stern et al., U.S. Patent No. 5,443,463, issued Aug. 22, 1995 (Ex. 1009, "Stern").
[5] Yates et al., U.S. Patent No. 5,688,270, issued Nov. 18, 1997 (Ex. 1011, "Yates '270").
[6] Kenneth S. Wales, U.S. Patent No. 5,800,449, issued Sept. 1, 1998 (Ex. 1010, "Wales").

In support of its patentability challenge, Petitioner relies on the Declaration of David C. Yates. Ex. 1003.

ANALYSIS

Claim Construction

In an *inter partes* review, we interpret a claim term in an unexpired patent according to its broadest reasonable construction in light of the specification of the patent in which it appears. 37 C.F.R. § 42.100(b); *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268, 1279 (Fed. Cir. 2015). Under that standard, and absent any special definitions, we assign claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention, in the context of the entire patent disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

Petitioner proposes claim constructions for "disposed on" and "interlocking positions." Pet. 7–8. Claim terms need only be construed to the extent necessary to resolve the controversy. *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011). For purposes of this Decision, we agree with Patent Owner that it is unnecessary to construe these, or any other, terms expressly. *See* Prelim. Resp. 39.

35 U.S.C. § 325(d)

Patent Owner asks us to deny the Petition under 35 U.S.C. § 325(d), arguing that all of the references relied on in the Petition were considered

during prosecution. Prelim. Resp. 34–35. The statute allows, but does not require, the Director to deny a petition if "the same or substantially the same prior art or arguments previously were presented to the Office." 35 U.S.C. § 325(d). We decline to exercise our discretion to deny the Petition under § 325(d).

Prior Art Disclosures

Witt

Witt relates to "an electrosurgical combination grasper/scissor for surgical applications." Ex. 1006 ¶ 2. Witt teaches that the instrument has a pair of jaws, each jaw having first and second electrodes of opposite polarity. *Id.* ¶ 16. "The first and second electrodes of one jaw are in offset opposed relation, respectively, with the first and second electrodes of the other jaw." *Id.* This offset electrode configuration "eliminates shorting on thin tissue as well as limits thermal spread." *Id.* ¶ 82.

Witt also teaches that the instrument has a sliding knife to sever tissue following cauterization, and a ratchet mechanism to provide the surgeon with a method of setting clamp pressure. *Id.* ¶ 83.

Tetzlaff

Tetzlaff relates to "a bipolar forceps having a disposable electrode assembly for sealing, cauterizing, coagulating/desiccating and/or cutting vessels and vascular tissue." Ex. 1007, 1. According to Tetzlaff, "[i]n order to effect a proper seal with larger vessels, two predominant mechanical parameters must be accurately controlled - the pressure applied to the vessel

and the gap between the electrodes both of which affect thickness of the sealed vessel." *Id.* at 3. Tetzlaff teaches that the electrode assembly includes at least one stop member for controlling the distance between the opposing electrodes. *Id.* at 5.

Tetzlaff also teaches that other mechanisms, such as a ratchet, may be used to further control and/or limit the movement of the jaw members. *Id.* at 11–12. According to Tetzlaff, a design without a ratchet or similar system may yield inconsistent results. *Id.*

Yates

Yates relates to an electrosurgical instrument for cauterization, coagulation, and/or tissue welding in surgical procedures. Ex. 1008, 1:6–9. Yates teaches that, in a preferred embodiment, the instrument "compresses tissue to a pressure within a predetermined range in a compression zone . . . and applies electrical energy through the compression zone." *Id.* at 3:53–57. An example of the predetermined pressure ranges between 30 and 250 pounds per square inch (psi). *Id.* at 4:26–29.

Stern

Stern provides coagulating forceps having an intermediate cutting blade to sever the ligated vessel in the center of a coagulated area. Ex. 1009, 3:14–17. Stern teaches that the cutting blade is attached to an electrosurgical unit power generator. *Id.* at 4:37–38.

Obviousness over Witt, Tetzlaff, and Yates

Petitioner asserts that claims 1–4 and 7–13 would have been obvious over the combination of Witt, Tetzlaff, and Yates. Pet. 9–30. Based on the current record, we determine Petitioner has established a reasonable likelihood that it would prevail in this assertion.

Petitioner asserts that one of ordinary skill in the art would have been motivated to combine the teachings of Witt, Tetzlaff, and Yates. *Id.* at 11–15. Petitioner also refers to the prior art for teaching each and every limitation of the challenged claims. *Id.* at 16–22. Patent Owner counters that an ordinary artisan would not have combined the references. Prelim. Resp. 14–21. In addition, Patent Owner argues, the combination does not teach the limitation "effect a tissue seal," as all the challenged claims require. *Id.* at 21–22. We find Petitioner's arguments more persuasive.

Petitioner argues that both Witt and Tetzlaff disclose bipolar electrosurgical devices having a pliers-like configuration with a ratchet mechanism to regulate pressure. Pet. 14. According to Petitioner, because "the general mechanical and electrical principles underlying the devices of Witt and Tetzlaff are nearly identical . . . a person of skill in the art would have been motivated to look to each reference for its additional specific teachings." *Id.*

Patent Owner contends that Petitioner "greatly overgeneralizes" the prior art instruments. Prelim. Resp. 17. According to Patent Owner, the '536 patent "distinguishes vessel sealing from coagulation, cauterization, and other known electrosurgical techniques for effecting hemostasis of tissue." *Id.* at 1–2, 4 (citing Ex. 1001, 1:45–65, 2:13–44). Patent Owner

emphasizes that Witt is directed to a device for coagulation, while Tetzlaff teaches a vessel sealing instrument. *Id.* at 12–14, 17. Thus, Patent Owner argues, an ordinary artisan would not have considered the two similar. *Id.* at 17. We are not persuaded.

The '536 patent defines coagulation as "desiccating tissue wherein the tissue cells are ruptured and dried," and vessel sealing as "liquefying the collagen in the tissue so that it reforms into a fused mass." Ex. 1001, 2:38–42. Despite the apparent different mechanisms, both coagulation and sealing aim to permanently close vessels. *Id.* at 2:42–44. Even though the '536 patent suggests that coagulation may not be sufficient to properly close large vessels, sealing can be used to close small vessels. *Id.* at 1:46–53 (stating prior art "disclosed methods for sealing small blood vessels"). Thus, an ordinary artisan seeking to improve a coagulator would not have been deterred from combining teachings from a sealing instrument, and vice versa. This is especially so as Witt, which Patent Owner alleges is directed to a device for coagulation only, specifically discusses Tetzlaff, which Patent Owner acknowledges as teaching a sealing instrument. *See* Pet. 12 (citing Ex. 1006 ¶ 12).

Patent Owner further asserts that Witt teaches away from incorporating the stop member of Tetzlaff onto the jaws of Witt. Prelim. Resp. 17. According to Patent Owner,

> [P]roviding the stop member of Tet[zl]aff between tissue dam members 756, 757, 758, and 759 of Witt's Fig. 45 jaws could create a gap between the surfaces of tissue dam members 756, 758 and/or tissue dam members 757, 759 that would permit the undesired spread of thermal energy outside the jaws of the

> instrument. This would be contrary to the teachings of Witt, which explicitly seek to minimize thermal spread.

Id. at 17–18. We are not persuaded.

First, Patent Owner's assertion is mere attorney argument without any support. As a result, we accord it little weight. Second, a reference does not teach away because it, when combined with other prior art, as Patent Owner suggests, "could" produce a result contrary to its intended purpose. *See id.* at 18. Rather, a reference teaches away in this regard when the combination would produce an inoperative device. *See McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1354 (Fed. Cir. 2001). Here, we understand the Petition as arguing that a skilled artisan would have modified the tissue dam members of Witt with the stop members of Tetzlaff. *See* Pet. 19–20. In doing so, one skilled in the art would have configured the stop members of Tetzlaff appropriately to be combined with other components of the instrument. As a result, based on the current record, we are not persuaded that Witt teaches away from the combination of Witt and Tetzlaff. *See In re ICON Health & Fitness, Inc.*, 496 F.3d 1374, 1382 (Fed. Cir. 2007) ("[W]e do not ignore the modifications that one skilled in the art would make to a device borrowed from the prior art.").

As Petitioner points out, Tetzlaff relates to "a bipolar forceps having a disposable electrode assembly for sealing, cauterizing, coagulating/desiccating and/or *cutting* vessels and vascular tissue." Pet. 10 (citing Ex. 1007, 1) (emphasis added). Tetzlaff, however, does not appear to explicitly teach a knife for cutting. Petitioner contends that one of ordinary skill in the art, thus, would have been motivated to combine, for example,

the slidable knife of Witt with the stop members on the sealing surfaces of Tetzlaff. *See id.* at 14. We conclude an ordinary artisan would have had a sufficient reason on this record to combine the teachings of Witt and Tetzlaff.[7]

Petitioner also asserts that one of ordinary skill in the art would have combined the teachings of Yates with those of Witt and Tetzlaff. Pet. 14–15. Specifically, Petitioner argues that both Witt and Tetzlaff recognize the importance of the pressure applied to the vessel. *Id.* (citing Ex. 1006 ¶¶ 83, 84; Ex. 1007 at 3:5–8). Neither reference, however, specifies the proper pressure levels. *Id.* at 15. Thus, Petitioner argues, an ordinary artisan would have been motivated to look to references, such as Yates, which "specifically enumerate the appropriate pressure ranges to achieve optimal treatment." *Id.* (citing Ex. 1008, 4:26–34, 8:45–50).

Patent Owner first argues that Petitioner fails to provide evidence to establish that Witt or Tetzlaff inherently discloses the claimed pressure range. Prelim. Resp. 19. Patent Owner also argues that an ordinary artisan would not have considered the teachings of Yates for the enumerated pressure range, because it describes a cutting and stapling instrument, and not a vessel sealing instrument. *Id.* Furthermore, Patent Owner asserts that an ordinary artisan would not have combined Witt, Tetzlaff, and Yates, because they address different problems in the art. *Id.* at 19–20. We are not persuaded on the present record.

[7] For purposes of this Decision, we do not need to address the additional rationale for combining the prior art asserted by Petitioner (Pet. 12–14) and disputed by Patent Owner (Prelim. Resp. 14–16).

First, contrary to Patent Owner's allegation, Petitioner does not contend that Witt or Tetzlaff inherently discloses the claimed pressure range. Pet. 15 n.4. Instead, Petitioner argues that the ratchet structure taught in Witt and Tetzlaff "reveals a motivation inherent in Witt and Tetzlaff . . . to look to Yates for appropriate enumerated pressure ranges." *Id.* *See In re Kahn*, 441 F.3d 977, 987–88 (Fed. Cir. 2006) (stating that the rationale for combining and/or modifying prior art "may be implicit from the prior art as a whole, rather than expressly stated in the references").

Second, Yates teaches an electrosurgical instrument for cauterization, coagulation, and/or tissue welding in surgical procedures. Ex. 1008, 1:6–9. As explained above, we are not persuaded that an ordinary artisan would have been dissuaded from considering a prior art merely because the reference is not specifically directed to a sealing instrument. *See supra* at 10–12.

Third, assuming, without deciding, that Witt, Tetzlaff, and Yates, as Patent Owner asserts, address different problems in the art, we are not persuaded that an ordinary artisan would not have had a reason to combine their teachings. Indeed, as the Supreme Court instructed, it is erroneous to presume that "a person of ordinary skill attempting to solve a problem will be led only to those elements of prior art designed to solve the same problem." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007).

In sum, based on the current record, we are persuaded that one of ordinary skill in the art would have had a reason to combine the teachings of Witt, Tetzlaff, and Yates.

Petitioner points to Witt, Tetzlaff, and Yates for teaching each and every limitation of the challenged claims. Pet. 16–22. Patent Owner counters that even though Tetzlaff teaches a vessel sealing instrument (Prelim. Resp. 2), Petitioner has not provided evidence to show "the combination of the cited teachings of Tetzlaff and Yates *in* Witt would 'effect a tissue seal'" (*id.* at 22) (emphasis added).

The test for obviousness is not whether the features of one reference may be bodily incorporated into the structure of the other reference, but rather "what the combined teachings of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Here, Petitioner has pointed out pertinent disclosures in each reference to support an obviousness challenge. For purposes of our analysis in this Decision, it is of no significance that Petitioner may have fashioned its argument with Witt as the "primary" reference. *See In re Bush*, 296 F.2d 491, 496 (CCPA 1961). Petitioner asserts that a skilled artisan, aware of both Witt and Tetzlaff, "would have been motivated to look to each reference for its additional specific teachings" (Pet. 14), such as the instrument for sealing that Tetzlaff specifically focuses on (*id.* at 18). Based on the current record, we find that Petitioner has offered sufficient evidence to institute trial. Patent Owner's arguments do not persuade us that we should decline to go forward with a trial.

Obviousness over Witt, Tetzlaff, Yates, and Stern

Petitioner asserts that claims 5 and 6 would have been obvious over the combination of Witt, Tetzlaff, Yates, and Stern. Pet. 30–35. Based on

the current record, we determine Petitioner has established a reasonable likelihood that it would prevail in this assertion.

Claim 5 depends from claim 1. It further requires that "a knife is disposed in the knife channel, the knife is made from a conductive material and is adapted to connect to the electrosurgical energy source, the knife being selectively activatable to separate tissue disposed between the jaw members." Claim 6 depends from claim 5. It further requires that "the knife is spring-biased such that once tissue is severed the knife automatically returns to a first position within a recess associated with at least one of the jaw members."

Petitioner argues that both Witt and Stern teach electrosurgical devices capable of coagulating and cutting. Pet. 31–32 (citing Ex. 1006 ¶ 114; Ex. 1009, 2:11–16). According to Petitioner, Witt suggests that the knife is part of the "electrode configuration," and can be energized. *Id.* (citing Ex. 1006 ¶¶ 78, 114). Petitioner also refers to Stern where it explicitly teaches attaching the blade to an electrosurgical power generator and discusses the advantages of electrosurgical cutting. *Id.* (citing Ex. 1009, 4:36–39, 4:51–53). As a result, Petitioner concludes, an ordinary artisan would have been motivated to incorporate the energized knife of Stern into the dual-function instrument of Witt. *Id.* Petitioner further refers to both Witt and Stern for teaching the additional limitations of claims 5 and 6. *Id.* at 33–35.

Patent Owner first argues that Stern does not cure the deficiencies in the combination of Witt, Tetzlaff, and Yates. Prelim. Resp. 27. Also, according to Patent Owner, Petitioner has failed to show that the

combination of the prior art, including Stern, teaches a knife that is "selectively activatable" to separate tissue, as claim 5 requires. *Id.* We are not persuaded.

First, as discussed above, based on the current record, we do not find any deficiency in the combination of Witt, Tetzlaff, and Yates. Second, as Petitioner points out, Witt suggests that the use of the knife depends on whether the device is energized. Pet. 28 (citing Ex. 1006 ¶ 78). Petitioner also cites to Stern, where it teaches "the cutting blade either directly by mechanical force or through the action of an electrosurgical cutting accomplishes the actual cutting through of the tissue whose blood supply has been cut off by the prior coagulation." Ex. 1009, 4:61–65; Pet. 32. In other words, contrary to Patent Owner's assertion, Petitioner refers to both Witt and Stern for suggesting that the knife is "selectively activatable" to separate tissue, as claim 5 requires.

Based on the current record, we determine that Petitioner has established a reasonable likelihood it would prevail in showing claims 5 and 6 would have been obvious over the combination of Witt, Tetzlaff, Yates, and Stern.

Other Asserted Obviousness Grounds

Petitioner asserts that (1) claims 1–4 and 7–13 would have been obvious over the combination of Witt, Tetzlaff, Yates '270, and Yates (Pet. 35–43); (2) claims 5 and 6 would have been obvious over the combination of Witt, Tetzlaff, Yates '270, Yates, and Stern (Pet. 44–45); (3) claims 1–5 and 7–13 would have been obvious over the combination of

Tetzlaff, Stern, and Yates (Pet. 45–58); and (6) claim 6 would have been obvious over the combination of Tetzlaff, Stern, Yates, and Wales (Pet. 58–60). Because, as discussed above, we institute trial to determine the patentability of all challenged claims over the combination of Witt, Tetzlaff, Yates, and Stern, we exercise our discretion and deny the other asserted obviousness grounds. *See* 35 U.S.C. § 314(a); 37 C.F.R. § 42.108(a).

CONCLUSION

For the foregoing reasons, the information presented in the Petition and accompanying evidence establishes a reasonable likelihood that Petitioner would prevail in showing that claims 1–4 and 7–13 would have been obvious over the combination of Witt, Tetzlaff, and Yates, and claims 5 and 6 would have been obvious over the combination of Witt, Tetzlaff, Yates, and Stern.

At this stage of the proceeding, the Board has not made a final determination as to the patentability of any challenged claim or the construction of any claim term.

ORDER

Accordingly, it is

ORDERED that pursuant to 35 U.S.C. § 314, an *inter partes* review is hereby instituted on the following grounds:

1. claims 1–4 and 7–13 as obvious over the combination of Witt, Tetzlaff, and Yates; and

2. claims 5 and 6 would have been obvious over the combination of Witt, Tetzlaff, Yates, and Stern;

FURTHER ORDERED that no other ground of unpatentability is authorized in this *inter partes* review; 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.

PETITIONER:

Jason Engel
Jason.engel.PTAB@klgates.com

Benjamin Weed
Benjamin.weed.PTAB@klgates.com

PATENT OWNER:

Naveen Modi
naveenmodi@paulhastings.com

Paromtia Chatterjee
mitachatterjee@paulhastings.com

Thomas Beaton
Thomas.a.beaton@medtronic.com

Aryn Wadadi
Aryn.d.wadadli@medtronic.com